















AUTOMATION



	Slim type PLC	C-1...5/21	Delta
	Block type PLC	C-7...8	Delta
	Mid-range PLC	C-9...10	Delta
	High performance PLC	C-11...13	Delta
	Communication cables / Modules	C-14...15	Delta
	Industrial PC / SCADA systems	C-16	Delta
	HMI (human machine interface)	C-17	Delta
	Text panels and HMI/PLC's	C-18	Delta
	Servo drives and motors	C-19...20	Delta
	Precision gearboxes	C-22	EM
	Rotary optical encoders	C-23	Hontko
	Micro PLC	C-24	Lovato



DVP14SS...



DVP12SA2...



DVP28SA211R

SS2/SA2 series

Delta's DVP series Programmable Logic Controllers (PLCs) offer high-speed, stable, and highly reliable control in all kinds of industrial automation applications. In addition to fast logic operation, bountiful instructions, and multiple function cards, the cost-effective DVP-PLC also supports various communication protocols. The DVP-SS2 series is the economic and compact model, while the DVP-SA2 is the advanced model supporting highspeed modules.

The module-type unit affords tremendous space-saving, allowing simple, clip-on expansion possibilities. The PLC's high performance and extensive I/O units represent a high-value solution for machine control and industrial automation.

Common characteristics

- 32-bit CPU for high-speed processing
- Compact dimensions (H) 90 mm x (D) 60 mm - DIN rail mounting
- Built-in high speed counters up to 100 kHz (model dependant)
- Clip-on extension modules - general (right side) - high speed (left side)
- Plug-in terminals for ease of wiring and maintenance
- Program language: (IL) instruction list, (LD) ladder diagram, (SFC) sequential function chart
- Ultra slim: 22.5 mm
- Supports Modbus master: Can connect up to 16 slaves (VFD, Temp controller, PLC)

type	supply	inputs outputs		description	output type	price
		(DI)	(DO)			

SS2 series - Economic, compact ultra-slim PLC

The compact and economic DVP-SS2 series slim type PLC provides basic sequential control functions with fast execution speed and enhanced real-time monitoring capability. For use in applications such as spinning machines, conveyer belts (rotation speed control), and winding machines (tension control).

Accepts - general (right side) expansion modules only.

- Max. I/O: 480 points
- Program capacity: 8 k steps
- Data register: 5 k words
- Max. execution speed of basic instructions: 0.35 μs
- Built-in RS-232 and RS-485 ports (Master/Slave)
- Supports standard Modbus ASCII / RTU protocol and PLC link function
- Ultra slim: 25.2 mm

Motion control function

- 4 points of 10 kHz pulse output
- 6 x 1 phase counters @ 10kHz or 2 x A/B counters @ 20kHz

DVP14SS211R	24 VDC	8	6	compact ultra slim PLC	relay	2 991.25
DVP14SS211T	24 VDC	8	6	compact ultra slim PLC	transistor (NPN)	2 991.25
DVP12SS211S	24 VDC	8	4	compact ultra slim PLC	transistor (PNP)	2 991.25

SA2 series - Advanced compact slim PLC

DVP-SA2 series offers bigger program capacity and executing efficiency, offering 100 kHz high-speed output and counting functions. It is extendable with DVP-S series left-side and right-side extension modules. For use in applications such as printing machines, dying machines, container fillers (for prescriptions) and work station monitoring in the production line (PLC EASY LINK).

DVP12SA supports general (right side) and high speed (left side) expansion modules.

DVP28SA supports general expansion modules (right side) only.

- Program capacity: 16 k steps
- Data register: 10 k words
- Max. execution speed of basic instructions: 0.35 μs
- Built-in 1 RS-232 and 2 RS-485 ports (Master/Slave)
- Supports standard Modbus ASCII / RTU protocol and PLC link function
- No battery required, RTC function operates for up to 15 days after power off
- Ultra slim: DVP12SA... / 37.4 mm
- Ultra slim: DVP28A... / 46 mm

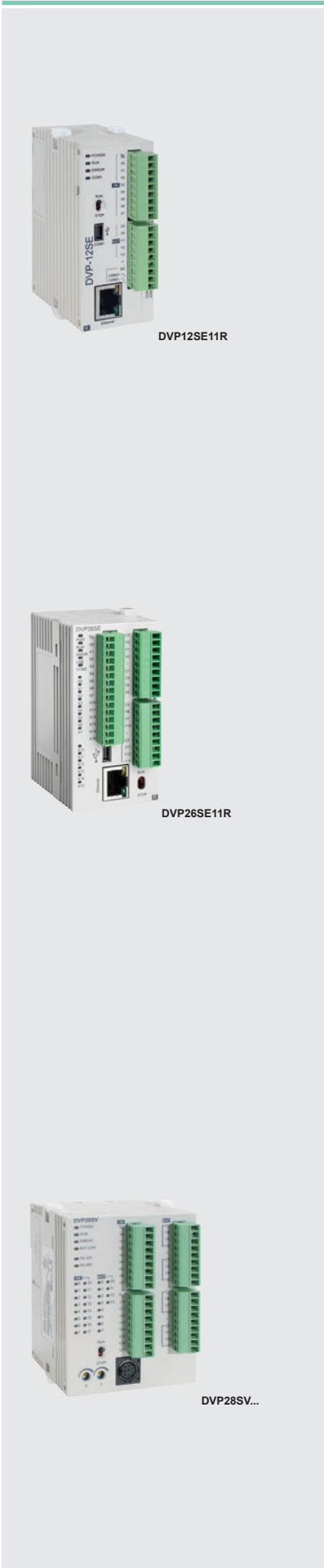
Motion control functions

- Supports 2-axis linear and arc interpolation
- 4 points of high-speed pulse output: 100 kHz / 2 points, 10 kHz / 2 points
- 8 points of high-speed pulse input: 100 kHz / 2 points, 10 kHz / 6 points, 1 set of A/B phase 50 kHz

type	supply	inputs outputs		description	output type	price
		(DI)	(DO)			
DVP12SA211R	24 VDC	8	4	advanced slim PLC	relay	4 448.34
DVP12SA211T	24 VDC	8	4	advanced slim PLC	transistor (NPN)	4 448.34
DVP28SA211R*	24 VDC	16	12	advanced slim PLC	relay	5 125.72
DVP28SA211T*	24 VDC	16	12	advanced slim PLC	transistor (NPN)	5 125.72

* Right hand side expansion only

Note: Programming cables for PLCs see page C-14



SE/SV2 series

- 32-bit CPU for high-speed processing
- Compact dimensions (H) 90 mm x (D) 60 mm - DIN rail mounting
- Built-in high speed counters up to 200 kHz (model dependant)
- Clip-on extension modules - general (right side) - high speed (left side)
- Plug-in terminals for ease of wiring and maintenance
- Program language: (IL) instruction list, (LD) ladder diagram, (SFC) sequential function chart
- Supports Modbus Master: Can connect up to 16 slaves (32 slaves for DVP-SE)

type	supply	inputs outputs		description	output type	price
		(DI)	(DO)			

SE series - Network type advanced slim PLC

The most complete network type slim PLC in the industry. Typical applications include remote device monitoring, production line monitoring, building automation, printing machine, container filler (recipe application).

DVP12SE supports "general" (right side) and "high speed" (left side) expansion modules. **DVP26SE** only supports "general" (right side) expansion modules.

- Program capacity: 16 k steps
- Data register: 12 k words
- Max. execution speed of basic instructions: 0.64 μs
- No battery required; RTC function operates for up to 15 days after power off
- IP Filter functions as firewall as first line protection against malware and network threats
- Built-in mini USB port, 2 x RS-485 and Ethernet port supports Modbus TCP and EtherNet/IP
- Built-in Ethernet
 - DVP12SE:** Modbus TCP/IP
 - DVP26SE:** Modbus TCP/IP & Ethernet/IP (adapter mode)

Motion control functions

- 4 points of high-speed pulse output: 100 kHz / 2 points, 10 kHz / 2 points
- 8 points of high-speed pulse input: 100 kHz / 2 points, 10 kHz / 6 points, 1 set of A/B phase 50 kHz
- Supports 2-axis linear and arc interpolation
- Ultra slim: **DVP12SE...** / 37.4 mm
- Ultra slim: **DVP26SE...** / 46 mm

DVP12SE11R	24 VDC	8	4	network type PLC	relay	5 943.39
DVP12SE11T	24 VDC	8	4	network type PLC	transistor (NPN)	5 943.39
DVP26SE11R*	24 VDC	14	12	network type PLC	relay	7 007.17
DVP26SE11T*	24 VDC	14	12	network type PLC	transistor (NPN)	7 007.17

* Right hand side expansion only

SV2 series - High performance slim PLC

SV2 series is a high-end PLC providing larger program capacities and data registers for more demanding, complex applications. Increases many motion control instructions to meet high-speed applications, high-precision positioning control for labelling, packaging and printing machines.

Applications include control of 2-axis servo positioning, material cutting machines (high-speed servo control), the main hoist of cranes, material clips controlled by servo, equipment in the optoelectronics industry, semiconductor industry, textile industry, energy-saving activities, and automation in buildings.

- Program capacity: 30 k steps
- Data register: 12 k words
- Max. execution speed of basic instructions: 0.24 μs
- 32-bit CPU + ASIC dual processors
- Ultra slim: **DVP28SV...** / 70 mm

Motion Control functions

- High-speed pulse output: 4 axes of 200 kHz pulse output
- Supports 4 hardware 200 kHz high speed counters
- Linear/arc interpolation motion control function
- Provides up to 16 external interrupt pointers

Complete program protection

- Auto backup function prevents program and data loss even when the battery runs out
- Secondary backup function saves an extra copy of programs and data to enhance program safety
- Up to 4 levels of password protection protects your source programs and intellectual property
- Supports DVP-S series left-side and right-side modules

type	supply	inputs outputs		description	output type	price
		(DI)	(DO)			

DVP28SV11R2	24 VDC	16	12	high perform PLC	relay	8 411.37
DVP28SV11T2	24 VDC	16	12	high perform PLC	transistor (NPN)	8 790.88
DVP28SV11S2	24 VDC	16	12	high perform PLC	transistor (PNP)	8 790.88



DVP10SX11R



DVP20SX2...



PLC starter kit

SX2 series

DVP series PLCs for industrial automation applications have been devoted to delivering more innovative products while meeting the requirements of a wide variety of applications. Delta PLCs offer a broad range of controllers and modules, all featuring high performance, multiple functions with efficient program editing tools. In addition to user-friendly programming software and faster execution speed, they provide complete industry-focused solutions, motion control solutions, and industrial fieldbus solutions.

type	supply	inputs		outputs		output type	price
		(DI)	(AI)	(DO)	(AO)		

SX2 series - Analog I/O slim PLC

The DVP-SX2 series is a compact PLC with outstanding analog functions. It has highly efficient PID control functions and offers 14 digital points and built-in 12-bit analog I/O points. It is extendable and supports "general" (right side) and "high speed" (left side) expansion modules. Applications include PID temperature/humidity control, 2-axis AC motor drive constant speed control, and temperature control using analog signal monitoring of a whole factory. (PLC EASY LINK).

General features

- High-Speed Pulse Output: Supports 2 points (Y0, Y2) of 100kHz and 2 points (Y1, Y3) of 10kHz independent high-speed pulse output
- Built-in High-Speed Counters
- 32-bit CPU for high-speed processing
- Program capacity: 16 k steps
- Data register: 10 k words
- Max. execution speed of basic instructions: 0.35 μs
- Built-in analog inputs and outputs (12-bit resolution)
- Built-in mini USB, RS-232 and 2x RS-485 com ports (Master/Slave)
- Supports standard Modbus ASCII/RTU protocol and PLC Link function
- No battery required, maintenance free (RTC operates for 10 days after power off)
- Ultra slim: **DVP10SX...** / 37.4 mm
- Ultra slim: **DVP20SX...** / 70 mm

Motion control functions

- 4 points of high-speed pulse output: 100 kHz / 2 points, 10 kHz / 2 points
- 8 points of high-speed pulse input: 100 kHz / 2 points, 10 kHz / 6 points
- Supports 2-axis linear and arc interpolation

DVP10SX11R*	24 VDC	4	2	2	2	relay	5 916.94
DVP20SX211R	24 VDC	8	4	6	2	relay	7 854.75
DVP20SX211T	24 VDC	8	4	6	2	transistor (NPN)	7 854.75
DVP20SX211S	24 VDC	8	4	6	2	transistor (PNP)	7 854.75

* 2 x 7 segment display, right hand side expansion only

PLC starter kits

PLC Starter kits are ideal for experts as well as beginners, which simplifies the entry into the world of Delta PLCs and HMIs, lowers the time to commission and helps the user get familiar with the programming environment .

Each kit comes complete with programming software for the PLC and HMI products, I/O simulator board, 24 VDC power supply, all interconnecting cables, and a printed starter kit user manual. A Delta USB memory stick is also included with product user manuals. Product instruction sheets, all interconnecting cables, example application programs, and interconnected communication are also included.

