



J

# Timers & Control Relays

Interactive Catalogue



# Timers & Control Relays



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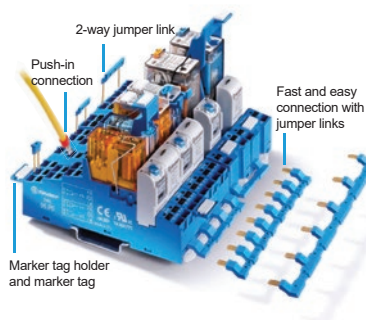


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## PCB mount relays



## PCB mount relays

| type | switch current | description | contact | pin pitch (mm) | coil voltage | price |
|------|----------------|-------------|---------|----------------|--------------|-------|
|------|----------------|-------------|---------|----------------|--------------|-------|

**30 series** Subminiature DIL relay (11.4 x 20.3 x 10 mm)

- 2-pole changeover contacts low level switching capability - **2A**
- Sensitive DC coil - 200mW
- Wash tight: RT III

|                     |    |                      |           |      |        |               |
|---------------------|----|----------------------|-----------|------|--------|---------------|
| <b>302270120010</b> | 2A | sealed DIL PCB relay | 2 ch/over | 5.08 | 12 VDC | <b>90.00</b>  |
| <b>302270240010</b> | 2A | sealed DIL PCB relay | 2 ch/over | 5.08 | 24 VDC | <b>90.00</b>  |
| <b>302270480010</b> | 2A | sealed DIL PCB relay | 2 ch/over | 5.08 | 48 VDC | <b>110.00</b> |

**32 series** Subminiature low profile relay (10.7 x 20 x 10 mm)

- 1-pole changeover contacts - **6A**
- Sensitive DC coil - 200mW
- Wash tight: RT III

|                     |    |                       |           |      |        |              |
|---------------------|----|-----------------------|-----------|------|--------|--------------|
| <b>322170124000</b> | 6A | low profile PCB relay | 1 ch/over | 7.62 | 12 VDC | <b>77.00</b> |
| <b>322170244000</b> | 6A | low profile PCB relay | 1 ch/over | 7.62 | 24 VDC | <b>77.00</b> |
| <b>322170484000</b> | 6A | low profile PCB relay | 1 ch/over | 7.62 | 48 VDC | <b>83.00</b> |

**34 series** Ultra-slim relay (5 mm) (15 x 28 x 5 mm)**EMR - Electromechanical relays**

- 1-pole changeover contact - **6A**
- Ultra-slim (5 mm) package
- Sensitive DC coil - 170mW
- 8 mm clearance/creepage distance
- 6kV (1.2/50  $\mu$ s) insulation, coil-contacts

|                     |    |                      |           |   |        |               |
|---------------------|----|----------------------|-----------|---|--------|---------------|
| <b>345170050010</b> | 6A | ultra-slim PCB relay | 1 ch/over | 5 | 5 VDC  | <b>117.00</b> |
| <b>345170120010</b> | 6A | ultra-slim PCB relay | 1 ch/over | 5 | 12 VDC | <b>83.00</b>  |
| <b>345170240010</b> | 6A | ultra-slim PCB relay | 1 ch/over | 5 | 24 VDC | <b>83.00</b>  |
| <b>345170480010</b> | 6A | ultra-slim PCB relay | 1 ch/over | 5 | 48 VDC | <b>117.00</b> |
| <b>345170600010</b> | 6A | ultra-slim PCB relay | 1 ch/over | 5 | 60 VDC | <b>137.00</b> |

**SSR - Solid State relays** *silent, high speed switching with long electrical life*

- 1-NO single circuit switching - 6A, 24 VDC / 2A, 240 VAC
- Sensitive DC input circuit
- 3.000V insulation, input-output

|                     |                                                                       |                        |      |             | operating    | switching |               |
|---------------------|-----------------------------------------------------------------------|------------------------|------|-------------|--------------|-----------|---------------|
|                     |                                                                       |                        |      |             |              |           |               |
| <b>348170129024</b> | 6A                                                                    | slim solid state relay | 1 NO | 8 - 17 VDC  | 1.5 - 33 VDC |           | <b>359.00</b> |
| <b>348170249024</b> | 6A                                                                    | slim solid state relay | 1 NO | 16 - 30 VDC | 1.5 - 33 VDC |           | <b>359.00</b> |
| <b>348170609024</b> | 6A                                                                    | slim solid state relay | 1 NO | 35 - 72 VDC | 1.5 - 33 VDC |           | <b>383.00</b> |
| <b>348170248240</b> | 2A                                                                    | slim solid state relay | 1 NO | 16 - 30 VDC | 12 - 275 VAC |           | <b>406.00</b> |
| <b>348170608240</b> | 2A                                                                    | slim solid state relay | 1 NO | 35 - 72 VDC | 12 - 275 VAC |           | <b>406.00</b> |
| <b>9311</b>         | PCB-mount socket with hinged retain/release clip for 34 series relays |                        |      |             |              |           | <b>38.80</b>  |

**36 series** Miniature "sugar cube" relay (15.5 x 19 x 15.2 mm)

- 1-pole changeover contact 10A (10A N/O and 5A N/C)
- DC coil - 360mW
- Wash tight: RTIII

|                     |     |                        |           |   |        |              |
|---------------------|-----|------------------------|-----------|---|--------|--------------|
| <b>361190124011</b> | 10A | "sugar cube" PCB relay | 1 ch/over | — | 12 VDC | <b>42.00</b> |
| <b>361190244011</b> | 10A | "sugar cube" PCB relay | 1 ch/over | — | 24 VDC | <b>42.00</b> |

**41 series** Low-profile PCB relay (15.7 x 29 x 12.6 mm)

- 1 and 2-pole changeover contact 8/12/16A
- DC coil - 400mW
- 8 mm 6kV (1.2/50  $\mu$ s) insulation, coil-contacts
- Flux proof: RT II (standard)

**Electromechanical relays**

|                     |     |                       |           |     |        |              |
|---------------------|-----|-----------------------|-----------|-----|--------|--------------|
| <b>413190120010</b> | 12A | low-profile PCB relay | 1 ch/over | 3.5 | 12 VDC | <b>73.00</b> |
| <b>413190240010</b> | 12A | low-profile PCB relay | 1 ch/over | 3.5 | 24 VDC | <b>73.00</b> |
| <b>416190120010</b> | 16A | low-profile PCB relay | 1 ch/over | 5   | 12 VDC | <b>76.00</b> |
| <b>416190240010</b> | 16A | low-profile PCB relay | 1 ch/over | 5   | 24 VDC | <b>76.00</b> |
| <b>415290120010</b> | 8A  | low-profile PCB relay | 2 ch/over | 5   | 12 VDC | <b>85.00</b> |
| <b>415290240010</b> | 8A  | low-profile PCB relay | 2 ch/over | 5   | 24 VDC | <b>85.00</b> |

**Solid state relays**

- 1-NO single circuit switching
- Silent, high speed switching with long electrical life
- 2500 VAC insulation, input-output

|                     |    |                       |      |             | operating    | switching |               |
|---------------------|----|-----------------------|------|-------------|--------------|-----------|---------------|
|                     |    |                       |      |             |              |           |               |
| <b>418170249024</b> | 5A | solid state PCB relay | 1 NO | 14 - 32 VDC | 1.5 - 24 VDC |           | <b>412.00</b> |
| <b>418170248240</b> | 3A | solid state PCB relay | 1 NO | 14 - 32 VDC | 12 - 275 VAC |           | <b>393.00</b> |

Other voltages available on request

## PCB mount relays



Control panels



Electronic circuit boards



Automation for blinds & shutters



40519...



40618...



40516...



9505SPA



95152SMA



ES50CNER



4341...



9523SNA

Multi-function, suitable for a wide range of applications. Due to their versatility they are widely used in electronic circuit boards for household appliances (*refrigerators, washing machines*), electric gates, boiler control boards and similar

For applications where the size/ratio is an issue, examples include household appliances, food industry and drying kilns

| type                                                                                                                                                                                     | current                                                         | description                | contact   | pin pitch                 | coil voltage | price     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------|-----------|---------------------------|--------------|-----------|
| <b>40 series</b> Miniature PCB relays (25 x 29 x 12.4 mm)                                                                                                                                |                                                                 |                            |           |                           |              |           |
| <ul style="list-style-type: none"><li>8 mm, 6kV (1.2/50µs) isolation, coil-contacts</li><li>Flux proof: RT II (<i>standard</i>)</li></ul>                                                |                                                                 |                            |           |                           |              |           |
| 405180120000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 12 VAC       | 83.00     |
| 405180240000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 24 VAC       | 83.00     |
| 405180480000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 48 VAC       | 94.00     |
| 405181100000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 110 VAC      | 108.00    |
| 405182400000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 240 VAC      | 136.00    |
| 405190120000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 12 VDC       | 60.00     |
| 405190240000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 24 VDC       | 60.00     |
| 405190360000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 36 VDC       | 80.00     |
| 405190480000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 48 VDC       | 80.00     |
| 405191100000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 110 VDC      | 92.00     |
| 406180120000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 12 VAC       | 87.00     |
| 406180240000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 24 VAC       | 87.00     |
| 406180480000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 48 VAC       | 98.00     |
| 406181100000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 110 VAC      | 111.00    |
| 406182400000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 240 VAC      | 139.00    |
| 406190120000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 12 VDC       | 63.00     |
| 406190240000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 24 VDC       | 63.00     |
| 406190360000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 36 VDC       | 82.00     |
| 406190480000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 48 VDC       | 82.00     |
| 406191100000                                                                                                                                                                             | 16A                                                             | miniature PCB relay        | 1 ch/over | 5 mm                      | 110 VDC      | 94.00     |
| 405280120000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 12 VAC       | 99.00     |
| 405280240000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 24 VAC       | 99.00     |
| 405280480000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 48 VAC       | 110.00    |
| 405281100000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5mm                       | 110 VAC      | 123.00    |
| 405282400000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 240 VAC      | 146.00    |
| 405290120000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 12 VDC       | 73.00     |
| 406290120000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 2 ch/over | 5 mm                      | 12 VDC       | 88.00     |
| 405290240000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 24 VDC       | 73.00     |
| 406290240000                                                                                                                                                                             | 10A                                                             | miniature PCB relay        | 2 ch/over | 5 mm                      | 24 VDC       | 88.00     |
| 405290360000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 36 VDC       | 94.00     |
| 405290480000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 48 VDC       | 94.00     |
| 405291100000                                                                                                                                                                             | 8A                                                              | miniature PCB relay        | 2 ch/over | 5 mm                      | 110 VDC      | 105.00    |
| Other voltages available on request                                                                                                                                                      |                                                                 |                            |           |                           |              |           |
| Other configurations: (replace <b>5th digit</b> with following): (e.g. 405 <b>16</b> 0120000)                                                                                            |                                                                 |                            |           |                           |              |           |
| 6                                                                                                                                                                                        | Bistable ( <i>single coil</i> ) version                         |                            |           |                           |              | 85.10     |
| 7                                                                                                                                                                                        | DC sensitive coil version 0.5 W                                 |                            |           |                           |              | 8.05      |
| <b>Sockets and accessories for 40 series relays</b>                                                                                                                                      |                                                                 |                            |           |                           |              | for relay |
| 95152SMA                                                                                                                                                                                 | PCB mount socket + retaining clip                               |                            |           | ( <i>solder</i> )         | 40 series    | 26.70     |
| 9505SPA*                                                                                                                                                                                 | surface/DIN mount socket + retaining clip                       |                            |           | ( <i>screw term</i> )     | 40 series    | 99.00     |
| 95P5SPA*                                                                                                                                                                                 | surface/DIN mount socket + retaining clip                       |                            |           | ( <i>push-in term</i> )   | 40 series    | 143.00    |
| * Accepts plug-in LED, diode, timing modules (plugs directly into socket) see page J-8                                                                                                   |                                                                 |                            |           |                           |              |           |
| 09518                                                                                                                                                                                    | jumper link/bridge bar for sockets                              |                            |           | (8 way)                   | 9505         | 60.00     |
| 09758                                                                                                                                                                                    | jumper link/bridge bar for sockets                              |                            |           | (8 way)                   | 95P5         | 116.00    |
| 46392/PS                                                                                                                                                                                 | sheet marking tags ( <i>mounts onto retain clip/holder</i> )    |                            |           | (48 pcs)                  | 9505/P5      | 91.00     |
| 09700                                                                                                                                                                                    | tag holder for <b>46392/PS</b> ( <i>mounts onto socket</i> )    |                            |           | (10 pcs)                  | 9505/P5      | 36.40     |
| ES50CNER                                                                                                                                                                                 | Ersce black surface/DIN mount socket                            |                            |           | ( <i>screw terminal</i> ) | 40 series    | 103.00    |
| ER902220                                                                                                                                                                                 | spring securing/release clip for socket                         |                            |           | (10 pcs)                  | ES50         | 112.00    |
| ER902230                                                                                                                                                                                 | clip-on marking plate ( <i>top or bottom</i> ) for socket       |                            |           | (10 pcs)                  | ES50         | 73.00     |
| <b>43 series</b> Low-profile slimline PCB relays (15.4 x 28.6 x 10.2 mm)                                                                                                                 |                                                                 |                            |           |                           |              |           |
| <ul style="list-style-type: none"><li>1-pole changeover contact 10A</li><li>Very high coil-contact isolation 10 mm, 6kV (1.2/50µs)</li><li>Flux proof: RT II (<i>standard</i>)</li></ul> |                                                                 |                            |           |                           |              |           |
| 434170122000                                                                                                                                                                             | 10A                                                             | low profile slim PCB relay | 1 ch/over | 3.2 mm                    | 12 VDC       | 60.00     |
| 434170242000                                                                                                                                                                             | 10A                                                             | low profile slim PCB relay | 1 ch/over | 3.2 mm                    | 24 VDC       | 60.00     |
| 9523SNA                                                                                                                                                                                  | PCB-mount socket 43 series relay ( <i>with retaining clip</i> ) |                            |           |                           | 4341         | 26.10     |

## Miniature relays



Shipyards

Hoists &  
cranesElevators  
& lifts

Manual override option



46618...



46619...



46528...



9711



9702SPA



5514...

| type                                                                                                                                                                                                                                                                                                                                                     | current                                       | description                | contact   | coil voltage | price  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------|-----------|--------------|--------|
| <b>46 series</b> Miniature industrial plug-in relays (32.8 x 29 x 12.4 mm)                                                                                                                                                                                                                                                                               |                                               |                            |           |              |        |
| <ul style="list-style-type: none"> <li>AC and DC coil voltages</li> <li>Lockable test/override button</li> <li>8 mm, 6kV (1.2/50µs) isolation, coil-contacts</li> <li>Manual override facility and mechanical flag indication of relay status</li> <li>Plug-in or direct connection via robust Faston terminals (1 pole 4.75 / 2-pole 2.5 mm)</li> </ul> |                                               |                            |           |              |        |
| 466180120040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 12 VAC       | 135.00 |
| 466180240040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 24 VAC       | 135.00 |
| 466180480040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 48 VAC       | 146.00 |
| 466181100040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 110 VAC      | 156.00 |
| 466182300040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 230 VAC      | 189.00 |
| 466190120040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 12 VDC       | 108.00 |
| 466190240040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 24 VDC       | 108.00 |
| 466190480040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 48 VDC       | 131.00 |
| 466191100040                                                                                                                                                                                                                                                                                                                                             | 16A                                           | miniature plug-in relay    | 1 ch/over | 110 VDC      | 145.00 |
| 465280120040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 12 VAC       | 154.00 |
| 465280240040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 24 VAC       | 154.00 |
| 465280480040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 48 VAC       | 165.00 |
| 465281100040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 110 VAC      | 176.00 |
| 465282300040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 230 VAC      | 212.00 |
| 465290120040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 12 VDC       | 126.00 |
| 465290240040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 24 VDC       | 126.00 |
| 465290480040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 48 VDC       | 150.00 |
| 465291100040                                                                                                                                                                                                                                                                                                                                             | 8A                                            | miniature plug-in relay    | 2 ch/over | 110 VDC      | 165.00 |
| Other configurations replace <b>last two digits</b> with following: (e.g. 4661801200 <b>54</b> )                                                                                                                                                                                                                                                         |                                               |                            |           |              |        |
| 54                                                                                                                                                                                                                                                                                                                                                       | LED                                           | internal LED indicator for |           | AC relays    | 26.45  |
| 74                                                                                                                                                                                                                                                                                                                                                       | LED                                           | internal LED indicator for |           | DC relays    | 26.45  |
| <b>Sockets and accessories for 46 series relays</b>                                                                                                                                                                                                                                                                                                      |                                               |                            |           | for relay    |        |
| 9711                                                                                                                                                                                                                                                                                                                                                     | PCB mount relay socket (12A)                  |                            | for relay | 4661         | 56.00  |
| 9712                                                                                                                                                                                                                                                                                                                                                     | PCB mount relay socket                        |                            | for relay | 4652         | 70.00  |
| 9701SPA*                                                                                                                                                                                                                                                                                                                                                 | surface/DIN mount socket + retaining clip     | (screw term)               |           | 4661         | 98.00  |
| 9702SPA*                                                                                                                                                                                                                                                                                                                                                 | surface/DIN mount socket + retaining clip     | (screw term)               |           | 4652         | 107.00 |
| 97P1SPA*                                                                                                                                                                                                                                                                                                                                                 | surface/DIN mount socket + retaining clip     | (push-in term)             |           | 4661         | 134.00 |
| 97P2SPA*                                                                                                                                                                                                                                                                                                                                                 | surface/DIN mount socket + retaining clip     | (push-in term)             |           | 4652         | 146.00 |
| * Accepts plug-in LED, diode, timing modules (plugs directly into socket) see page J-8                                                                                                                                                                                                                                                                   |                                               |                            |           |              |        |
| 04607                                                                                                                                                                                                                                                                                                                                                    | DIN rail mountable support bracket for relays |                            |           | 4661/52      | 44.00  |
| 09518                                                                                                                                                                                                                                                                                                                                                    | jumper link/bridge bar for sockets            | (8 way)                    |           | 9701/02      | 60.00  |
| 09758                                                                                                                                                                                                                                                                                                                                                    | jumper link/bridge bar for sockets            | (8 way)                    |           | 97P1/2       | 116.00 |
| 46392/PS                                                                                                                                                                                                                                                                                                                                                 | marking tags (mounts onto retain clip/holder) | (48 pcs)                   |           | 970/P1/2     | 91.00  |
| 09700                                                                                                                                                                                                                                                                                                                                                    | tag holder for 46392/PS (mounts onto socket)  | (10pcs)                    |           | 970/P1/2     | 36.40  |

**55 series** Miniature industrial PCB mount relays (35.8 x 20.7 x 27.7 mm)**PCB mount termination (55 series)**

|                                                                                                                            |     |                           |           |         |        |
|----------------------------------------------------------------------------------------------------------------------------|-----|---------------------------|-----------|---------|--------|
| <ul style="list-style-type: none"> <li>AC and DC coil voltages</li> <li>Mounting and dedicated sockets, see J-4</li> </ul> |     |                           |           |         |        |
| 551280120000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 12 VAC  | 162.00 |
| 551280240000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 24 VAC  | 162.00 |
| 551281100000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 110 VAC | 191.00 |
| 551282400000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 230 VAC | 179.00 |
| 551290120000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 12 VDC  | 162.00 |
| 551290240000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 24 VDC  | 162.00 |
| 551290480000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 48 VDC  | 191.00 |
| 551291100000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 110 VDC | 179.00 |
| 551292200000                                                                                                               | 10A | miniature PCB mount relay | 2 ch/over | 220 VDC | 327.00 |
| 551480120000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 12 VAC  | 173.00 |
| 551480240000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 24 VAC  | 173.00 |
| 551481100000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 110 VAC | 202.00 |
| 551482400000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 230 VAC | 191.00 |
| 551490120000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 12 VDC  | 173.00 |
| 551490240000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 24 VDC  | 173.00 |
| 551490480000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 48 VDC  | 202.00 |
| 551491100000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 110 VDC | 191.00 |
| 551492200000                                                                                                               | 7A  | miniature PCB mount relay | 4 ch/over | 220 VDC | 338.00 |

## Miniature relays



Control &  
management of  
electric power



Panels for  
electrical  
distribution



Road / tunnel  
lighting



55328...



55329...



9414SMA



9434SMA



9402SPA

| type                                                                                                                                                                                                                                                                                                              | current               | description                | contact      | coil voltage | price  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------|--------------|--------------|--------|
| <b>55 series</b> Miniature industrial plug-in relays (37.2 x 20.7 x 27.7 mm)                                                                                                                                                                                                                                      |                       |                            |              |              |        |
| <b>Plug-in relays (55 series)</b>                                                                                                                                                                                                                                                                                 |                       |                            |              |              |        |
| <ul style="list-style-type: none"> <li>• 2 and 4-pole versions</li> <li>• AC and DC coil voltages</li> <li>• Plug-in or direct PCB mounting</li> <li>• Lockable test/override button (<i>plug-in version only</i>)</li> <li>• Mechanical flag indication of relay status (<i>plug-in version only</i>)</li> </ul> |                       |                            |              |              |        |
| <b>General application:</b>                                                                                                                                                                                                                                                                                       |                       |                            |              |              |        |
| - Switchboard installations, industrial automation panels, auxiliary relays, interfacing relays                                                                                                                                                                                                                   |                       |                            |              |              |        |
| <b>2 Changeover</b>                                                                                                                                                                                                                                                                                               | <i>plug-in relays</i> |                            |              |              |        |
| 553280120040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 12 VAC       | 155.00 |
| 553280240040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 24 VAC       | 155.00 |
| 553280360040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 36 VAC       | 182.00 |
| 553280480040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 48 VAC       | 182.00 |
| 553280600040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 60 VAC       | 182.00 |
| 553281100040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 110 VAC      | 182.00 |
| 553282300040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 240 VAC      | 172.00 |
| 553290120040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 12 VDC       | 155.00 |
| 553290240040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 24 VDC       | 155.00 |
| 553290360040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 36 VDC       | 182.00 |
| 553290480040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 48 VDC       | 182.00 |
| 553290600040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 60 VDC       | 182.00 |
| 553291100040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 110 VDC      | 172.00 |
| 553292200040                                                                                                                                                                                                                                                                                                      | 10A                   | miniature plug-in relay    | 2 changeover | 220 VDC      | 320.00 |
| <b>4 Changeover</b>                                                                                                                                                                                                                                                                                               | <i>plug-in relays</i> |                            |              |              |        |
| 553480120040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 12 VAC       | 165.00 |
| 553480240040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 24 VAC       | 165.00 |
| 553480360040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 36 VAC       | 194.00 |
| 553480480040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 48 VAC       | 194.00 |
| 553480600040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 60 VAC       | 194.00 |
| 553481100040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 110 VAC      | 194.00 |
| 553482400040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 240 VAC      | 175.00 |
| 553490120040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 12 VDC       | 159.00 |
| 553490240040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 24 VDC       | 159.00 |
| 553490360040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 36 VDC       | 194.00 |
| 553490480040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 48 VDC       | 194.00 |
| 553490600040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 60 VDC       | 194.00 |
| 553491100040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 110 VDC      | 182.00 |
| 553492200040                                                                                                                                                                                                                                                                                                      | 7A                    | miniature plug-in relay    | 4 changeover | 220 VDC      | 331.00 |
| Other configurations: replace <b>last two digits</b> with following: (e.g. 5532801200 <b>74</b> )                                                                                                                                                                                                                 |                       |                            |              |              |        |
| 54                                                                                                                                                                                                                                                                                                                | LED                   | internal LED indicator for |              | AC relays    | 28.75  |
| 74                                                                                                                                                                                                                                                                                                                | LED                   | internal LED indicator for |              | DC relays    | 28.75  |

### Sockets and accessories for 55 series relays

| type                                                                                   | description                                         | for relay                 | price  |
|----------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------|--------|
| <b>PCB mount</b>                                                                       |                                                     |                           |        |
| 9412SMA                                                                                | 2-pole PCB mount socket                             | (solder terminal) 5532    | 46.00  |
| 9414SMA                                                                                | 4-pole PCB mount socket                             | (solder terminal) 5534/32 | 48.00  |
| <b>Flange mount</b>                                                                    |                                                     |                           |        |
| 9432SMA                                                                                | 2-pole flange mount socket                          | (solder terminal) 5532    | 45.00  |
| 9434SMA                                                                                | 4-pole flange mount socket                          | (solder terminal) 5534    | 47.00  |
| <b>Surface/DIN mount</b>                                                               |                                                     |                           |        |
| 9402SPA*                                                                               | surface/DIN mount socket + retaining clip           | (screw terminal) 5532     | 106.00 |
| 9404SPA*                                                                               | surface/DIN mount socket + retaining clip           | (screw terminal) 5534/32  | 119.00 |
| 94P4SPA*                                                                               | surface/DIN mount socket + retaining clip           | (push-in term) 5532/34    | 154.00 |
| 05627                                                                                  | DIN rail mountable support bracket for              | 5532/34                   | 32.80  |
| * Accepts plug-in LED, diode, timing modules (plugs directly into socket) see page J-8 |                                                     |                           |        |
| 09406                                                                                  | jumper link/bridge bar for sockets                  | (8 way) 9402/04           | 57.00  |
| 09456                                                                                  | jumper link/bridge bar for sockets                  | (8 way) 94P4              | 82.00  |
| 09471                                                                                  | retaining clip for relays                           | (10 pcs) 94 series        | 43.00  |
| 46392/PS                                                                               | sheet marking tags (mounts onto retain clip/holder) | (48 pcs) 940/P2/4         | 91.00  |
| 09700                                                                                  | tag holder for 46392/PS (mounts onto socket)        | (10 pcs) 940/P2/4         | 36.40  |

## Miniature power relays

Industrial  
furnaces &  
ovensIndustrial  
motors

Control panels



5632...



5634...



9614SMA



9604SMA



6233...