- Available as Ethernet based kit or economical serial port based kit
- For learning PLC and HMI programming

UT-14SS2-A	starter kit for learning programming of PLC /HMI	relay	10 119.17
UT-12SE-A1	as above , but with hardware for Ethernet communication	relay	16 629.53
UT-AS332-C	starter kit for learning programming of PLC /HMI	relay	12 339.89

The PLC starter kits includes the following:

Training kit	PLC	HMI	PSU	PC>PLC (cable)	PC>HMI (cable)	PLC>HMI (cable)
UT-14SS2-A	DVP14SS211R	DOP107BV	DVPPS01	UC-PRG020-12A	UC-PRG015-02A	UC-MS020-06A
UT-12SE-A1	DVP12SE11R	DOP107EV	DVPPS01	UC-PRG015-01A	UC-PRG015-02A	UC-PRG030-20A
<i>Includes I/O simulator PCB RS-485 HMI to PLC cable, HMI mounting brackets, DC power cable, USB flash drive and training guide</i>						
UT-AS332-C	AS332T-A	-	AS-PS02A	UC-PRG015-01A	-	-
<i>Includes UB-10-IO32D, I/O connector board, USB flash drive and training guide</i>						



DVP08SM11N



DVP04DA-S2



DVP04PT-S



DVPDT01-S

Extension modules for SS2/SA2/SE/SX2/SV2/MC PLCs

Extension modules simply clip onto CPUs to add many additional functions, additional digital and/or analog I/O's, communication, temperature measurement and load cell monitoring.

General extension modules (right side mounting)

type	supply	inputs		outputs		description	output type	price
		(DI)	(DO)	(DI)	(DO)			

Digital Input extension modules

DVP08SM11N	24 VDC	8	–	–	–	extension module	–	1 162.69
DVP16SM11N	24 VDC	16	–	–	–	extension module	–	1 937.82
DVP32SM11N*	24 VDC	32	–	–	–	extension module	–	2 494.43
UB-10-ID32A	MIL con	32	–	–	–	terminal module for above	DVP32SM	1 102.89
UC-ET010-24A	MIL con	1 met	–	–	–	I/O connection cable for above	DVP32SM\SN	557.77

Digital Output extension modules

DVP06SN11R	24 VDC	–	6	–	–	extension module	relay (6A)	2 309.28
DVP08SN11R	24 VDC	–	8	–	–	extension module	relay (1.2A)	1 728.51
DVP08SN11T	24 VDC	–	8	–	–	extension module	transist (NPN)	1 728.51
DVP16SN11T	24 VDC	–	16	–	–	extension module	transist NPN)	2 381.73
DVP16SN11TS	24 VDC	–	16	–	–	extension module	transist (PNP)	2 381.73
DVP32SN11TN*	24 VDC	–	32	–	–	extension module	transist (NPN)	2 745.14

* Pin head terminations, see page C-15

Digital I/O extension modules

DVP08SP11R	24 VDC	4	4	–	–	extension module	relay	1 817.06
DVP16SP11R	24 VDC	8	8	–	–	extension module	relay	1 902.16
DVP08SP11T	24 VDC	4	4	–	–	extension module	transist (NPN)	1 817.06
DVP16SP11T	24 VDC	8	8	–	–	extension module	transist (NPN)	1 902.16
DVP16SP11TS	24 VDC	8	8	–	–	extension module	transist (PNP)	2 164.37

Analog I/O extension modules

±10V / ±20mA (output: 0 to 10V / 0 to 20mA)

		(AI)	(AO)					
• Built-in RS-485 interface								
DVP04AD-S2	24 VDC	4	–	–	–	extension module	–	3 931.98
DVP06AD-S	24 VDC	6	–	–	–	extension module	–	4 237.89
DVP04DA-S2	24 VDC	–	4	–	–	extension module	analog	5 949.14
DVP06XA-S2	24 VDC	4	2	–	–	extension module	analog	4 391.99

Temperature measurement modules

	Resolution:	0.1°C	inputs	outputs		sensor		
DVP04PT-S*	24 VDC	4	–	–	–	RTD temperature module	PT100/1000	4 722.05
DVP06PT-S	24 VDC	6	–	–	–	RTD temperature module	PT100/1000	5 513.28
DVP04TC-S*	24 VDC	4	–	–	–	thermocouple temp. module	(J,K,R,S,T)	4 730.10

* Built-in RS-485 interface for stand alone applications.

DVP02 series - Temperature control modules (universal input)

- Analog inputs: 0 - 10V, 0 - 20mA, 4 - 20mA
- Resolution: Analog 16-bit, Sensor: 0.1°C
- Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII
- Output point: Built-in PID program control/manual control
- RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000
- Configuration: Using TK soft (embedded in ISP soft)

DVP02TU series

DVP02TUL-S	24 VDC	2	2	analog	output voltage/current			3 229.31
DVP02TUN-S	24 VDC	2	4	transistor	NPN output overheat/current			3 229.31
DVP02TUR-S	24 VDC	2	4	relay	output overheat/overcurrent			3 229.31

DVP02TK series - Built-in RTU-485

	Expandable	With DVP02TU plug-in modules to expand (up to 8 modules)						
DVP02TKL-S	2 in	2 AO	2	analog	output voltage/current	analog		3 956.13
DVP02TKN-S	2 in	4 DO	4	transistor	NPN output overheat/current	transistor		3 956.13
DVP02TKR-S	2 in	4 rel	4	relay	output overheat/overcurrent	relay		3 956.13

Positioning control module (single axis, 200kHz)

DVP01PU-S	single-axis, 200kHz					servo position control module		6 425.26
-----------	---------------------	--	--	--	--	-------------------------------	--	----------

Communication modules

DVPDT01-S	DeviceNet					slave communication module		6 183.75
DVPPF01-S	PROFIBUS-DP					slave communication module		9 606.26

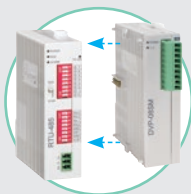
EtherCAT Modbus EtherNet/IP



DVP04DA-SL



DVP202LC-SL



RTU-485

new



RTU-ECAT



DVP08ST11N

High-speed expansion modules for SA2/SE2/SX2/SV2 PLCs (left side mount)

Extension modules simply clip onto CPUs to add many additional functions, additional analog I/Os, communication and load cell monitoring.

- Simply clips onto and derives supply from main CPU

type	supply	inputs (AI)	outputs (AO)	description	output type	price
------	--------	-------------	--------------	-------------	-------------	-------

Analog I/O extension modules (left side high-speed)

- Signal range: Input: 1- 5V, 0- 5V, ±5V, 0 - 10V, ±10V, 4 - 20mA, 0 - 20mA, ±20mA
Output: 0 - 10V, ±10V, 4 - 20mA, 0 - 20mA
- Resolution: 16-bit
- Conversion time: 250 µs / point

DVP04AD-SL	24 VDC	4	-	extension module	analog	5 392.52
DVP04DA-SL	24 VDC	-	4	extension module	analog	7 724.80

Load cell modules (left side high-speed)

- Resolution: 24-bit
- Measurable range: 0 - 80mV/V
- Connectable to: 4-wire / 6-wire load cell sensor
- Easy to use LC soft for configuration and monitoring load cell module (RS-232, RS-485)
- DVP211LC-SL has programmable DI/O (*tare, max etc.*) and AO (*retransmission*)

DVP201LC-SL	24 VDC	1	-	load cell input module	1 channel	5 602.98
DVP211LC-SL	24 VDC	1	1	load cell input mod	1 channel	8 750.63
DVP202LC-SL	24 VDC	2	-	load cell input module	2 channel	7 903.05

Communication modules (left side high-speed)

DVPEN01-SL	Ethernet			communication module	10/100Mbps	6 264.25
DVPDNET-SL	DeviceNet			master communication module	500kbps	6 224.00
DVPCOPM-SL	CANopen			master communication module	1Mbps	6 224.00
DVPPF02-SL	PROFIBUS-DP			slave communication module	12Mbps	6 684.01
DVPSCM12-SL	RS-485/RS-422			serial communication module	460kbps	7 370.59
DVPSCM52-SL	BACnet MS/TP			slave communication module	460kbps	15 180.48

Remote I/O communication modules

RTU-485	Modbus RS-485			max. 8 special modules and 128DI and 128DO		2 518.58
RTU-EN01	Modbus TCP/IP			max. 8 special modules and 128DI and 128DO		7 587.94
RTU-DNET	DeviceNET			max. 8 special modules and 128DI and 128DO		6 643.76
RTU-PD01	PROFIBUS-DP			max. 8 special modules and 128DI and 128DO		10 050.17
RTU-ECAT	EtherCAT			max. 8 special modules and 128DI and 128DO		3 769.82

Accessories for S series PLCs

Power supply modules (DIN rail mounting)

DVPPS01	85-240 VAC	to 24 VDC	1A	power supply module		855.63
DVPPS02	85-240 VAC	to 24 VDC	2A	power supply module		1 106.34
DVPPS05	85-240 VAC	to 24 VDC	5A	power supply module		2 034.42

Accessories and cables

UC-PRG020-12A	8-pin mini-DIN+female DB9 connector to USB (type A) connector	2 met	890.13
UC-PRG030-01A	mini USB connector to USB (type A) connector	3 met	224.26
UC-MS030-01A	8-pin mini-DIN connector to female DB9 connector RS-232	3 met	200.11
IFD6500	RS-485 to USB (type A) converter module		1 388.10
DVP08ST11N	input point switch module for DVP-S series		2 082.72
DVPPCC01	program-data backup memory card for all DVP series (64k words)		1 913.66

Software (windows based) easy to learn and use with provided "help" file

PLC editing software for AH500, AS200/300 and DVP series, supports 5 programming languages: (LD, FBD, SFC, ST, IL) programming software for DVP-PLC (**freely downloadable via internet**)
ISPSOft is the latest program development tool for Delta's Programmable Logic Controllers (PLCs), which complies with the IEC 61131-3 standard to integrate multiple tasks for project management.
Customers can use standard PLCopen® function blocks, as well as Delta's self-developed function blocks to easily achieve different control requirements. ISPSOft offers users an efficient and convenient development environment and is suitable for both small and complex control systems.



ISPSOft



DOPsoft



TPEditor



VFDsoft



ASDAsoft



DIADevice



Manuals

DIView SCADA System

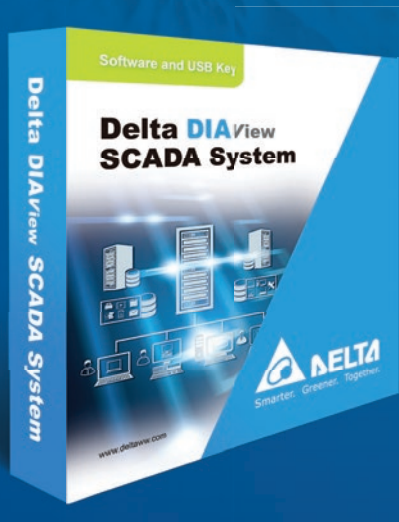
Automation for a Changing World

Analyse

Digitise

Visualise

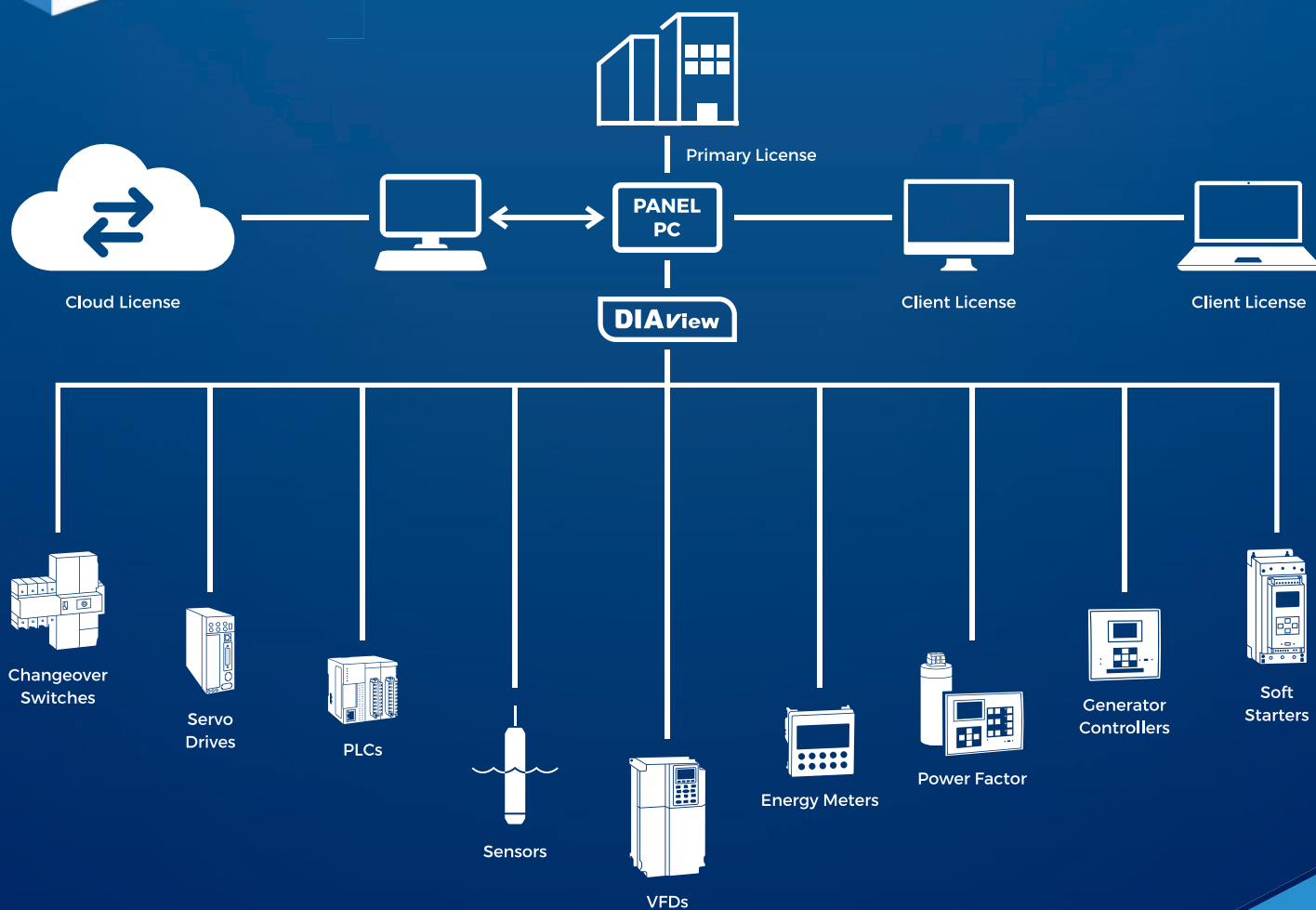
Optimise



Industrial data visualisation software designed for smart management of factory equipment and production processes