9213SMA



9203SMA

| type                                                                                                                                                                                                                                                                | current                                 | description                          | contact configuration | coil voltage | price      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------|-----------------------|--------------|------------|
| <b>56 series</b> Miniature power relays (37.2 x 20.7(2-pole) 40.8(4-pole) x 27.7 mm)                                                                                                                                                                                |                                         |                                      |                       |              |            |
| <ul style="list-style-type: none"> <li>Faston 187, 4.8 x 0.5 mm termination</li> <li>Mechanical flag indication of relay status</li> <li>Lockable test/override button</li> </ul>                                                                                   |                                         |                                      |                       |              |            |
| 563280120040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 12 VAC       | 195.00     |
| 563280240040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 24 VAC       | 195.00     |
| 563280480040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 48 VAC       | 223.00     |
| 563281100040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 110 VAC      | 223.00     |
| 563282400040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 240 VAC      | 223.00     |
| 563290120040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 12 VDC       | 195.00     |
| 563290240040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 24 VDC       | 195.00     |
| 563290480040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 48 VDC       | 223.00     |
| 563290600040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 60 VDC       | 223.00     |
| 563291100040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 110 VDC      | 223.00     |
| 563292200040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 2 changeover          | 220 VDC      | 360.00     |
| 563480120040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 12 VAC       | 358.00     |
| 563480240040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 24 VAC       | 358.00     |
| 563480480040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 48 VAC       | 381.00     |
| 563481100040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 110 VAC      | 381.00     |
| 563482400040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 240 VAC      | 381.00     |
| 563490120040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 12 VDC       | 358.00     |
| 563490240040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 24 VDC       | 358.00     |
| 563490480040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 48 VDC       | 381.00     |
| 563490600040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 60 VDC       | 381.00     |
| 563491100040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 110 VDC      | 381.00     |
| 563492200040                                                                                                                                                                                                                                                        | 12A                                     | miniature power relay                | 4 changeover          | 220 VDC      | 523.00     |
| Other configurations: replace <b>last two digits</b> with following: (e.g 563280120040 <b>74</b> )                                                                                                                                                                  |                                         |                                      |                       |              |            |
| 54                                                                                                                                                                                                                                                                  | LED                                     | internal LED indicator for           |                       | AC relays    | 60.95      |
| 74                                                                                                                                                                                                                                                                  | LED                                     | internal LED indicator for           |                       | DC relays    | 60.95      |
| PCB terminals: replace 3rd digit (3) with a (4) (e.g.564280120040)                                                                                                                                                                                                  |                                         |                                      |                       |              |            |
| <b>Sockets and accessories for 56 series relays</b>                                                                                                                                                                                                                 |                                         |                                      |                       |              | for relay  |
| 9612SMA                                                                                                                                                                                                                                                             | 2-pole PCB mount socket                 | (solder terminal)                    |                       | 5632         | 50.00      |
| 9614SMA                                                                                                                                                                                                                                                             | 4-pole PCB mount socket                 | (solder terminal)                    |                       | 5634         | 59.00      |
| 9602SPA*                                                                                                                                                                                                                                                            | DIN mount socket + retaining clip       | (screw terminal)                     |                       | 5632         | 128.00     |
| 9604SMA*                                                                                                                                                                                                                                                            | DIN mount socket + metal retaining clip | (screw terminal)                     |                       | 5634         | 152.00     |
| 05627                                                                                                                                                                                                                                                               | DIN rail mountable support bracket      |                                      |                       | 5632         | 32.80      |
| 05647                                                                                                                                                                                                                                                               | DIN rail mountable support bracket      |                                      |                       | 5634         | 35.20      |
| * Accepts plug-in LED, diode, timing modules (plugs directly into socket) see page J-8                                                                                                                                                                              |                                         |                                      |                       |              | (per pack) |
| 095004                                                                                                                                                                                                                                                              | spare marking tags for sockets          | (10pcs)                              |                       | 5632         | 24.30      |
| 090002                                                                                                                                                                                                                                                              | spare marking tags for sockets          | (10pcs)                              |                       | 5634         | 24.30      |
| <b>62 series</b> Plug-in power relays (49.1 x 38.2 x 35.8 mm)                                                                                                                                                                                                       |                                         |                                      |                       |              |            |
| <ul style="list-style-type: none"> <li>Lockable test/override button</li> <li>Mechanical flag indication of relay status</li> <li>Plug-in or faston 187 (4.8 x 0.5 mm) termination</li> <li>Reinforced insulation between coil and contacts to EN60335-1</li> </ul> |                                         |                                      |                       |              |            |
| 623380120040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 12 VAC       | 239.00     |
| 623380240040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 24 VAC       | 239.00     |
| 623380480040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 48 VAC       | 261.00     |
| 623381100040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 110 VAC      | 261.00     |
| 623382400040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 240 VAC      | 255.00     |
| 623384000040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 400 VAC      | 314.00     |
| 623390120040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 12 VDC       | 239.00     |
| 623390240040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 24 VDC       | 239.00     |
| 623390480040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 48 VDC       | 261.00     |
| 623391100040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 110 VDC      | 255.00     |
| 623392200040                                                                                                                                                                                                                                                        | 16A                                     | plug-in industrial power relay       | 3 changeover          | 220 VDC      | 369.00     |
| Other configurations: replace <b>last two digits</b> with following: (e.g 6233801200 <b>74</b> ) except 220VDC/400AC                                                                                                                                                |                                         |                                      |                       |              |            |
| 54                                                                                                                                                                                                                                                                  | LED                                     | internal LED indicator for AC relays |                       |              | 53.00      |
| 74                                                                                                                                                                                                                                                                  | LED                                     | internal LED indicator for DC relays |                       |              | 53.00      |
| <b>Sockets and accessories for 62 series relays</b>                                                                                                                                                                                                                 |                                         |                                      |                       |              | for relay  |
| 9213SMA                                                                                                                                                                                                                                                             | 3-pole PCB mount socket                 | (solder terminal)                    |                       | 6233         | 50.00      |
| 9233SMA                                                                                                                                                                                                                                                             | 3-pole flange mount socket              | (solder terminal)                    |                       | 6233         | 50.00      |
| 9203SMA                                                                                                                                                                                                                                                             | 3-pole surface/DIN mount socket         | (screw terminal)                     |                       | 6233         | 169.00     |
| 06207                                                                                                                                                                                                                                                               | DIN rail mountable support bracket      | (top mount)                          |                       | 6233         | 32.80      |
| 06208                                                                                                                                                                                                                                                               | DIN rail mountable support bracket      | (rear mount)                         |                       | 6233         | 32.80      |

## Plug-in relays



Wood-processing  
machines



Industrial  
furnaces &  
ovens



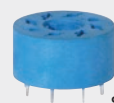
Shipyards



6012...



6013...



9015



9013



9020SMA



9026SMA



9027SMA



9048SMA



9003SMA

| type                                                                                                                                                                                                                                                                                                                                                      | current            | pins   | description                      | contact<br>configuration | coil<br>voltage | price  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------|----------------------------------|--------------------------|-----------------|--------|
| <b>60 series</b> General purpose plug-in relays (54.2 x 32.5 x 36.4 mm)                                                                                                                                                                                                                                                                                   |                    |        |                                  |                          |                 |        |
| <ul style="list-style-type: none"> <li>• AC and DC coil voltages</li> <li>• Lockable test/override button</li> <li>• 8 pin (2-pole) 11pin (3-pole) round pin plug-in termination</li> <li>• Current sensing coil available: AC: 0.1 - 2.5A / DC: 0.1 - 2.0A</li> <li>• Mechanical flag indication of relay status and manual override facility</li> </ul> |                    |        |                                  |                          |                 |        |
| 601280120040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 12 VAC          | 216.00 |
| 601280240040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 24 VAC          | 216.00 |
| 601280360040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 36 VAC          | 238.00 |
| 601280480040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 48 VAC          | 238.00 |
| 601280600040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 60 VAC          | 238.00 |
| 601281100040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 110 VAC         | 238.00 |
| 601282400040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 240 VAC         | 231.00 |
| 601284000040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 400 VAC         | 292.00 |
| 601290120040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 12 VDC          | 216.00 |
| 601290240040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 24 VDC          | 216.00 |
| 601290360040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 36 VDC          | 238.00 |
| 601290480040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 48 VDC          | 215.00 |
| 601290600040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 60 VDC          | 238.00 |
| 601291100040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 110 VDC         | 231.00 |
| 601292200040                                                                                                                                                                                                                                                                                                                                              | 10A                | 8 pin  | plug-in industrial relay         | 2 ch/over                | 220 VDC         | 348.00 |
| 601380120040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 12 VAC          | 223.00 |
| 601380240040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 24 VAC          | 223.00 |
| 601380360040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 36 VAC          | 244.00 |
| 601380480040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 48 VAC          | 244.00 |
| 601380600040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 60 VAC          | 244.00 |
| 601381100040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 110 VAC         | 244.00 |
| 601382400040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 240 VAC         | 238.00 |
| 601384000040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 400 VAC         | 299.00 |
| 601390120040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 12 VDC          | 223.00 |
| 601390240040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 24 VDC          | 223.00 |
| 601390360040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 36 VDC          | 244.00 |
| 601390480040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 48 VDC          | 244.00 |
| 601390600040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 60 VDC          | 244.00 |
| 601391100040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 110 VDC         | 238.00 |
| 601392200040                                                                                                                                                                                                                                                                                                                                              | 10A                | 11 pin | plug-in industrial relay         | 3 ch/over                | 220 VDC         | 354.00 |
| Other configurations: replace <b>last two digits</b> with following: (e.g. 6012801200 <b>54</b> ) except 220VDC/400AC                                                                                                                                                                                                                                     |                    |        |                                  |                          |                 |        |
| 54                                                                                                                                                                                                                                                                                                                                                        | LED                |        | internal LED indicator for       |                          | AC relays       | 58.65  |
| 74                                                                                                                                                                                                                                                                                                                                                        | LED                |        | internal LED indicator for       |                          | DC relays       | 58.65  |
| 46392/PS                                                                                                                                                                                                                                                                                                                                                  | sheet marking tags |        | (mounts onto retain clip/holder) | (48 pcs)                 | 6012/3          | 91.00  |

### Sockets and accessories for 60 series relays

|                          |                                        |                    | for relay |        |
|--------------------------|----------------------------------------|--------------------|-----------|--------|
| <b>Flange mount</b>      |                                        |                    |           |        |
| 9012                     | 2-pole flange mount socket             | (solder terminal)  | 6012      | 39.40  |
| <b>PCB mount</b>         |                                        |                    |           |        |
| 9014                     | 2-pole PCB mount socket                | (diameter 20.5 mm) | 6012      | 39.40  |
| 90141                    | 3-pole PCB mount socket                | (diameter 17.5 mm) | 6013      | 39.40  |
| 9015                     | 2-pole PCB mount socket                | (diameter 22.0 mm) | 6012      | 41.00  |
| 90151                    | 3-pole PCB mount socket                | (diameter 19.0 mm) | 6013      | 41.00  |
| <b>Surface/DIN mount</b> |                                        |                    |           |        |
| 9020SMA                  | surface/DIN mount socket (standard)    | (screw terminal)   | 6012      | 100.00 |
| 9021SMA                  | surface/DIN mount socket (standard)    | (screw terminal)   | 6013      | 111.00 |
| 9022SMA                  | surface/DIN mount socket (oval)        | (screw terminal)   | 6012      | 65.00  |
| 9023SMA                  | surface/DIN mount socket (oval)        | (screw terminal)   | 6013      | 76.00  |
| 9026SMA                  | surface/DIN mount socket (square)      | (screw terminal)   | 6012      | 103.00 |
| 9027SMA                  | surface/DIN mount socket (square)      | (screw terminal)   | 6013      | 115.00 |
| 9048SMA                  | surface/DIN mount socket (rectangular) | (screw terminal)   | 6012      | 146.00 |
| 9049SMA                  | surface/DIN mount socket (rectangular) | (screw terminal)   | 6013      | 165.00 |
| 9002SMA*                 | surface/DIN mount socket (for modules) | (screw terminal)   | 6012      | 109.00 |
| 9003SMA*                 | surface/DIN mount socket (for modules) | (screw terminal)   | 6013      | 121.00 |
| 09006                    | jumper link/bridge bar for sockets     | (6 way)            | 9002/3    | 75.00  |
| 090002                   | spare marking tag for sockets          | (10 pcs)           | 9002/3    | 24.30  |

\* Accepts plug-in LED, diode, timing modules (plugs directly into socket) see page J-8

## High power relays



Industrial  
washing  
machines



Air  
conditioners



Power  
generators



6531...



6531...



6682... + 06607



6682...



682...

| type                                                                                                                                                                                                                                                                                   | current | description                     | contact configuration      | coil voltage | price  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------|----------------------------|--------------|--------|
| <b>65 series Power relays (42.2 x 32.2 x 36.6 mm)</b>                                                                                                                                                                                                                                  |         |                                 |                            |              |        |
| <ul style="list-style-type: none"> <li>Flange mount with Faston 250 (6.3 x 0.5 mm) termination</li> <li>Reinforced insulation between coil and contacts to EN60335-1</li> </ul>                                                                                                        |         |                                 |                            |              |        |
| <b>20A - 1 NO + 1 NC relay</b>                                                                                                                                                                                                                                                         |         |                                 |                            |              |        |
| 653180120000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 12 VAC       | 204.00 |
| 653180240000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 24 VAC       | 204.00 |
| 653180480000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 48 VAC       | 226.00 |
| 653181100000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 110 VAC      | 226.00 |
| 653182400000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 240 VAC      | 219.00 |
| 653184000000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 400 VAC      | 276.00 |
| 653190120000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 12 VDC       | 204.00 |
| 653190240000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 24 VDC       | 204.00 |
| 653190480000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 48 VDC       | 226.00 |
| 653191100000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 110 VDC      | 219.00 |
| 653192200000                                                                                                                                                                                                                                                                           | 20A     | plug-in industrial power relay  | 1 NO + 1 NC                | 220 VDC      | 330.00 |
| <b>30A - 1 Normally open relay ≥ 3 mm contact gap</b>                                                                                                                                                                                                                                  |         |                                 |                            |              |        |
| 653180120300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 12 VAC       | 197.00 |
| 653180240300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 24 VAC       | 197.00 |
| 653180480300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 48 VAC       | 219.00 |
| 653181100300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 110 VAC      | 219.00 |
| 653182400300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 240 VAC      | 212.00 |
| 653184000300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 400 VAC      | 269.00 |
| 653190120300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 12 VDC       | 197.00 |
| 653190240300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 24 VDC       | 197.00 |
| 653190480300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 48 VDC       | 219.00 |
| 653191100300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 110 VDC      | 212.00 |
| 653192200300                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 1 NO                       | 220 VDC      | 323.00 |
| <b>Accessories for 65 series relays</b>                                                                                                                                                                                                                                                |         |                                 |                            |              |        |
| 06507                                                                                                                                                                                                                                                                                  |         | DIN rail mounting frame/bracket | (terminals facing forward) |              | 30.90  |
| 06508                                                                                                                                                                                                                                                                                  |         | DIN rail mounting frame/bracket | (terminals facing down)    |              | 30.90  |
| <b>66 series Power relays - 2-pole (31 x 67.5 x 33.5 mm)</b>                                                                                                                                                                                                                           |         |                                 |                            |              |        |
| <ul style="list-style-type: none"> <li>Faston 250 (6.3 x 0.8 mm) termination</li> <li>8 mm, 6kV (1.2/50 μs) isolation, coil-contacts, flange mount</li> </ul>                                                                                                                          |         |                                 |                            |              |        |
| <b>2-pole changeover relay - 30A NO - 10A NC</b>                                                                                                                                                                                                                                       |         |                                 |                            |              |        |
| 668280120000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 12 VAC       | 268.00 |
| 668280240000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 24 VAC       | 268.00 |
| 668281100000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 110 VAC      | 268.00 |
| 668282400000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 240 VAC      | 285.00 |
| 668290120000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 12 VDC       | 268.00 |
| 668290240000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 24 VDC       | 268.00 |
| 668291100000                                                                                                                                                                                                                                                                           | 30A     | plug-in industrial power relay  | 2 changeover               | 110 VDC      | 285.00 |
| Atex version available on request                                                                                                                                                                                                                                                      |         |                                 |                            |              |        |
| <b>Accessories for 66 series relays</b>                                                                                                                                                                                                                                                |         |                                 |                            |              |        |
| 06607                                                                                                                                                                                                                                                                                  |         | DIN rail mounting frame         | (terminals facing forward) |              | 32.80  |
| <b>67 series High power relays - 2/3-pole (57.5 x 33 x 51.5 mm)</b>                                                                                                                                                                                                                    |         |                                 |                            |              |        |
| High power PCB mount relays for use in the photovoltaic sector                                                                                                                                                                                                                         |         |                                 |                            |              |        |
| <ul style="list-style-type: none"> <li>DC coil voltage - with only 170mW holding power</li> <li>Contact gap ≥ 3 mm (according to VDE 0126-1-1, EN 62109-1, EN 62109-2)</li> <li>Suitable for use at ambient temperatures up to 85 °C (with energy-saving coil energisation)</li> </ul> |         |                                 |                            |              |        |
| <b>50A - 2-pole NO relays</b>                                                                                                                                                                                                                                                          |         |                                 |                            |              |        |
| 672290124300                                                                                                                                                                                                                                                                           | 50A     | PCB mount high power relay      | 2 NO                       | 12 VDC       | 732.00 |
| 672290244300                                                                                                                                                                                                                                                                           | 50A     | PCB mount high power relay      | 2 NO                       | 24 VDC       | 732.00 |
| <b>68 series High power 2-pole relays (57.5 x 52.2 x 52.2 mm)</b>                                                                                                                                                                                                                      |         |                                 |                            |              |        |
| High power PCB mount relays for use in the photovoltaic sector                                                                                                                                                                                                                         |         |                                 |                            |              |        |
| <ul style="list-style-type: none"> <li>DC coil voltage - with only 700mW holding power</li> <li>Contact gap ≥ 3.6 mm (according to VDE 0126-1-1, EN 62109-1, EN 62109-2)</li> <li>Suitable for use at ambient temperatures up to 85°C</li> </ul>                                       |         |                                 |                            |              |        |
| <b>100A - 2-pole NO relays</b>                                                                                                                                                                                                                                                         |         |                                 |                            |              |        |
| 682290124300                                                                                                                                                                                                                                                                           | 100A    | PCB mount high power relay      | 2 NO                       | 12 VDC       | 821.00 |
| 682290244300                                                                                                                                                                                                                                                                           | 100A    | PCB mount high power relay      | 2 NO                       | 24 VDC       | 821.00 |

## Relay accessories



Machines for  
paper processing



Packaging  
machines



Printing  
machines



9902...



9902...59



9902...99



9902...09



8630...



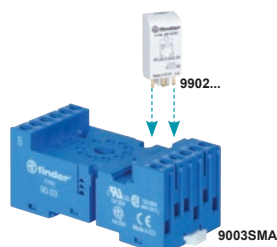
8600...

### Plug-in LED / diode / timer modules

Plug-in modules are convenient add-on devices for relays which offer LED indication (*for ease of viewing relay status from a distance*), diode protection, RC circuits, bypass and timing facilities for all socket-mounted plug-in relays. The modules simply plug into specific sockets to enhance the relays functionality.

| type                                                                                                                                                                                                                                                                                                       | LED colour | description                                    | voltage          | price         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------|------------------|---------------|
| <b>Diode module</b>                                                                                                                                                                                                                                                                                        |            |                                                |                  |               |
| Recovery diode modules are used for DC applications, reverse voltage peaks of the coil are short circuited by the recovery diode, release time is increased by a factor of 3 to 5.                                                                                                                         |            |                                                |                  |               |
| <b>9902300000</b>                                                                                                                                                                                                                                                                                          | –          | diode module ( <i>standard polarity A1/+</i> ) | 6...220 VDC      | <b>37.60</b>  |
| <b>LED module</b>                                                                                                                                                                                                                                                                                          |            |                                                |                  |               |
| Used for AC and DC, the LED indicator illuminates when the relay coil is energised. It is essential to connect "+" to terminal A1 in DC applications                                                                                                                                                       |            |                                                |                  |               |
| <b>9902002459</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED module                             | 6...24 VAC/DC    | <b>57.00</b>  |
| <b>9902006059</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED module                             | 28...60 VAC/DC   | <b>58.00</b>  |
| <b>9902023059</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED module                             | 110...240 VAC/DC | <b>57.00</b>  |
| <b>LED + diode module</b>                                                                                                                                                                                                                                                                                  |            |                                                |                  |               |
| Recovery diode + LED module are used for DC, reverse voltage peaks are short circuited by the recovery diode ( <i>positive to terminal A1</i> ), release time is increased by approximately 3 times, if this is undesirable use a Varistor or RC module. LED indicator illuminates when coil is energised. |            |                                                |                  |               |
| <b>9902902499</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED + diode module                     | 6...24 VDC       | <b>63.00</b>  |
| <b>9902906099</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED + diode module                     | 28...60 VDC      | <b>66.00</b>  |
| <b>9902922099</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED + diode module                     | 110...220 VDC    | <b>63.00</b>  |
| <b>LED + Varistor module</b>                                                                                                                                                                                                                                                                               |            |                                                |                  |               |
| LED + Varistor modules are used for AC and DC coils, reverse voltage peaks of the relay coil are limited by the Varistor to approximately 2.5 times the nominal voltage of the supply. Insignificant increase in release times.                                                                            |            |                                                |                  |               |
| <b>9902002498</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED + Varistor module                  | 6...24 VAC/DC    | <b>76.00</b>  |
| <b>9902006098</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED + Varistor module                  | 28...60 VAC/DC   | <b>77.00</b>  |
| <b>9902023098</b>                                                                                                                                                                                                                                                                                          | green      | plug-in LED + Varistor module                  | 110...240 VAC/DC | <b>76.00</b>  |
| <b>RC circuit module</b>                                                                                                                                                                                                                                                                                   |            |                                                |                  |               |
| RC circuit modules are used for AC and DC applications. The reverse voltage peaks of the coil are limited by the RC module to approximately 2.5 times the nominal supply voltage. Insignificant increase in release times. When using DC coils it is essential that positive is connected to terminal A1   |            |                                                |                  |               |
| <b>9902002409</b>                                                                                                                                                                                                                                                                                          | green      | plug-in RC module for AC and DC lines          | 6...24 VAC/DC    | <b>80.00</b>  |
| <b>9902006009</b>                                                                                                                                                                                                                                                                                          | green      | plug-in RC module for AC and DC lines          | 28...60 VAC/DC   | <b>82.00</b>  |
| <b>9902023009</b>                                                                                                                                                                                                                                                                                          | green      | plug-in RC module for AC and DC lines          | 110...240 VAC/DC | <b>80.00</b>  |
| <b>Residual current bypass module</b>                                                                                                                                                                                                                                                                      |            |                                                |                  |               |
| Bypass modules are used in applications for 110 and 220 VAC relays with a tendency to fail to release, mainly caused by residual currents from AC proximity switches or inductive coupling caused by long parallel lying AC control lines.                                                                 |            |                                                |                  |               |
| <b>9902823007</b>                                                                                                                                                                                                                                                                                          | –          | plug-in residual current bypass module         | 110...240 VAC    | <b>63.00</b>  |
| <b>Multi-function, multi-voltage timer modules</b>                                                                                                                                                                                                                                                         |            |                                                |                  |               |
| <ul style="list-style-type: none"> <li>Time range 1s, 10s, 100s, 10m, 100m, 10hr, 100hr (<i>adjustable</i>)</li> <li>Plugs directly into sockets converting standard relays into timing devices</li> <li>Can be used with <b>9002/3</b>, <b>9203</b>, <b>9604</b> sockets</li> </ul>                       |            |                                                |                  |               |
| <b>863000240000</b>                                                                                                                                                                                                                                                                                        | green      | multi-range, bi-functional timer module        | 12...24 VAC/DC   | <b>497.00</b> |
| <b>863082400000</b>                                                                                                                                                                                                                                                                                        | green      | multi-range, bi-functional timer module        | 230 VAC          | <b>558.00</b> |
| <b>860002400000</b>                                                                                                                                                                                                                                                                                        | green      | multi-range, multi-function timer module       | 12...240 VAC/DC  | <b>875.00</b> |

### Mounting for plug-in module



#### Multi-range / function timer module

- AI:** On-delay
- DI:** Interval
- SW:** Symmetrical flasher (*starting pulse on*)
- BE:** Off-delay with control signal
- CE:** On- and off-delay with control signal
- DE:** Interval with control signal on
- EE:** Interval with control signal off
- FE:** Interval with control signal on and off

## Relay interface modules

**39 series MasterINTERFACE - relay interface modules (slimline)**

- Space saving 6.2 mm wide
- Connections for 16 way jumper links (*bridging bars*)
- Integral LED coil indication and protection circuit
- Secure retention and easy ejection by plastic clip
- DIN 35 rail mounting (EN60715)

| type | current voltage | operating voltage | switching voltage | contact | type terminal | description | price |
|------|-----------------|-------------------|-------------------|---------|---------------|-------------|-------|
|------|-----------------|-------------------|-------------------|---------|---------------|-------------|-------|

**MasterPLUS series - Relay interface modules**

- For general use in any type of system or application
- Provides extra protection for the output circuit thanks to the replaceable fuse module
- Can be used for input interface applications between auxiliary contacts, sensors etc. and controllers, PLCs or motors or for output interface between PLCs controllers and relays, solenoids etc.
- Accepts output fuse module (**09363**) for quick/easy space efficient protection of output circuits

**MasterPLUS - EMR electromechanical relays** (H) 87 x (W) 6.2 x (D) 91 mm

|                     |    |           |             |           |         |                        |               |
|---------------------|----|-----------|-------------|-----------|---------|------------------------|---------------|
| <b>393100120060</b> | 6A | 12 VAC/DC | 250/400 VAC | 1 ch/over | screw   | relay interface module | <b>279.00</b> |
| <b>393100240060</b> | 6A | 24 VAC/DC | 250/400 VAC | 1 ch/over | screw   | relay interface module | <b>279.00</b> |
| <b>396100240060</b> | 6A | 24 VAC/DC | 250/400 VAC | 1 ch/over | push-in | relay interface module | <b>279.00</b> |
| <b>393182300060</b> | 6A | 230 VAC   | 250/400 VAC | 1 ch/over | screw   | relay interface module | <b>366.00</b> |

**MasterPLUS - SSR solid state relays**

|                     |    |        |              |      |         |                        |               |
|---------------------|----|--------|--------------|------|---------|------------------------|---------------|
| <b>393070129024</b> | 6A | 12 VDC | 1.5...33 VDC | 1 NO | screw   | relay interface module | <b>590.00</b> |
| <b>393070249024</b> | 6A | 24 VDC | 1.5...33 VDC | 1 NO | screw   | relay interface module | <b>590.00</b> |
| <b>396070249024</b> | 6A | 24 VDC | 1.5...33 VDC | 1 NO | push-in | relay interface module | <b>590.00</b> |
| <b>396070248240</b> | 2A | 24 VDC | 12...275 VAC | 1 NO | push-in | relay interface module | <b>620.00</b> |

**Plug-in output fuse module** - for MasterPLUS interface - accepts std 20 x 5 mm fuses up to 6A, 250 V

- Quick easy plug-in connection to socket (fuse condition visibility with inspection window)

|                  |      |           |         |                                              |               |
|------------------|------|-----------|---------|----------------------------------------------|---------------|
| <b>09363</b>     | fuse | —         | plug-in | output fuse module for MasterPLUS interface  | <b>88.00</b>  |
| <b>093630024</b> | fuse | 24 VAC/DC | plug-in | output fuse module LED fuse status indicator | <b>114.00</b> |
| <b>093638230</b> | fuse | 230 VAC   | plug-in | output fuse module LED fuse status indicator | <b>114.00</b> |

**MasterINPUT series - Relay interface module**

- Interface between auxiliary contacts, sensors, limit switches and PLCs/controllers
- Permits full termination of input devices (*no additional terminals required*)
- Quick and easy distribution of supply voltage with jumper links
- Gold plated output contacts for improved compatibility with low energy PLC inputs

**MasterINPUT - EMR electromechanical relays**

|                     |    |           |             |           |         |                        |               |
|---------------------|----|-----------|-------------|-----------|---------|------------------------|---------------|
| <b>394100245060</b> | 6A | 24 VAC/DC | 250/400 VAC | 1 ch/over | screw   | relay interface module | <b>336.00</b> |
| <b>397100245060</b> | 6A | 24 VAC/DC | 250/400 VAC | 1 ch/over | push-in | relay interface module | <b>336.00</b> |
| <b>394182305060</b> | 6A | 230 VAC   | 250/400 VAC | 1 ch/over | screw   | relay interface module | <b>423.00</b> |

**MasterINPUT - SSR solid state relays**

|                     |    |           |              |      |         |                        |               |
|---------------------|----|-----------|--------------|------|---------|------------------------|---------------|
| <b>394000249024</b> | 6A | 24 VAC/DC | 1.5...33 VDC | 1 NO | screw   | relay interface module | <b>624.00</b> |
| <b>397070249024</b> | 6A | 24 VDC    | 1.5...33 VDC | 1 NO | push-in | relay interface module | <b>590.00</b> |
| <b>394000248240</b> | 2A | 24 VAC/DC | 12...275 VAC | 1 NO | screw   | relay interface module | <b>648.00</b> |

**MasterOUTPUT series - Relay interface module**

- Interface between PLCs and controllers and output devices, valves, motors etc...
- Quick and easy distribution of supply voltage with jumper link

**MasterOUTPUT - EMR electromechanical relays**

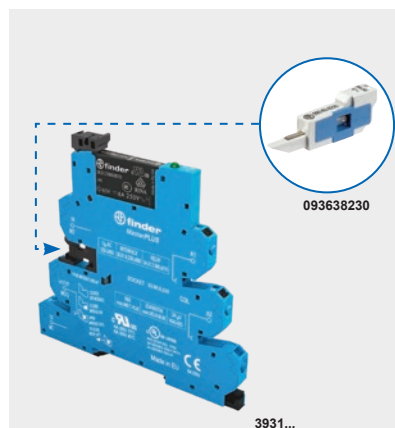
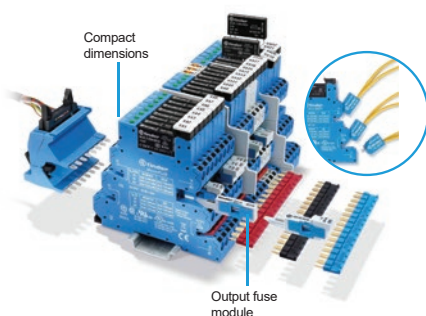
|                     |    |           |               |      |         |                        |               |
|---------------------|----|-----------|---------------|------|---------|------------------------|---------------|
| <b>392100240060</b> | 6A | 24 VAC/DC | 250 / 400 VAC | 1 NO | screw   | relay interface module | <b>279.00</b> |
| <b>395100240060</b> | 6A | 24 VAC/DC | 250 / 400 VAC | 1 NO | push-in | relay interface module | <b>279.00</b> |
| <b>392182300060</b> | 6A | 230 VAC   | 250 / 400 VAC | 1 NO | screw   | relay interface module | <b>366.00</b> |

**MasterOUTPUT - SSR solid state relays**

|                     |    |         |              |      |         |                        |               |
|---------------------|----|---------|--------------|------|---------|------------------------|---------------|
| <b>392070129024</b> | 6A | 12 VDC  | 1.5...33 VDC | 1 NO | screw   | relay interface module | <b>590.00</b> |
| <b>392070249024</b> | 6A | 24 VDC  | 1.5...33 VDC | 1 NO | screw   | relay interface module | <b>590.00</b> |
| <b>395070249024</b> | 6A | 24 VDC  | 1.5...33 VDC | 1 NO | push-in | relay interface module | <b>590.00</b> |
| <b>392082309024</b> | 2A | 230 VAC | 1.5...33 VDC | 1 NO | screw   | relay interface module | <b>624.00</b> |

Accessories for 39 series interface modules see page J-10

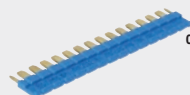
Atex version available on request



## Relay interface modules



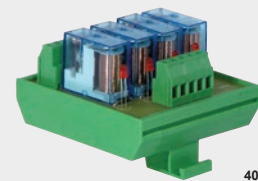
09368141



09316



3801...