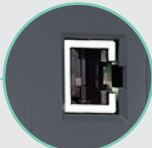
- Seamless integration with Delta products
- Vivid displays and easy-to-navigate interfaces
- Historical data management tools and visualisation
- Efficient anomaly alarms and management
- Authority management for different authorisation levels

Refer to page C-16 for more info





DVP20ES2...



Top entry Ethernet port



DVP20ES200TE



DVP16XP2...



DVP24XN...

ES2 series - Compact, highly efficient, functional instruments with incorporated communication capabilities, advantages such as built-in convenient commands offer easy access to operation and communication function monitoring.

Common characteristics

- 32-bit CPU for high-speed processing
- Built-in 1 x RS-232 and 2 x RS-485 ports
- Max. execution speed of basic instructions: 0.35 μs
- Program capacity: 16 k steps / Data register: 10 k words
- Standard - 16 / 20 / 24 / 32 / 40 / 60 / 80 I/O points for a variety of applications
- Highly efficient processing ability: 1 k steps of programming can be completed within 1ms
- Up to 4 levels of password protection secures your source programs and intellectual property
- Ethernet CPUs have an additional Ethernet port. Supports Modbus TCP/IP & Ethernet/IP (*adapter mode*)
- Max. 100 kHz pulse control, specific motion control instructions (*mark/masking and instant frequency changing*) for multi-axis applications

type	supply	inputs (DI)	outputs (DO)	width (mm)	description	output type	price
------	--------	-------------	--------------	------------	-------------	-------------	-------

ES2 series - Standard PLC

The ES2 series is a small PLC for basic sequential control. It is economical, highly efficient, and functional. Suited for use in HVAC applications, molding injection machines, big storage management systems, packaging machines, precise textile machines, and logistic systems.

Relay output

DVP20ES200RE*	100 - 240 VAC	12	8	125	standard PLC	relay	5 569.63
DVP32ES200RE*	100 - 240 VAC	16	16	165	standard PLC	relay	6 627.66
DVP32ES200RC*	100 - 240 VAC	16	16	145	standard PLC	relay	10 743.64
DVP40ES200RE*	100 - 240 VAC	24	16	194	standard PLC	relay	8 588.47
DVP60ES200RE*	100 - 240 VAC	36	24	255	standard PLC	relay	9 541.85

Transistor output

DVP20ES200TE*	100 - 240 VAC	12	8	125	standard PLC	transist (NPN)	5 569.63
DVP32ES200TE*	100 - 240 VAC	16	16	165	standard PLC	transist (NPN)	6 627.66
DVP32ES200TC*	100 - 240 VAC	16	16	145	standard PLC	transist (NPN)	10 743.64
DVP40ES200TE*	100 - 240 VAC	24	16	194	standard PLC	transist (NPN)	8 588.47
DVP60ES200TE*	100 - 240 VAC	36	24	255	standard PLC	transist (NPN)	9 541.85

* Last digit "E" with built-in Ethernet interface / "C" with built-in CANopen interface

EX2 series - Analog I/O PLC

The Ex2 series is a standard PLC with integrated communication and highly efficient processing ability for control systems.

- Built-in 12-bit 4 x analog inputs / 2 x analog output and 14-bit analog I/O extension modules
- Built-in PID auto tuning function, offering a complete analog control solution

		digital I	analog I	digital O	analog O		
DVP20EX200R	100 - 240 VAC	8	4	6	2	relay	7 708.70
DVP20EX200T	100 - 240 VAC	8	4	6	2	transist (NPN)	7 708.70

I/O extension modules for ES2/EX2 series

- Plugs directly into PLC - 24 VDC - supply derived from MPU (*limited to 12W*)

Digital input/output modules

DVP08XM211N	24 VDC	8	-	-	expansion module	-	1 453.65
DVP16XM211N	24 VDC	16	-	-	expansion module	-	2 584.14
DVP08XN211R	24 VDC	-	8	-	expansion module	relay	2 341.48
DVP16XN211R	24 VDC	-	16	-	expansion module	relay	3 641.02
DVP08XP211R	24 VDC	4	4	-	expansion module	relay	1 873.41
DVP16XP211R	24 VDC	8	8	-	expansion module	relay	3 471.96
DVP08XN211T	24 VDC	-	8	-	expansion module	transist (NPN)	2 341.48
DVP16XN211T	24 VDC	-	16	-	expansion module	transist (NPN)	3 641.02
DVP08XP211T	24 VDC	4	4	-	expansion module	transist (NPN)	1 873.41
DVP16XP211T	24 VDC	8	8	-	expansion module	transist (NPN)	3 471.96

I/O 24/32 point modules for ES2/EX2 series - 230 VAC power supply required

- Incorporates 24 VDC output supply 100mA (2.4W) for other modules

DVP24XN200R	100 - 240 VAC	-	24	-	expansion module	relay	5 053.26
DVP24XP200R	100 - 240 VAC	16	8	-	expansion module	relay	4 367.84
DVP32XP200R	100 - 240 VAC	16	16	-	expansion module	relay	5 739.83
DVP24XN200T	100 - 240 VAC	-	24	-	expansion module	transist (NPN)	5 053.26
DVP24XP200T	100 - 240 VAC	16	8	-	expansion module	transist (NPN)	4 367.84
DVP32XP200T	100 - 240 VAC	16	16	-	expansion module	transist (NPN)	5 739.83



DVP04AD-E2



DVP04PT-E2



DVP16EC00R3



DVPCC01

Analog I/O extension modules for ES2/EX2 series

- Plugs directly into PLC - 24 VDC - supply derived from MPU (limited to 12W)

type	supply	inputs (AI)	outputs (AO)	description	output type	price
------	--------	-------------	--------------	-------------	-------------	-------

Analog extension modules for ES2/EX2 series

- Analog Input: Voltage ($\pm 10V$, $\pm 5V$) / current ($\pm 20mA$, 0 - 20mA, 4 - 20mA) input
- Analog Output: Voltage ($\pm 10V$) / current (0 - 20mA, 4 - 20mA) output
- Resolution: 14-bit

		analog inputs	analog outputs			
DVP04AD-E2	24 VDC	4	-	expansion modules	analog/inputs	4 044.68
DVP02DA-E2	24 VDC	-	2	expansion modules	analog/outputs	4 722.05
DVP04DA-E2	24 VDC	-	4	expansion modules	analog/outputs	5 643.23
DVP06XA-E2	24 VDC	4	2	expansion modules	analog I/O	5 643.23

Temperature measurement modules for ES2/EX2

type	supply	description	price
------	--------	-------------	-------

RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input / 0 - 300Ω resistance input

- Resolution: 16-bit
- Built-in PID temperature control

DVP04PT-E2	24 VDC	4 points resistance (Pt100, Pt1000, Ni 100/1000)	5 231.52
------------	--------	--	----------

Thermocouple (J, K, R, S, T, E, N type) sensor input/-80mV - +80V voltage input

- Resolution: 16-bit
- Built-in PID temperature control

DVP04TC-E2	24 VDC	4 points of thermocouple (J, K, R, S, T, N type)	5 231.52
------------	--------	--	----------

DVP-EC3 series - Econo PLC 100 - 240 VAC

DVP-EC3 series is the most economical solution for sequential control and communication monitoring for smaller applications with simple RS-485/Modbus communication.

- Program capacity: 4k steps
- High-speed pulse output: Max. 11kHz pulse output
- Mounting: DIN-rail or chassis mounting
- Built-in high-speed counters: 2 x 20/10kHz, 1 x 20kHz, 1 x 4kHz
- MPU I/O points: 10/16/24/32/40 points (not expandable)
- COM ports: Built-in RS-232 & RS-485 (only for 16/24/32/40 points)
- Compact: (H) 90 x (D) 45.5 mm (W) number of. I/O point dependant

type	supply	inputs (DI)	outputs (DO)	description	output type	price
------	--------	-------------	--------------	-------------	-------------	-------

DVP-EC3 - Economic series PLC

DVP10EC00R3	100 - 240 VAC	6	4	standard econo PLC	relay	3 269.56
DVP16EC00R3	100 - 240 VAC	8	8	standard econo PLC	relay	4 060.78
DVP24EC00R3	100 - 240 VAC	12	8	standard econo PLC	relay	5 004.96
DVP32EC00R3	100 - 240 VAC	16	16	standard econo PLC	relay	5 844.49
DVP40EC00R3	100 - 240 VAC	24	16	standard econo PLC	relay	6 506.91

Accessories for DVP-ES2/EX2/EC PLCs

DVPCC01	program-data backup memory card for all DVP series (64k words)				1 913.66
UC-PRG020-12A	mini-DIN	USB (type-A)	programming cable PLC to PC	2 met	890.13
UC-MS030-01A	male mini-DIN	female DB9	programming cable PLC to HMI	3 met	200.11
DVPAEXT01-E2	connection kit with cable for DVP-ES2 / EX2 and exp. modules			0.7 met	1 574.40

Software (windows based) easy to learn and use with provided "help" file

PLC editing software for AH500, AS200/300 and DVP series, supports 5 programming languages: (LD, FBD, SFC, ST, IL) programming software for DVP-PLC (**freely downloadable via internet**)

ISPSOFT is the latest program development tool for Delta's Programmable Logic Controllers (PLCs), which complies with the IEC 61131-3 standard to integrate multiple tasks for project management. Customers can use standard PLCopen® function blocks, as well as Delta's self-developed function blocks to easily achieve different control requirements. ISPSOFT offers users an efficient and convenient development environment and is suitable for both small and complex control systems.



ISPSOFT



DOPSOFT



TPEditor



VFD



ASDA



DIADevice



Manuals



AS228R-A



AS08AM10N-A



AS64AN02T-A

The AS series - Compact modular mid-range PLC

The **AS series** is a high performance multi-purpose controller designed for all types of automated equipment. Featuring Delta's self-developed 32-bit SoC CPUs for enhanced execution speed (40k steps/ms) supporting up to 32 extension modules or up to 1.024 Inputs/Outputs. Providing accurate positioning control for up to 8 axes via CANopen motion network and 6 axes via pulse control (200kHz). Widely used in diverse automated equipment, electronics manufacturing, labelling, food packaging, and textile machines.

- 32-bit CPU for high-speed processing
- Max. execution speed of basic instructions: 25 ns
- Built-in mini USB, micro SD slot RS-232 / 2x RS-485 com ports (*Master/Slave*), Ethernet IP (*Adaptor and scanner*)
- Rackless design (no-backplane) direct DIN rail mounting, patented DIN rail clips for fast vertical module installation
- Compact dimensions (H) 88 mm x (D) 95 mm

type	supply	digital		analog		description	output type	price
		Inputs	Output	Inputs	Output			
AS200 series - CPU		<i>(64k steps / 60k words)</i>				<i>(H) 88 x (W) 88 x (D) 95 mm</i>		
<ul style="list-style-type: none"> • Program capacity: 64k steps • Data register: 60k words • Communication: USB, Ethernet, 2 x RS-485, CANopen • Plug-in, screwless (<i>push-in</i>) terminals for ease of wiring and maintenance 								
AS228R-A	24 VDC	16	12	–	–	AS200 CPU module	relay	10 106.52
AS228T-A	24 VDC	16	12	–	–	AS200 CPU module	transist(NPN)	10 106.52
AS228P-A	24 VDC	16	12	–	–	AS200 CPU module	transist (PNP)	10 106.52
AS218TX-A	24 VDC	8	6	2	2	AS200 CPU module	transist (NPN)	10 106.52
AS218RX-A	24 VDC	8	6	2	2	AS200 CPU module	relay	10 106.52
AS218PX-A	24 VDC	8	6	2	2	AS200 CPU module	transist (PNP)	10 106.52
AS300 series - CPU		<i>(128k steps / 60k words)</i>				<i>(H) 88 x (W) 80 x (D) 95 mm</i>		
<ul style="list-style-type: none"> • Program capacity: 128k steps / Data register: 60k words • Communication: USB, Ethernet, 2 x RS-485, (<i>accepts 2 x AS-F function cards</i>) • 2 x Incorporated slots accepting AS-F communication and/or analog function cards • Plug-in, screwless (<i>push-in</i>) terminals for ease of wiring and maintenance 								
AS300N-A	24 VDC	–	–	–	–	AS300 CPU module	–	7 071.58
AS320T-B	24 VDC	8	12	–	–	AS300 CPU module	transist (NPN)	10 106.52
AS320P-B	24 VDC	8	12	–	–	AS300 CPU module	transist (PNP)	10 106.52
AS332T-A*	24 VDC	16	16	–	–	AS300 CPU module	transist (NPN)	12 351.39
AS332P-A*	24 VDC	16	16	–	–	AS300 CPU module	transist (PNP)	12 351.39
AS324MT-A❖	24 VDC	12	12	–	–	AS300 CPU module	differential type	11 108.20
<p>* High density MIL terminal block, see C-15 ❖ 2 axes 4MHz + 4 axes 200kHz output / 2 channels 4MHz + 4 channels 200kHz input</p>								
Power supply modules (Clips onto left side of CPU)								
AS-PS02	100 - 240 VAC	24 VDC				2A for internal bus	power supply	1 501.95
AS-PS02A	100 - 240 VAC	24 VDC		1.5A internal bus	0.5A for external I/O		power supply	1 760.71
AS-ATXB*	–	24 VDC		to supply via bottom entry (<i>side mount</i>)			power adaptor	499.12
* Used with external power supplies for PLC racks which require more than 2A.								
Digital I/O modules - for AS series PLCs								
Input modules								
• Plug-in, screwless (<i>push-in</i>) terminals (<i>32 and 64 I/O modules high density MIL connector</i>)								
			(DI)	(DO)				
AS08AM10N-A	24 VDC		8	–	digital input module (DI)	–		1 413.40
AS16AM10N-A	24 VDC		16	–	digital input module (DI)	–		2 994.70
AS32AM10N-A*	24 VDC		32	–	digital input module (DI)	–		4 496.65
AS64AM10N-A*	24 VDC		64	–	digital input module (DI)	–		6 700.11
Output modules								
AS08AN01R-A	24 VDC	–		8	digital output module (DO)	relay		2 114.92
AS08AN01T-A	24 VDC	–		8	digital output module (DO)	transist (NPN)		2 114.92
AS08AN01P-A	24 VDC	–		8	digital output module (DO)	transist (PNP)		2 114.92
AS16AN01R-A	24 VDC	–		16	digital output module (DO)	relay		3 172.95
AS16AN01T-A	24 VDC	–		16	digital output module (DO)	transistor (NPN)		3 172.95
AS16AN01P-A	24 VDC	–		16	digital output module (DO)	transist (PNP)		3 172.95
AS32AN02T-A*	24 VDC	–		32	digital output module (DO)	transist (NPN)		4 673.75
AS64AN02T-A*	24 VDC	–		64	digital output module (DO)	transist (NPN)		7 047.43
Mixed I/O modules								
AS16AP11R-A	24 VDC	8		8	digital input/output mod. (DI/O)	relay		2 994.70
AS16AP11T-A	24 VDC	8		8	digital input/output mod. (DI/O)	transist (NPN)		2 994.70
AS16AP11P-A	24 VDC	8		8	digital input/output mod. (DI/O)	transist (PNP)		2 994.70
* High density MIL terminal block, see C-15								



AS04AD-A



AS-FEN02



AS08TC-A



AS02LC-A

AS series - I/O modules and accessories

Includes digital I/O modules (output/input/mix), analog I/O modules (output/input/mix), temperature measurement modules, load cell modules, communication modules and function cards. For applications including electronics manufacturing, labeling, food packaging, and textile machines.

type	supply	analog		description	price
		Inputs	Output		
Analog I/O modules (W) 35 mm					
<ul style="list-style-type: none"> Single channel on/off setting to enhance overall conversion efficiency Wire break detection at 1 - 5V and 4 - 20mA Voltage: 1 - 5V, 0 - 5V, ±5V, 0 - 10V, ±10V Current: 4 - 20mA, 0 - 20mA, ±20mA 					
Input module (analog)					
<ul style="list-style-type: none"> Hardware resolution: 16-bit 					
		(AI)	(AO)		
AS04AD-A	24 VDC	4	-	voltage and current input	4 496.65
AS08AD-B	24 VDC	8	-	voltage input	7 071.58
AS08AD-C	24 VDC	8	-	current input	7 071.58
Output module (analog)					
<ul style="list-style-type: none"> Hardware resolution: 12-bit 					
AS04DA-A	24 VDC	-	4	voltage and current output	5 989.39
Mixed I/O modules (analog)					
<ul style="list-style-type: none"> Hardware resolution: 16-bit (input) / 12-bit (output) 					
AS06XA-A	24 VDC	4	2	voltage and current Input/Output	5 109.61
Communication modules					
Comm. extension module <i>accepts comm. and/or analog function cards</i> (W) 56 mm					
AS00SCM-A	24 VDC	function card module for CPU / remote I/O interface			3 705.42
Communication function cards (isolated)					
<ul style="list-style-type: none"> Plugs directly into AS300 main CPU or AS00SCM-A module Communication modules (function cards): communication module and CPU support RS-232, RS-422, RS-485, Ethernet, CANopen communication 					
AS-F232	RS-232	serial COM, RS-232 interface for CPU or AS00SCM-A			880.93
AS-F422	RS-422	serial COM, RS-422 interface for CPU or AS00SCM-A			1 146.59
AS-F485	RS-485	serial COM, RS-485 interface for CPU or AS00SCM-A			969.49
AS-FCOPM*	CANopen	CANopen port, support DS301, for CPU or AS00SCM-A			2 204.62
AS-FEN02*	Ethernet	Modbus TCP, EtherNet/IP adaptor CPU modules			3 512.21
AS-FPFN02	Profinet	RTU function card (PLC slave / remote I/O)			6 167.65
AS-FOPC02	OPC UA	supports (OPC UA sever mode) - 2 x RJ45			2 873.94
Analog I/O Function cards <i>plugs directly into main AS300 CPU or AS00SCM-A module</i>					
AS-F2AD	24 VDC	2	-	0 - 10V (12-bit), 4 - 20mA (11-bit)	1 760.71
AS-F2DA	24 VDC	-	2	0 - 10V, 4 - 20mA (12-bit)	2 114.92
DeviceNet communication module (W) 35 mm					
AS01DNET-A*	DeviceNet	supports master / slave modes, supports RTU function			6 199.85
* Can be used as remote I/O modules					
Temperature measurement modules <i>resolution: 0.1°C</i> (W) 35 mm					
Pt, Ni temperature sensor ±0.1% overall accuracy					
<ul style="list-style-type: none"> Pt100/1000, Ni100/1000, JPt100, LG-Ni1000, Cu50/100, resistor 0~300/3000Ω 					
AS04RTD-A	24 VDC	4 CH		PT, NI temperature sensor module	5 199.32
AS06RTD-A	24 VDC	6 CH		PT, NI temperature sensor module	6 482.76
Thermocouple temperature sensor ±0.5% overall accuracy					
<ul style="list-style-type: none"> Thermocouple - J, K, R, S, T, E, N, B; ±100mV 					
AS04TC-A	24 VDC	4 CH		thermocouple temperature sensor module	5 199.32
AS08TC-A	24 VDC	8 CH		thermocouple temperature sensor module	7 790.35
Special module (W) 35 mm					
<ul style="list-style-type: none"> Resolution: 24-bit for hardware (ADC), 32-bit for data output High speed dynamic measurement Independent dual-channel 					
AS02LC-A	24 VDC	2 CH	16bit load cell module (for 4 /6 wire load cell sensors)		8 548.22
AS02HC-A	24 VDC	2 CH	200kHz, INC/SSI high speed counter module		7 870.85
AS04SIL-A	24 VDC	4 CH	I/O link master module		6 135.45



AHCPU500-RS2



AHCPU521-EN



AHBP06M1-5A



AHPS05-5A

AH500 series - High performance PLC system

The new generation AH Series PLC provides automation solutions for high-level applications. The combination of modular hardware structure, advanced functions and highly integrated software provides system solutions for advanced process control. In addition to various function blocks, excellent price/performance ratio and an abundant selection of extension modules, the AH PLC also provides exceptional system expansion ability, greatly reducing system cost for a broad range of applications.

- LD/SFC/FBD/IL/ST languages
- Utilises a dual-core multi-tasking processor
- Reliable operations of the supported modules in severe conditions
- Enhanced flexibility: Max. 100 meters between 2 local extension racks
- Hot-swapping function keeps system running for improved maintainability
- CPU built-in with fully isolated RS-232/422/485, Mini-USB, Ethernet, SD Card 1.0
- Highly integrated software ISPSOft: graphical interface with 5 programming languages IEC61131-3
- Abundant selection of DIO modules, AIO modules, temperature control modules, network modules, pulse-train modules and DMCNET / EtherCAT motion control modules
- Maxl. I/O points:
 - DIO: Max. 4,352 points
 - AIO: Max. 544 channels
 - RIO: Max. 125,440 digital points / 3,920 analog channels
- Program capacity: Max. 256K steps / Data register 64K words
- Excellent program execution speed: 0.3ms / 1k steps

CPU modules *internal power consumption (2W)*

type	local I/O (points)	program capacity (steps)	data register (K words)			function blocks	extension backplane	price
			D	L	B			

RS2 series CPU modules

- Built-in RS-232/422/485 multi-modes communication port x 2
- Built-in SD card slot, Mini-USB programming port
- Program execution speed: LD instruction @ 0.02µs / 1K steps @ 0.3ms
- Modbus RTU/ASCII
- 2048 timers and counters
- No battery required RTC function (*max. 30 days after power off*)

AHCPU500-RS2	768	32k	16	16	512	128	0	10 881.65
AHCPU511-RS2	1280	96k	48	48	1024	1024	1	12 512.40

EN series CPU modules (with built-in EtherNet communication port 100Mbps)

As RS2 above, but with one less comm. port:

- WEB/E-mail/IP Filter function
- Built-in Ethernet communication port
- NTP network time correction function

AHCPU510-EN	1280	64k	32	32	1024	256	1	29 693.93
AHCPU511-EN	1280	96k	48	48	1024	1024	1	30 579.46
AHCPU521-EN	2304	192k	96	96	2048	2048	3	31 476.49
AHCPU531-EN	4352	384k	128	128	4096	4096	7	35 202.61

Main backplanes *internal power consumption (0.01W)*

- Built-in communication port for extension backplanes
- Slot spaces are not occupied by Power/CPU/RTU modules
- Supports CPU modules, remote I/O communication modules (RTU)

type	slots	description	price
AHBP04M1-5A	4	main backplane supports CPU, remote I/O modules	4 868.11
AHBP06M1-5A	6	main backplane supports CPU, remote I/O modules	6 393.06
AHBP08M1-5A	8	main backplane supports CPU, remote I/O modules	7 612.09
AHBP12M1-5A	12	main backplane supports CPU, remote I/O modules	10 655.09

Extension backplanes *internal power consumption (1.41W)*

- For main backplane extension
- Built-in communication port for backplanes

AHBP06E1-5A*	6	ext. backplane supports CPU, remote I/O modules	7 305.03
AHBP08E1-5A*	8	ext. backplane supports CPU, remote I/O modules	8 524.07

Power supply modules *internal power consumption (1.41W)*

- Power supply for the modules on the racks

	supply				price
AHPS05-5A	60W	100 - 240 VAC	50/60Hz	power supply module	5 481.08
AHPS15-5A	36W	24 VDC		power supply module	5 247.62

* For extension backplane cables, see C-13



AH16AM30N-5A



AH32AN02T-5C



AH16AP11R-5A



AH04PT-5A

AH500 series - Digital I/O modules supports hot-swapping function

type	points		signals	terminal type	description	price
	In	Out				
Input modules						
<ul style="list-style-type: none"> • PNP/NPN mixed mode design • Individual LED status indicator 						
AH16AM10N-5A	16	—	24 VDC 5mA	JIS removable	digital input module	3 915.88
AH16AR10N-5A	16	—	24 VDC 5mA	JIS removable	interruption card	5 093.51
AH16AM30N-5A	16	—	120 - 240 VAC	JIS removable	digital input module	5 780.09
AH32AM10N-5A	32	—	24 VDC 5mA	JIS removable	digital input module	7 628.19
AH32AM10N-5C*	32	—	24 VDC 5mA	MIL terminal	digital input module	7 346.43
AH64AM10N-5C*	64	—	24 VDC 3.2mA	MIL terminal	digital input module	11 764.87