4004...

### Accessories for 39 series relay interface modules

| type                                                                                                  | No. of ways | colour    | description                                                                 |                                                          | price         |
|-------------------------------------------------------------------------------------------------------|-------------|-----------|-----------------------------------------------------------------------------|----------------------------------------------------------|---------------|
| <b>16-way jumper link (bridging bar)</b>                                                              |             |           |                                                                             |                                                          |               |
| <i>- Possibility of multiple connection, side by side</i>                                             |             |           |                                                                             |                                                          |               |
| <b>09316</b>                                                                                          | 16 way      | blue      | plug-in                                                                     | plug-in jumper link ( <i>bridge bar</i> ) for interfaces | <b>73.00</b>  |
| <b>093160</b>                                                                                         | 16 way      | black     | plug-in                                                                     | plug-in jumper link ( <i>bridge bar</i> ) for interfaces | <b>73.00</b>  |
| <b>093161</b>                                                                                         | 16 way      | red       | plug-in                                                                     | plug-in jumper link ( <i>bridge bar</i> ) for interfaces | <b>73.00</b>  |
| <b>Separator dual-purpose (1.8 mm or 6.2 mm separation)</b>                                           |             |           |                                                                             |                                                          |               |
| <i>- Useful for the visual separation of different groups or voltages of neighbouring interfaces,</i> |             |           |                                                                             |                                                          |               |
| <b>09360</b>                                                                                          | partition   |           | plastic separator for interface modules ( <i>1,8 or 6.2 mm separation</i> ) |                                                          | <b>23.70</b>  |
| <b>Terminal doubler</b>                                                                               |             |           |                                                                             |                                                          |               |
| <i>- For push-in terminal sockets only</i>                                                            |             |           |                                                                             |                                                          |               |
| <i>- Max. wire size 2 x 1.5 mm²</i>                                                                   |             |           |                                                                             |                                                          |               |
| <b>09363</b>                                                                                          | doubler     | 6 A/300V  | terminal doubler (for two cables) push-in terminal sockets                  |                                                          | <b>88.00</b>  |
| <b>MasterADAPTOR - interconnects 8 interface modules (A1/A2 and power supply terminals)</b>           |             |           |                                                                             |                                                          |               |
| <i>- Connection of up to 8 interface modules to PLC outputs via 14-pole ribbon cable</i>              |             |           |                                                                             |                                                          |               |
| <b>09368141</b>                                                                                       | adaptor     | 24 VDC    | Master <b>ADAPTOR</b> easy connection of up to 8 interface modules          |                                                          | <b>552.00</b> |
| <b>09300020</b>                                                                                       | cable       | 14-pole   | PLC cable with 14-pole ribbon connector on end 2 meters                     |                                                          | <b>848.00</b> |
| <b>46392/PS</b>                                                                                       | marking     | 6 x 12 mm | sheet of 48 marking tags ( <i>mounts onto retain clip</i> )                 |                                                          | <b>91.00</b>  |

### 38 series - Relay interface module (1 pole 16A / 2-pole 8A) (H) 90 x (W) 14 x (D) 77 mm

- Sensitive DC coil or AC/DC coil versions
- Integral coil indication and protection circuit
- Easy ejection of relay using retaining clip
- DIN rail mounting (EN 60715)

| type                                                              | switch current | supply voltage | switching voltage | contact                               | type terminal | description            | price  |
|-------------------------------------------------------------------|----------------|----------------|-------------------|---------------------------------------|---------------|------------------------|--------|
| <b>Electromechanical relays</b>                                   |                |                |                   |                                       |               |                        |        |
| 380170240050*                                                     | 16A            | 24 VDC         | 250 / 400 VAC     | 1 ch/over                             | screw         | relay interface module | 366.00 |
| 380100240060*                                                     | 16A            | 24 VAC/DC      | 250 / 400 VAC     | 1 ch/over                             | screw         | relay interface module | 467.00 |
| 380102400060*                                                     | 16A            | 240 VAC        | 250 / 400 VAC     | 1 ch/over                             | screw         | relay interface module | 501.00 |
| * Currents > 10A, contact terminals must be connected in parallel |                |                |                   |                                       |               |                        |        |
| 385170240050                                                      | 6A             | 24 VDC         | 250 / 400 VAC     | 1 ch/over                             | screw         | slim interface module  | 267.00 |
| 385270120050                                                      | 8A             | 12 VDC         | 250 / 400 VAC     | 2 ch/over                             | screw         | relay interface module | 372.00 |
| 385270240050                                                      | 8A             | 24 VDC         | 250 / 400 VAC     | 2 ch/over                             | screw         | relay interface module | 372.00 |
| 385200240060                                                      | 8A             | 24 VAC/DC      | 250 / 400 VAC     | 2 ch/over                             | screw         | relay interface module | 477.00 |
| 385202400060                                                      | 8A             | 230 VAC        | 250 / 400 VAC     | 2 ch/over                             | screw         | relay interface module | 510.00 |
| <b>Solid state relays</b>                                         |                |                |                   |                                       |               |                        |        |
| 383170249024                                                      | 5A             | 24 VDC         | 1.5...24 VDC      | 1 NO                                  | screw         | relay interface module | 718.00 |
| 383170248240                                                      | 3A             | 24 VDC         | 12...275 VAC      | 1 NO                                  | screw         | relay interface module | 698.00 |
| 09308                                                             | 8-way          | blue           | plug-in           | jumper link/bridge bar for interfaces |               |                        | 67.00  |

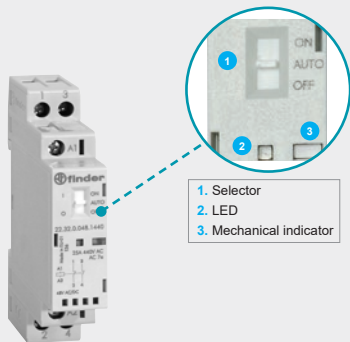
### ElectroDev - 4/8 way relay interface modules

- Incorporates LED relay status indication and diode protected coils
- Option of positive or negative common modules

|                                                  |     |                                           |            |         |       |                       |          |
|--------------------------------------------------|-----|-------------------------------------------|------------|---------|-------|-----------------------|----------|
| <b>4304 series relay interface module 4-way</b>  |     | (H) 90 x (W) 54 x (D) 30 mm (with relays) |            |         |       |                       |          |
| • 4-way DIN rail mounting relay interface module |     | (43 series relay 10A)                     |            |         |       |                       |          |
| 43049024+                                        | 10A | 24 VDC                                    | up to 400V | ch/over | 4 way | fixed relay interface | 570.00   |
| 43049024-                                        | 10A | 24 VDC                                    | up to 400V | ch/over | 4 way | fixed relay interface | 515.00   |
| <b>34 series relay interface module 8-way</b>    |     | (H) 90 x (W) 54 x (D) 45 mm (with relays) |            |         |       |                       |          |
| • 8-way DIN rail mounting relay interface module |     | (34 series relay 6A)                      |            |         |       |                       |          |
| 34089024+                                        | 6A  | 24 VDC                                    | up to 400V | ch/over | 8 way | fixed relay interface | 1 300.00 |
| 34089024-                                        | 6A  | 24 VDC                                    | up to 400V | ch/over | 8 way | fixed relay interface | 1 180.00 |
| <b>4004 series relay interface module 4-way</b>  |     | (H) 76 x (W) 71 x (D) 55 mm (with relays) |            |         |       |                       |          |
| • 4-way DIN rail mounting relay interface module |     | (40 series relay 10A)                     |            |         |       |                       |          |
| 40049024+                                        | 10A | 24 VDC                                    | up to 400V | ch/over | 4 way | fixed relay interface | 880.00   |
| 40048230-                                        | 10A | 230 VAC                                   | up to 400V | ch/over | 4 way | fixed relay interface | 873.00   |

Note: (-) denotes negative common and (+) positive common

## Modular contactors

Pump  
ControlOffice Lighting  
ControlHotel room  
energy-enabling  
units

2232...

1. Selector
2. LED
3. Mechanical indicator



2234...



02235



192100240000

## Modular contactors 25A

- Modular DIN rail mount
- Auto - On - Off selector
- Continuous duty coils and contacts
- AC/DC silent coil (*with varistor protection*)
- Mechanical flag and LED indicators as standard
- Clip-on auxiliary contact module available (*1NO+1NC or 2NO*)
- Protective separation (*reinforced insulation*) between coil and contacts

## General applications:

- Pump control
- Office lighting control
- Garden and night lighting
- Bathrooms lighting control
- Streetlights and car park lighting
- Hotel room energy enabling units

| type                                   | rated power |                   | description       | modules<br>width in<br>17.5 mm | contact<br>configuration | coil<br>voltage<br>AC/DC | price  |
|----------------------------------------|-------------|-------------------|-------------------|--------------------------------|--------------------------|--------------------------|--------|
|                                        | AC-1<br>(A) | AC-3<br>kW (230V) |                   |                                |                          |                          |        |
| 22 series - Two-pole modular contactor |             |                   | 25A               | (H) 89 x (W) 17.5 (D) 61 mm    |                          |                          |        |
| • Compact - one module (17.5 mm wide)  |             |                   |                   |                                |                          |                          |        |
| 223200124340                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NO                     | 12V                      | 684.00 |
| 223200244340                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NO                     | 24V                      | 684.00 |
| 223200484340                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NO                     | 48V                      | 684.00 |
| 223202304340                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NO                     | 230V                     | 684.00 |
| 223200124440                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NC                     | 12V                      | 684.00 |
| 223200244440                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NC                     | 24V                      | 684.00 |
| 223202304440                           | 25A         | 1.0 kW            | modular contactor | 1                              | 2 NC                     | 230V                     | 684.00 |
| 223200124540                           | 25A         | 1.0 kW            | modular contactor | 1                              | 1NO + 1NC                | 12V                      | 684.00 |
| 223200244540                           | 25A         | 1.0 kW            | modular contactor | 1                              | 1NO + 1NC                | 24V                      | 684.00 |
| 223200484540                           | 25A         | 1.0 kW            | modular contactor | 1                              | 1NO + 1NC                | 48V                      | 684.00 |
| 223202304540                           | 25A         | 1.0 kW            | modular contactor | 1                              | 1NO + 1NC                | 230V                     | 684.00 |

AC-3 single phase motor rating at 230 VAC

|                                                |     |        |                   |     |                           |      |        |
|------------------------------------------------|-----|--------|-------------------|-----|---------------------------|------|--------|
| <b>22 series - Four-pole modular contactor</b> |     |        |                   | 25A | (H) 89 x (W) 35 (D) 61 mm |      |        |
| • Compact - two modules (35 mm wide)           |     |        |                   |     |                           |      |        |
| 223400124340                                   | 25A | 4.0 kW | modular contactor | 2   | 4 NO                      | 12V  | 938.00 |
| 223400244340                                   | 25A | 4.0 kW | modular contactor | 2   | 4 NO                      | 24V  | 938.00 |
| 223402304340                                   | 25A | 4.0 kW | modular contactor | 2   | 4 NO                      | 230V | 938.00 |
| 223400124740                                   | 25A | 4.0 kW | modular contactor | 2   | 3NO + 1NC                 | 12V  | 938.00 |
| 223400244740                                   | 25A | 4.0 kW | modular contactor | 2   | 3NO + 1NC                 | 24V  | 938.00 |
| 223402304740                                   | 25A | 4.0 kW | modular contactor | 2   | 3NO + 1NC                 | 230V | 938.00 |
| 223400124640                                   | 25A | 4.0 kW | modular contactor | 2   | 2NO + 2NC                 | 12V  | 938.00 |
| 223400244640                                   | 25A | 4.0 kW | modular contactor | 2   | 2NO + 2NC                 | 24V  | 938.00 |
| 223402304640                                   | 25A | 4.0 kW | modular contactor | 2   | 2NO + 2NC                 | 230V | 938.00 |

## Accessories for above modular contactors

|                                                        |                      |                                  |       |           |        |           |        |
|--------------------------------------------------------|----------------------|----------------------------------|-------|-----------|--------|-----------|--------|
| Clip-on auxiliaries for above contactors (8.8 mm wide) |                      |                                  |       |           |        | contactor |        |
| 02235                                                  | 6A                   | clip-on auxiliary contact block  | 0.5   | 1NO + 1NC | 2232/4 |           | 466.00 |
| 02233                                                  | 6A                   | clip-on auxiliary contact block  | 0.5   | 2 NO      | 2232/4 |           | 466.00 |
| 02218                                                  | jumper               | bridge bar for 2-pole contactors | 8-way | blue      | 2232   |           | 99.00  |
| 02226                                                  | jumper               | bridge bar for 4-pole contactors | 6-way | blue      | 2234   |           | 99.00  |
| 02001                                                  | adaptor              | for chassis mounting contactors  | 1     | adaptor   | 2232   |           | 6.70   |
| 01101                                                  | adaptor              | for chassis mounting contactors  | 2     | adaptor   | 2234   |           | 7.30   |
| 02209                                                  | spacer               | rail mount heat dissipation      | 0.5   | module    | 2232/4 |           | 20.60  |
| 46392/PS                                               | marking tags (sheet) | mounts directly onto contactor   |       | (48 pcs)  | 2232/4 |           | 91.00  |

## 19 series - Modular DIN rail mount relay (H) 84 x (W) 11.2 (D) 57 mm

Ideally suited for industrial control systems applications to control pumps, blowers or motor groups. Allows automatic control of pumps, blowers, groups of motors or in case of maintenance or failure, forcing the controlled load to "Off" or "On".

- 3 function selector switch
  - Auto: works as a monostable relay
  - Off: relay permanently OFF
  - On: relay permanently ON
- Slimline (11.2 mm wide) modular relay
- LED indication - auto-off-on selector
- DIN rail mounting

|              |     |          |               |              |           |        |
|--------------|-----|----------|---------------|--------------|-----------|--------|
| 192100240000 | 10A | slimline | modular relay | 1 changeover | 24 VAC/DC | 752.00 |
|--------------|-----|----------|---------------|--------------|-----------|--------|

## Modular step relays

### Modular step relays

Allows you to perform up to 6 sequences to achieve maximum flexibility for every application.

#### General applications:

- Bedroom light control
- Living room light control
- Automation for blinds, grilles and shutters
- Lighting control in corridors (*for hotels, offices and hospitals*)



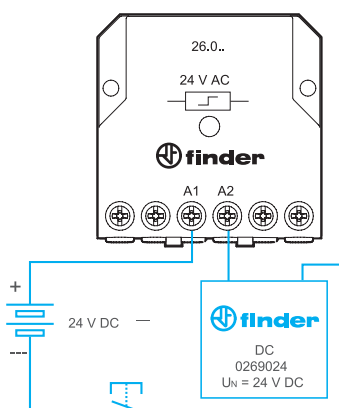
2603...



2023...

| type                                                                                                                                                                                                                                                                                       | switch<br>current                          | No.<br>steps | description              | contact<br>configuration | coil<br>voltage | price         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------|--------------------------|--------------------------|-----------------|---------------|
| <b>26 series - Step relays</b> (pulse "ON", pulse "OFF") (H) 46,6 x (W) 45 (D) 22 mm                                                                                                                                                                                                       |                                            |              |                          |                          |                 |               |
| <ul style="list-style-type: none"><li>• AC coil</li><li>• Panel mount</li><li>• Base/chassis mounting</li><li>• Screw terminal connections</li><li>• Maximum pulse duration: 1 hour</li><li>• Electrically separated coils and contact circuits</li></ul>                                  |                                            |              |                          |                          |                 |               |
| <b>260380120000</b>                                                                                                                                                                                                                                                                        | 10A                                        | 2 step       | base mounting step relay | 1NO+1NC                  | 12 VAC          | <b>313.00</b> |
| <b>260380240000</b>                                                                                                                                                                                                                                                                        | 10A                                        | 2 step       | base mounting step relay | 1NO+1NC                  | 24 VAC          | <b>313.00</b> |
| <b>260381100000</b>                                                                                                                                                                                                                                                                        | 10A                                        | 2 step       | base mounting step relay | 1NO+1NC                  | 110 VAC         | <b>313.00</b> |
| <b>260382300000</b>                                                                                                                                                                                                                                                                        | 10A                                        | 2 step       | base mounting step relay | 1NO+1NC                  | 230 VAC         | <b>313.00</b> |
| <b>0269012</b>                                                                                                                                                                                                                                                                             | module for operating 26 series relays with |              |                          | DC supply                | 12 VDC          | <b>246.00</b> |
| <b>0269024</b>                                                                                                                                                                                                                                                                             | module for operating 26 series relays with |              |                          | DC supply                | 24 VDC          | <b>246.00</b> |
| <b>20 series - Modular step relays</b> (H) 84 x (W) 17.5 x (D) 57 mm                                                                                                                                                                                                                       |                                            |              |                          |                          |                 |               |
| <ul style="list-style-type: none"><li>• AC and DC coils</li><li>• Modular DIN rail mounting</li><li>• Compact one module (17.5 mm) wide</li><li>• Maximum pulse duration: 1 hour</li><li>• Manual override/test button</li><li>• Mechanical flag indicators of contact positions</li></ul> |                                            |              |                          |                          |                 |               |
| <b>202380120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 2 step       | modular pulse step relay | 2 contact                | 12 VAC          | <b>509.00</b> |
| <b>202380240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 2 step       | modular pulse step relay | 2 contact                | 24 VAC          | <b>509.00</b> |
| <b>202382300000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 2 step       | modular pulse step relay | 2 contact                | 230 VAC         | <b>509.00</b> |
| <b>202390120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 2 step       | modular pulse step relay | 2 contact                | 12 VDC          | <b>509.00</b> |
| <b>202390240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 2 step       | modular pulse step relay | 2 contact                | 24 VDC          | <b>509.00</b> |
| <b>202680120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 3 step       | modular pulse step relay | 2 contact                | 12 VAC          | <b>509.00</b> |
| <b>202680240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 3 step       | modular pulse step relay | 2 contact                | 24 VAC          | <b>509.00</b> |
| <b>202682300000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 3 step       | modular pulse step relay | 2 contact                | 230 VAC         | <b>509.00</b> |
| <b>202690120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 3 step       | modular pulse step relay | 2 contact                | 12 VDC          | <b>509.00</b> |
| <b>202690240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 3 step       | modular pulse step relay | 2 contact                | 24 VDC          | <b>509.00</b> |
| <b>202480120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 12 VAC          | <b>509.00</b> |
| <b>202480240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 24 VAC          | <b>509.00</b> |
| <b>202482300000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 230 VAC         | <b>509.00</b> |
| <b>202490120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 12 VDC          | <b>509.00</b> |
| <b>202490240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 24 VDC          | <b>509.00</b> |
| <b>202880120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 12 VAC          | <b>509.00</b> |
| <b>202880240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 24 VAC          | <b>509.00</b> |
| <b>202882300000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 230 VAC         | <b>509.00</b> |
| <b>202890120000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 12 VDC          | <b>509.00</b> |
| <b>202890240000</b>                                                                                                                                                                                                                                                                        | 16A                                        | 4 step       | modular pulse step relay | 2 contact                | 24 VDC          | <b>509.00</b> |

#### Modular step relay



20 series Sequence Table

| Type  | No of steps | Sequence |   |   |   |
|-------|-------------|----------|---|---|---|
|       |             | 1        | 2 | 3 | 4 |
| 20.23 | 2           |          |   |   |   |
| 20.26 | 3           |          |   |   |   |
| 20.24 | 4           |          |   |   |   |
| 20.28 | 4           |          |   |   |   |

## Solid state relays

## Okpac® SO series power relays

All **Celduc SSRs** (*Solid State Relays*) are fitted with back-to-back thyristors and employ 4th generation TMS<sup>2</sup> technology with a very long lifetime expectancy.

- Very high immunity according to IEC/EN 61000-4-4 (*bursts*) and IEC/EN 61000-4-5 (*spikes*)
- UL/cUL, VDE (EN 60950), IEC/EN 60947-4-3, CE marking
- Regulated input current
- EMC compatible for industrial environment
- Control status LED

**Note:** All current ratings are based on utilising SSRs with suitable heat sink.  
Consult product datasheet for inductive applications (motors - AC53)



SO942460



SO867070



SO765090



WF151200

| type | thyristor rating | switching voltage | peak voltage | control voltage | I <sub>ft</sub> | description | price |
|------|------------------|-------------------|--------------|-----------------|-----------------|-------------|-------|
|------|------------------|-------------------|--------------|-----------------|-----------------|-------------|-------|

**SO9 series** for resistive loads (AC-51) - heating (H) 58.5 x (W) 45 x (D) 30 mm

- Zero-cross switching specifically designed for resistive loads
- Input overvoltage protection

|                 |     |              |       |              |                      |                   |                 |
|-----------------|-----|--------------|-------|--------------|----------------------|-------------------|-----------------|
| <b>SO941460</b> | 12A | 12 - 280 VAC | 600V  | 3 - 32 VDC   | 128A <sup>2</sup> s  | solid state relay | <b>486.00</b>   |
| <b>SO942460</b> | 25A | 12 - 280 VAC | 600V  | 3 - 32 VDC   | 600A <sup>2</sup> s  | solid state relay | <b>589.00</b>   |
| <b>SO943460</b> | 40A | 12 - 280 VAC | 600V  | 3 - 32 VDC   | 1250A <sup>2</sup> s | solid state relay | <b>665.00</b>   |
| <b>SO945460</b> | 50A | 12 - 280 VAC | 600V  | 3 - 32 VDC   | 2800A <sup>2</sup> s | solid state relay | <b>697.00</b>   |
| <b>SO965460</b> | 60A | 24 - 600 VAC | 1200V | 3.5 - 32 VDC | 2800A <sup>2</sup> s | solid state relay | <b>794.00</b>   |
| <b>SO967460</b> | 90A | 24 - 600 VAC | 1200V | 3.5 - 32 VDC | 7200A <sup>2</sup> s | solid state relay | <b>1 060.00</b> |

**SO8 series** for most load types - lamps and infrared (H) 58.5 x (W) 45 x (D) 30 mm

- Zero-cross switching with low zero-crossing level (<12V) for most loads
- Voltage protection on input (*transil*) and output (VDR)

**DC control**

|                 |      |              |       |              |                       |                   |                 |
|-----------------|------|--------------|-------|--------------|-----------------------|-------------------|-----------------|
| <b>SO842074</b> | 25A  | 12 - 275 VAC | 600V  | 3 - 32 VDC   | 600A <sup>2</sup> s   | solid state relay | <b>811.00</b>   |
| <b>SO845070</b> | 50A  | 12 - 275 VAC | 600V  | 3 - 32 VDC   | 2800A <sup>2</sup> s  | solid state relay | <b>972.00</b>   |
| <b>SO865070</b> | 50A  | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 2800A <sup>2</sup> s  | solid state relay | <b>1 160.00</b> |
| <b>SO867070</b> | 75A  | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 7200A <sup>2</sup> s  | solid state relay | <b>1 670.00</b> |
| <b>SO868070</b> | 95A  | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 16200A <sup>2</sup> s | solid state relay | <b>2 290.00</b> |
| <b>SO869070</b> | 125A | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 22000A <sup>2</sup> s | solid state relay | <b>3 030.00</b> |

**AC control**

|                 |      |              |       |                 |                       |                   |                 |
|-----------------|------|--------------|-------|-----------------|-----------------------|-------------------|-----------------|
| <b>SO842974</b> | 25A  | 12 - 275 VAC | 600V  | 20 - 265 VAC/DC | 600A <sup>2</sup> s   | solid state relay | <b>811.00</b>   |
| <b>SO865970</b> | 50A  | 24 - 510 VAC | 1200V | 20 - 265 VAC/DC | 2800A <sup>2</sup> s  | solid state relay | <b>1 280.00</b> |
| <b>SO867970</b> | 75A  | 24 - 510 VAC | 1200V | 20 - 265 VAC/DC | 7200A <sup>2</sup> s  | solid state relay | <b>1 980.00</b> |
| <b>SO868970</b> | 95A  | 24 - 510 VAC | 1200V | 20 - 265 VAC/DC | 16200A <sup>2</sup> s | solid state relay | <b>2 400.00</b> |
| <b>SO869970</b> | 125A | 24 - 510 VAC | 1200V | 20 - 265 VAC/DC | 22000A <sup>2</sup> s | solid state relay | <b>3 120.00</b> |

**SO7 series** suitable for (AC-53) inductive loads and phase angle control applications

- Random switching solid state relay designed for high inductive loads, motors (AC-53)
- Large control voltage range 3.5-32 VDC with input current limiter
- Over-Voltage protection on input (*transil*) and output (RC and VDR)

**DC control** (AC51)

|                 |     |              |       |              |                       |                   |                 |
|-----------------|-----|--------------|-------|--------------|-----------------------|-------------------|-----------------|
| <b>SO765090</b> | 50A | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 2800A <sup>2</sup> s  | solid state relay | <b>1 670.00</b> |
| <b>SO767090</b> | 75A | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 7200A <sup>2</sup> s  | solid state relay | <b>2 340.00</b> |
| <b>SO768090</b> | 95A | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 16200A <sup>2</sup> s | solid state relay | <b>2 600.00</b> |

**SOB series** two phase SSRs

- Dual zero cross solid state relay with LED indication for each input
- Plug-in control terminals (*connector to be ordered separately*)

**SOB9** designed for resistive loads

|                  |         |              |       |             |                      |                                                         |                 |
|------------------|---------|--------------|-------|-------------|----------------------|---------------------------------------------------------|-----------------|
| <b>SOB965660</b> | 2 x 50A | 24 - 600 VAC | 1200V | 10 - 30 VDC | 2500A <sup>2</sup> s | solid state relay                                       | <b>3 110.00</b> |
| <b>1Y042715</b>  |         |              |       |             |                      | plug-in input screw terminal for above dual phase relay | <b>129.00</b>   |

**Accessories** for above SO series relays

| type | thermal rating | description | dimensions (mm) |     |     | price |
|------|----------------|-------------|-----------------|-----|-----|-------|
|      |                |             | (H)             | (W) | (D) |       |

**Heatsinks** SSR current ratings are based on sufficient cooling by the use of heatsinks

|                 |         |                                                                          |    |     |     |                 |
|-----------------|---------|--------------------------------------------------------------------------|----|-----|-----|-----------------|
| <b>WF151200</b> | 2.2K/W  | DIN rail mountable heatsink for SO series relays                         | 80 | 45  | 73  | <b>464.00</b>   |
| <b>WF108110</b> | 1.1K/W  | DIN rail mountable heatsink for SO series relays                         | 98 | 90  | 81  | <b>669.00</b>   |
| <b>WF115100</b> | 0.9K/W  | DIN rail mountable heatsink for SO series relays                         | 90 | 110 | 100 | <b>2 090.00</b> |
| <b>5TH23000</b> | pads    | thermal transfer pads for mounting SO solid state relays onto heat sinks |    |     |     | <b>15.10</b>    |
| <b>1LD12020</b> | adaptor | adaptor for direct mounting of SO relays on DIN rail                     |    |     |     | <b>140.00</b>   |

## Solid state relays

## Celpac® SU series power relays (Pluggable control terminals)

All Celduc SSRs (Solid State Relays) are fitted with back-to-back thyristors and employ 4th generation TMS<sup>2</sup> technology with a very long life expectancy.