Output modules

- Supports keep-last-value function when CPU shuts down
- Individual LED status indicator

AH16AN01R-5A	—	16	Relay 2A	JIS removable	digital output module	5 464.98
AH16AN01T-5A	—	16	NPN (Sink)	JIS removable	digital output module	4 335.64
AH16AN01P-5A	—	16	PNP (Source)	JIS removable	digital output module	5 029.11
AH16AN01S-5A	—	16	TRIAC	JIS removable	digital output module	5 884.74
AH32AN02T-5A	—	32	TRIAC	JIS removable	digital output module	7 919.15
AH32AN02T-5C*	—	32	NPN (Sink)	MIL terminal	digital output module	7 346.43
AH32AN02P-5C*	—	32	PNP (Source)	MIL terminal	digital output module	8 395.27
AH64AN02T-5C*	—	64	NPN (Sink)	MIL terminal	digital output module	11 764.87
AH64AN02P-5C*	—	64	PNP (Source)	MIL terminal	digital output module	13 443.93

Mixed Input/Output

- PNP/NPN mixed mode design
- Supports keep-last-value function when CPU shuts down
- Individual LED status indicator

AH16AP11R-5A	8	8	Relay 2A	JIS removable	digital I/O module	4 689.85
AH16AP11T-5A	8	8	NPN (Sink)	JIS removable	digital I/O module	4 125.18
AH16AP11P-5A	8	8	PNP (Source)	JIS removable	digital I/O module	4 472.50

* Pin head termination, see page C-15

Analog I/O modules supports hot-swapping function

- Conversion time: 150 μ s/channel
- Diagnose function
- Module status LED display
- Isolated signal design
- Supports interrupt function

Analog input modules

Hardware resolution: 16-bit

- Accuracy (at 25°C)

Voltage mode: $\pm 0.02\%$ (full scale)
Current mode: $\pm 0.05\%$ (full scale)

AH04AD-5A	4	—	0/1-5V, 0-10V, 0/4-20mA	JIS removable	analog input module	11 937.38
AH08AD-5B	8	—	0/1-5V, 0-10V	JIS removable	analog input module	17 906.07
AH08AD-5C	8	—	0/4-20mA	JIS removable	analog input module	17 940.57

Analog Output modules

Hardware resolution: 16-bit

- Supports keep-last-value function when CPU shuts down
- Accuracy (at 25°C)

Voltage mode: $\pm 0.05\%$ (full scale)
Current mode: $\pm 0.1\%$ (full scale)

AH04DA-5A	—	4	0/1-5V, 0-10V, 0/4-20mA	JIS removable	analog output module	16 020.01
AH08DA-5B	—	8	0/1-5V, 0-10V	JIS removable	analog output module	18 929.60
AH08DA-5C	—	8	0/4-20mA	JIS removable	analog output module	18 895.10

Mixed Analog Input/Output

Hardware resolution: 16-bit

AH06XA-5A	4	2	0/1-5V, 0-10V, 0/4-20mA	JIS removable	analog I/O module	17 595.56
-----------	---	---	-------------------------	---------------	-------------------	-----------

Temperature measurement modules hardware resolution: 20-bit

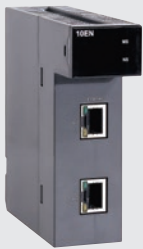
- Accuracy: $\pm 0.06\%$ (full scale)
- Diagnose function
- Module status LED display
- Signal isolated design
- PID function
- Supports disconnection detect function

2/3/4-wire RTD input

AH04PT-5A	4	—	PT100/1000, Ni100/1000, 0-300 Ω	JIS removable	temperature module	17 814.06
-----------	---	---	--	---------------	--------------------	-----------

Thermocouple

AH04TC-5A	4	—	J,K,R,S,T,E,N	JIS removable	temperature module	12 880.41
AH08TC-5A	8	—	J,K,R,S,T,E,N	JIS removable	temperature module	16 710.03



AH10EN-5A



AHRTU-DNET-5A



AHACAB06-5A



AHASP01-5A

AH500 accessories

type	signals	description	price
------	---------	-------------	-------

Network modules

- Diagnose function
- Module status LED indicator
- Supports hot-swapping function

AH10EN-5A	Ethernet	communication module (Master/Slave) 100Mbps comm. port x 2 / Etherlink , Modbus TCP function / Automatic data exchange function / NTP network time correction function / SNMP/E-mail Filter function	19 125.10
------------------	----------	---	------------------

AH10SCM-5A	Serial	communication module (Master/Slave) Full isolation design / Built-in 2x RS-422/485 / supports PLC Link function / Modbus RTU/ASCII / Supports automatic data exchange function	14 352.45
-------------------	--------	---	------------------

AH10DNET-5A	DeviceNet	communication module (Master/Slave) Supports max. speed of 1 Mbps / Switchable between master and slave / connects up to 63 slaves in master mode / RIO capacity in master mode: 490 words IN/OUT	16 169.51
--------------------	-----------	--	------------------

AH10PFBS-5A	PROFIBUS DP	communication module (Master)	28 313.89
--------------------	-------------	-------------------------------	------------------

AH10PFBS-5A	PROFIBUS DP	communication module (Slave)	23 805.75
--------------------	-------------	------------------------------	------------------

Remote I/O RTU modules

- Diagnostic function
- Supports max. speed of 1Mbps
- Module status LED indicator
- Supports up to 7 extension backplanes

AHRTU-PFBS-5A	PROFIBUS DP	remote Input/Output module	10 751.69
----------------------	-------------	----------------------------	------------------

AHRTU-DNET-5A	DeviceNet	remote Input/Output module	7 144.03
----------------------	-----------	----------------------------	-----------------

AHRTU-ETHN-5A	Modbus TCP/ Ethernet IP	remote Input/Output module	8 144.56
----------------------	-------------------------	----------------------------	-----------------

Motion control modules

High speed counters

- Diagnostic functions
- UD/PD/AB/4AB modes
- Supports interrupt function
- Module status LED indicator
- Hot-swapping function

	terminal type		
AH02HC-5A	HDC terminal	2 high speed counter channels (200K Hz) input	19 125.10
AH04HC-5A	HDC terminal	4 high speed counter channels (200K Hz) input	28 635.90

Pulse train motion control modules

- Supports G-Code
- Diagnostic functions
- Supports Micro SD card
- Module status LED indicator
- Supports hot-swapping function
- Built-in Ethernet communication port
- Built-in Mini USB programming communication port

AH10PM-5A	HDC terminal	6-axis pulse train motion control module	34 305.58
------------------	--------------	--	------------------

AH20MC-5A	HDC terminal	12-axis DMCNET communication motion control	56 006.76
------------------	--------------	---	------------------

Cables for AH500 PLC

type	std. length	for which modules	price
------	-------------	-------------------	-------

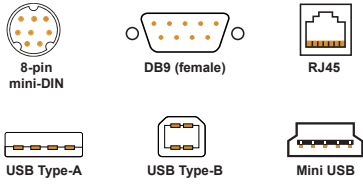
Cables for extending main to extension backplane

AHACAB06-5A	0.6 met	AHBP06E1-5A / AHBP08E1-5A	1 889.51
AHACAB10-5A	1.0 met	AHBP06E1-5A / AHBP08E1-5A	2 098.82
AHACAB15-5A	1.5 met	AHBP06E1-5A / AHBP08E1-5A	2 381.73
AHACAB30-5A	3.0 met	AHBP06E1-5A / AHBP08E1-5A	3 358.11

Accessories

AHASP01-5A	space module to protect empty backplane slots	453.12
AHADINADP1-5A	DIN rail adaptor for rack installation	355.37
FMC-SD1G	SD memory card capacity 1GB	2 857.84
HASP-20-OPC01	Delta OPC server for AH500 series	8 815.03

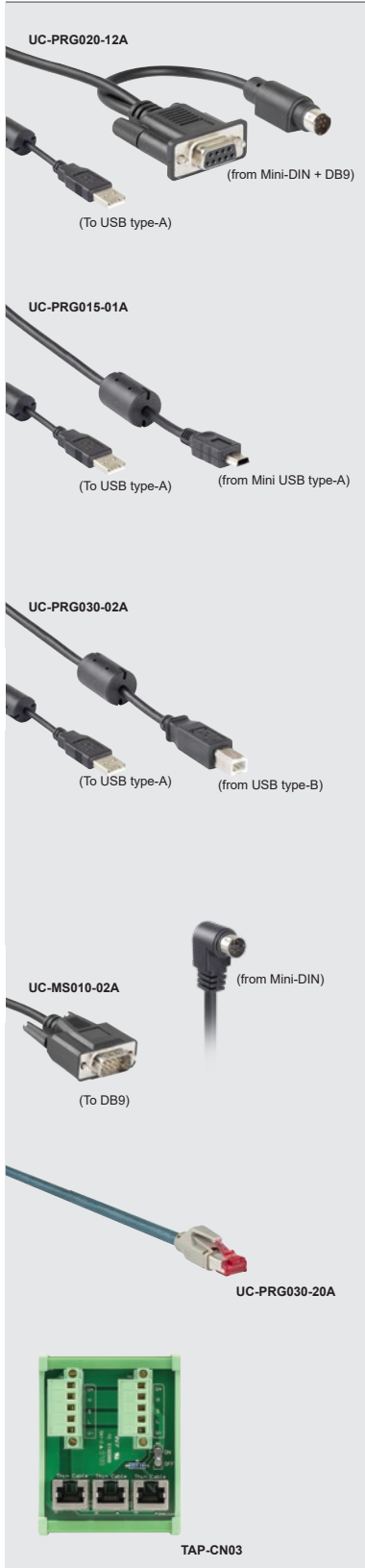
Comm. cables connector's type



Communication cables for PLCs

from	8-pin mini-DIN (male)	DB9 (female)	DB9 (male)	RS-485	RS-422	RJ45	Mini USB	USB Type-B	to	DB9 (female)	DB9 (male)	USB Type-A	RS-232	RJ45	Length (met)	for PLC/HMI	DVP-SS2/SA2/SV2	DVP-ES2/EX2/EC3	DVP-SX2	DVP-SE	DVP-MC	AS200/300	AH500	TP SERIES	DOP-100	DOP-112 / DOP-115	price
Programming cables																											
UC-PRG020-12A	•	•													2		•	•	•	•							890.13
UC-PRG015-01A															1.5												200.11
UC-PRG030-01A															3												224.26
UC-PRG030-02A															3												224.26
UC-PRG030-10A															3												333.52
UC-PRG030-20A															3												509.47
IFD6500																											1 388.10
IFD8500																											1 454.80
Communication cables																											
UC-MS010-02A*															1												200.11
UC-MS020-06A															2												200.11
UC-MS030-01A															3												200.11
UC-MS030-03A															3												224.26
UC-MS030-04A															3												224.26
UC-MS030-06A															3												224.26

* 90° angled connector



Programming cables PLC to PC \ HMI to PC

type	from	to	description	length	price
For PLCs - SS2, SA2, SV2, SX, SX2, MC, ES2, EC3, AS200/300, AH500					
UC-PRG020-12A	mini-DIN	USB (type-A)	program. cable PLC to PC	2 met	890.13
For PLCs - SE, SX2, AS200/300, AH500					
UC-PRG015-01A	mini-USB	USB (type-A)	program. cable PLC to PC	1.5 met	200.11
UC-PRG030-01A	mini-USB	USB (type-A)	program. cable PLC to PC	3 met	224.26
UC-PRG030-02A	USB (type-B)	USB (type-A)	program. cable HMI to PC	3 met	224.26
UC-PRG030-20A	RJ45	RJ45	program. cable HMI to PC	3 met	509.47
UC-PRG030-10A	DB9 (female)	DB9 (female)	RS-232 program. cable	3 met	333.52

Communication cables (RS-232) PLC to HMI

For PLCs - SS2, SA2, SV2, SX2, MC, ES2, EC3, MC					
UC-MS010-02A*	male mini-DIN	female DB9	program. cable PLC to HMI	1 met	200.11
UC-MS030-01A	male mini-DIN	female DB9	program. cable PLC to HMI	3 met	200.11

* 90° mini-DIN plug (male)

Exclusive to DOP103 HMI (RS-232)

UC-MS020-06A	male mini-DIN	male DB9	program. cable PLC to HMI	2 met	200.11
UC-MS030-06A	male mini-DIN	male DB9	program. cable PLC to HMI	3 met	224.26

For PLCs - SE, MC, AS200/300, AH500 (EN)

UC-PRG030-20A	RJ45	RJ45	program. cable PLC to HMI	2 met	509.47
---------------	------	------	---------------------------	-------	--------

Industrial network cables

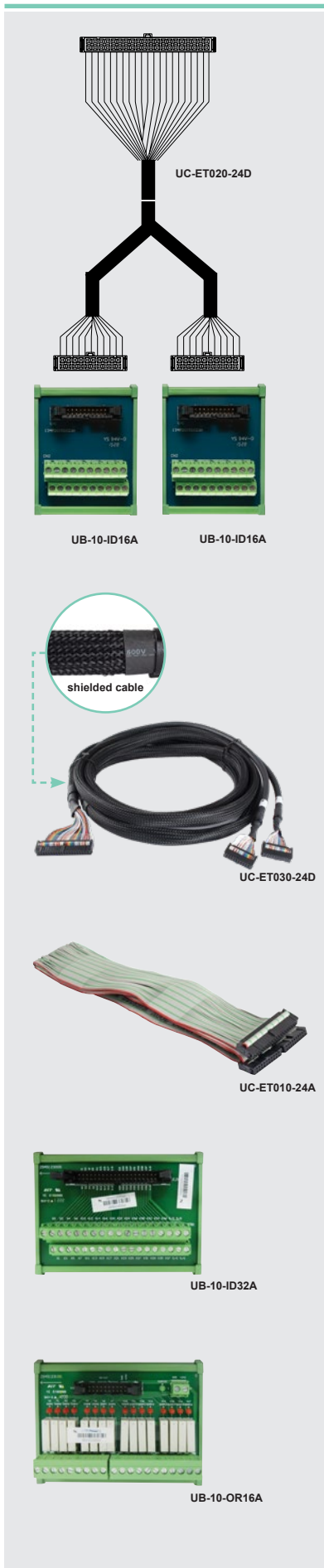
UC-CMC003-01A	RJ45	RJ45	CANopen comm. cable	0.3 m	146.06
UC-CMC005-01A	RJ45	RJ45	CANopen comm. cable	0.5 m	146.06
UC-CMC010-01A	RJ45	RJ45	CANopen comm. cable	1.0 m	188.61
UC-CMC020-01A	RJ45	RJ45	CANopen comm. cable	2.0 m	279.46
UC-CMC030-01A	RJ45	RJ45	CANopen comm. cable	3.0 m	502.57

For PLCs - AH500

UC-PRG030-10A	DB9 (female)	DB9 (female)	RS-232 program. cable	3 met	333.52
---------------	--------------	--------------	-----------------------	-------	--------

Adaptors, splitters and terminal resistors

TAP-CN01	DeviceNet CANopen distribution box, 1 to 2 (Terminator 121Ω)				1 671.01
TAP-CN02	DeviceNet CANopen distribution box, 1 to 4 (Terminator 121Ω)				2 566.89
TAP-CN03	DeviceNet CANopen distribution box, (RJ45) 1 to 4 (Terminator 121Ω)				1 477.80
TAP-TR01	CANopen (Terminator, 121 Ω)				60.96



I/O external screw terminal module					
terminal module	Input unit	Output unit	applicable module / CPU	cable	price
UB-10-ID16A Supports I/O cards through terminal	16 or 16	16	AS332 CPU, AS32AM, AS32AN AS64AM, AS64AN, DVP32SN11TN AH32AN, AH64AN	UC-ET0-0-24D UC-ET010-24C	775.13
UB-10-ID32A Supports I/O cards through terminal	32	-	AS32AM, AS64AM, DVP32SM AH32AM10N-5C, AH64AM10N-5C	UC-ET0-0-24B UC-ET010-24A	1 102.89
UB-10-OR16A Supports Output Cards NPN switching	-	16 relay	AS332T-A, AS32AN02T-A, AS64AN02T-A, DVP32SN11TN, AH32AN02T-5C, AH64AN02T-5C	UC-ET0-0-24D UC-ET010-24C	2 131.02
UB-10-OR16B Supports Output Cards PNP switching	-	16 relay	AS332P-A, AH32AN02P-5C, AH64AN02P-5C	UC-ET0-0-24D UC-ET010-24C	2 131.02
UB-10-OT32A Supports I/O cards through terminal	-	32	AS32AN02T-A, AS64AN02T-A DVP32SN11TN, AH32AN02T-5C, AH32AN02P-5C, AH64AN02T-5C, AH64AN02P-5C	UC-ET0-0-24B UC-ET010-24A	1 102.89
UB-10-IO32D Supports I/O cards through terminal	16 and 16	-	AS332 CPU	Adaptor board	1 876.86

Note: Replace (♦) 2 (meters) or 3 (meters) to the part number

Cables for terminal modules PLC to terminal board

type	from	to	description	length	price
UC-ET010-24C	32 ID40	2 x 16 ID20	ribbon cable for terminal module	1 met	611.82
UC-ET020-24D	32 ID40	2 x 16 ID20	shielded cable for term. module	2 met	1 998.77
UC-ET030-24D	32 ID40	2 x 16 ID20	shielded cable for term. module	3 met	2 331.13
UC-ET010-24A	32 ID40	32 ID40	ribbon cable for terminal module	1 met	557.77
UC-ET020-24B	32 ID40	32 ID40	shielded cable for term. module	2 met	1 332.90
UC-ET030-24B	32 ID40	32 ID40	shielded cable for term. module	3 met	1 556.00
UC-ET010-13B	MDR36	MDR36	cable for UB-10-IO16C board	1 met	2 022.92
UC-ET010-15B	MDR50	MDR50	cable for UB-10-IO24C board	2 met	2 446.13

For motion control modules

type	inputs conn.	outputs conn.	output type	cable type	price
UB-10-IO16C	differential	MDR36	transistor	UC-ET010-13B	1 108.64
UB-10-IO24C	differential	MDR50	transistor	UC-ET010-15B	1 223.64

Accessory selection for high-density modules

Part number	
AS332T-A AS332P-A AS324MT-A	UC-ET010-24 C(1M) UC-ET010-24 D(1M) UC-ET020-24 D(2M) UC-ET030-24 D(3M)

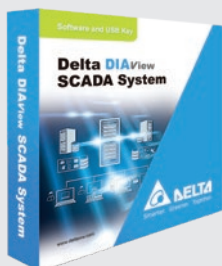
UB-10-ID16A (NPN/PNP)
UB-10-OR16A (NPN to Relay)
UB-10-OR16B (PNP to Relay)



DIAVH-PPC195104



DIAVH-IPC005104



DIAV...

Industrial PCs

In response to the market demands for industrial information management, Delta presents the Industrial Panel PC (PPC) and Industrial box PC (BPC) which provides cost-effective and highly reliable panel computer solutions for industrial applications. It adopts a variety of specifications and supports operating systems such as Windows 7/8/10, Linux, and more.

- Applications:**
- Factory digitalisation
 - Logistic applications: Transportation/stereoscopic warehouse
 - Inspection and monitoring of electronic equipment
 - Equipment monitoring systems

type	display size	hard drive SSD MSATA	(OS) system	CPU intel	dimensions (mm) (H) (W) (D)			price
------	--------------	----------------------	-------------	-----------	--------------------------------	--	--	-------

Industrial Panel PC (PPC)

The Industrial Panel PC (PPC), built with an aluminium case, is composed of a front panel and a rear panel with heat sink. It is slim and sealed with a fanless design, and is suitable for applications in rubber machinery, solar photovoltaic, automotive control and other industrial fields.

- Audio: Input / output × 1
- Max capacity: 8GB(Celeron) 16GB Icore
- Serial COM: Port x 4 (RS-232 x 3, RS-422/485 x 1)
- Software: Win 10 Professional - where applicable / supports Linux
- Resolution: **10 & 15"** - 1024 x 768 pixels / **19"** - 1440 x 900 pixels
- Supports: Mini-PCIE bus for WiFi communication expansion and more
- Ports: USB 3.0 x 4 Ports/ 4GB RAM / Intel® I211 Gigabit Ethernet Controller × 2

Standard PPC

DIAVH-PPC10J103	10"	128GB	No Win	Celeron	58	198	258	33 972.07
DIAVH-PPC15J103	15"	128GB	No Win	Celeron	59	300	380	40 147.76

Advanced PPC

DIAVH-PPC153103A	15"	256GB	No Win	I3 (6 th GEN)	59	300	380	62 780.47
DIAVH-PPC195104	19"	512GB	Win 10	I5 (6 th GEN)	57	308	475	93 946.45

Industrial Box PC (BPC)

The DIAVH Industrial Box PC (BPC) is compact and robust with fanless design and aluminium case featuring cooling effects. Its rugged structure and excellent vibration resistance make it highly protective against pollution, dust, and electromagnetic interference when applied in industrial environments, such as machinery equipment, transportation, and infrastructure.

- Audio: Input / output × 1
- Max capacity: 4GB RAM (up to 16GB)
- Software: Win 7 32 bit pro / supports Linux
- Serial COM: Serial Ports x 6 (RS-232 x 5, RS-422/485 x 1)
- Ports: USB 3.0 x 6 Ports / Intel® I211 Gigabit Ethernet Controller x 2
- Supports: Supports Mini-PCIE bus for WiFi communication expansion
- Anti-Vibration, 5 - 19 Hz / 1.0 mm amplitude; 19 - 200 Hz / 1.0 g acceleration
- Antishock, 10g acceleration, 11ms duration

type	hard drive SSD MSATA	OS	CPU intel	dimensions (mm) (H) (W) (D)			price
------	----------------------	----	-----------	--------------------------------	--	--	-------

DIAVH-IPC005104	512GB SSD	Win Pro	I5 (6 th GEN)	211.5	200	67	65 966.07
------------------------	-----------	---------	--------------------------	-------	-----	----	------------------

DIAview SCADA system

The DIAView SCADA system can be widely applied in industries such as machinery, metallurgy, water treatment, HVAC, packaging, central heating control, environmental monitoring, textiles, energy management, transportation, smart buildings and others.

- Friendly graphical demonstration
- Strong and efficient alarm system
- Easy-to-learn VBScript language
- I/O points: 64, 128, 256, 512, 1000, 1500, 3000 and unlimited
- Licensing: via USB hardware key to enable all authorisations
- Stable industrial communication, seamless integration with Delta PLC & other products

type	license type	description	No. tags	price
------	--------------	-------------	----------	-------

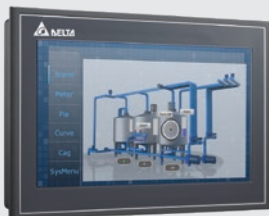
DIAB-010640000C	64 points	DIAview SCADA license for	64 tags	9 255.49
DIAB-015120000C	512 points	DIAview SCADA license for	512 tags	49 532.06
DIAB-0199K0000C	unlimited	DIAview SCADA license for	unlimited	89 116.29
DIAB-0000005UPC	upgrade	additional client licences	x 5	7 628.19
DIAB-0000010UPC	upgrade	additional client licences	x 10	14 881.47
DIAB-0300005UPA	upgrade	additional web browser licences	x 5	38 158.20
DIAB-0300010UPA	upgrade	additional web browser licences	x 10	49 532.06



DOP-103WQ



DOP-107EG



DOP-110WS



DOP-115MX

DOP-100 series - HMI (Human Machine Interface) touch screens

DOP-100 series HMI's designed for Delta specific industrial automation products, can be combined with over 30 other brands and models of PLCs or controllers for effortless communication and versatile operation.

- Full 65,536-colour, enhanced resolution for more realistic images and colourful, vivid display
- RS-232/485/422, USB disk, Ethernet, SD card are supported for various applications
- High Flash and SDRAM memory 256 MB Flash ROM 256MB
- Multitone buzzer - frequency (2K - 4K Hz) / 80dB RAM 256MB (512MB hi performance)
- Supports SD memory card - Ethernet (*certain models*)
- Supports VNC for remote access

type	display size	version	Ethernet	host ports SD/USB	description	price
DOP-103 (H) 103 x (W) 137 x (D) 31 mm						
<ul style="list-style-type: none"> • Resolution: 480 x 272 pixels • Panel cutout: 92.8 x 118.8 mm 						
DOP-103BQ	4.3" (95 x 54)	standard	–	USB	2x COM ports	5 804.24
DOP-103WQ	4.3" (95 x 54)	hi performance	Yes	USB	2x COM ports	7 434.99
DOP-107 (H) 161 x (W) 215 x (D) 51.2 mm						
<ul style="list-style-type: none"> • Resolution: 800 x 480 pixels • Panel cutout: 142.9 x 196.9 mm 						
DOP-107BV	7" (154 x 86)	basic	–	USB	2x COM ports	6 352.80
DOP-107EV	7" (154 x 86)	standard	Yes	USB	3x COM ports	9 199.14
Squared version (H) 144 x (W) 184 x (D) 51.1 mm						
<ul style="list-style-type: none"> • Panel cutout: 132.4 x 172.4 mm 						
DOP-107EG	7" (141 x 106)	standard	Yes	SD/USB	3x COM ports	9 984.62
Narrow border (H) 136 x (W) 196 x (D) 32 mm						
<ul style="list-style-type: none"> • Panel cutout: 126.8 x 186.8 mm 						
DOP-107WV	7" (154 x 86)	hi performance	Yes	SD/USB	3x COM ports	10 517.08
DOP-110 (H) 200 x (W) 272 x (D) 51.9 mm						
<ul style="list-style-type: none"> • Resolution: 1024 x 600 pixels • Panel cutout: 189.3 x 261.3 mm 						
DOP-110CS	10" (226 x 128)	standard	–	–	3x COM ports	12 753.90
DOP-110IS	10" (226 x 128)	standard	Yes	SD/USB	3x COM ports	14 685.96
Narrow border (H) 180 x (W) 270 x (D) 47.75 mm						
<ul style="list-style-type: none"> • Panel cutout: 170.5 x 255.5 mm 						
DOP-110WS	10" (225 x 128)	hi performance	Yes	SD/USB	3x COM ports	18 251.08
DOP100-MX Multi-media type						
<p>DOP100-MX series adopts a "narrow frame", wide screen design with advanced communication capabilities (<i>multilingual inputs</i>) and enhanced multi-media functions to meet different applications.</p> <ul style="list-style-type: none"> • 1024 x 768 pixel 8GB ROM • 1G RAM DDR3 1000Mhz • Colour- 24bit • Dual core 1GHz speed processor for higher computing performance • Multi-media functions: Camera (<i>analog / IP</i>), video playback , VGA input, event trigger • Multiple Interfaces: 4 COM ports, 2 Ethernet ports, 1 Mini USBMini Slave 2.0, 1 USB Host 2.0 						
12-inch (H) 317.4 x (W) 246.4 x (D) 52.7 mm						
<ul style="list-style-type: none"> • Panel cutout: 302.7 x 228.7 mm 						
DOP-112MX	12"(245 x 184)	advanced	Yes	SD/USB	4 x COM ports	37 663.68
15-inch (H) 387.7 x (W) 295.7 x (D) 63.5 mm						
<ul style="list-style-type: none"> • Panel cutout: 372.4 x 283.7 mm 						
DOP-115MX	15" (304 x 228)	advanced	Yes	SD/USB	4 x COM ports	45 081.42
Accessories for above HMIs						
3051627346	power plug for above HMIs					16.45
Software (<i>windows based</i>) easy to learn and use with provided "help" file						
PLC editing software for AH500, AS200/300 and DVP series, supports 5 programming languages: (LD, FBD, SFC, ST, IL) programming software for DVP-PLC (freely downloadable via internet)						
Note: For HMIs cables, see C-14						