- Cost-effective, reliable and compact solution (22.5 mm pitch SSR solution)
- Mounting configuration compatible with all standard hockey puck style relays
- Over-voltage protection on input (transil)
- IP20 terminal protection cover (removable)
- Control status LED indication

**Note:** Current ratings are based on utilising SSRs with suitable heat sink.  
Consult product datasheet for inductive applications (motors - AC53)

| type | thyristor rating | switching voltage | peak voltage | control voltage | I <sup>2</sup> t | description | price |
|------|------------------|-------------------|--------------|-----------------|------------------|-------------|-------|
|------|------------------|-------------------|--------------|-----------------|------------------|-------------|-------|

**SU9 series** for resistive loads (AC-51) - heating (H) 90 x (W) 22.5 x (D) 42 mm

- Zero-cross switching specifically designed for resistive loads

|                 |     |              |       |              |                      |                   |                 |
|-----------------|-----|--------------|-------|--------------|----------------------|-------------------|-----------------|
| <b>SU942460</b> | 25A | 12 - 280 VAC | 600V  | 3 - 32 VDC   | 600A <sup>2</sup> s  | solid state relay | <b>606.00</b>   |
| <b>SU963460</b> | 35A | 24 - 600 VAC | 1200V | 3.5 - 32 VDC | 882A <sup>2</sup> s  | solid state relay | <b>766.00</b>   |
| <b>SU965460</b> | 50A | 24 - 600 VAC | 1200V | 3.5 - 32 VDC | 1680A <sup>2</sup> s | solid state relay | <b>819.00</b>   |
| <b>SU967460</b> | 75A | 24 - 600 VAC | 1200V | 3.5 - 32 VDC | 7200A <sup>2</sup> s | solid state relay | <b>1 090.00</b> |

**SU8 series** for most load types - lamps and infrared (H) 90 x (W) 22.5 x (D) 42 mm

- Zero-cross switching with low zero-crossing level (<12V) for most loads

**DC control**

|                 |     |              |       |              |                      |                   |                 |
|-----------------|-----|--------------|-------|--------------|----------------------|-------------------|-----------------|
| <b>SU842070</b> | 25A | 12 - 275 VAC | 600V  | 3 - 32 VDC   | 600A <sup>2</sup> s  | solid state relay | <b>836.00</b>   |
| <b>SU865070</b> | 50A | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 1680A <sup>2</sup> s | solid state relay | <b>1 200.00</b> |
| <b>SU867070</b> | 75A | 24 - 510 VAC | 1200V | 3.5 - 32 VDC | 7200A <sup>2</sup> s | solid state relay | <b>1 690.00</b> |

**AC control**

|                 |     |              |       |               |                      |                   |                 |
|-----------------|-----|--------------|-------|---------------|----------------------|-------------------|-----------------|
| <b>SU842970</b> | 25A | 12 - 275 VAC | 600V  | 160 - 240 VAC | 600A <sup>2</sup> s  | solid state relay | <b>826.00</b>   |
| <b>SU865970</b> | 50A | 24 - 510 VAC | 1200V | 160 - 240 VAC | 1680A <sup>2</sup> s | solid state relay | <b>1 290.00</b> |

**Accessories for SU series SSRs**
**ESUC** current monitoring module for SU range

Mounted directly onto SU or SUL devices, this module provides diagnostic information for up to 5 heating elements in parallel.

|                 |         |            |                           |                 |
|-----------------|---------|------------|---------------------------|-----------------|
| <b>ESUC0450</b> | 2 - 40A | 8 - 30 VDC | current monitoring module | <b>2 730.00</b> |
|-----------------|---------|------------|---------------------------|-----------------|

**Heatsinks** SSR current ratings are based on sufficient cooling by the use of heatsinks

| type            | thermal rating | description                                                 | dimensions (mm) |      |     | price         |
|-----------------|----------------|-------------------------------------------------------------|-----------------|------|-----|---------------|
|                 |                |                                                             | (H)             | (W)  | (D) |               |
| <b>WF311100</b> | 3.0 K/W        | DIN rail mountable heatsink for SU series relays            | 80              | 22.5 | 73  | <b>633.00</b> |
| <b>WF151200</b> | 2.2 K/W        | DIN rail mountable heatsink for SU series relays            | 80              | 45   | 73  | <b>464.00</b> |
| <b>WF112100</b> | 1 K/W          | DIN rail mountable heatsink for SU series relays            | 120             | 50   | 118 | <b>722.00</b> |
| <b>5TH24000</b> | pads           | thermal transfer pads for mounting SU relays onto heatsinks |                 |      |     | <b>19.50</b>  |

**SSR + Heatsink complete unit** ready for use

| type | thyristor rating | switching current 25°C | switching voltage | peak voltage | I <sup>2</sup> t | control voltage | price |
|------|------------------|------------------------|-------------------|--------------|------------------|-----------------|-------|
|------|------------------|------------------------|-------------------|--------------|------------------|-----------------|-------|

**SUL9 range** for resistive loads (AC-51) - heating (H) 90 x (W) 22.5 x (D) 112 mm

|                  |     |     |              |      |                     |            |                 |
|------------------|-----|-----|--------------|------|---------------------|------------|-----------------|
| <b>SUL942460</b> | 25A | 23A | 12 - 280 VAC | 600V | 600A <sup>2</sup> s | 3 - 32 VDC | <b>1 430.00</b> |
|------------------|-----|-----|--------------|------|---------------------|------------|-----------------|

**SUL 8 range** - for most load types - lamps and infrared (H) 90 x (W) 22.5 x (D) 112 mm

**DC control**

|                  |     |     |              |      |                     |            |                 |
|------------------|-----|-----|--------------|------|---------------------|------------|-----------------|
| <b>SUL842070</b> | 25A | 23A | 12 - 275 VAC | 600V | 600A <sup>2</sup> s | 3 - 32 VDC | <b>1 850.00</b> |
|------------------|-----|-----|--------------|------|---------------------|------------|-----------------|

**AC control** (H) 90 x (W) 22.5 x (D) 112 mm

|                  |     |     |              |       |                      |               |                 |
|------------------|-----|-----|--------------|-------|----------------------|---------------|-----------------|
| <b>SUL842970</b> | 25A | 23A | 12 - 275 VAC | 600V  | 600A <sup>2</sup> s  | 160 - 240 VAC | <b>826.00</b>   |
| <b>SUL865970</b> | 50A | 32A | 24 - 510 VAC | 1200V | 1680A <sup>2</sup> s | 160 - 240 VAC | <b>1 290.00</b> |

**Fuse protection of solid state relays**

**Type 2 coordination:** In case of short circuit the protection device must react before damaging the SSR, rendering the SSR suitable for further use.

*Ultra-fast fuses must be used to protect solid state relays against short-circuits of the load.  
The I<sup>2</sup>t value of the fuse must be less than half of the typical I<sup>2</sup>t value of the solid state relay.*



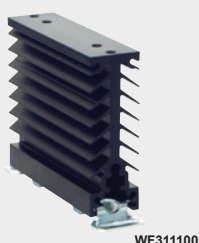
SU963460



SU865070



ESUC0450



WF311100

## Solid state relays



SO465420



SOM040200



SCI0251700



WF151200

| type                                                                                                                                                                                                                                                                                                                                                                                                            | thyristor rating | switching voltage                                  | peak voltage | control voltage | description                   |           |     | price    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------|--------------|-----------------|-------------------------------|-----------|-----|----------|
| SO4 series - Proportional controllers                                                                                                                                                                                                                                                                                                                                                                           |                  |                                                    |              |                 | (H) 58.5 x (W) 45 x (D) 30 mm |           |     |          |
| <ul style="list-style-type: none"><li>Control status LED</li><li>Overvoltage protection by varistor</li><li>IP20 protection cover (<i>removeable</i>)</li><li>4-20mA / 0-10V / Potentiometer control</li><li>Analog switching SSR for resistive load power control (<i>phase angle principle</i>)</li></ul>                                                                                                     |                  |                                                    |              |                 |                               |           |     |          |
| 4-20mA control current input                                                                                                                                                                                                                                                                                                                                                                                    |                  |                                                    |              |                 |                               |           |     |          |
| SO465420                                                                                                                                                                                                                                                                                                                                                                                                        | 50A              | 200 - 480 VAC                                      | —            | 4-20mA          | proportional output SSR       | 2 710.00  |     |          |
| SO467420                                                                                                                                                                                                                                                                                                                                                                                                        | 75A              | 200 - 480 VAC                                      | —            | 4-20mA          | proportional output SSR       | 3 110.00  |     |          |
| SO468420                                                                                                                                                                                                                                                                                                                                                                                                        | 95A              | 200 - 480 VAC                                      | —            | 4-20mA          | proportional output SSR       | 3 480.00  |     |          |
| SO469420                                                                                                                                                                                                                                                                                                                                                                                                        | 125A             | 200 - 480 VAC                                      | —            | 4-20mA          | proportional output SSR       | 4 200.00  |     |          |
| 0-10V Analog input                                                                                                                                                                                                                                                                                                                                                                                              |                  |                                                    |              |                 |                               |           |     |          |
| <ul style="list-style-type: none"><li>Control supply voltage 8 - 30 VDC</li></ul>                                                                                                                                                                                                                                                                                                                               |                  |                                                    |              |                 |                               |           |     |          |
| SO465020                                                                                                                                                                                                                                                                                                                                                                                                        | 50A              | 200 - 480 VAC                                      | —            | 0-10V           | proportional output SSR       | 2 980.00  |     |          |
| SO468020                                                                                                                                                                                                                                                                                                                                                                                                        | 95A              | 200 - 480 VAC                                      | —            | 0-10V           | proportional output SSR       | 3 800.00  |     |          |
| SO469020                                                                                                                                                                                                                                                                                                                                                                                                        | 125A             | 200 - 480 VAC                                      | —            | 0-10V           | proportional output SSR       | 4 570.00  |     |          |
| Potentiometer analog input                                                                                                                                                                                                                                                                                                                                                                                      |                  |                                                    |              |                 |                               |           |     |          |
| <ul style="list-style-type: none"><li>Control supply voltage 8 - 30 VDC</li></ul>                                                                                                                                                                                                                                                                                                                               |                  |                                                    |              |                 |                               |           |     |          |
| SO465320                                                                                                                                                                                                                                                                                                                                                                                                        | 50A              | 200 - 480 VAC                                      | —            | resistance      | proportional output SSR       | 2 980.00  |     |          |
| SOM series - Latest MOSFET technology generation                                                                                                                                                                                                                                                                                                                                                                |                  |                                                    |              |                 | (H) 58.5 x (W) 45 x (D) 30 mm |           |     |          |
| <ul style="list-style-type: none"><li>MOSFET technology</li><li>Ultra low on-state resistance</li><li>Built-in overvoltage protection</li><li>DC solid state relays DC-in, DC-out</li><li>Low output leakage current and control current</li><li>Designed to switch DC loads e.g solenoid valves, brakes, indicators</li></ul>                                                                                  |                  |                                                    |              |                 |                               |           |     |          |
| SOM020100                                                                                                                                                                                                                                                                                                                                                                                                       | 20A              | 5 - 60 VDC                                         | 100V         | 3.5 - 32 VDC    | DC output solid state relay   | 1 370.00  |     |          |
| SOM040200                                                                                                                                                                                                                                                                                                                                                                                                       | 40A              | 5 - 110 VDC                                        | 200V         | 3.5 - 32 VDC    | DC output solid state relay   | 1 840.00  |     |          |
| IGBT technology for high DC voltage applications                                                                                                                                                                                                                                                                                                                                                                |                  |                                                    |              |                 |                               |           |     |          |
| SCI series - Integrated reverse diode                                                                                                                                                                                                                                                                                                                                                                           |                  |                                                    |              |                 | (H) 58.2 x (W) 45 x (D) 27 mm |           |     |          |
| <ul style="list-style-type: none"><li>Ultra low output leakage current</li><li>Low control current consumption</li><li>Low conducted and radiated disturbances</li><li>Latest high voltage IGBT technology generation</li><li>Triggered control input to avoid linear control risks</li><li>New innovative isolated driver ensures fast power transistor turn on and off ensuring low power transient</li></ul> |                  |                                                    |              |                 |                               |           |     |          |
| SCI0251700                                                                                                                                                                                                                                                                                                                                                                                                      | 25A              | 0 - 1700 VDC                                       | 1700V        | 4.5 - 32 VDC    | DC output solid state relay   | 27 000.00 |     |          |
| SCI0501200                                                                                                                                                                                                                                                                                                                                                                                                      | 50A              | 0 - 1200 VDC                                       | 1200V        | 4.5 - 32 VDC    | DC output solid state relay   | 14 400.00 |     |          |
| SCI0100600                                                                                                                                                                                                                                                                                                                                                                                                      | 100A             | 0 - 600 VDC                                        | 600V         | 4.5 - 32 VDC    | DC output solid state relay   | 14 400.00 |     |          |
| SDI series - Integrated protection                                                                                                                                                                                                                                                                                                                                                                              |                  |                                                    |              |                 | (H) 157 x (W) 68 x (D) 83 mm  |           |     |          |
| <ul style="list-style-type: none"><li>Overvoltage protection</li><li>Load short circuit protection</li><li>Overload temperature protection</li></ul>                                                                                                                                                                                                                                                            |                  |                                                    |              |                 |                               |           |     |          |
| SDI0501700                                                                                                                                                                                                                                                                                                                                                                                                      | 50A              | 24 - 940 VDC                                       | 1700V        | 24 - 48 VDC     | DC output solid state relay   | 44 400.00 |     |          |
| SDI0501710                                                                                                                                                                                                                                                                                                                                                                                                      | 50A              | 24 - 940 VDC                                       | 1700V        | 72- 110 VDC     | DC output solid state relay   | 44 400.00 |     |          |
| Accessories                                                                                                                                                                                                                                                                                                                                                                                                     |                  | for above solid state relays                       |              |                 |                               |           |     |          |
| type                                                                                                                                                                                                                                                                                                                                                                                                            | thermal rating   | description                                        |              |                 | dimensions (mm)               |           |     | price    |
|                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |                                                    |              |                 | (H)                           | (W)       | (D) |          |
| Heatsinks      SSR current ratings are based on sufficient cooling by the use of heatsinks                                                                                                                                                                                                                                                                                                                      |                  |                                                    |              |                 |                               |           |     |          |
| WF151200                                                                                                                                                                                                                                                                                                                                                                                                        | 2.2K/W           | rail mountable heatsink for SO,SC series relays    |              |                 | 80                            | 45        | 72  | 464.00   |
| WF108110                                                                                                                                                                                                                                                                                                                                                                                                        | 1.1K/W           | rail mountable heatsink for SO,SC series relays    |              |                 | 98                            | 90        | 78  | 669.00   |
| WF115100                                                                                                                                                                                                                                                                                                                                                                                                        | 0.9K/W           | rail mountable heatsink for SO,SC series relays    |              |                 | 90                            | 110       | 100 | 2 090.00 |
| 5TH23000                                                                                                                                                                                                                                                                                                                                                                                                        | pads             | thermal transfer pads for SO,SC solid state relays |              |                 |                               |           |     | 15.10    |
| 1LD12020                                                                                                                                                                                                                                                                                                                                                                                                        | adaptor          | adaptor for mounting heat sinks on DIN rail        |              |                 |                               |           |     | 140.00   |

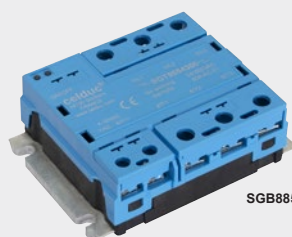
## Three-phase solid state relays



SMB8650510



SMT8620520



SGB8850200



SGT8670500

### Three-phase solid state relays

All three-phase solid state relays incorporate new high efficiency back to back thyristors on output with TMS<sup>2</sup> technology for a long lifetime expectancy and high surge currents.

- Three-phase Zero Cross solid state relays
- Control status LED
- Conforms to: IEC/EN 60947-4-3, CEI 62314, UL-cUL

**Note:** Current ratings are based on utilising SSRs with suitable heat sink.  
Consult product datasheet for inductive applications (motors - AC53)

| type | max.<br>thyristor<br>rating | switching<br>current<br>AC-51 (40°C) | switching<br>voltage | peak<br>voltage | control<br>voltage | I <sup>2</sup> t | price |
|------|-----------------------------|--------------------------------------|----------------------|-----------------|--------------------|------------------|-------|
|------|-----------------------------|--------------------------------------|----------------------|-----------------|--------------------|------------------|-------|

#### Sightpac series - Three-phase solid state relays (H) 100 x (W) 45 x (D) 48 mm

##### SMB series - Two leg Three-phase solid state relay (New compact - 45 mm wide version)

Designed for controlling three-phase loads connected in star or delta (if balanced)  
Two of the Three-phases are switched by the SSR the third phase being directly connected

- Three-phase Zero Cross solid state relay with one direct connected phase
- Designed for resistive loads

|                   |         |         |               |       |            |                      |                 |
|-------------------|---------|---------|---------------|-------|------------|----------------------|-----------------|
| <b>SMB8650510</b> | 2 x 50A | 3 x 30A | 24 - 520 VAC  | 1600V | 4 - 30 VDC | 2800A <sup>2</sup> s | <b>3 450.00</b> |
| <b>SMB8670910</b> | 2 x 75A | 3 x 35A | 150 - 520 VAC | 1600V | 4 - 30 VDC | 7200A <sup>2</sup> s | <b>4 320.00</b> |

##### SMT series - Three-phase solid state relay - for controlling three-wire three-phase loads

- Three-phase Zero Cross solid state relay (SSR) designed for most load types
- Plug-in control terminals and spring clamp power terminals

|                   |         |         |              |       |                 |                     |                 |
|-------------------|---------|---------|--------------|-------|-----------------|---------------------|-----------------|
| <b>SMT8620520</b> | 3 x 25A | 3 x 20A | 24 - 520 VAC | 1200V | 4 - 30 VDC      | 380A <sup>2</sup> s | <b>2 540.00</b> |
| <b>SMT8628520</b> | 3 x 25A | 3 x 20A | 24 - 520 VAC | 1200V | 24 - 255 VAC/DC | 380A <sup>2</sup> s | <b>2 560.00</b> |

#### Cel3pac series - Three-phase solid state relays (H) 100 x (W) 76.5 x (D) 35.5 mm

##### SGB series - Two leg Three-phase solid state relays

Designed for controlling three-phase loads connected in star or delta (if balanced)  
Two of the Three-phases are switched by the SSR with the third being directly connected

- Three-phase Zero Cross solid state relay with one direct connected phase
- Designed for resistive loads

|                   |          |         |              |       |            |                       |                 |
|-------------------|----------|---------|--------------|-------|------------|-----------------------|-----------------|
| <b>SGB8850200</b> | 2 x 50A  | 3 x 50A | 24 - 640 VAC | 1600V | 4 - 30 VDC | 2800A <sup>2</sup> s  | <b>3 130.00</b> |
| <b>SGB8890200</b> | 2 x 125A | 3 x 85A | 24 - 640 VAC | 1600V | 4 - 30 VDC | 22000A <sup>2</sup> s | <b>5 090.00</b> |

#### SGT series - Three-phase solid state relays - for controlling three-wire three-phase loads

##### SGT9 series - Zero Cross for resistive loads (AC-51)

|                   |         |         |              |       |            |                      |                 |
|-------------------|---------|---------|--------------|-------|------------|----------------------|-----------------|
| <b>SGT9834300</b> | 3 x 35A | 3 x 30A | 24 - 660 VAC | 1600V | 4 - 30 VDC | 1250A <sup>2</sup> s | <b>3 140.00</b> |
| <b>SGT9854300</b> | 3 x 50A | 3 x 42A | 24 - 660 VAC | 1600V | 4 - 30 VDC | 2800A <sup>2</sup> s | <b>3 030.00</b> |
| <b>SGT9874300</b> | 3 x 75A | 3 x 54A | 24 - 660 VAC | 1600V | 4 - 30 VDC | 7200A <sup>2</sup> s | <b>3 590.00</b> |

##### SGT8 series - Zero Cross for most load types

###### DC control

|                   |          |         |              |       |            |                       |                 |
|-------------------|----------|---------|--------------|-------|------------|-----------------------|-----------------|
| <b>SGT8850200</b> | 3 x 50A  | 3 x 42A | 24 - 640 VAC | 1600V | 4 - 30 VDC | 2800A <sup>2</sup> s  | <b>3 830.00</b> |
| <b>SGT8670500</b> | 3 x 75A  | 3 x 54A | 24 - 520 VAC | 1600V | 4 - 30 VDC | 7200A <sup>2</sup> s  | <b>4 280.00</b> |
| <b>SGT8690500</b> | 3 x 125A | 3 x 64A | 24 - 520 VAC | 1600V | 4 - 30 VDC | 22000A <sup>2</sup> s | <b>7 230.00</b> |

###### AC control

|                   |          |         |              |       |                 |                       |                 |
|-------------------|----------|---------|--------------|-------|-----------------|-----------------------|-----------------|
| <b>SGT8658500</b> | 3 x 50A  | 3 x 42A | 24 - 520 VAC | 1600V | 24 - 255 VAC/DC | 2800A <sup>2</sup> s  | <b>3 840.00</b> |
| <b>SGT8678500</b> | 3 x 75A  | 3 x 54A | 24 - 520 VAC | 1600V | 24 - 255 VAC/DC | 7200A <sup>2</sup> s  | <b>4 320.00</b> |
| <b>SGT8698500</b> | 3 x 125A | 3 x 64A | 24 - 520 VAC | 1600V | 24 - 255 VAC/DC | 22000A <sup>2</sup> s | <b>5 950.00</b> |

#### SGTA series - Three-phase proportional controllers (H) 75 x (W) 100 x (D) 46 mm

- Control supply voltage 8 - 30 VDC

##### 4-20mA control current input

|                 |         |               |          |                         |                 |
|-----------------|---------|---------------|----------|-------------------------|-----------------|
| <b>SGTA4654</b> | 3 x 50A | 300 - 510 VAC | 4 - 20mA | proportional output SSR | <b>9 830.00</b> |
|-----------------|---------|---------------|----------|-------------------------|-----------------|

##### 0-10V analog input

|                 |         |               |         |                         |                 |
|-----------------|---------|---------------|---------|-------------------------|-----------------|
| <b>SGTA4650</b> | 3 x 50A | 300 - 510 VAC | 0 - 10V | proportional output SSR | <b>9 600.00</b> |
|-----------------|---------|---------------|---------|-------------------------|-----------------|

#### Accessories for above Three-phase series relays

| type      | thermal rating                                                              | description                                       | dimensions (mm) |     |     | price    |
|-----------|-----------------------------------------------------------------------------|---------------------------------------------------|-----------------|-----|-----|----------|
|           |                                                                             |                                                   | (H)             | (W) | (D) |          |
| Heatsinks | SSR current ratings are based on sufficient cooling by the use of heatsinks |                                                   |                 |     |     |          |
| WF108110  | 1.1 K/W                                                                     | rail mountable heatsink for SM series relays      | 98              | 90  | 78  | 669.00   |
| WF115100  | 0.9 K/W                                                                     | rail mountable heatsink for SM, SG, series relays | 90              | 110 | 100 | 2 090.00 |
| 1K199000  | cover                                                                       | transparent terminal cover for relays SGB and SGT |                 |     |     | 118.00   |



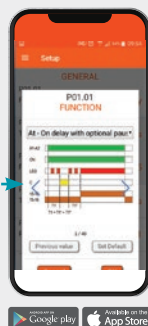
TMP



TMM1



TMM1NFC



TMPL



TMST

**Modular timing devices**

- Wide range of functions and time scales
- High accuracy and repeatability of the time settings
- Green LED indicator for power on
- Red LED indicator for relay state; flashing for delay and steady when relay energized
- Multi-time range: 1s/10s/60s/10m/60m/10h/1day/10days/ON or OFF
- Excellent time accuracy and stability
- Compact robust DIN rail mounting modular housing (*one 17.5 mm wide module*)
- 1 x changeover relay 8A 250 VAC

| type | description | supply voltage | price |
|------|-------------|----------------|-------|
|------|-------------|----------------|-------|

**On-delay timer - delay-on make** (*relay switches after preset time elapses*)

- Multi-time range: 1s/10s/60s/10m/60m/10h/1day/10days/ON or OFF
- Multi-voltage: 24...48 VDC / 24...240 VAC

|            |                                                                    |  |               |
|------------|--------------------------------------------------------------------|--|---------------|
| <b>TMP</b> | multi-time range, multi-voltage, on-delay modular electronic timer |  | <b>874.00</b> |
|------------|--------------------------------------------------------------------|--|---------------|

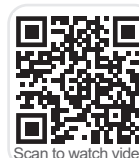
**Multi-function timer** (*several selectable timing functions in one module*)

- Multi-voltage: 12...240 VAC/DC
- Multi-function: Selectable functions:
  - A On-delay (*relay only switches after preset time lapse*)
  - B Interval (*relay switches for preset time when energised*)
  - C Equal repeat (*start with OFF time first*)
  - D Equal repeat (*start with ON time first*)
  - E Pulsed controlled interval (*relay switches on close of external contact timing only begins on opening of contact*)
  - F Pulsed controlled Interval (*timing begins on closing of external contact*)
  - G Pulsed controlled Interval (*timing begins on opening of external contact*)
  - H Pulse cont. On-delay/Interval (*timing begins on opening and closing of external contact*)
  - I Step relay (*relay changes state on each closure of external contact*)
  - J Pulse generator (*unequal repeat adjustable OFF time/fixed 0.5 sec ON time*)

|             |                                                                      |                 |                 |
|-------------|----------------------------------------------------------------------|-----------------|-----------------|
| <b>TMM1</b> | multi-time range, multi-voltage, multi-function modular elect. timer | 12 - 240 VAC/DC | <b>1 080.00</b> |
|-------------|----------------------------------------------------------------------|-----------------|-----------------|

**NFC programmability Multi-function timer** (*without front adjustable knob*)

- 40 selectable functions
- Counter and hour counter included
- Simple, fast and intuitive programming
- Very high accuracy and repeatability of settings
- Programmable via smartphone or tablet with NFC technology and APP
- Access to settings can be protected by setting a 4-digit password via the App
- Programming via NFC ensures excellent accuracy in time settings and tripping thresholds



Scan to watch video

|                |                                                                      |                 |                 |
|----------------|----------------------------------------------------------------------|-----------------|-----------------|
| <b>TMM1NFC</b> | multi-time range, multi-voltage, multi-func. mod. elect. timer (NFC) | 12 - 240 VAC/DC | <b>1 080.00</b> |
|----------------|----------------------------------------------------------------------|-----------------|-----------------|

**Unequal repeat timer** (*separately adjustable ON and OFF times*)

Programmable time relay with a asymmetrical recycle time, with independent timing adjustment for ON and OFF times. Multi-time range and multi-voltage.

- Multi-time range: 1s/10s/60s/10m/60m/10h/1day/10days/30 days/100days
- Multi-voltage: 12...240 VAC/DC

|             |                                                                    |                 |                 |
|-------------|--------------------------------------------------------------------|-----------------|-----------------|
| <b>TMPL</b> | multi-time, multi-voltage, modular unequal repeat electronic timer | 12 - 240 VAC/DC | <b>1 660.00</b> |
|-------------|--------------------------------------------------------------------|-----------------|-----------------|

**Delay-on de-energisation timer**

Electronic time relay. True off delay - relay energises on applying supply and remains energised (*for pre-set time period*) after supply is removed and then resets.

- Relay remains energised for preset time after removal of supply
- Selectable time ranges: 0.6s/6s/60s/180s (*adjustable*)
- Multi-voltage: 24...240 VAC/DC

|            |                                                                  |                 |                 |
|------------|------------------------------------------------------------------|-----------------|-----------------|
| <b>TMD</b> | multi-time, multi-voltage, delay-on de-energisation elect. timer | 24 - 240 VAC/DC | <b>2 090.00</b> |
|------------|------------------------------------------------------------------|-----------------|-----------------|

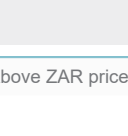
**Star-delta timer** (*star connection delay and adjustable transition delay*)

Electronic time relay for starting star-delta, impedance, auto transformer starters etc. Adjustable "star" time delay where after a 20...300ms "transition" delay before "delta" is energised

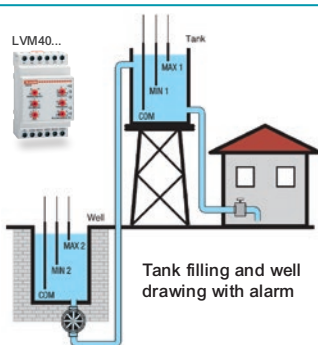
- Selectable time ranges: 1s/10s/60s/10min - transition: 20...300ms (*adjustable*)

|                 |                                                            |                            |                 |
|-----------------|------------------------------------------------------------|----------------------------|-----------------|
| <b>TMST</b>     | multi-time, multi-voltage, mod. star-delta elect. timer    | 24 - 48 VDC / 24 - 240 VAC | <b>1 030.00</b> |
| <b>TMSTA440</b> | multi-time, multi-voltage, modular star-delta elect. timer | 380 - 440 VAC              | <b>1 030.00</b> |

## Protection relays

|                                                                                                      | type                                                                                                                                                                                                                                                                                                                                                                                                               | description                                          | monitored voltage | width in 17.5 mm | price           |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------|------------------|-----------------|
| <br>PMV10A440       | <b>Voltage monitoring modular relays</b>                                                                                                                                                                                                                                                                                                                                                                           |                                                      |                   |                  |                 |
|                                                                                                      | <ul style="list-style-type: none"> <li>Modular DIN rail mounting (<i>aligns with standard MCBs</i>)</li> <li>True RMS measurements</li> </ul>                                                                                                                                                                                                                                                                      |                                                      |                   |                  |                 |
|                                                                                                      | <b>Phase failure / reversal relay</b> <i>instantaneous trip</i>                                                                                                                                                                                                                                                                                                                                                    |                                                      |                   |                  |                 |
|                                                                                                      | PMV10A440                                                                                                                                                                                                                                                                                                                                                                                                          | phase failure / reversal relay                       | 208 - 480 VAC L-L | 1                | <b>911.00</b>   |
| <br>PMV20A575       | PMV20A575                                                                                                                                                                                                                                                                                                                                                                                                          | phase failure / reversal relay                       | 208 - 575 VAC L-L | 2                | <b>1 180.00</b> |
|                                                                                                      | <b>Voltage monitors</b> <i>single-phase or three-phase</i>                                                                                                                                                                                                                                                                                                                                                         |                                                      |                   |                  |                 |
|                                                                                                      | <ul style="list-style-type: none"> <li>Voltage monitoring relays, self powered, for minimum and maximum voltage</li> <li>Adjustments               <ul style="list-style-type: none"> <li>"V max" maximum voltage tripping threshold 105 - 115% Ue</li> <li>"V min" minimum voltage tripping threshold 80 - 95% Ue</li> <li>"tripping" and "reset" time delay 0.1 - 20sec</li> </ul> </li> </ul>                   |                                                      |                   |                  |                 |
|                                                                                                      | <b>Single-phase monitoring</b>                                                                                                                                                                                                                                                                                                                                                                                     |                                                      |                   |                  |                 |
|                                                                                                      | PMV55A240                                                                                                                                                                                                                                                                                                                                                                                                          | single-phase over/under voltage monitor              | 208 - 240 VAC     | 2                | <b>2 210.00</b> |
| <br>PMV50A575     | <b>Three-phase monitoring</b> ( <i>without neutral</i> )                                                                                                                                                                                                                                                                                                                                                           |                                                      |                   |                  |                 |
|                                                                                                      | <ul style="list-style-type: none"> <li>Self powered, for minimum and maximum voltage, phase loss and incorrect phase sequence</li> </ul>                                                                                                                                                                                                                                                                           |                                                      |                   |                  |                 |
|                                                                                                      | PMV50A575                                                                                                                                                                                                                                                                                                                                                                                                          | 3-phase over/under voltage monitor                   | 380 - 575 VAC L-L | 2                | <b>2 160.00</b> |
|                                                                                                      | <b>Three-phase monitoring</b> ( <i>with or without neutral</i> ) <i>self powered</i>                                                                                                                                                                                                                                                                                                                               |                                                      |                   |                  |                 |
| <br>PMV50NA440    | <ul style="list-style-type: none"> <li>For minimum and maximum voltage, phase loss, neutral loss and incorrect phase sequence</li> </ul>                                                                                                                                                                                                                                                                           |                                                      |                   |                  |                 |
|                                                                                                      | PMV50NA440                                                                                                                                                                                                                                                                                                                                                                                                         | minimum and maximum AC voltage                       | 380 - 440 VAC L-L | 3                | <b>3 110.00</b> |
|                                                                                                      | PMV50NA600                                                                                                                                                                                                                                                                                                                                                                                                         | minimum and maximum AC voltage                       | 480 - 600 VAC L-L | 3                | <b>4 280.00</b> |
|                                                                                                      | <b>NFC programmability Three-phase monitoring</b> ( <i>same functionality as above unit</i> )                                                                                                                                                                                                                                                                                                                      |                                                      |                   |                  |                 |
| <br>PMV95NA575NFC | Multifunction voltage and frequency monitoring relay, self powered, for minimum and maximum voltage and frequency, phase loss, neutral loss, incorrect phase sequence and asymmetry.                                                                                                                                                                                                                               |                                                      |                   |                  |                 |
|                                                                                                      | <ul style="list-style-type: none"> <li>Without front adjustment knobs</li> <li>Programmable via smartphone or tablet with NFC technology and APP</li> <li>Simple, fast and intuitive programming (<i>password protected</i>)</li> <li>Very high accuracy and repeatability of settings</li> </ul>                                                                                                                  |                                                      |                   |                  |                 |
|                                                                                                      | PMV95NA575NFC                                                                                                                                                                                                                                                                                                                                                                                                      | multi-func. voltage and frequency relay (NFC)        | 380 - 575 VAC L-L | 2                | <b>4 070.00</b> |
|                                                                                                      | <b>Current monitoring relays</b> ( <i>TRMS measurements</i> )                                                                                                                                                                                                                                                                                                                                                      |                                                      |                   |                  |                 |
| <br>PMA30240      | Single and three-phase, AC/DC minimum or maximum current control with delayed trip. Auxiliary AC/DC power supply, automatic or manual reset.                                                                                                                                                                                                                                                                       |                                                      |                   |                  |                 |
|                                                                                                      | <ul style="list-style-type: none"> <li>AC/DC minimum or maximum current control with programmable delayed trip</li> <li>Multi-voltage auxiliary power supply 24...240 VAC/DC</li> <li>Direct connection up to 16A or by current transformer (CT) 5A secondary</li> <li>Automatic or manual reset</li> </ul>                                                                                                        |                                                      |                   |                  |                 |
|                                                                                                      | Adjustments <ul style="list-style-type: none"> <li>maximum or minimum current tripping threshold 5 - 100% Ie</li> <li>maximum or minimum hysteresis threshold 1 - 50%</li> <li>"trip" delay (<i>selectable</i>) 0.1 - 30sec</li> <li>"inhibition" time - external input or power up 1 - 60sec</li> <li>current scale selection: 5A or 16A</li> <li>tripping memory (<i>latch</i>) On or Off</li> </ul>             |                                                      |                   |                  |                 |
|                                                                                                      | PMA30240                                                                                                                                                                                                                                                                                                                                                                                                           | minimum or maximum current monitor                   | 24 - 240 VAC/DC   | 2                | <b>2 360.00</b> |
| <br>PMA50A240     | <b>Pump protection relay</b> <i>single and three-phase systems (selectable)</i>                                                                                                                                                                                                                                                                                                                                    |                                                      |                   |                  |                 |
|                                                                                                      | Maximum AC current and minimum cosφ. Delayed trip. Phase loss and incorrect sequence. Instantaneous trip ( <i>automatic or manual reset</i> )                                                                                                                                                                                                                                                                      |                                                      |                   |                  |                 |
|                                                                                                      | <ul style="list-style-type: none"> <li>Pump protection relay against dry running, auxiliary AC power supply</li> <li>Maximum AC current and minimum cosφ (<i>delayed trip</i>)</li> <li>Direct connection up to 16A or by current transformer (CT) 5A secondary</li> <li>Phase loss and incorrect phase sequence (<i>instantaneous trip</i>)</li> <li>Voltage control range 80...660 VAC</li> </ul>                |                                                      |                   |                  |                 |
|                                                                                                      | Adjustments <ul style="list-style-type: none"> <li>"minimum" cosφ threshold (<i>underload/dry running</i>) 0.1 - 0.99</li> <li>"maximum" (<i>over</i>) current threshold 10 - 100% Ie</li> <li>"trip" delay for min cosφ and max current 0.1 - 10sec</li> <li>"inhibition" time - external input or power up 1 - 60sec</li> <li>automatic reset time Off - 100min</li> <li>current selection: 5A or 16A</li> </ul> |                                                      |                   |                  |                 |
| <br>PMA50...      | PMA50A240                                                                                                                                                                                                                                                                                                                                                                                                          | pump protection relay ( <i>against dry running</i> ) | 220 - 240 VAC     | 3                | <b>4 050.00</b> |
|                                                                                                      | PMA50A415                                                                                                                                                                                                                                                                                                                                                                                                          | pump protection relay ( <i>against dry running</i> ) | 380 - 415 VAC     | 3                | <b>4 050.00</b> |

## Level controls relays



LVM20A240



LVM25240



LVM40...



SN1



LVMP10A240

## LVM series - Level control relays

- Level monitoring for conductive liquids
- Modular DIN rail mounting (*aligns with standard MCB's*)
- Double insulation between supply, electrodes and output relay

## General applications:

- Adjustable sensitivity for water level control applications eg. wastewater (6...8k), rain or condensed water (15...25k)
- Probe signal detection circuit for applications where the electrode cables are significantly long and the liquid to control is highly resistive i.e. low conductivity (LVM40)
- Fail-safe operation for pump control applications by use of N/O contact for both emptying and filling functions avoiding false activations
- Time delay circuit for starting mainly used to avoid frequent pump startings

| type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | description                                        | supply voltage      | width in 18 mm | price           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------|----------------|-----------------|
| <b>LVM20</b> <i>single voltage level control relay</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                    |                     |                |                 |
| <ul style="list-style-type: none"> <li>• Three detecting probes (<i>Min, Max and Com</i>)</li> <li>• Emptying function (<i>automatic reset</i>)</li> <li>• Adjustable sensitivity (2.5...50kΩ)</li> <li>• Relay outputs: 1 x changeover (SPDT)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                    |                     |                |                 |
| <b>LVM20A240</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | liquid level control relay for "emptying" function | 220 - 240 VAC       | 2              | <b>1 040.00</b> |
| <b>LVM20A415</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | liquid level control relay for "emptying" function | 380 - 415 VAC       | 2              | <b>1 040.00</b> |
| <b>LVM25</b> <i>multi-voltage supply 24...240 VAC/DC</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                    |                     |                |                 |
| <ul style="list-style-type: none"> <li>• Slimline one module (<i>18 mm</i>) wide</li> <li>• Relay outputs: 1 x changeover (SPDT)</li> <li>• Adjustments – sensitivity (2.5...100kΩ)</li> <li>• Selectable – "emptying" (or) "filling" function (<i>with fail safe operation</i>)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                    |                     |                |                 |
| <b>LVM25240</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | multi-voltage liquid level control relay           | 24 - 240 VAC/DC     | 1              | <b>1 480.00</b> |
| <b>LVM30</b> <i>dual-voltage supply delay start level control relay</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                    |                     |                |                 |
| <ul style="list-style-type: none"> <li>• Relay outputs: 2 x changeover (SPDT)</li> <li>• Adjustments – probe signal delay 1-10sec / pump start delay 0-300sec</li> <li>• Selectable – "emptying" (or) "filling" function (<i>with fail safe operation</i>)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                    |                     |                |                 |
| <b>LVM30A240</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | dual-voltage liquid level control relay            | 24/220-240 VAC      | 3              | <b>1 730.00</b> |
| <b>LVM30A415</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | dual-voltage liquid level control relay            | 110-127/380-415 VAC | 3              | <b>1 730.00</b> |
| <b>LVM40</b> <i>Multifunction level control relay</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                    |                     |                |                 |
| <ul style="list-style-type: none"> <li>• Adjustments – sensitivity (2.5...200kΩ) (<i>separate adj for Max electrodes for foam detection</i>)</li> <li>– probe signal delay 1-10s / pump start delay 0-30min</li> <li>• Relay outputs: 1 x changeover (SPDT)</li> <li>• Detecting probes: Five detecting probes (Min1, Max1, Min2, Max2 and Com)</li> <li>• Selectable 5 different functions: <ul style="list-style-type: none"> <li>(A) standard emptying function and alarms</li> <li>(B) standard filling function and alarms</li> <li>(C) emptying function with priority start-up change control</li> <li>(D) filling function with priority start-up change control</li> <li>(E) well draining and tank filling and alarms</li> </ul> </li> </ul> |                                                    |                     |                |                 |
| <b>LVM40A240</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5 probe multi-function liquid level control relay  | 220 - 240 VAC       | 3              | <b>2 600.00</b> |
| <b>LVM40A415</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5 probe multi-function liquid level control relay  | 380 - 415 VAC       | 3              | <b>2 600.00</b> |

## Level electrodes and holders for conductive liquids

|                |                                                                               |               |
|----------------|-------------------------------------------------------------------------------|---------------|
| <b>SN1</b>     | 1-pole insulated electrode ( <i>AISI 303 stainless steel</i> ) for LVM relays | <b>186.00</b> |
| <b>PS3S</b>    | electrode holder for 3 rod probes/electrodes                                  | <b>191.00</b> |
| <b>P1000S</b>  | electrodes for above PS3S holder ( <i>1 meter length</i> )                    | <b>91.00</b>  |
| <b>FS03-3P</b> | electrode spacer disc ( <i>for extending probe length</i> )                   | <b>37.00</b>  |
| <b>PXL</b>     | electrode extension locknut ( <i>for extending probe length</i> )             | <b>34.90</b>  |

## Pump start-up priority change relay

To balance operation times, hence wear of two pumps, compressors, generators when two units (*primary and standby*) are installed.

- Outputs: 2 x NO (SPST)
- Multi-voltage: 24/48 VDC / 2...240 VAC

|                   |                                       |                            |   |                 |
|-------------------|---------------------------------------|----------------------------|---|-----------------|
| <b>LVMP05</b>     | pump priority change relay            | 24 - 48 VDC / 24 - 240 VAC | 1 | <b>1 130.00</b> |
| <b>LVMP10A240</b> | pump priority change relay with 4 I/O | 220 - 240 VAC              | 3 | <b>1 730.00</b> |

## LVFS series - Float switches

Float switches for automation of electrical equipment - pumps, solenoid valves, alarms, motorised sluice gates etc. They feature an internal changeover contact operated in accordance with the level of liquid where the float is located. Cables used are high-quality and offer excellent mechanical and chemical resistance over time.

- Relay with changeover contact 10A 250 VAC 50/60Hz
- Compliant with standards: TUV, IEC/EN 60730-1, IEC/EN 60730-2-15



Scan to watch video



LVFSP1W05



LVFSA1D10



LVFSN1B05

| type | activation angle | cable length | supplied with counterweight | max. pressure | description | price |
|------|------------------|--------------|-----------------------------|---------------|-------------|-------|
|------|------------------|--------------|-----------------------------|---------------|-------------|-------|

### For grey water IP68

Used for civil and industrial control of grey water levels, e.g. rainwater, groundwater, or cooling water from industry.

- PVC cable
- The MIN and MAX levels can be adjusted by varying the distance between counterweight and float
- Changeover contact permits selection of filling and emptying function during regulator wiring

|           |     |          |     |       |                                   |          |
|-----------|-----|----------|-----|-------|-----------------------------------|----------|
| LVFSP1W05 | 30° | 5 meter  | yes | 2 bar | float level switch for grey water | 541.00   |
| LVFSP1W10 | 30° | 10 meter | yes | 2 bar | float level switch for grey water | 751.00   |
| LVFSP1W15 | 30° | 15 meter | yes | 2 bar | float level switch for grey water | 1 510.00 |

### For drinking water IP68

These float switches are suitable for drinking water and foodstuff applications such as aqueducts, fountains, aquariums, drinks, fish hatcheries, swimming pools, etc. Realised with a non-toxic polypropylene outer shell, a stainless steel untreated sphere, and an AD8 cable with health certification ACS (*Attestation de Conformité Sanitaire*) outer sheath in PVC suitable for drinkable water immersion and use with food products.

- PVC cable ACS + AD8 certified
- Provided with stainless steel counterweight (AISI 316)
- The MIN and MAX levels can be adjusted by varying the distance between counterweight and float
- Changeover contact permits selection of filling and/or emptying function during regulator wiring

|           |     |          |                |       |                                       |          |
|-----------|-----|----------|----------------|-------|---------------------------------------|----------|
| LVFSA1D05 | 30° | 5 meter  | yes (AISI 316) | 2 bar | float level switch for drinking water | 1 710.00 |
| LVFSA1D10 | 30° | 10 meter | yes (AISI 316) | 2 bar | float level switch for drinking water | 2 250.00 |
| LVFSA1D15 | 30° | 15 meter | yes (AISI 316) | 2 bar | float level switch for drinking water | 2 940.00 |

### For dirty water IP68

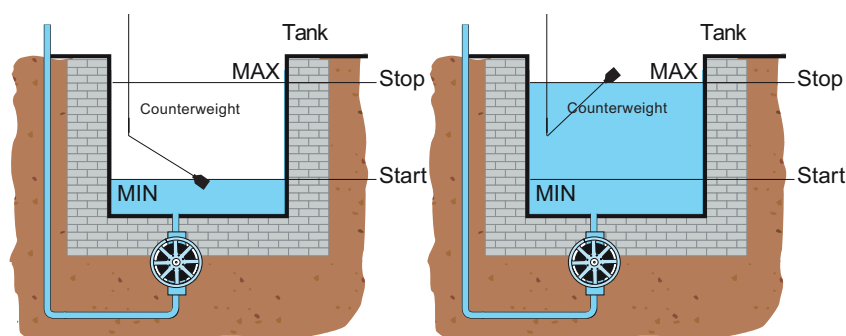
For civil and industrial control of dirty water levels, e.g. sewage or waste water from industry. Made of one-piece blow-moulded external polypropylene casing, with fixed internal counterweight located in the cable exit area. The regulator contact is positioned centrally in its own watertight chamber, insulated from external casing by injected closed-cell foam.

- Level control usually performed using two float switches, one for MIN. and another for MAX. levels
- Cable H07 RN-F3X1 (*Neoprene*)

|           |     |          |                         |        |                                    |          |
|-----------|-----|----------|-------------------------|--------|------------------------------------|----------|
| LVFSN1B05 | 30° | 5 meter  | yes ( <i>internal</i> ) | 10 bar | float level switch for dirty water | 2 070.00 |
| LVFSN1B10 | 30° | 10 meter | yes ( <i>internal</i> ) | 10 bar | float level switch for dirty water | 2 580.00 |
| LVFSN1B15 | 30° | 15 meter | yes ( <i>internal</i> ) | 10 bar | float level switch for dirty water | 4 120.00 |

### Example: Filling function for LVFS series

The level regulator contact closes the lower circuit at minimum level and opens the circuit when the float reaches the upper maximum/minimum level.





ENERGY



COMFORT



SAVINGS

**10 series - Daylight switches**

Light dependant relays for automatic control of external lighting according to ambient light level.

- Adjustable sensitivity: 1...80 lux
- Built-in time delay: (ON - 15 sec / OFF - 30 sec)
- Ambient range: -30...+70°C

| type | switch current | contact config. | supply voltage | lux setting | delay ON/OFF | description | price |
|------|----------------|-----------------|----------------|-------------|--------------|-------------|-------|
|------|----------------|-----------------|----------------|-------------|--------------|-------------|-------|

**10 series - Daylight switches****IP54****10.41 – Light dependant relays (daylight switches)**

(H) 111 x (W) 59 x (D) 40 mm

- LED indication of relay status
- Wall or pole mounting (brackets supplied)

|                     |     |      |         |            |        |                          |                 |
|---------------------|-----|------|---------|------------|--------|--------------------------|-----------------|
| <b>104182300000</b> | 16A | 1 NO | 230 VAC | 1...80 lux | 15/30s | standard daylight switch | <b>1 080.00</b> |
|---------------------|-----|------|---------|------------|--------|--------------------------|-----------------|

**10.42 – 2 independent outputs with individual lux settings**

|                     |     |         |         |           |        |                           |                 |
|---------------------|-----|---------|---------|-----------|--------|---------------------------|-----------------|
| <b>104282300000</b> | 16A | 2x 1 NO | 230 VAC | 2x 1...80 | 15/30s | 2 circuit daylight switch | <b>1 350.00</b> |
|---------------------|-----|---------|---------|-----------|--------|---------------------------|-----------------|

**10.51 – Miniature light dependant relays (daylight switches)**

(H) 81 x (W) 37 x (D) 37 mm

- LED indication of relay status
- Wall or pole mounting (brackets supplied)

|                     |     |      |         |            |        |                      |               |
|---------------------|-----|------|---------|------------|--------|----------------------|---------------|
| <b>105182300000</b> | 12A | 1 NO | 230 VAC | 1...80 lux | 15/30s | mini daylight switch | <b>959.00</b> |
|---------------------|-----|------|---------|------------|--------|----------------------|---------------|

**10.61 – Hole mount (Ø 18 mm)**

(H) 48 x (Ø) 81

- Can be mounted directly on street light body

|                     |     |      |         |            |        |                            |               |
|---------------------|-----|------|---------|------------|--------|----------------------------|---------------|
| <b>106182300000</b> | 16A | 1 NO | 230 VAC | (fixed) 10 | 15/30s | hole mount daylight switch | <b>700.00</b> |
|---------------------|-----|------|---------|------------|--------|----------------------------|---------------|

**11 series - Daylight switches with separate light sensor**

Light dependant relays for automatic control of external lighting according to ambient light level - with separate light sensor.

- Modular DIN rail mounting (same cutout as standard MCBs)
- Selectable: std range 1...80lux / high range 30...1000lux / permanent ON or OFF
- LED indication of relay status

**11.31 series - 17.5 mm wide**

(H) 89 x (W) 17.5 x (D) 61 mm

|                     |     |      |         |         |        |                         |                 |
|---------------------|-----|------|---------|---------|--------|-------------------------|-----------------|
| <b>113182300000</b> | 16A | 1 NO | 230 VAC | 1...100 | 15/30s | modular daylight switch | <b>1 050.00</b> |
|---------------------|-----|------|---------|---------|--------|-------------------------|-----------------|

|                     |     |      |              |         |        |                         |                 |
|---------------------|-----|------|--------------|---------|--------|-------------------------|-----------------|
| <b>113100240000</b> | 16A | 1 NO | 12/24 VAC/DC | 1...100 | 15/30s | modular daylight switch | <b>1 270.00</b> |
|---------------------|-----|------|--------------|---------|--------|-------------------------|-----------------|

**11.42 series - 2 independent outputs with individual lux settings**

(H) 89 x (W) 35 x (D) 61 mm

|                     |     |         |         |           |        |                           |                 |
|---------------------|-----|---------|---------|-----------|--------|---------------------------|-----------------|
| <b>114282300000</b> | 12A | 2x 1 NO | 230 VAC | 2x 1-1000 | 15/30s | 2 circuit daylight switch | <b>2 080.00</b> |
|---------------------|-----|---------|---------|-----------|--------|---------------------------|-----------------|

**Light sensors for 11 series modular light dependant relays**

|              |        |      |         |       |                                           |               |
|--------------|--------|------|---------|-------|-------------------------------------------|---------------|
| <b>01102</b> | sensor | IP54 | surface | mount | light sensor for 11 series modular relays | <b>271.00</b> |
|--------------|--------|------|---------|-------|-------------------------------------------|---------------|

**Flush mount light sensor (mounts through 15/18 mm Ø hole) for modular relays**

|              |        |         |       |       |                                           |               |
|--------------|--------|---------|-------|-------|-------------------------------------------|---------------|
| <b>01103</b> | sensor | IP66/67 | flush | mount | light sensor for 11 series modular relays | <b>487.00</b> |
|--------------|--------|---------|-------|-------|-------------------------------------------|---------------|

**Modular time switches NFC programmable (with smartphone)** (H) 89 x (W) 35 x (D) 61 mm

Finder digital time switches incorporate easy to use NFC (Near Field Communication) for fast, flexible programming of time via a smartphone, can also be performed via the front mounted joystick control

- Versions with 1 or 2 contacts - 16A
- 110...230 VAC/DC supply
- Internal battery (easily replaceable) for set-up and programming without supply voltage
- Wide backlit display for easy programming and visualisation

| type | time range | contact config. | reserve | min. setting | description | price |
|------|------------|-----------------|---------|--------------|-------------|-------|
|------|------------|-----------------|---------|--------------|-------------|-------|

**Digital (analogue-style) time switch**

easily configurable for daily or weekly programming

|                     |            |      |     |         |                     |                 |
|---------------------|------------|------|-----|---------|---------------------|-----------------|
| <b>125182300000</b> | 24hr/7 day | 1 CO | yes | 30 min. | digital time switch | <b>1 820.00</b> |
|---------------------|------------|------|-----|---------|---------------------|-----------------|

**Digital time switch with programmable pulse output (for school bell lunch/tea/interval ringing)**

- Manual override facility
- Pulse output adjustable (1 sec...59 min)
- Holiday program

|                     |       |      |     |        |                                       |                 |
|---------------------|-------|------|-----|--------|---------------------------------------|-----------------|
| <b>126182300000</b> | 7 day | 1 CO | yes | 1 min. | digital time switch with pulse output | <b>2 170.00</b> |
|---------------------|-------|------|-----|--------|---------------------------------------|-----------------|

**Astro time switches (calculates sunrise/sunset according to longitude/latitude coordinates)**

- Astro program: calculation of sunrise and sunset times through date, time, location coordinates
- Programmable offset from Astronomic times (up to 90 min) (H) 89 x (W) 35 x (D) 57 mm

|                     |       |      |     |        |                                |                 |
|---------------------|-------|------|-----|--------|--------------------------------|-----------------|
| <b>12A182300000</b> | 7 day | 1 CO | yes | 1 min. | astro programmable time switch | <b>2 350.00</b> |
|---------------------|-------|------|-----|--------|--------------------------------|-----------------|

|                     |       |      |     |        |                                |                 |
|---------------------|-------|------|-----|--------|--------------------------------|-----------------|
| <b>12A282300000</b> | 7 day | 2 CO | yes | 1 min. | astro programmable time switch | <b>2 810.00</b> |
|---------------------|-------|------|-----|--------|--------------------------------|-----------------|



104182300000



106182300000



1131...