TP04G-AS2



TP08G-BT2



TP04P-16TP1R



TP70P-16TP1R

TP series - Text Panel HMI

Text Panel is a monochrome text and graphical panel interface between people and machines, although not a vivid and colourful graphical interface, it can still convert many program codes into text and graphics to display on the Text Panel.

Simple operation and control function, the entire series supports various communication protocols. Light weight, cost-effective and flexibility assist users to quickly control the system and improve working efficiency.

TP series - Operation interface panel

type	display size inch / (mm)	function keys	text lines	description	price
General features:					
<ul style="list-style-type: none"> • Lines of text displayed: 2, 4, 5, or 8 lines text depending on model • Can connect panels to windows and setup and control the panel using freely available TPEditor software • Programmable function keys • Memory Storage Card to transfer programs between panels • STN LCD single colour • Built-in real time clock • 256K flash memory (1M for TP08) • RS-232/422/485 communication ports • Numerical keys with user defined functions available 					
TP04G-AS2	3.0" (67 x 32)	12	4 line	operational interface panel	5 029.11
TP04G-AL2	4.1" (102 x 35)	10	4 line	operational interface panel	4 544.95
TP04G-AL-C*	4.1" (102 x 35)	10	4 line	operational interface panel	3 899.78
TP08G-BT2	3.8" (83 x 41)	24	8 line	operational interface panel	5 521.33

* With RS-232 communication port only.

Text Panel with built-in PLC functionality

4.1" STN-LCD

The TP04P series is a 4-Line Text Panel HMI with built-in PLC. It adopts a built-in DIO/AIO and combines the functions of a programmable logic controller and touch panel in one device.

The screen displays text or messages with four lines at the same time. It is lightweight, flexible in use, provides easy-to-control operation, and also supports various communication protocols.

- Built-in real time clock
- Screen Size 4.1" (102 x 35 mm)
- 2 x RS-485 communication ports
- Program capacity: 8K steps / 5K words
- Built-in USB port for program upload/download
- Integrated PLC and TP in one panel (adopts core of SS2 series PLC)
- PLC link capable

type	Digital		Analog		function keys	description	price
	inputs	outputs	inputs	outputs			
TP04P-16TP1R	8	8	–	–	10	text panel/PLC	4 561.05
TP04P-22XA1R	8	8	4	2	10	text panel/PLC	5 739.83
TP04P-32TP1R	16	16	–	–	10	text panel/PLC	5 215.42

Touch panel HMI with built-in PLC

7" 65535 colour LCD touchscreen

TP70P HMI/PLC adopts the core of SS2 series PLC combined with a 7-inch HMI touch panel.

- Built-in real time clock
- Screen resolution 800 x 480
- Built-in USB and 2 communication ports
- Provides 2 sets of 10kHz high speed pulse input
- Adopts core of SS2 series PLC with program of 8K steps and D devices of 5K words

type	Digital		Analog		PT100 inputs	description	price
	inputs	outputs	inputs	outputs			
TP70P-16TP1R	8	8	–	–	–	combination HMI/PLC	6 974.97
TP70P-32TP1R	16	16	–	–	–	combination HMI/PLC	7 935.25
TP70P-21EX1R*	8	8	2	1	2	combination HMI/PLC	9 307.25
TP70P-22XA1R	8	8	4	2	–	combination HMI/PLC	8 210.11

* Only mA analogs

Accessories

UC-PRG020-12A	TP series program upload/download cable (RS-232)	890.13
UC-PRG030-02A	USB type B to USB type A - programming TP-04P/70P	224.26

EtherCAT CANopen

new



ASD-B3-0721-L



ASD-A2-0421-M



ASD-B3-1021-M

new

ASD series - Servo drives (200W - 15kW) (high precision, total control)

The Standard Delta Servo System features high tolerance, stable operation, and high precision motion control functions. It creates a highly efficient, user-friendly operation environment for equipment and optimises production efficiency and output value.

- High responsiveness shortens settling time by 40%.
- All motors support 24-bit absolute encoders
- Multiple high-speed communication buses for options
- Built-in PID control
- Advanced gain adjustment function, system analysis interface, vibration suppression, and system modelling functions
- Energy regeneration function
- Speed, Torque and position modes with digital keypad for parameter input and operational data
- External Pulse input control, 200kpps Open Collector and 500k / 4M kpps Line driver

type	input power	input power	bandwidth	motion network	price
------	-------------	-------------	-----------	----------------	-------

B3 series - Econo servo drives (Modbus communication)

- Digital - 9x Inputs 5x Outputs / Analog - 2x AI/O's
- Control mode: PT, PR, S,T

ASD-B3-0421-L	400W	220V 1ph	3.1kHz	Modbus motion control	11 156.50
ASD-B3-0721-L	700W	220V 1ph	3.1kHz	Modbus motion control	12 316.89
ASD-B3-1021-L	1.0kW	220V 1ph	3.1kHz	Modbus motion control	13 363.42
ASD-B3-1521-L	1.5kW	220V 1ph	3.1kHz	Modbus motion control	15 893.50

B3 series - EtherCAT servo drives

- Digital - 4x DI 2x DO
- Control mode: PR, S, T

ASD-B3-0421-E	400W	220V 1ph	3.1kHz	EtherCAT motion control	11 626.87
ASD-B3-0721-E	700W	220V 1ph	3.1kHz	EtherCAT motion control	12 868.91
ASD-B3-1021-E	1.0kW	220V 1ph	3.1kHz	EtherCAT motion control	13 639.43
ASD-B3-1521-E	1.5kW	220V 1ph	3.1kHz	EtherCAT motion control	16 112.01

A2 series - Advanced servo drives (Modbus, CANopen, USB communication)

- Digital - 9x Inputs 5x Outputs / Analog - 2x I/O's
- Control mode: PR, Ecam, PT, S, T, FCLC

ASD-A2-0121-M	100W	220V 1ph	1kHz	CANopen motion control	13 984.44
ASD-A2-0221-M	200W	220V 1ph	1kHz	CANopen motion control	13 984.44
ASD-A2-0421-M	400W	220V 1ph	1kHz	CANopen motion control	14 409.96
ASD-A2-0721-M	750W	220V 1ph	1kHz	CANopen motion control	15 444.99
ASD-A2-1021-M	1.0kW	220V 1ph	1kHz	CANopen motion control	15 951.00
ASD-A2-1521-M	1.5kW	220V 1ph	1kHz	CANopen motion control	20 137.14
ASD-A2-2043-M	2.0kW	400V 3ph	1kHz	CANopen motion control	28 946.41
ASD-A2-3043-M	3.0kW	400V 3ph	1kHz	CANopen motion control	36 065.13
ASD-A2-4543-M	4.5kW	400V 3ph	1kHz	CANopen motion control	37 077.17
ASD-A2-5543-M	5.5kW	400V 3ph	1kHz	CANopen motion control	49 681.56
ASD-A2-7543-M	7.5kW	400V 3ph	1kHz	CANopen motion control	63 194.48
ASD-A2R-1B43-M	11.0kW	400V 3ph	1kHz	CANopen motion control	64 252.52
ASD-A2R-1F43-M	15.0kW	400V 3ph	1kHz	CANopen motion control	74 832.85

A2 series - EtherCAT servo drives

- Digital - 7x DI 4x DO, ecam, PR

ASD-A2-2043-E	2.0kW	400V 3ph	1kHz	EtherCAT motion control	32 385.02
ASD-A2-3043-E	3.0kW	400V 3ph	1kHz	EtherCAT motion control	38 100.70

Servo drive accessories

ASD-CN500050	50 pin solder plug		for series	ASD-A2	351.92
ASD-IF-SC5020	20 pin adaptor, push in term.		for series	ASD-A2	847.58
ASD-BM-50A	50 pin breakout board		for series	ASD-A2	3 649.07
UC-CMC003-01A	CANopen comms cable RJ45 (0.3m)		for series	ASD-A2-M	146.06
UC-CMC010-01A	CANopen comms cable RJ45 (1m)		for series	ASD-A2-M	188.61
UC-EMC003-02A	EtherCAT comms cable RJ45 (0.3m)		for series	ASD-A2/B3-M	836.08
UC-EMC010-02A	EtherCAT comms cable RJ45 (1m)		for series	ASD-A2/B3-M	999.39
TAP-CN03	Canopen distribution box		for series	ASD-A2-M	1 477.80
UC-PRG030-02A	USB type A - USB type B		for series	ASD-A2	224.26
ASD-CARS0003	9 pin D-SUB female - Firewire		for series	ASD-A2	290.96
ASD-CNIE0B06	RS-485 Splitter 2x RJ45		for series	ASD-A2	236.91
MKE-HUB01	RS-485 parallel adaptor (RJ45)		for series	ASD-B3-L	194.36
UC-PRG015-01A	mini-USB - USB (type-A) (1.5m)		for series	ASD-B3	200.11
UC-PRG030-01A	mini-USB - USB (type-A) (3m)		for series	ASD-B3	224.26

new



ECM-B3M-CM0807R.J1



ECMA-E11315RS



ASD-CAPW...



ASD-CAEN...

ECMA Motors (for adjacent servo drives)

type	output power	rated		dimensions (mm)			price
		RPM	torque Nm	PCD	flange	shaft Ø	

A2 servo motors - 20 bit superior resolution encoder (1.280.000 pulses/revolution)

With built-in (24 VDC) brake

ECMA-C10807SS	750W	3000	2.36	90	80 x 80	19	17 722.06
ECMA-C11010SS	1.0kW	3000	3.18	115	100 x 100	22	23 725.25
ECMA-E11315SS	1.5kW	2000	7.16	145	130 x 130	22	29 302.92
ECMA-K11320SS	2.0kW	2000	9.55	145	130 x 130	22	32 569.02
ECMA-L11830SS	3.0kW	1500	19.10	200	180 x 180	35	47 243.48
ECMA-L11845SS	4.5kW	1500	28.65	200	180 x 180	35	57 996.32

B3 servo motors - 17 bit IP67 magnetic encoder (compact dimension)

ECM-B3M-CM0604R.J1	400W	3000	1.27	70	60 x 60	14	7 152.08
ECM-B3M-CM0807R.J1	750W	3000	2.40	90	80 x 80	19	8 839.18
ECM-B3M-E21310RS1	1.0kW	2000	4.77	115	130 x 130	22	13 133.42
ECM-B3M-E21315RS1	1.5kW	2000	7.16	145	130 x 130	22	16 675.53

With built-in (24 VDC) brake

ECM-B3M-CM0604S.J1	400W	3000	1.27	70	60 x 60	14	14 099.45
ECM-B3M-CM0807S.J1	750W	3000	2.40	90	80 x 80	19	14 858.47

A2 servo motors - 20 bit superior resolution encoder (1.280.000 pulses/revolution)

ECMA-C10604RS	400W	3000	1.27	70	60 x 60	14	9 638.46
ECMA-C10807RS	750W	3000	2.39	90	80 x 80	19	10 494.08
ECMA-C11010RS	1.0kW	3000	3.18	115	100 x 100	22	15 548.49
ECMA-E11315RS	1.5kW	2000	7.16	145	130 x 130	22	19 665.62
ECMA-K11320RS	2.0kW	2000	9.55	145	130 x 130	22	22 747.72
ECMA-L11830RS	3.0kW	1500	19.10	200	180 x 180	35	36 007.63
ECMA-L11845RS	4.5kW	1500	28.65	200	180 x 180	35	44 276.39
ECMA-L11855R3	5.5kW	1500	35.00	200	180 x 180	42	56 512.77
ECMA-L11875R3	7.5kW	1500	47.74	200	180 x 180	42	72 026.76
ECMA-L1221BR3	11kW	1500	70.00	235	220 x 220	42	102 514.21
ECMA-L1221FRS	15kW	1500	95.40	235	220 x 220	55	133 289.18