01103



126182300000



# Industrial Automation Training

## Register Online Now!

ElectroMechanica (EM) provides hands-on training for all levels, helping you excel in Industrial Automation Products.

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Basic &  
Advanced



**Servo:**  
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Advanced

**VTScada**  
Software Training

## Electronic timing devices



RS-WIFI 2

\* Downloadable via the Play Store or App store



RS-TA14



RS-TM14



RS-TT13

**WiFi smart switch**

The RS-WIFI smart switch is a programmable switch/timer, easily programmable via a smart phone using WiFi or Bluetooth. Simply download the Smart Life app for use with Android or iPhone.

The smart switch can easily be programmed as a:

- Switch:** Remotely controlled ON/OFF switch (*phone indication of switch status*)  
**Timer:** Permits a countdown timing function of the connected device  
**Time switch:** Daily, weekly programs/cycles down to second pulses (*using inching mode*)  
 Also with astronomical function to calculate sunrise and sunset times based on geographic positioning (*longitudinal and latitudinal location*) and time zone, thus avoiding the need for external daylight switches and sensors

- Front facia override button (*external pulse terminal also provided*)
- Output contacts: 1 NO - 16A / AC1
- Compact dimensions: 1 module (*18 mm wide*) DIN rail mounting
- Connection: WiFi and Bluetooth connection available

| type              | supply voltage  | output relay | description               | width in 18 mm | price         |
|-------------------|-----------------|--------------|---------------------------|----------------|---------------|
| <b>RS-WIFI 2</b>  | 24 - 240 VAC/DC | 1 x NO       | modular WiFi smart switch | 1              | <b>500.00</b> |
| <b>RS-WIFI 12</b> | 12 - 24 VAC/DC  | 1 x NO       | modular WiFi smart switch | 1              | <b>560.00</b> |

**Electronic timing devices****Time relays**

- Micro controller based
- Electrical life:  $10^5$
- Mechanical life:  $10^6$
- Output contacts: 1 C/O 8A / AC1
- LED indication: "Power" and "Relay" status
- Housing: Self-extinguishing material UL94-V-0
- Dimensions: 1 module (*18 mm wide*) DIN rail mounting

**Multi-voltage, multi-range timer**

- Rep accuracy: <0.2%
- Supply voltage: Multi-voltage - AC/DC 12...240V
- Time ranges: Multi-range - 1s / 10s / 1m / 10m / 1h / 10h / 1day/ 10days / ON / OFF

**ON-Delay timer**

|                |                 |         |                        |   |               |
|----------------|-----------------|---------|------------------------|---|---------------|
| <b>RS-TA14</b> | 12 - 240 VAC/DC | 1 x C/O | ON-delay modular timer | 1 | <b>373.00</b> |
|----------------|-----------------|---------|------------------------|---|---------------|

**Interval (OFF-delay) timer**

|                |                 |         |                                    |   |               |
|----------------|-----------------|---------|------------------------------------|---|---------------|
| <b>RS-TB14</b> | 12 - 240 VAC/DC | 1 x C/O | interval (OFF-delay) modular timer | 1 | <b>373.00</b> |
|----------------|-----------------|---------|------------------------------------|---|---------------|

**Multi-function, multi-voltage, multi-range timer (10 functions)**

- ON-delay
- OFF-delay
- Flasher OFF first
- Flasher ON first
- Delay impulse generation (0.5s)
- OFF-delay on impulse (*rising edge*)
- OFF-delay on impulse (*falling edge*)
- Switch ON/OFF delay
- Latching relay
- Time impulse released by rising edge with switch OFF-delay

- Time ranges: Multi-range - 1s / 10s / 1m / 10m / 1h / 10h / 1d / 10d / ON / OFF

|                |                 |         |                              |   |               |
|----------------|-----------------|---------|------------------------------|---|---------------|
| <b>RS-TM14</b> | 12 - 240 VAC/DC | 1 x C/O | multi-function modular timer | 1 | <b>450.00</b> |
|----------------|-----------------|---------|------------------------------|---|---------------|

**Asymmetric cycler timer - Multi-range**

- Unequal repeat timer with separate adjustment of ON and OFF times
- Can be configured for ON or OFF time first
- Cycler beginning with pulse or pause (*selectable*)
- Output contacts: 2 C/O 8A / AC1
- Time ranges: Multi-range - 1s / 10s / 1m / 10m / 1h / 10h / 1d / 10d / 30d / 100days

|                |                 |         |                                 |   |               |
|----------------|-----------------|---------|---------------------------------|---|---------------|
| <b>RS-TC23</b> | 24 - 240 VAC/DC | 2 x C/O | asymmetric cycler modular timer | 1 | <b>560.00</b> |
|----------------|-----------------|---------|---------------------------------|---|---------------|

**Delay on de-energisation (true OFF-delay without power supply)**

Relay energises on applying supply and remains energised for a preset time period after supply has been removed.

- Output contacts: 1 C/O 8A / AC1
- Time ranges: 0.1-1s / 1s-10s / 0.1m-1m / 1m-10m (*selectable*)

|                |                 |         |                                |   |               |
|----------------|-----------------|---------|--------------------------------|---|---------------|
| <b>RS-TT13</b> | 24 - 240 VAC/DC | 1 x C/O | delay on de-energisation timer | 1 | <b>711.00</b> |
|----------------|-----------------|---------|--------------------------------|---|---------------|

## Time switches



RD-TPD1



RD-TPD2



RD-TPA2



RS-TSL

### Digital time switches

Used for programming time functions for various applications such as lighting control, heating, household appliances, shop windows and many other devices.

The pulse program can be used for school or factory bell ringing. An internal battery maintains clock time and all program settings in the event of power failure.

- Compact dimensions: 2 module (36 mm wide) DIN rail mounting
- Number of programs: 52 programs
- Programs: Weekly, daily and pulse
- Operating modes: Manual, automatic, holiday
- Contact rating: 16A / 250V AC1
- Standards: EN/IEC60730-1, EN/IEC60730-2-7

| type | supply voltage | time range | min. setting | power reserve | description | width in 18 mm | price |
|------|----------------|------------|--------------|---------------|-------------|----------------|-------|
|------|----------------|------------|--------------|---------------|-------------|----------------|-------|

### Digital time switches

#### Single channel digital weekly time switch

- 52 programs
- Automatic transfer of weekdays
- Holiday mode
- LCD display
- 1 changeover contact
- Sealable front cover, easy setting via 4 frontal buttons

|                |               |       |       |        |                     |   |               |
|----------------|---------------|-------|-------|--------|---------------------|---|---------------|
| <b>RD-TPD1</b> | 220 - 240 VAC | 7 day | 1 sec | 3 year | digital time switch | 2 | <b>373.00</b> |
|----------------|---------------|-------|-------|--------|---------------------|---|---------------|

#### Dual channel digital weekly time switch

- 90 programs
- Back-lit LCD display
- 2 changeover contacts
- 10 year power reserve (*lithium battery*)
- Double channel (*each channel programmable independently*)

|                |                 |       |       |         |                     |   |               |
|----------------|-----------------|-------|-------|---------|---------------------|---|---------------|
| <b>RD-TPD2</b> | 24 - 264 VAC/DC | 7 day | 1 sec | 10 year | digital time switch | 2 | <b>711.00</b> |
|----------------|-----------------|-------|-------|---------|---------------------|---|---------------|

### Digital astronomical time switches

**RD-TPA** series astronomical time switches calculate sunrise and sunset times based on geographic positioning (*longitudinal and latitudinal location*) and time zone. Thus avoiding the need for external daylight switches and sensors.

- Contact rating: 16A / 250V AC1
- Operating modes: Manual, automatic, holiday
- Standards: EN/IEC60730-1, EN/IEC60730-2-7
- Compact dimensions: 2 module (36 mm wide) DIN rail mounting
- Program: Astronomical program (*for sunrise and sunset calculation*)

#### Single channel digital astronomical time switch

- LCD display
- 1 changeover contact
- Sealable front cover, easy setting via 4 frontal buttons

|                |               |       |   |        |                          |   |               |
|----------------|---------------|-------|---|--------|--------------------------|---|---------------|
| <b>RD-TPA1</b> | 220 - 240 VAC | 7 day | — | 3 year | astronomical time switch | 2 | <b>418.00</b> |
|----------------|---------------|-------|---|--------|--------------------------|---|---------------|

#### Dual channel digital weekly time switch

- Back-lit LCD display
- 2 changeover contacts
- 10 year power reserve (*lithium battery*)
- Double channel (*each channel programmable independently*)

|                |                 |       |   |         |                          |   |               |
|----------------|-----------------|-------|---|---------|--------------------------|---|---------------|
| <b>RD-TPA2</b> | 24 - 264 VAC/DC | 7 day | — | 10 year | astronomical time switch | 2 | <b>728.00</b> |
|----------------|-----------------|-------|---|---------|--------------------------|---|---------------|

### Staircase timer

The staircase timer provides a pre-determined ON time to operate a light or group of lights for illumination of a staircase, corridor, passageway, bathroom etc.

On receiving a pulsed input, the unit operates a contact (*switching lights on*) for a predetermined time period, where after it switches off until the next pulse

- 1 NO - 16A contact AC1
- 1 module DIN-rail mounting
- Possibility of 3 or 4 wire connection
- Preselect time range 0.5...20 minutes
- LED indication of "Power" and "Relay" status
- ON - AUTO - OFF slide switch on face of timer (*manual override*)

|               |               |        |       |   |                         |   |               |
|---------------|---------------|--------|-------|---|-------------------------|---|---------------|
| <b>RS-TSL</b> | 220 - 240 VAC | 20 min | 1 min | — | modular staircase timer | 1 | <b>338.00</b> |
|---------------|---------------|--------|-------|---|-------------------------|---|---------------|

## Monitoring devices



RS-MV13



RS-MV31M



RS-MV36M



RS-MI5A

## Voltage monitoring devices

- 1 CO 8A /AC1
- Micro-processor based
- 1 module DIN-rail mounting
- Supply voltage monitoring (*True RMS measurement*)
- Threshold voltage and trip delay independently adjustable

| type | overvoltage setting (V) | undervoltage setting (V) | trip delay (s) | description | width in 18 mm | price |
|------|-------------------------|--------------------------|----------------|-------------|----------------|-------|
|------|-------------------------|--------------------------|----------------|-------------|----------------|-------|

## Single-phase voltage monitor

The **RS-MV13** relay monitors its supply voltage. If the monitored voltage exceeds the preset overvoltage or undervoltage settings, the relay trips until the voltage returns to within the preset levels. An adjustable (*0.1...10sec*) trip delay is also incorporated.

- Microcontroller based
- Auto reset
- LED indication of control state

|                |            |            |           |                              |   |               |
|----------------|------------|------------|-----------|------------------------------|---|---------------|
| <b>RS-MV13</b> | 225 - 275V | 165 - 215V | 0.1...10s | single-phase voltage monitor | 1 | <b>444.00</b> |
|----------------|------------|------------|-----------|------------------------------|---|---------------|

## Three-phase voltage monitor

- Microcontroller based
- 1NO + 1NC output 8A
- True RMS measurement
- LED indication of "supply" and "output" state
- N phase failure protection in 3 phase 4 wire setting

## Phase failure/reversal relay

Monitors supply, ensuring all phases (+ *Neutral in 4 wire system*) are present and in correct sequence. **RS-MV32M** additionally monitors phase asymmetry/imbalance (*fixed at 8%*)

|                 |   |   |                                                   |   |               |
|-----------------|---|---|---------------------------------------------------|---|---------------|
| <b>RS-MV31M</b> | — | — | phase failure/phase reversal relay                | 1 | <b>400.00</b> |
| <b>RS-MV32M</b> | — | — | phase failure/phase reversal/asymmetry (8%) relay | 1 | <b>427.00</b> |

## Under/Over voltage monitor + phase failure/reversal relay

**RS-MV34M** relay monitors its 3 phase supply. If the monitored voltage exceeds the preset overvoltage or undervoltage settings the relay trips until voltage returns to within preset levels.

**RS-MV36M** additionally monitors phase failure and phase sequence (*reversal*) and will only reset once monitored voltage is within the preset level and all phases (*including Neutral in 4 wire setting*) are present and in sequence. An adjustable (*0.1...10sec*) trip delay is also incorporated.

Select - 3 phase 3 wire (*or*) 3 phase 4 wire and voltage selectable via facia:

| Modes                   | 3 PH 3 wire  | 3 PH 4 wire  | (selectable) |
|-------------------------|--------------|--------------|--------------|
| Supply Terminals        | L1,L2,L3     | L1,L2,L3,N   | (selectable) |
| Supply voltage          | 380/400/415V | 220/230/240V |              |
| Operating voltage range | 266...540V   | 154-312V     |              |

|                 |                |              |           |                                      |   |               |
|-----------------|----------------|--------------|-----------|--------------------------------------|---|---------------|
| <b>RS-MV34M</b> | (105-125%) xUn | (75-95%) xUn | 0.1...10s | under/over voltage monitor           | 1 | <b>515.00</b> |
| <b>RS-MV36M</b> | (105-125%) xUn | (75-95%) xUn | 0.1...10s | U/O volt+PH failure/reversal monitor | 1 | <b>622.00</b> |

## Current monitoring relay

**RS-MI\*A** monitors a preset overcurrent or **RS-MI\*B** undercurrent. If monitored current exceeds (*or*) falls below preset level the relay trips after completion of a preset trip delay, and only resets once current is within the preset limits. An adjustable (*1-6sec*) start-up delay is also incorporated.

## General features:

- 1 C/O output - 8A AC1
- 1 module DIN-rail mounting
- Adjustable trip and start-up delay
- Adjustable current actuation threshold
- Can be used in conjunction with Current Transformers (CT's) up to 600A
- Hysteresis - 5% current setting value
- Rated insulation voltage - 250 VAC
- Measurement frequency 45-65Hz

## Current monitor - overcurrent

|                 |        |   |           |                             |   |               |
|-----------------|--------|---|-----------|-----------------------------|---|---------------|
| <b>RS-MI5A</b>  | 0.5-5A | — | 0.5...10s | modular overcurrent monitor | 1 | <b>560.00</b> |
| <b>RS-MI10A</b> | 1-10A  | — | 0.5...10s | modular overcurrent monitor | 1 | <b>560.00</b> |

## Current monitor - undercurrent

|                |   |        |           |                              |   |               |
|----------------|---|--------|-----------|------------------------------|---|---------------|
| <b>RS-MI5B</b> | — | 0.5-5A | 0.5...10s | modular undercurrent monitor | 1 | <b>560.00</b> |
|----------------|---|--------|-----------|------------------------------|---|---------------|

## Liquid level controls



RS-LC3



SNL1



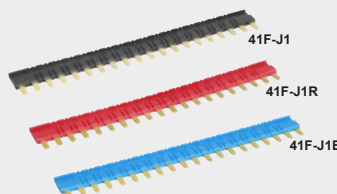
TS-01



RD-ST1



C41F-1Z-C2-1



41F-J1

41F-J1R

41F-J1B

**Liquid level control relays**

RS-LC liquid level relay monitors conductive liquid levels using electrodes to provide level status. When level reaches upper level, the relay disconnects the pump until the level reaches the lower level whereupon the relay re-energises switching the pump on.

**RS-LC3** permits selection for "filling" or "draining" application and adjustable (0.5...10s) trip delay.

- Microprocessor based
- Adjustable sensitivity 5kΩ...100kΩ
- Operates with 2 or 3 electrodes
- Selectable "draining" or "filling" function (**RS-LC3**)
- 1 module DIN-rail mounting

| type | supply voltage | sensitivity adjustment | trip delay | description | width in 18 mm | price |
|------|----------------|------------------------|------------|-------------|----------------|-------|
|------|----------------|------------------------|------------|-------------|----------------|-------|

**Liquid level relays**

|               |                 |         |                     |                            |   |               |
|---------------|-----------------|---------|---------------------|----------------------------|---|---------------|
| <b>RS-LC1</b> | 24 - 240 VAC/DC | 5~100kΩ | 2s ( <i>fixed</i> ) | modular liquid level relay | 1 | <b>489.00</b> |
|---------------|-----------------|---------|---------------------|----------------------------|---|---------------|

**With adjustable trip delay and "filling" or "draining" selector**

|               |                 |         |         |                            |   |               |
|---------------|-----------------|---------|---------|----------------------------|---|---------------|
| <b>RS-LC3</b> | 24 - 240 VAC/DC | 5~100kΩ | 0.5-10s | modular liquid level relay | 1 | <b>578.00</b> |
|---------------|-----------------|---------|---------|----------------------------|---|---------------|

**Accessories for liquid level relays**

|             |   |                                                             |      |  |  |              |
|-------------|---|-------------------------------------------------------------|------|--|--|--------------|
| <b>SNL1</b> | — | stainless steel Aisi 316 electrodes for liquid level relays | (ea) |  |  | <b>72.00</b> |
|-------------|---|-------------------------------------------------------------|------|--|--|--------------|

**Twilight (daylight) switches**
**Surface or pole mounting (IP54)**

- 16A/250 VAC AC1
- Sensitivity adjustment 2 to 200 lux
- LED indication for calibration point

|              |         |   |                                        |   |  |               |
|--------------|---------|---|----------------------------------------|---|--|---------------|
| <b>TS-01</b> | 230 VAC | — | surface/pole mounting day/night switch | — |  | <b>338.00</b> |
|--------------|---------|---|----------------------------------------|---|--|---------------|

**Modular daylight switch (2 module DIN-rail mount)**

- 25A/250 V AC1
- Sensitivity adjustment 2 to 100 lux
- External light sensor (*included with switch*) 1m
- Fixed switching delay - ON (2...5s) and OFF (10...15s) delay

|               |         |  |                                               |   |  |               |
|---------------|---------|--|-----------------------------------------------|---|--|---------------|
| <b>RD-ST1</b> | 230 VAC |  | modular day/night switch with external sensor | 2 |  | <b>338.00</b> |
|---------------|---------|--|-----------------------------------------------|---|--|---------------|

**Electro: Relay interface module - Slimline (IP20)**

The CF41 series relay interface module (*slimline*) is a cost effective solution for interfacing to PLCs and automation controllers. They provide an ultra-slim solution (6.2 mm wide) with high current switching (6A...250VAC).

- Slimline (6.2 mm) (H) 88.3 x (W) 6.3 x (D) 72.4 mm
- DIN-rail mounting - screw terminal
- Integrated LED indication and protection circuit
- Integrated retaining clip/relay ejector (*for ease of relay removal*)
- Provision for fitting pluggable jumper bars (*reducing wiring time*)

|                            |                                                                |
|----------------------------|----------------------------------------------------------------|
| Rated current:             | 6A...250 VAC / 30 VDC                                          |
| Rated AC1 load:            | 1500VA                                                         |
| Maximum switching voltage: | 400 VAC / 125 VDC                                              |
| Approvals:                 | VDE (40020043), UL (E133481)                                   |
| Dielectric strength        | - Coil and contacts 4kV (1 min)<br>- Open contacts 1kV (1 min) |

| type | supply voltage | contact | description | terminal type | price |
|------|----------------|---------|-------------|---------------|-------|
|------|----------------|---------|-------------|---------------|-------|

|                     |           |             |                                       |       |               |
|---------------------|-----------|-------------|---------------------------------------|-------|---------------|
| <b>C41F-1Z-C2-1</b> | 24V AC/DC | 1 CO (SPDT) | DIN-rail mount relay interface module | screw | <b>160.00</b> |
|---------------------|-----------|-------------|---------------------------------------|-------|---------------|

**Accessories for above relay interface**

| type | colour | No. ways | description | price |
|------|--------|----------|-------------|-------|
|------|--------|----------|-------------|-------|

|                |       |        |                                                       |   |              |
|----------------|-------|--------|-------------------------------------------------------|---|--------------|
| <b>41F-J1</b>  | black | 20 way | jumper link ( <i>bridge bar</i> ) for relay interface | — | <b>32.10</b> |
| <b>41F-J1R</b> | red   | 20 way | jumper link ( <i>bridge bar</i> ) for relay interface | — | <b>32.10</b> |
| <b>41F-J1B</b> | blue  | 20 way | jumper link ( <i>bridge bar</i> ) for relay interface | — | <b>32.10</b> |

**Adaptor (8 way) - interconnects 8 interface modules to PLC outputs via 14-pole ribbon cable**

|              |       |       |                                        |   |               |
|--------------|-------|-------|----------------------------------------|---|---------------|
| <b>AR-8P</b> | black | 8 way | interconnect adaptor for relay modules | — | <b>106.00</b> |
|--------------|-------|-------|----------------------------------------|---|---------------|

New



261018



261022



270272



270282

## Modular electronic timer

| type                                                                                                                                                                                                              | description                                                                                       |                                                                                                          | supply voltage          | price    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------|----------|
| Multi-range - Multi-function - Multi-voltage, modular timer                                                                                                                                                       |                                                                                                   |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Output contact:                                                                                 | 1 C/O 5A 250 VAC                                                                                         |                         |          |
|                                                                                                                                                                                                                   | • Operating temp:                                                                                 | -20...+60°C                                                                                              |                         |          |
|                                                                                                                                                                                                                   | • Supply frequency:                                                                               | 35 - 70 Hz                                                                                               |                         |          |
|                                                                                                                                                                                                                   | • Multi- time range:                                                                              | Seconds: 1/10/100, Minutes: 1/10, Hours 1/10/100, Days 1/10                                              |                         |          |
|                                                                                                                                                                                                                   | • Multi-voltage:                                                                                  | 24...300 VAC/DC                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Multi-function:                                                                                 |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | On-delay                                                                                          | (on energising, relay only switches after preset time period)                                            |                         |          |
|                                                                                                                                                                                                                   | Interval (off-delay)                                                                              | (on energising, relay switches for preset time then resets)                                              |                         |          |
|                                                                                                                                                                                                                   | On/off delay                                                                                      | (on energising, relay remains OFF for preset off-time, then switches ON for preset on-time, then resets) |                         |          |
|                                                                                                                                                                                                                   | Equal repeat (off)                                                                                | (equal repeating starting with preset OFF time first)                                                    |                         |          |
|                                                                                                                                                                                                                   | Equal repeat (on)                                                                                 | (equal repeating starting with preset ON time first)                                                     |                         |          |
| T1-M5 Multi-Range/Function/Voltage electronic timer                                                                                                                                                               |                                                                                                   |                                                                                                          | (IP20) (width: 17.5 mm) |          |
|                                                                                                                                                                                                                   | • Modular DIN rail mounting - (H) 90.4 x (W) 17.5 x (D) 66.5 mm (aligns with standard 1 pole MCB) |                                                                                                          |                         |          |
| 261018                                                                                                                                                                                                            | multi-range, multi-function, multi-voltage modular electronic timer                               |                                                                                                          | 24 - 300 VAC/DC         | 768.00   |
| T1-K Multi-function modular timer (pulse controlled)                                                                                                                                                              |                                                                                                   |                                                                                                          |                         |          |
| As above T1-M5 also with pulse control of functions (via external contact)                                                                                                                                        |                                                                                                   |                                                                                                          |                         |          |
| configurable with interval on rising or falling edge triggering as well as on-delay with memory                                                                                                                   |                                                                                                   |                                                                                                          |                         |          |
| 261019                                                                                                                                                                                                            | multi-range/function/voltage modular timer with pulse control                                     |                                                                                                          | 24 - 300 VAC/DC         | 837.00   |
| SD1 Star-Delta modular timer                                                                                                                                                                                      |                                                                                                   |                                                                                                          | (IP20) (width: 17.5 mm) |          |
| Applying supply activates the preset "star" time period where after the preset (20...500msec) transition delay occurs before the "delta" relay is energised, it remains in this position until supply is removed. |                                                                                                   |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Modular DIN rail mounting - (H) 90.4 x (W) 17.5 x (D) 66.5 mm (aligns with standard 1 pole MCB) |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Multi-voltage:                                                                                  | 150...500 VAC                                                                                            |                         |          |
|                                                                                                                                                                                                                   | • Star time:                                                                                      | t1 1...30 seconds                                                                                        |                         |          |
| 261022                                                                                                                                                                                                            | modular DIN rail mounting electronic star-delta timer                                             |                                                                                                          | 150 - 500 VAC           | 993.00   |
| Liquid level controller                                                                                                                                                                                           |                                                                                                   |                                                                                                          | IP20 (width: 36 mm)     |          |
| LC3 controls levels of conductive liquids by measuring the resistance of the liquid between probes. If measured resistance is less than the preset value, the output relay will be activated.                     |                                                                                                   |                                                                                                          |                         |          |
| To avoid electrolysis, an AC signal is applied to the liquid                                                                                                                                                      |                                                                                                   |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Modular DIN rail mounting - (H) 90 x (W) 36 x (D) 58 mm (aligns with standard 2-pole MCB)       |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Sensitivity adjustment:                                                                         | 5...100kΩ                                                                                                |                         |          |
|                                                                                                                                                                                                                   | • Time delay:                                                                                     | 0.1 - 10 sec                                                                                             |                         |          |
| 270299                                                                                                                                                                                                            | modular DIN rail mounting electronic liquid level controller                                      |                                                                                                          | 150 - 500 VAC           | 813.00   |
| Protection relays                                                                                                                                                                                                 |                                                                                                   |                                                                                                          | IP20 (width: 17.5 mm)   |          |
|                                                                                                                                                                                                                   | • Output contact:                                                                                 | 1 C/O 10A 250 VAC                                                                                        |                         |          |
|                                                                                                                                                                                                                   | Phase-failure/reversal/imbalance                                                                  | M1D-SA                                                                                                   |                         |          |
|                                                                                                                                                                                                                   | • Fixed time delay:                                                                               | 500msec                                                                                                  |                         |          |
| 270272                                                                                                                                                                                                            | modular DIN rail mount 3 ph phase failure/reversal/imbalance relay                                |                                                                                                          | 380 - 480 ±25%          | 948.00   |
| Voltage monitor with phase-failure/reversal/imbalance                                                                                                                                                             |                                                                                                   |                                                                                                          | IP20 (width: 17.5 mm)   |          |
|                                                                                                                                                                                                                   | • Modular DIN rail mounting - (H) 90.4 x (W) 17.5 x (D) 66.5 mm (aligns with standard 1 pole MCB) |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | • Adjustable - (via front facia dials)                                                            |                                                                                                          |                         |          |
|                                                                                                                                                                                                                   | Over voltage:                                                                                     | +5...+20% with OFF (override) selection                                                                  |                         |          |
|                                                                                                                                                                                                                   | Under voltage:                                                                                    | -5...-20% with OFF (override) selection                                                                  |                         |          |
|                                                                                                                                                                                                                   | Delay time:                                                                                       | 0.1...10sec                                                                                              |                         |          |
| G1D-SA - 3 phase (L1-L3)                                                                                                                                                                                          |                                                                                                   |                                                                                                          |                         |          |
| 270283                                                                                                                                                                                                            | modular 3ph over/under voltage monitor with ph failure/reversal                                   |                                                                                                          | 380 - 480 ±25%          | 948.00   |
| G1-SA - 3 phase + neutral (L3-N)                                                                                                                                                                                  |                                                                                                   |                                                                                                          |                         |          |
| 270282                                                                                                                                                                                                            | modular 3ph+N over/under voltage monitor + ph failure/reversal                                    |                                                                                                          | 230 ±25%                | 810.00   |
| Current monitor relay                                                                                                                                                                                             |                                                                                                   |                                                                                                          | 36 mm (2 modules wide)  |          |
| CPR-16                                                                                                                                                                                                            | Current measurement:                                                                              | 0.1 ... 16AAC                                                                                            | Hysteresis: 5...20%     |          |
|                                                                                                                                                                                                                   | Time delay adjustment:                                                                            | 0.1 ... 10 sec                                                                                           |                         |          |
| 270270                                                                                                                                                                                                            | 0.1...16A                                                                                         | modular DIN rail mounting current monitor                                                                | 36 - 300 VAC/DC         | 1 470.00 |

## Analog signal converters



602310



602320



602400



IBR1...

### ASCON series

#### Analog signal converters

The Ascon range of signal converters are compact electronic devices which measure input parameters converting them to another signal form continuously. Converting temperature, voltage and current parameters into V, mV, mA, and RS485 outputs.

- Different inputs and outputs are configurable via front mounted rotary selector dials
- 3 way - 1.5kV RMS Isolation (Input, output and supply electrically isolated from one another)
- Compact modular (H) 90.4 x (W) 17.5 x (D) 66.5 mm (same dimensions as single pole MCB)

| type                                                                              | supply voltage | selectable inputs                                               |                 | selectable outputs                         | description                                | price    |
|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------|-----------------|--------------------------------------------|--------------------------------------------|----------|
| ASCON 311                      Signal converter ( <i>configurable</i> )           |                |                                                                 |                 |                                            |                                            |          |
| 602300                                                                            | 11 - 30 VDC    | 0...60mV                                                        | 0...5mA         | 0...5V                                     | configurable analog signal converter       | 4 520.00 |
|                                                                                   |                | 0...100mV                                                       | 0...10mA        | 5...0V                                     |                                            |          |
|                                                                                   |                | 0...250mV                                                       | 0...20mA        | 0...10V                                    |                                            |          |
|                                                                                   |                | 0...500mV                                                       | -5...5mA        | 10...0V                                    |                                            |          |
|                                                                                   |                | 0...1V                                                          | -10...10mA      | -5...5V                                    |                                            |          |
|                                                                                   |                | 0...2V                                                          | -20...20mA      | 0...20mA                                   |                                            |          |
|                                                                                   |                | 0...2.5V                                                        | 4...20mA        | 20...0mA                                   |                                            |          |
|                                                                                   |                | 0...5V                                                          | 0...24mA        | 4...20mA                                   |                                            |          |
|                                                                                   |                | 0...10V                                                         | 4...24mA        | 20...4mA                                   |                                            |          |
| 0...20V                                                                           | 0...12mA       | -20...20mA                                                      |                 |                                            |                                            |          |
| ASCON 321                      PT100 converter ( <i>configurable</i> )            |                |                                                                 |                 |                                            |                                            |          |
| 602310                                                                            | 11 - 30 VDC    | PT100 (2,3,4 wire)<br>-150°C...800°C<br>( <i>configurable</i> ) |                 | V/mA same as Ascon 311<br>( <i>above</i> ) | configurable PT100 signal converter        | 4 520.00 |
| ASCON 331                      Thermocouple converter ( <i>configurable</i> )     |                |                                                                 |                 |                                            |                                            |          |
| 602320                                                                            | 11- 30 VDC     | J:                                                              | -200°C...1200°C | V/mA same as Ascon 311<br>( <i>above</i> ) | configurable thermocouple signal converter | 4 520.00 |
|                                                                                   |                | K:                                                              | -200°C...1350°C |                                            |                                            |          |
|                                                                                   |                | E:                                                              | -200°C... 950°C |                                            |                                            |          |
|                                                                                   |                | R:                                                              | -50°C...1750°C  |                                            |                                            |          |
|                                                                                   |                | S:                                                              | -50°C...1750°C  |                                            |                                            |          |
| ASCON 352                      Signal temperature converter ( <i>with RS485</i> ) |                |                                                                 |                 |                                            |                                            |          |
| 602400                                                                            | 11 - 30 VDC    | mV, V, mA                                                       |                 | RS485                                      | signal temperature converter to RS485      | 3 790.00 |
|                                                                                   |                | PT100 (2,3,4 wire)                                              |                 |                                            |                                            |          |
|                                                                                   |                | Thermocouple (J,K,E,R,S)                                        |                 |                                            |                                            |          |

#### Voltage and current transducers

Converts voltage and current signals into analog signals for monitoring/managing purposes

- 3 way - 1.5kV RMS Isolation
- Compact modular (H) 90 x (W) 36 x (D) 57.5 mm (same dimensions as 2-pole MCB)

|             |              |                                                              |                                      |                                  |          |
|-------------|--------------|--------------------------------------------------------------|--------------------------------------|----------------------------------|----------|
| VT3-AC      |              | TRMS voltage transducer                                      |                                      |                                  |          |
| 600111      | 85 - 265 VAC | 0-24/36/54/80/120/170/250/<br>400/450/500V AC<br>(10 ranges) | V/mA same<br>as Ascon 311<br>(above) | TRMS AC voltage transducer       | 4 260.00 |
| 600113      | 10 - 36 VDC  |                                                              |                                      | TRMS AC voltage transducer       | 5 080.00 |
| 600115      | 9 - 30 VDC   |                                                              |                                      | loop powered voltage t/ducer     | 4 260.00 |
| VT3-ACDC-24 |              | TRMS voltage transducer                                      |                                      |                                  |          |
| 600116      | 10 - 36 VDC  | 0-24/54/120/250/450V<br>AC/DC (10 ranges)                    | V/mA same<br>as Ascon 311<br>(above) | TRMS AC/DC voltage<br>transducer | 2 260.00 |
| CT3         |              | TRMS current transducer                                      |                                      |                                  |          |
| 600110      | 85 - 265 VAC | 0-1/2/3/4/5A AC/DC<br>(10 ranges)                            | V/mA same<br>as Ascon 311<br>(above) | TRMS AC current transducer       | 3 980.00 |
| 600112      | 10 - 36 VDC  |                                                              |                                      | TRMS AC current transducer       | 2 260.00 |
| 600114      | 9 - 30 VDC   |                                                              |                                      | loop powered current t/ducer     | 3 980.00 |

## Multifunction timers &amp; counters



CTA4100A



L48TP...



S48/704/B6/...



1400/704/B6/11A



XT115163

**Delta - CTA - Timer / Counter / Tachometer** (Panel mount 48 x 48 mm<sup>2</sup>)

CTA 3-in-1 Timer/Counter/Tachometer is able to receive external input signals and calculate the times of events, frequency and speed. The CTA unit can be applied to batch counting, total counting, length measurement.

- External power supply: 12 VDC  $\pm$ 10%, 100mA (*integrated power supply*)
- Display: Double-line, 6-digit negative transmissive LCD display
- Input signal: Non-voltage input (NPN) / Voltage input (PNP)
- Output 1: Relay: SPST max.250 VAC, 5A + Transistor: NPN open collector
- Output 2: Relay: SPDT max.250 VAC, 5A (*or*) Transistor: NPN open collector
- Easy DIP switch setup:
  - Timer
    - timing up or down 0.01 sec - 999.999 hours
    - on-delay, interval, repeat (*power on, pulse on, pulse off*)
  - Counter
    - counting up or down 1 or 2 stage, batch, total, dual counting
    - (*speed selection: 1/30/200/3k/5k/10k Cps*)
  - Tachometer
    - measurement in Hz (*can be configured to read RPM*)

| type            | description                             | output 2   | RS-485 | supply        | price           |
|-----------------|-----------------------------------------|------------|--------|---------------|-----------------|
| <b>CTA4100A</b> | multi-function timer-counter-tachometer | relay      | no     | 100 - 240 VAC | <b>1 770.00</b> |
| <b>CTA4000A</b> | multi-function timer-counter-tachometer | transistor | no     | 100 - 240 VAC | <b>1 770.00</b> |
| <b>CTA4001A</b> | multi-function timer-counter-tachometer | transistor | yes    | 100 - 240 VAC | <b>1 870.00</b> |
| <b>CTA4100D</b> | multi-function timer-counter-tachometer | relay      | no     | 24 VDC        | <b>1 770.00</b> |
| <b>CTA4101D</b> | multi-function timer-counter-tachometer | relay      | yes    | 24 VDC        | <b>1 930.00</b> |

**Lovato - Panel mounting timers** (48 x 48 mm<sup>2</sup>) **Changeover relay (5A 250 VAC)**

- Multi-voltage: 24 VAC/DC, 110, 220...240 VAC
- Housing: 8-pin plug-in housing

**On-delay timer - delay-on make** (*relay switches after preset time elapses*)

|                  |                                                           | time range      |               |
|------------------|-----------------------------------------------------------|-----------------|---------------|
| <b>L48TPS240</b> | on-delay multi-range/voltage panel mount electronic timer | 3/12/100/780sec | <b>803.00</b> |
| <b>L48TPM240</b> | on-delay multi-range/voltage panel mount electronic timer | 3/12/100/780min | <b>803.00</b> |

**Two changeover relays** (*one configurable for instantaneous switching*)

|                   |                                                        |                   |               |
|-------------------|--------------------------------------------------------|-------------------|---------------|
| <b>L48TPBM240</b> | on-delay multi-time range panel mount electronic timer | 1s/10s/1min/10min | <b>935.00</b> |
|-------------------|--------------------------------------------------------|-------------------|---------------|

**Accessories for above L48 series panel mount timers**

|                |                                                                      |                            |               |
|----------------|----------------------------------------------------------------------|----------------------------|---------------|
| <b>ES8CNER</b> | 8 pin surface/DIN rail mounting relay socket for L48 timers          | ( <i>screw terminals</i> ) | <b>143.00</b> |
| <b>P3G08</b>   | 8 pin socket for panel mounting L48 timers ( <i>rear terminals</i> ) | ( <i>screw terminals</i> ) | <b>48.00</b>  |
| <b>D-48Y</b>   | flush-mounting bracket for panel mounting above L48 timers           |                            | <b>32.70</b>  |

**CDC - Electromechanical timing devices** (*motorised*)**Multi-range motorised timers 6/60sec - 6/60min - 6/60hrs** (*on one timer*)**Surface/DIN rail mount motorised timer**

|                       |                                                         |         |                 |
|-----------------------|---------------------------------------------------------|---------|-----------------|
| <b>S45/604/B6/02A</b> | 1x instantaneous + 1x delay multi-range motorised timer | 24 VAC  | <b>4 620.00</b> |
| <b>S45/604/B6/11A</b> | 1x instantaneous + 1x delay multi-range motorised timer | 110 VAC | <b>4 620.00</b> |
| <b>S45/604/B6/22A</b> | 1x instantaneous + 1x delay multi-range motorised timer | 220 VAC | <b>4 620.00</b> |

**Flush/panel mount motorised timer**

|                        |                                                |                            |         |                 |
|------------------------|------------------------------------------------|----------------------------|---------|-----------------|
| <b>S48/704/B6/02A</b>  | 1x inst + 1x delay multi-range motorised timer | p/mount 48 mm <sup>2</sup> | 24 VAC  | <b>4 360.00</b> |
| <b>S48/704/B6/11A</b>  | 1x inst + 1x delay multi-range motorised timer | p/mount 48 mm <sup>2</sup> | 110 VAC | <b>4 360.00</b> |
| <b>S48/704/B6/22A</b>  | 1x inst + 1x delay multi-range motorised timer | p/mount 48 mm <sup>2</sup> | 220 VAC | <b>4 360.00</b> |
| <b>1400/704/B6/22A</b> | 1x inst + 1x delay multi-range motorised timer | p/mount 72 mm <sup>2</sup> | 220 VAC | <b>4 950.00</b> |

**Accessories**

|              |                                            |                     |               |
|--------------|--------------------------------------------|---------------------|---------------|
| <b>L48P8</b> | rear connected 8 pin screw terminal socket | for S48/1400 timers | <b>194.00</b> |
|--------------|--------------------------------------------|---------------------|---------------|

**Finder - Asymmetrical timer** (*up to 300hrs*) (*use L48P8 for termination*)

|                     |        |                                  |         |                 |
|---------------------|--------|----------------------------------|---------|-----------------|
| <b>889202400000</b> | 2-pole | panel mount asymmetrical flasher | 240 VAC | <b>2 990.00</b> |
|---------------------|--------|----------------------------------|---------|-----------------|

**EM - Mechanical clockwork timers - panel mount** 16 A 250 VAC (1NO + 1NC)

- Mounting by 2 x M4 screws
- Supplied with graduated dial + knob

| type              | Amps | contact   | time range | description                    | price           |
|-------------------|------|-----------|------------|--------------------------------|-----------------|
| <b>XTI2049</b>    | 16A  | 1NO + 1NC | 60 min     | MI2 mechanical clockwork timer | <b>969.00</b>   |
| <b>XTI2048</b>    | 16A  | 1NO + 1NC | 120 min    | MI2 mechanical clockwork timer | <b>969.00</b>   |
| <b>XTI2045</b>    | 16A  | 1NO + 1NC | 12 hour    | MI2 mechanical clockwork timer | <b>1 040.00</b> |
| <b>XTI115163*</b> | 16A  | 1NO + 1NC | 24 hour    | MI5 mechanical clockwork timer | <b>1 510.00</b> |

\* Requires separate supply for 220V internal motor

## Modular electronic timers



DOD

### Electro D series - Modular timing devices

The **Electro "D"** range of control and timing devices are compact modular units for easy introduction into standard panels and/or distribution boards. They mount directly onto DIN rail and align with standard miniature circuit breakers (MCB's).

- Compact DIN rail mounting: (H) 92 x (W) 36 x (D) 64 mm - (2 modules wide)

| multi-range<br>(adjustable<br>time ranges) | No. | time ranges |
|--------------------------------------------|-----|-------------|
|                                            | 1   | 6 sec       |
|                                            | 2   | 60 sec      |
|                                            | 3   | 6 min       |
|                                            | 4   | 60 min      |
|                                            | 5   | 6 hr        |
|                                            | 6   | 60 hr       |
|                                            | 7   | ON          |
|                                            | 8   | OFF         |

| multi-function | No. | functions                      |
|----------------|-----|--------------------------------|
|                | A   | on-delay                       |
|                | B   | interval                       |
|                | C   | equal repeat                   |
|                | D   | Off delayed (pulse controlled) |
|                | E   | interval (pulse controlled)    |
|                | F   | step relay                     |
|                | G   | pulse generator                |
|                | H   | on/off delay                   |

| type | supply voltage* | time range | function | description | price |
|------|-----------------|------------|----------|-------------|-------|
|------|-----------------|------------|----------|-------------|-------|

#### Multi-range/multi-function timers - (8 x selectable time ranges / 8 x selectable functions)

Multi-function, multi-range timers designed with latest technology includes all commonly used functions and time ranges (selectable via front mounted dials).

##### Single voltage version

|                  |           |                                                                              |                                                                              |                            |                 |
|------------------|-----------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------|-----------------|
| <b>DMFT012AD</b> | 12 VAC/DC | selectable<br>via rotary<br>selector<br>on facia<br>of timer<br><b>1...8</b> | selectable<br>via rotary<br>selector<br>on facia<br>of timer<br><b>A...H</b> | multi-range/function timer | <b>1 040.00</b> |
| <b>DMFT110A</b>  | 110 VAC   |                                                                              |                                                                              | multi-range/function timer | <b>1 040.00</b> |
| <b>DMFT230A</b>  | 230 VAC   |                                                                              |                                                                              | multi-range/function timer | <b>1 040.00</b> |
| <b>DMFT400A</b>  | 400 VAC   |                                                                              |                                                                              | multi-range/function timer | <b>1 040.00</b> |
| <b>DMFT024AD</b> | 24 VAC/DC |                                                                              |                                                                              | multi-range/function timer | <b>1 040.00</b> |

#### True off delay (delay on de-energisation) electronic timer

Multi-range OFF delay (delay on release) timer with advanced power back-up circuitry to deliver wide time ranges. The unit must be powered for no less than 30 sec + 30% of set time range.  
(If permanent power is available DMFT timer should be used.)

- Delay on de-energisation timer (delay on removal of supply)

|                |         |              |           |                                |               |
|----------------|---------|--------------|-----------|--------------------------------|---------------|
| <b>DOD230A</b> | 230 VAC | <b>1...4</b> | off delay | delay on de-energisation timer | <b>999.00</b> |
|----------------|---------|--------------|-----------|--------------------------------|---------------|

#### Unequal repeating electronic timer multi-range (ON/OFF)

Multi-range electronic timer designed with latest technology covers most combinations of ON/OFF time ranges selectable via front mounted dials and DIP switch.

- Asymmetrical recycler with independently adjustable ON and OFF times

|                 |           |                                                        |        |                                  |                 |
|-----------------|-----------|--------------------------------------------------------|--------|----------------------------------|-----------------|
| <b>DUR110A</b>  | 110 VAC   | selectable<br>via selector<br>on facia<br><b>1...8</b> | repeat | multi-range unequal repeat timer | <b>1 040.00</b> |
| <b>DUR230A</b>  | 230 VAC   |                                                        | repeat | multi-range unequal repeat timer | <b>1 040.00</b> |
| <b>DUR024AD</b> | 24 VAC/DC |                                                        | repeat | multi-range unequal repeat timer | <b>1 040.00</b> |

#### Star-Delta timer

Star/Delta timer with adjustable transition delay for starting inductive motors. Applying supply activates a contact for the preset "star" period (3-60 sec) the contact disconnects on lapse of this period for the preset transition period (4-180 ms) where after the relay switches to the "delta" position until supply is removed.

- Adjustable "star" time: 3-60 sec
- Adjustable "transition" time: 40-180 ms

|                |         |          |            |                             |               |
|----------------|---------|----------|------------|-----------------------------|---------------|
| <b>DSD110A</b> | 110 VAC | 3-60 sec | star delta | rail mount star-delta timer | <b>939.00</b> |
| <b>DSD230A</b> | 230 VAC | 3-60 sec | star delta | rail mount star-delta timer | <b>939.00</b> |
| <b>DSD400A</b> | 400 VAC | 3-60 sec | star delta | rail mount star-delta timer | <b>939.00</b> |

#### Digital counter / timer (H) 92 x (W) 54 x (D) 64 mm

Multi-function four digit preselect impulse counter/timer Setup and ranges can be adjusted with an easy to access and control menu system to make all common functions available.

- 4 digit preselect impulse counter with selectable prescaler, configurable for (up/down) counting
- Digital timer with pulse start/stop configurable for (up/down) lapse time indication
- 4 time ranges: 1...999.9s / 9999 min

|                 |         |            |               |                                    |                 |
|-----------------|---------|------------|---------------|------------------------------------|-----------------|
| <b>DDCT230A</b> | 230 VAC | 1s - 9999m | counter/timer | digital rail mount counter / timer | <b>1 530.00</b> |
|-----------------|---------|------------|---------------|------------------------------------|-----------------|

\* Other voltage options available on request



DDCT

## Modular digital monitoring devices



DLL4



DPP4



DPF



DVW3

| type                                                                                                                                                                                                                                      | supply voltage* | output         | function             | description                  | price    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------|------------------------------|----------|
| <b>Liquid level controllers</b> (H) 92 x (W) DLL/DLL4 36/54 x (D) 64 mm                                                                                                                                                                   |                 |                |                      |                              |          |
| Controlling of conductive liquid levels with two/ four probes.                                                                                                                                                                            |                 |                |                      |                              |          |
| <b>3 - probe unit - (2 + common)</b> (H) 92 x (W) 36 x (D) 64 mm                                                                                                                                                                          |                 |                |                      |                              |          |
| • Function: Emptying/ Filling                                                                                                                                                                                                             |                 |                |                      |                              |          |
| DLL230A                                                                                                                                                                                                                                   | 230 VAC         | 2 probes+com   | emptying/ filling    | liquid level controllers     | 921.00   |
| DLL400A                                                                                                                                                                                                                                   | 400 VAC         | 2 probes+com   | emptying/ filling    | liquid level controllers     | 921.00   |
| DLL024AD                                                                                                                                                                                                                                  | 24 VAC/DC       | 2 probes+com   | emptying/ filling    | liquid level controllers     | 921.00   |
| <b>5 - probe unit - (4 + common)</b> (H) 92 x (W) 54 x (D) 64 mm                                                                                                                                                                          |                 |                |                      |                              |          |
| • Function: Emptying/filling with alarm, emptying/filling with pump priority, container filling/well draining with alarm, electrode test                                                                                                  |                 |                |                      |                              |          |
| DLL4230A                                                                                                                                                                                                                                  | 230 VAC         | 4 probes+com   | emptying/ filling    | liquid level controllers     | 1 420.00 |
| DLL4400A                                                                                                                                                                                                                                  | 400 VAC         | 4 probes+com   | emptying/ filling    | liquid level controllers     | 1 420.00 |
| DLL4024AD                                                                                                                                                                                                                                 | 24 VAC/DC       | 4 probes+com   | emptying/ filling    | liquid level controllers     | 1 420.00 |
| <b>Radio level controller</b> (wireless)                                                                                                                                                                                                  |                 |                |                      |                              |          |
| <ul style="list-style-type: none"> <li>DIN radio receiver - 5 km transmission (line of sight)</li> <li>Coin Battery CR2032 for level transmitters (3 year life span)</li> <li>Two configurable (radio connected) relay outputs</li> </ul> |                 |                |                      |                              |          |
| ANT 2                                                                                                                                                                                                                                     | —               | —              | antenna              | one per DWL... module        | 756.00   |
| <b>Advanced pump protection relay</b>                                                                                                                                                                                                     |                 |                |                      |                              |          |
| Advance pump protection relay to safeguard borehole pumps against damage. The unit is easily calibrated to monitor all important pump characteristics.                                                                                    |                 |                |                      |                              |          |
| <ul style="list-style-type: none"> <li>Over / under current protection</li> <li>Over / under voltage protection and phase rotation (on 3 phase units)</li> <li>Running dry restart delay / over current retires</li> </ul>                |                 |                |                      |                              |          |
| DPP1230A                                                                                                                                                                                                                                  | 230 VAC         | 1 phase        | pump protection      | pump monitoring relay        | 1 220.00 |
| DPP3400A                                                                                                                                                                                                                                  | 400 VAC         | 3 phase        | pump protection      | pump monitoring relay        | 1 350.00 |
| DPP4400A                                                                                                                                                                                                                                  | 400 VAC         | 3 phase        | pump protection      | with adj./function selection | 1 420.00 |
| <b>Phase failure/reversal relay</b> (sequence and imbalance)                                                                                                                                                                              |                 |                |                      |                              |          |
| Phase failure / reversal monitor for Three-phase supply voltage. For protection against phase reversal, and/or phase loss and phase imbalance.                                                                                            |                 |                |                      |                              |          |
| DPF1110A                                                                                                                                                                                                                                  | 110 VAC         | 3-phase        | phase monitor        | phase failure/reversal relay | 828.00   |
| DPF1400A                                                                                                                                                                                                                                  | 400 VAC         | 3-phase        | phase monitor        | phase failure/reversal relay | 828.00   |
| DPF1/K400A*                                                                                                                                                                                                                               | 400 VAC         | 3-phase        | phase monitor        | phase failure/reversal relay | 921.00   |
| DPF1/N400A                                                                                                                                                                                                                                | 400 VAC         | 3-ph + neutral | phase monitor        | phase failure/reversal relay | 921.00   |
| DPF1525A                                                                                                                                                                                                                                  | 525 VAC         | 3-phase        | phase monitor        | phase failure/reversal relay | 828.00   |
| DPF1/K525A*                                                                                                                                                                                                                               | 525 VAC         | 3-phase        | phase monitor        | phase failure/reversal relay | 921.00   |
| * With adjustable parameters                                                                                                                                                                                                              |                 |                |                      |                              |          |
| <b>Automatic phase selector</b>                                                                                                                                                                                                           |                 |                |                      |                              |          |
| Monitors three-phase + neutral and selects the phase most suitable for providing a single-phase 230V 50Hz supply to industrial and domestic installations.                                                                                |                 |                |                      |                              |          |
| Ideal for supplying essential uninterrupted single phase supply, preventing unacceptable voltage variations.                                                                                                                              |                 |                |                      |                              |          |
| • Automatically selects the optimum phase falling within user define pre-set limits                                                                                                                                                       |                 |                |                      |                              |          |
| DPS3230A                                                                                                                                                                                                                                  | 230 VAC         | 3-phase        | phase selector       | automatic phase selector     | 1 740.00 |
| <b>Voltage window comparator + phase failure</b>                                                                                                                                                                                          |                 |                |                      |                              |          |
| Monitors supply, ensuring voltage remains within preset over and under limits and that all phases are present and in sequence.                                                                                                            |                 |                |                      |                              |          |
| • Delays : No delay - startup delay (10 sec) - recovery delay (180 sec) - reaction delay (10 sec)                                                                                                                                         |                 |                |                      |                              |          |
| DVW1230A                                                                                                                                                                                                                                  | 230 VAC         | 1-phase        | comparator           | over / under voltage monitor | 1 050.00 |
| DVW3400A                                                                                                                                                                                                                                  | 400 VAC         | 3-phase        | comparator           | over / under voltage monitor | 1 060.00 |
| DVW3N400A                                                                                                                                                                                                                                 | 400 VAC         | 3-ph + neutral | comparator           | over / under voltage monitor | 1 050.00 |
| DVW3525A                                                                                                                                                                                                                                  | 525 VAC         | 3-phase        | comparator           | over / under voltage monitor | 1 060.00 |
| <b>Voltage monitor</b> monitors a separate voltage than supply.                                                                                                                                                                           |                 |                |                      |                              |          |
| DVM400A-230A                                                                                                                                                                                                                              | 230 VAC         |                | 400 VAC monitoring   | voltage monitor device       | 993.00   |
| DVM024D-24A                                                                                                                                                                                                                               | 24 VDC          |                | 400 VAC monitoring   | voltage monitor device       | 1 410.00 |
| DVM30MV-30MV                                                                                                                                                                                                                              | 10-30 VDC       |                | 10-30 VDC monitoring | voltage monitor device       | 1 050.00 |
| * Other voltage options available on request                                                                                                                                                                                              |                 |                |                      |                              |          |

## Modular digital monitoring devices



DCM



DLS



DDVW3

The **Electro "D"** range of control and timing devices are compact modular units for easy introduction into standard panels and/or distribution boards. They mount directly onto DIN rail and align with standard miniature circuit breakers (MCB's).

- Compact DIN rail mounting: (H) 92 x (W) 36 x (D) 64 mm - (2 modules wide)

| type                                                                                                                                                                                                                                         | supply voltage*                        | current | interface          | description                     | price           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------|--------------------|---------------------------------|-----------------|
| <b>Current monitors</b> (H) 92 x (W) 36 x (D) 64 mm                                                                                                                                                                                          |                                        |         |                    |                                 |                 |
| • Delays : No delay - startup delay (10 sec) - recovery (180 sec) - reaction delay (10 sec)                                                                                                                                                  |                                        |         |                    |                                 |                 |
| <b>Over (or) under current monitoring.</b>                                                                                                                                                                                                   |                                        |         |                    |                                 |                 |
| Monitors supply, ensuring current remains within preset over (or) under current limits                                                                                                                                                       |                                        |         |                    |                                 |                 |
| <b>DCM5230A</b>                                                                                                                                                                                                                              | 230 VAC                                | 5A      | with 5A CT         | modular current monitor         | <b>1 210.00</b> |
| <b>DCM5400A</b>                                                                                                                                                                                                                              | 400 VAC                                | 5A      | with 5A CT         | modular current monitor         | <b>1 210.00</b> |
| <b>DCM5024D</b>                                                                                                                                                                                                                              | 24 VDC                                 | 5A      | with 5A CT         | modular current monitor         | <b>1 630.00</b> |
| <b>DCM15230A</b>                                                                                                                                                                                                                             | 230 VAC                                | 15A     | direct 15 A        | modular current monitor         | <b>1 210.00</b> |
| <b>Current window comparator</b> (H) 92 x (W) 54 x (D) 64 mm                                                                                                                                                                                 |                                        |         |                    |                                 |                 |
| Monitors supply, ensuring current remains within preset over and under current limits                                                                                                                                                        |                                        |         |                    |                                 |                 |
| <b>DCW5230A</b>                                                                                                                                                                                                                              | 230 VAC                                | 5A      | with 5A CT         | over / under current monitor    | <b>1 210.00</b> |
| <b>DCW15230A</b>                                                                                                                                                                                                                             | 230 VAC                                | 15A     | direct 15 A        | over / under current monitor    | <b>1 210.00</b> |
| <b>Load shed relay</b> (H) 92 x (W) 36 x (D) 64 mm                                                                                                                                                                                           |                                        |         |                    |                                 |                 |
| Load shed relay featuring high resolution analog converter for precise switching levels.                                                                                                                                                     |                                        |         |                    |                                 |                 |
| The relay monitors current consumed and disconnects unnecessary load when necessary                                                                                                                                                          |                                        |         |                    |                                 |                 |
| <b>DLS230A</b>                                                                                                                                                                                                                               | 230 VAC                                | 15A     | 1 circuit          | modular load shed relay         | <b>1 160.00</b> |
| <b>Digital temperature controller with timer</b> (interfaces with TP1 digital probe)                                                                                                                                                         |                                        |         |                    |                                 |                 |
| type                                                                                                                                                                                                                                         | supply                                 | outputs | function           | description                     | price           |
| 4 digit digital temperature controller, monitors temperature via the TP1 temperature probe (supplied separately) Setup and range selection can be adjusted via an easy to access control menu system to make all common functions available. |                                        |         |                    |                                 |                 |
| • Two set points / relay outputs / PID control                                                                                                                                                                                               |                                        |         |                    |                                 |                 |
| • Over / under temperature                                                                                                                                                                                                                   |                                        |         |                    |                                 |                 |
| <b>DDTC230A</b>                                                                                                                                                                                                                              | 230 VAC                                | relay   | controller         | digital temperature controller  | <b>1 530.00</b> |
| <b>DDTCT230A</b>                                                                                                                                                                                                                             | 230 VAC                                | relay   | controller         | temp controller / 24 hour clock | <b>1 760.00</b> |
| <b>TP1</b>                                                                                                                                                                                                                                   | temperature probe (with 3 meter cable) |         |                    |                                 | <b>312.00</b>   |
| <b>Digital voltage window comparator</b>                                                                                                                                                                                                     |                                        |         |                    |                                 |                 |
| Monitors supply, ensuring voltage remains within preset over and under limits and that all phases are present and in sequence.                                                                                                               |                                        |         |                    |                                 |                 |
| • Over / under voltage and frequency monitoring                                                                                                                                                                                              |                                        |         |                    |                                 |                 |
| • 2 relay outputs for individual functions                                                                                                                                                                                                   |                                        |         |                    |                                 |                 |
| • Adjustable delays                                                                                                                                                                                                                          |                                        |         |                    |                                 |                 |
| • Phase failure/reversal                                                                                                                                                                                                                     |                                        |         |                    |                                 |                 |
| <b>DDVW3400A</b>                                                                                                                                                                                                                             | 400 VAC                                | 3 phase | monitor            | digital voltage monitor         | <b>1 910.00</b> |
| <b>Wireless signal extender</b> (3 inputs and 3 outputs: Tx and Rx)                                                                                                                                                                          |                                        |         |                    |                                 |                 |
| • Power supply: 10 - 30 VAC/DC                                                                                                                                                                                                               |                                        |         |                    |                                 |                 |
| • License free radio band                                                                                                                                                                                                                    |                                        |         |                    |                                 |                 |
| • 7 km transmission - line of sight (includes Watchdog protection)                                                                                                                                                                           |                                        |         |                    |                                 |                 |
| <b>DRC/M 10-30VDC</b>                                                                                                                                                                                                                        | 10-30 VAC/DC                           | 3 relay | master transceiver | wireless signal extender        | <b>2 220.00</b> |
| <b>DRC/S 10-30VDC</b>                                                                                                                                                                                                                        | 10-30 VAC/DC                           | 3 relay | slave transceiver  | wireless signal extender        | <b>2 090.00</b> |
| <b>ANT 2</b>                                                                                                                                                                                                                                 | antenna for DRC signal extender        |         |                    | for DRC module                  | <b>756.00</b>   |
| * Other voltage options available on request                                                                                                                                                                                                 |                                        |         |                    |                                 |                 |

\* Other voltage options available on request

## Plug-in electronic timing devices



T2M



T2D



R2U



TNE

The **Electro 11 pin plug-in** range of control and timing devices to be installed into a standard 11 pin base making installation and potential future replacement simple and convenient.

- Compact 11 pin plug-in modules: (H) 80 x (W) 35 x (D) 79 mm

| multi-range<br>(adjustable<br>time ranges) | No. | time ranges |
|--------------------------------------------|-----|-------------|
|                                            | 1   | 6 sec       |
|                                            | 2   | 60 sec      |
|                                            | 3   | 6 min       |
|                                            | 4   | 60 min      |

| multi-function | No. | functions                   |
|----------------|-----|-----------------------------|
|                | A   | on-delay                    |
|                | B   | interval                    |
|                | C   | equal repeat                |
|                | D   | interval (pulse controlled) |

| type | supply voltage* | time range | function | description | price |
|------|-----------------|------------|----------|-------------|-------|
|------|-----------------|------------|----------|-------------|-------|

### Multi-range/multi-function timers - (4 x selectable time ranges / 4 x selectable functions)

Multi-range multi-function plug-in timers incorporating most commonly required functions. Any change made to function or time range by means of front mounted dials will result in a reset of the unit.

|                 |           |                                                   |                                                                     |                            |                 |
|-----------------|-----------|---------------------------------------------------|---------------------------------------------------------------------|----------------------------|-----------------|
| <b>T2M110A</b>  | 110 VAC   | selectable<br>via rear<br>mounted<br>DIP switches | selectable<br>via rear<br>mounted<br>DIP switches<br><b>A, B, C</b> | multi-range/function timer | <b>856.00</b>   |
| <b>T2M230A</b>  | 230 VAC   |                                                   |                                                                     | multi-range/function timer | <b>856.00</b>   |
| <b>T2M400A</b>  | 400 VAC   |                                                   |                                                                     | multi-range/function timer | <b>856.00</b>   |
| <b>T2M012AD</b> | 12 VAC/DC |                                                   |                                                                     | multi-range/function timer | <b>856.00</b>   |
| <b>T2M024AD</b> | 24 VAC/DC |                                                   |                                                                     | multi-range/function timer | <b>856.00</b>   |
| <b>T2M048AD</b> | 48 VAC/DC |                                                   |                                                                     | multi-range/function timer | <b>856.00</b>   |
| <b>T3M110A</b>  | 110 VAC   | <b>1...4</b>                                      | DIP switches<br><b>A...D</b>                                        | multi-range/function timer | <b>1 010.00</b> |
| <b>T3M230A</b>  | 230 VAC   |                                                   |                                                                     | multi-range/function timer | <b>1 010.00</b> |
| <b>T3M024AD</b> | 24 VAC/DC |                                                   |                                                                     | multi-range/function timer | <b>1 010.00</b> |

### True OFF delay on de-energisation timer (delay on removal of supply)

Multi-range OFF delay (delay-on release) timer with advanced power back-up circuitry to deliver wide time ranges. The unit must be powered for no less than 30 sec + 30% of set time range.

|                      |           |         |           |                            |                 |
|----------------------|-----------|---------|-----------|----------------------------|-----------------|
| <b>T2D10S230A</b>    | 230 VAC   | 10 sec  | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D30S230A</b>    | 230 VAC   | 30 sec  | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D30S400A</b>    | 400 VAC   | 30 sec  | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D60S230A</b>    | 230 VAC   | 60 sec  | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D180S024AD</b>  | 24 VAC/DC | 180 sec | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D180S230A</b>   | 230 VAC   | 180 sec | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D360S024AD</b>  | 24 VAC/DC | 360 sec | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D360S230A</b>   | 230 VAC   | 360 sec | off delay | delay on de-energise timer | <b>982.00</b>   |
| <b>T2D/B10M230A</b>  | 230 VAC   | 10 min  | off delay | delay on de-energise timer | <b>1 090.00</b> |
| <b>T2D/B30M230A</b>  | 230 VAC   | 30 min  | off delay | delay on de-energise timer | <b>1 090.00</b> |
| <b>T2D/B60M230A</b>  | 230 VAC   | 60 min  | off delay | delay on de-energise timer | <b>1 090.00</b> |
| <b>T2D/B180M230A</b> | 230 VAC   | 180 min | off delay | delay on de-energise timer | <b>1 090.00</b> |

### Unequal repeating timer multi-range (for ON and OFF ranges)

Asymmetrical recycler timer with two independently adjustable time ranges. On application of supply the relay operates for the pre-set "on" time, thereafter the relay releases for the separately pre-set "off" time. Cycle repeats until supply is removed.

Cycle can be reversed ("off" time first) by bridging terminals (7 and 9)

- Unequal repeating timer (asymmetrical recycler independently adjustable ON time and OFF time)

**Dip switch selectable:** **ON:** 6sec, 60sec, 6min, 60min, 6 hr  
**OFF:** 6sec, 60sec, 6min, 60min, 6 hr

|                 |           |                                           |        |                         |               |
|-----------------|-----------|-------------------------------------------|--------|-------------------------|---------------|
| <b>R2U110A</b>  | 110 VAC   | selectable<br>via rear<br>DIP<br>switches | repeat | unequal repeating timer | <b>899.00</b> |
| <b>R2U230A</b>  | 230 VAC   |                                           | repeat | unequal repeating timer | <b>899.00</b> |
| <b>R2U400A</b>  | 400 VAC   |                                           | repeat | unequal repeating timer | <b>899.00</b> |
| <b>R2U012AD</b> | 12 VAC/DC |                                           | repeat | unequal repeating timer | <b>899.00</b> |
| <b>R2U024AD</b> | 24 VAC/DC |                                           | repeat | unequal repeating timer | <b>899.00</b> |

### Star-delta timer

Applying supply activates a contact for the preset "star" period the contact disconnects on lapse of this period for the preset transition period (4-180 ms) where after the relay switches to the "delta" position until supply is removed.

|                    |           |         |            |                          |               |
|--------------------|-----------|---------|------------|--------------------------|---------------|
| <b>TNE30S024AD</b> | 24 VAC/DC | 30 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE30S110A</b>  | 110 VAC   | 30 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE30S230A</b>  | 230 VAC   | 30 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE30S400A</b>  | 400 VAC   | 30 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE60S024AD</b> | 24 VAC/DC | 60 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE60S230A</b>  | 230 VAC   | 60 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE60S400A</b>  | 400 VAC   | 60 sec  | star delta | plug-in star delta timer | <b>745.00</b> |
| <b>TNE180S230A</b> | 230 VAC   | 180 sec | star delta | plug-in star delta timer | <b>745.00</b> |

\* Other voltage options available on request

## Plug-in electronic timing devices



DEF1/F230A



T10



GAM3



RRP1

The **Electro 11 pin plug-in** range of control and timing devices to be installed into a standard 11 pin base making installation and potential future replacement simple and convenient.

- Compact 11 pin plug-in modules: (H) 80 x (W) 35 x (D) 79 mm

| type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | supply voltage* | time range | function | description                        | price           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|----------|------------------------------------|-----------------|
| <b>Defrost timer (with fan delay)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |            |          |                                    |                 |
| <ul style="list-style-type: none"> <li>• Configurable for 4-hour (<i>defrost cycle every 4 hours</i>) or 8 hour cycle.</li> </ul> <p>Applying supply starts the pre-set (<i>1-60 min</i>) defrost cycle, thereafter the relay switches to the cooling cycle, activating the pre-set (<i>1-60 sec</i>) fan delay period (<i>to prevent water splatter and warm air blowing into the room</i>) and then starts the fan.</p> <ul style="list-style-type: none"> <li>• Defrost time: 3-60 min</li> <li>• Fan delay: 3-60 sec</li> </ul> |                 |            |          |                                    |                 |
| <b>DEF1/F230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 230 VAC         | see above  | defrost  | plug-in electronic defrost timer   | <b>1 030.00</b> |
| <b>Econo range timers econo single adjustable time range and supply voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |            |          |                                    |                 |
| <b>T10/10S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 230 VAC         | 10 sec     | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/10S400A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 400 VAC         | 10 sec     | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/30S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 230 VAC         | 30 sec     | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/60S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 230 VAC         | 60 sec     | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/180S024AD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 24 VAC/DC       | 180 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/180S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 230 VAC         | 180 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/360S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 230 VAC         | 360 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/360S400A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 400 VAC         | 360 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/600S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 230 VAC         | 600 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/600S400A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 400 VAC         | 600 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/600S525A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 525 VAC         | 600 sec    | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T10/60M230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 230 VAC         | 60 min     | on-delay | plug-in electronic timer timer     | <b>616.00</b>   |
| <b>T1IP/30S024AD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 24 VAC/DC       | 30 sec     | interval | econo pulsed internal timer        | <b>845.00</b>   |
| <b>T1IP/30S230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 230 VAC         | 30 sec     | interval | econo pulsed internal timer        | <b>845.00</b>   |
| <b>T1P/230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 230 VAC         | —          | one-shot | econo impulse relay                | <b>745.00</b>   |
| <b>FRT1/230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 230 VAC         | —          | timer    | econo forward/reverse timer        | <b>903.00</b>   |
| <b>Two hand control (safety control)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |            |          |                                    |                 |
| Two hand control designed as a safety device for machines, forcing the operator to operate two pushbuttons within 0.5 secs for machine to operate. A latch facility is provided for use foot switches.                                                                                                                                                                                                                                                                                                                              |                 |            |          |                                    |                 |
| <b>THC1230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 230 VAC         | —          | safety   | two safety hand controller         | <b>828.00</b>   |
| <b>Flip flop relays</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |            |          |                                    |                 |
| Flip flop relays to control many applications such as dividing work load and controlling conveyor direction. ( <i>F30 mains controlled function has to be energised for at least 30 sec before the supply is removed</i> )                                                                                                                                                                                                                                                                                                          |                 |            |          |                                    |                 |
| <b>F12230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 230 VAC         | flip-flop  |          | pulse controlled without memory    | <b>903.00</b>   |
| <b>F30230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 230 VAC         | flip-flop  |          | mains or pulse controlled + memory | <b>1 010.00</b> |
| <b>F30024AD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24 VAC/DC       | flip-flop  |          | mains or pulse controlled + memory | <b>1 010.00</b> |
| <b>Alarm module (3 circuits)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |            |          |                                    |                 |
| Alarm module to control alarm signals and generate the appropriate output for simple annunciator panels. Control of alarm outputs from 3 separate N/O inputs. System can be expanded by bridging all common terminals of the modules.                                                                                                                                                                                                                                                                                               |                 |            |          |                                    |                 |
| <b>GAM3012D</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24 VDC          | —          | alarm    | alarm annunciator module           | <b>971.00</b>   |
| <b>GAM3024D</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12 VDC          | —          | alarm    | alarm annunciator module           | <b>971.00</b>   |
| <b>Tachometer relay</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |            |          |                                    |                 |
| Multi-function tachometer relay with four selectable speeds. The unit can be selected for OVER and UNDER speeds, interfaces directly with Namur two wire proximity sensor or limit switch. Relay remains energised for as long as detected speed remains within the pre-set limits.                                                                                                                                                                                                                                                 |                 |            |          |                                    |                 |
| • Selectable speeds: 1-10, 10-100, 100-1000, 1000-10,000 (RPM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |            |          |                                    |                 |
| <b>RRP1024AD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 24 VAC/DC       | —          | relay    | over/under speed monitor           | <b>917.00</b>   |
| <b>RRP1110A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 110 VAC         | —          | relay    | over/under speed monitor           | <b>917.00</b>   |
| <b>RRP1230A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 230 VAC         | —          | relay    | over/under speed monitor           | <b>917.00</b>   |
| <b>RRP1012D</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12 VAC          | —          | relay    | over/under speed monitor           | <b>917.00</b>   |
| * Other voltage options available on request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |            |          |                                    |                 |

## Plug-in electronic timing devices



SFK1



V3E...



T1R



SC1

The **Electro 11 pin plug-in** range of control and timing devices to be installed into a standard 11 pin base making installation and potential future replacement simple and convenient.

- Compact 11 pin plug-in modules: (H) 80 x (W) 35 x (D) 79 mm

| type | supply voltage* | monitored voltage | function | description | price |
|------|-----------------|-------------------|----------|-------------|-------|
|------|-----------------|-------------------|----------|-------------|-------|

**Phase failure / sequence relay**

The SF1 monitors 3 phase supplies to detect phase failure, phase reversal and phase imbalance. The relay only operates while all Three-phases are present and in sequence.

|                |        |         |               |                             |               |
|----------------|--------|---------|---------------|-----------------------------|---------------|
| <b>SF1110A</b> | 110VAC | 3-phase | phase failure | plug-in phase failure relay | <b>706.00</b> |
| <b>SF1400A</b> | 400VAC | 3-phase | phase failure | plug-in phase failure relay | <b>706.00</b> |
| <b>SF1525A</b> | 525VAC | 3-phase | phase failure | plug-in phase failure relay | <b>706.00</b> |

- With sensitivity adjustment for Negative Phase Sequence (NPS)

|                 |        |         |               |                                |               |
|-----------------|--------|---------|---------------|--------------------------------|---------------|
| <b>SF1K400A</b> | 400VAC | 3-phase | phase failure | phase failure with adj.for NPS | <b>731.00</b> |
| <b>SF1K525A</b> | 525VAC | 3-phase | phase failure | phase failure with adj.for NPS | <b>731.00</b> |

**Over / under voltage monitors (incorporating phase failure)**

Monitors own supply. Relay will only operate whilst the supply voltage is within the presettable "over" and "under" voltage limits and all Three-phases present and in sequence. Provides effective power supply supervision and protection.

- Over / under voltage protection
- Phase failure/reversal protection

|                 |         |          |         |                              |                 |
|-----------------|---------|----------|---------|------------------------------|-----------------|
| <b>V1E230A</b>  | 230 VAC | 3-phase  | voltage | over / under voltage monitor | <b>1 020.00</b> |
| <b>V3E110A</b>  | 110 VAC | 3-phase  | voltage | over / under voltage monitor | <b>1 060.00</b> |
| <b>V3E400A</b>  | 400 VAC | 3-phase  | voltage | over / under voltage monitor | <b>1 060.00</b> |
| <b>V3E525A</b>  | 525 VAC | 3-phase  | voltage | over / under voltage monitor | <b>1 060.00</b> |
| <b>V3EN400A</b> | 400 VAC | 3-ph + N | voltage | voltage monitor with neutral | <b>1 060.00</b> |

**Voltage monitor under (or) over voltage**

V1C voltage monitor monitors a voltage separate from its supply. Relay will operate while the monitored voltage (below) the preset "over" voltage limit (or) (above) the preset "under" voltage limit.

|                     |         |              |         |                         |               |
|---------------------|---------|--------------|---------|-------------------------|---------------|
| <b>V1C230A400MV</b> | 230 VAC | 40 - 400 VAC | voltage | plug-in voltage monitor | <b>946.00</b> |
|---------------------|---------|--------------|---------|-------------------------|---------------|

**Frequency monitor**

The relay is energised as long as measured frequency is within the presettable limits.

- Upper setting: 50-56 Hz
- Lower setting: 40-50 Hz

|                 |         |         |           |                             |               |
|-----------------|---------|---------|-----------|-----------------------------|---------------|
| <b>H1E0230A</b> | 230 VAC | 3-phase | frequency | over and under freq monitor | <b>896.00</b> |
|-----------------|---------|---------|-----------|-----------------------------|---------------|

**Current monitor**

The module directly interfaces with conventional 1/5ACTs. The relay only operates as long as monitored current remains below the pre-set upper limit (or) above the pre-set under limit.

- Hysteresis: 5-50% (adjustable)

|                 |         |        |         |                                 |                 |
|-----------------|---------|--------|---------|---------------------------------|-----------------|
| <b>LA51230A</b> | 230 VAC | 0 - 1A | current | over (or) under current monitor | <b>1 060.00</b> |
| <b>LA55230A</b> | 230 VAC | 0 - 5A | current | over (or) under current monitor | <b>1 060.00</b> |
| <b>LA55400A</b> | 400 VAC | 0 - 5A | current | over (or) under current monitor | <b>1 060.00</b> |
| <b>WA55230A</b> | 400 VAC | 0 - 5A | current | over and under current monitor  | <b>1 060.00</b> |

**Temperature relays (direct conn. to PT100)**

Directly interface with conventional PT100 (3 wire) sensors, the relay energises and remains so until pre-set maximum temperature limit is reached.

- Standard temperature : -20°...+80°C
- Ranges: 80°...180°C

|                     |         |      |       |                                |                 |
|---------------------|---------|------|-------|--------------------------------|-----------------|
| <b>T1R/180S110A</b> | 110 VAC | 180s | relay | plug-in temperature controller | <b>1 030.00</b> |
| <b>T1R/180S230A</b> | 230 VAC | 180s | relay | plug-in temperature controller | <b>1 030.00</b> |

**Converters / Isolators**

Compact signal converter with built-in 24VDC power supply for the output. The unit is designed for low amplitude signals where isolation is not needed. (Use SI100 for isolation).

| type                 | supply voltage* | input signal | output signal | description       | price           |
|----------------------|-----------------|--------------|---------------|-------------------|-----------------|
| <b>SC120A111230A</b> | 230 VAC         | 0 - 1A       | 4 - 20mA      | current converter | <b>1 580.00</b> |
| <b>SC120A211230A</b> | 230 VAC         | 0 - 5A       | 4 - 20mA      | current converter | <b>1 580.00</b> |

\* Other voltage options available on request

## Plug-in electronic timing devices



LV1



LP3



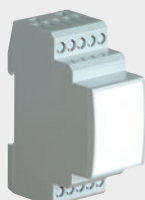
SN1



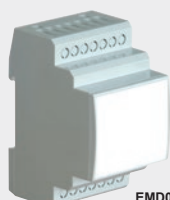
PS3S



EX11 + EX08



EMD02



EMD03

The **Electro 11 pin plug-in** range of control and timing devices to be installed into a standard 11 pin base making installation and potential future replacement simple and convenient.

- Compact 11 pin plug-in modules: (H) 80 x (W) 35 x (D) 79 mm

| type | supply voltage* | time range | function | description | price |
|------|-----------------|------------|----------|-------------|-------|
|------|-----------------|------------|----------|-------------|-------|

### Level controllers *(failsafe control and monitoring of high and / or low levels)*

Level control unit of conductive liquids, can be configured for "Filling" or "Emptying"  
 Can be used as a two probe system for alarm purposes or a three probe system to control HIGH and LOW levels of a reservoir. Up to four LV1 can be utilized in the same reservoir by connecting all commons (pin7)

|                     |         |                          |               |                              |                 |
|---------------------|---------|--------------------------|---------------|------------------------------|-----------------|
| • Emptying/ filling |         | • Adjustable sensitivity |               |                              |                 |
| <b>LV1024A</b>      | 24 VAC  | —                        | level control | liquid conductive controller | <b>856.00</b>   |
| <b>LV1110A</b>      | 110 VAC | —                        | level control | liquid conductive controller | <b>856.00</b>   |
| <b>LV1230A</b>      | 230 VAC | —                        | level control | liquid conductive controller | <b>856.00</b>   |
| <b>LV1400A</b>      | 400 VAC | —                        | level control | liquid conductive controller | <b>856.00</b>   |
| <b>LV1525A</b>      | 525 VAC | —                        | level control | liquid conductive controller | <b>856.00</b>   |
| <b>LV1024D</b>      | 24 VAC  | —                        | level control | liquid conductive controller | <b>1 280.00</b> |
| <b>LVC1230A</b>     | 230 VAC | —                        | level control | DC capacitive probe control  | <b>799.00</b>   |

*Knobs for above LV series to be purchased separately*

### Pump sequence relay *(Three circuits)*

Alternating relays designed to minimize pump and motor wear by equalizing run time between parallel components in a multi-pump system. Controlled by an external control switch.

- Three normally open pump outputs
- Permanent memory for next pump to be activated after power off
- Three pressure switch inputs (*voltage free*)

|                 |         |            |       |                       |               |
|-----------------|---------|------------|-------|-----------------------|---------------|
| <b>PSR1230A</b> | 230 VAC | 3 circuits | relay | pump sequencing relay | <b>974.00</b> |
|-----------------|---------|------------|-------|-----------------------|---------------|

### Pump protection relay

Pump protection relay to safeguard submersible pumps against damage. The unit is easily calibrated to monitor all important pump characteristics.

- Over / under current protection
- Over / under voltage protection and phase rotation (*on 3 phase units*)
- Running dry restart delay / over current retires

Function: Voltage, Current monitoring / Security switch trip / Star / Delta connection

| type           | supply voltage* | phase time | recovery    | description           | price           |
|----------------|-----------------|------------|-------------|-----------------------|-----------------|
| <b>LP1230A</b> | 230 VAC         | 1-phase    | 6 hours     | pump protection relay | <b>956.00</b>   |
| <b>LP2230A</b> | 230 VAC         | 1-phase    | 1-2-4-8 hrs | pump protection relay | <b>1 220.00</b> |
| <b>LP3400A</b> | 400 VAC         | 3-phase    | 1-2-4-8 hrs | pump protection relay | <b>1 250.00</b> |

### Accessories for level controls

|                |                                                                    |  |  |  |               |
|----------------|--------------------------------------------------------------------|--|--|--|---------------|
| <b>SN1</b>     | single line insulated stainless steel probe for conductive liquids |  |  |  | <b>186.00</b> |
| <b>PS3S</b>    | 3 electrode holder ( <i>mounts through 50.5 mm hole</i> )          |  |  |  | <b>191.00</b> |
| <b>P1000S</b>  | electrodes for PS3S holder ( <i>1 meter length</i> )               |  |  |  | <b>91.00</b>  |
| <b>FS03-3P</b> | electrode spacer disc ( <i>for extended probe length</i> )         |  |  |  | <b>37.00</b>  |
| <b>PXL</b>     | extension locknut ( <i>each</i> )                                  |  |  |  | <b>34.90</b>  |

### Empty plastic housings *(for electronic components)*

#### 11 pin plug-in black plastic housings

|              |                          |  |  |                                                |              |
|--------------|--------------------------|--|--|------------------------------------------------|--------------|
| <b>EX02</b>  |                          |  |  | panel mount adaptor for 11 pin modules         | <b>93.00</b> |
| <b>EX11</b>  | (H) 80 x (W) 35 x (D) 79 |  |  | 11 pin empty housing complete ( <i>black</i> ) | <b>60.00</b> |
| <b>EX08</b>  | front label              |  |  | blank adhesive label for front of housing      | <b>7.60</b>  |
| <b>EX06B</b> | black knob               |  |  | potentiometer knob for above housing           | <b>10.30</b> |
| <b>EX06G</b> | grey knob                |  |  | potentiometer knob for above housing           | <b>10.30</b> |

### Empty modular housings - (grey) 6.3 mm terminal centre spacing

- Aligns with standard DIN rail MCBs and modular devices (*2 or 3 modules wide*)

|              |                |                                                                   |  |  |              |
|--------------|----------------|-------------------------------------------------------------------|--|--|--------------|
| <b>EMD02</b> | 92 x 35.5 x 64 | 2 module complete housing DIN rail mount                          |  |  | <b>78.00</b> |
| <b>EMD03</b> | 92 x 35.5 x 64 | 3 module complete housing DIN rail mount                          |  |  | <b>72.00</b> |
| <b>EMX02</b> | front label    | blank adhesive front label for EMD02 ( <i>2 modular</i> ) housing |  |  | <b>18.50</b> |
| <b>EMX03</b> | front label    | blank adhesive front label for EMD03 ( <i>3 modular</i> ) housing |  |  | <b>18.50</b> |
| <b>EMX04</b> | adj. knob      | screw adjustable knob for internal potentiometer                  |  |  | <b>13.70</b> |

\* Other voltage options available on request