ASDA and ECMA / ECM connecting cables

type	ECMA range	power cable	encoder cable	brake motor	IP rating	for series	cable length	price	
									ASDBCAPW0000
ASDBCAPW0100	100 - 750W	•		•	ASD-A2	plug	73.61		
ASD-ABEN0000	100 - 750W		•	•	ASD-A2	plug	387.57		
ASD-ABPW0005*	100 - 750W	•			ASD-A2	5m	1 102.89		
ASD-ABPW0105	100 - 750W	•		•	ASD-A2	5m	1 138.54		
ASD-ABEN0005	100 - 750W		•	•	ASD-A2	5m	1 090.24		
ASD-CAPW1000	1kW	•		•	IP65	ASD-A2	plug	763.63	
ASD-CAEN1000	1 - 15kW		•	•		ASD-A2	plug	1 090.24	
ASD-CAPW1005*	1kW	•				ASD-A2	5m	1 574.40	
ASD-CAPW1105	1kW	•		•		ASD-A2	5m	1 895.26	
ASD-CAEN1005*	1 - 15kW		•	•		ASD-A2	5m	1 768.76	
ASD-CAPW1205	2kW	•				ASD-A2	5m	2 228.77	
ASD-CAPW1305	2kW	•		•		ASD-A2	5m	2 694.54	
ASD-CAPW2205	3 - 5.5kW	•				ASD-A2	5m	2 501.33	
ASD-CAPW3205	7.5kW	•				ASD-A2	5m	4 007.88	
ASD-CAPW4000	11 - 15kW	•		•		ASD-A2	plug	1 744.61	
ASD-CAPW4505	11kW	•				ASD-A2	5m	7 240.63	
ASD-CAPW4605	15kW	•				ASD-A2	5m	12 822.91	
ASDBCAPW0000	400 - 750W	•				IP20	ASD-B3	plug	42.56
ASDBCAPW0100	400 - 750W	•		•			ASD-B3	plug	73.61
ASD-ABEN0000	400 - 750W	•	•		ASD-B3		plug	387.57	
ACS3-CAPW3105	400 - 750W	•			ASD-B3		5m	909.68	
ACS3-CAEN1005	400 - 750W		•		ASD-B3	5m	1 290.35		
ACS3-CAEN2A05*	400 - 750W	•			IP67	ASD-B3	5m	2 923.46	
ACS3-CAPW3A05*	400 - 750W		•	•		ASD-B3	5m	860.23	
ACS3-CNPW5200	1 - 1.5kW	•			IP67	ASD-B3	plug	600.32	
ACS3-CNPW6300	1 - 1.5kW			•		ASD-B3	plug	400.22	
ACS3-CNEN2700	1 - 1.5kW		•	•		ASD-B3	plug	442.77	
ACS3-CAPW3205	1 - 1.5kW	•				ASD-B3	5m	3 263.81	
ACS3-CAEN2705	1 - 1.5kW		•			ASD-B3	5m	1 719.31	

* For 3m length cables, replacement (5) with 3

EtherCAT CANopen

new



AX-308EA0MA1T



DVP50MC11P-06



DVP10MC11T



R1-EC5500D0

new



RTU-ECAT

Motion controllers

Delta's PLC-Based Motion Control system offers a cost effective and flexible structures with high reliability, integrated network communication capability, and high-end motion control functions for advanced automation applications.

- IEC 61131-3 compliant CODESYS software provides a standardised programming and controller development platform
- Supports EtherCAT, Ethernet, CANopen and Modbus

type	motion axis	development environment	Digital I/O	encoder SSI	Incremental	price
------	-------------	-------------------------	-------------	-------------	-------------	-------

EtherCAT motion controllers

The AX-3 series motion CPU adapts the CODESYS platform and supports both motion and logic control applications. It has multiple communication ports and an EtherCAT motion control interface onboard. It also offers motion control function blocks complying with international standards.

The AX-3 series motion CPUs are widely applied in diverse automated equipment used in the woodworking, packaging, printing, labelling, textile, and pharmaceutical industries.

Delta's EtherCAT motion control solution can achieve rapid and real-time multiple axes of motion control, and is capable of controlling up to 100 slave stations that enable a 64-axis motion control within 1ms cycle time.

- Provides instructions: position, velocity, torque, multi-axis interpolation, E-gear, E-Cam, etc
- Synchronous servo control of up to 24 axes
- Supports AS series, DVP and PLC modules see page **C-2...9**

AX-308EA0MA1T	8	Codesys V3	16DI / 8DO	1	2	29 532.93
AS516E-B	16	DIA Studio / ISP Soft	16DI / 8DO	1	2	38 606.71
DVP50MC11P-06	6	ISP Soft	16DI / 8DO	1	2	22 437.21

Note: Higher specifications available on request.

CANopen motion controllers

MC10 series - Multi-axis motion controller

16 axis motion controller offering highly stability multi-axis motion control solutions through high-speed CANopen communication.

Supports "general" (right side) and "high speed" (left side) expansion modules.

- High precision control with interpolation function
- Synchronisation time: 4 axes in 2ms / 8 axes in 4ms
- Built-in Ethernet, RS-232 and RS-485 communication ports
- Supports electronic gear, E-cam (2.048 points), flying shear and rotary cut instructions

DVP10MC11T	16	CANbuilder / ISP soft	8 DI / 4 DO	0	1	18 366.08
-------------------	----	-----------------------	-------------	---	---	------------------

MC15 series - Multi-axis motion controller

DVP15MC11T is a type of multi-axis motion controller researched and produced by Delta autonomously on the basis of CANopen fieldbus. It complies with CANopen DS301 basic communication protocol and DSP402 motion control protocol.

In addition, it also supports standard instruction libraries defined by international organisations for motion control.

- Supports encoder axis and virtual axis
- Single axis motion control instructions: speed, torque, homing and position setup
- Application instructions: electronic gear, E-Cam and rotary cut

DVP15MC11T	24	DIA Studio / ISP Soft	16DI / 8DO	1	2	31 257.98
-------------------	----	-----------------------	------------	---	---	------------------

EtherCAT remote I/O

For EtherCAT ultra rapid and high performance communication, Delta provides a rugged and compact gateway type E-bus power coupler, 16 channels digital I/O, 4 channels analog I/O and single-axis pulse remote modules for high precision and demanding industrial applications.

type	power / consumption	AI	DI	description	price
R1-EC5500D0	2A	–	–	E-bus power module	4 520.80
R1-EC6022D1	200mA	16 DI	–	2ms digital input module	3 390.31
R1-EC7062D0	300mA	–	16DO	digital output module	4 229.84
R1-EC8124D0	200mA	4AI	–	analogue input module	7 515.49
R1-EC9144D0	300mA	–	4AO	analogue output module	7 047.43
RTU-ECAT	EtherCAT	–	–	max. 8 special modules and 128DI and 128DO	3 769.82



WAB...



WPFR...

Gearboxes for ECMA series servo motors

High-precision gear motors are widely used in robots, machine tools, solid garages, and other industrial automation. Gear motors in precision positioning applications are used to provide higher torques and higher resolutions in a compact package and at reduced power requirements.

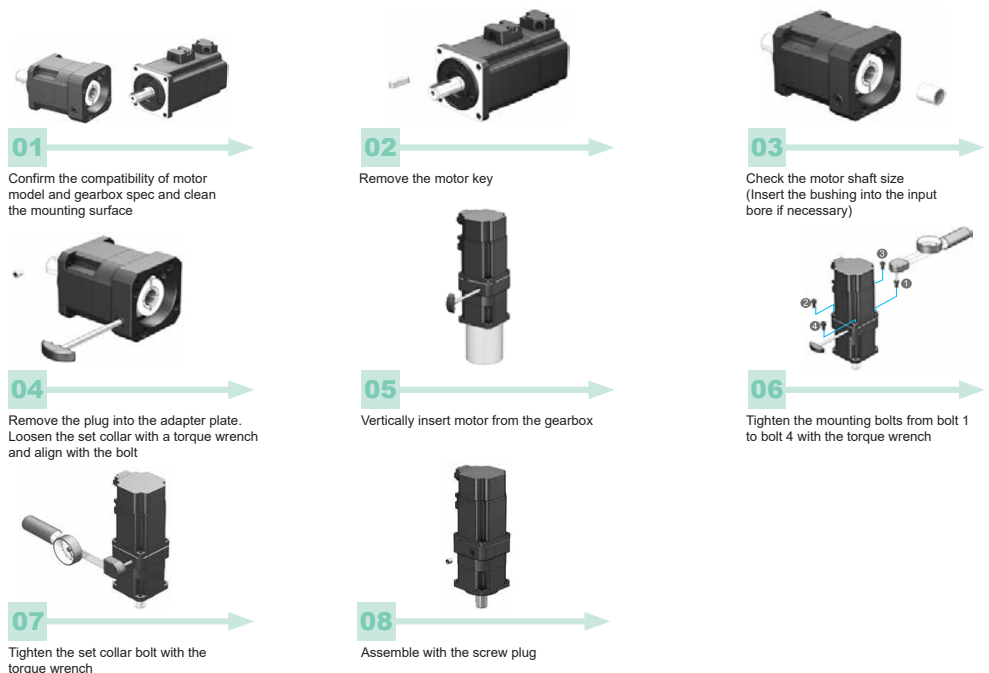
A geared motor will output more running and holding torque than an ungeared, standard motor, along with higher torque output and strengthened rigidity.

Products features:

- Low noise, helical gears allows for smooth and quite gear meshing
- Planetary wheel with needle design increases the contact area to improve the rigidity and output torque
- Synthetic lubricating grease and sealed IP65 design requires no maintenance during the products lifetime
- Gears are carburised and quenched to HRC62 with low carbon steel surface for optimum wear and impact toughness

type	ECMA motor	ratio	rated torque	backlash arcmin	dimensions (mm)			price
					PCD	flange	shaft Ø	
Straight gearboxes (helical gears)								
WAB-060-005-K-P1	200 - 400W	5:1	60	≤3	70	60 x 60	16	10 634.39
WAB-060-007-K-P1	200 - 400W	7:1	50	≤3	70	60 x 60	16	10 634.39
WAB-060-010-K-P1	200 - 400W	10:1	40	≤3	70	60 x 60	16	10 634.39
WAB-090-003-K-P1	750W	3:1	130	≤3	100	90 x 90	22	14 800.97
WAB-090-007-K-P1	750W	7:1	140	≤3	100	90 x 90	22	14 800.97
WAB-090-010-K-P1	750W	10:1	100	≤3	100	90 x 90	22	14 800.97
WAB-090-020-K-P1	750W	20:1	140	≤3	100	90 x 90	22	19 424.11
WAB-090-040-K-P1	750W	40:1	120	≤3	100	90 x 90	22	19 424.11
WAB-115-003-K-P1	1.5 - 2kW	3:1	208	≤3	130	115 x 115	32	22 414.21
WAB-115-010-K-P1	1.5 - 2kW	10:1	230	≤3	130	115 x 115	32	22 414.21
WAB-142-003-K-P1	3 - 4.5kW	3:1	342	≤3	165	142 x 142	40	34 857.60
WAB-180-003-K-P1	5.5kW	3:1	588	≤3	165	142 x 142	40	53 361.68
Angle gearboxes (spur gears)								
WPFR-060-005-K-P2	200 - 400W	5:1	40	≤15	70	60 x 60	14	10 941.45
WPFR-060-007-K-P2	200 - 400W	7:1	20	≤15	70	60 x 60	14	10 941.45
WPFR-060-010-K-P2	200 - 400W	10:1	12	≤15	70	60 x 60	14	10 941.45
WPFR-090-003-K-P2	750W	3:1	40	≤15	100	92 x 92	20	13 342.90
WPFR-090-007-K-P2	750W	7:1	40	≤15	100	92 x 92	20	11 592.37
WPFR-120-003-K-P2	1.5 - 2kW	3:1	125	≤15	130	120 x 120	35	21 885.19
<i>Note: Other ratios, frame sizes and precision options available on request.</i>								
Straight and angled gearbox accessories								
WAB115-DZ-95-115-M8	1kW F100 adaptor frame for WAB-115							1 856.16

Assembling the Planetary Gearbox with Motor





HTR-3A...



HTR-5B...



HPN-6A-2500-3-PP



HTR-HN...



HJ-6X6



SCT...

HTR series - Incremental encoders

Incremental encoders are a type of encoder device that converts the angular motion or position of a shaft into an analog or digital code to identify the position or motion. Incremental encoders are one of the most commonly used rotary encoders. An incremental encoder provides excellent speed and distance feedback and since there are few sensors involved, the systems are both simple and inexpensive. An incremental encoder is limited by only providing change information, so the encoder requires a reference device to calculate motion. Included in the range are different optical encoders, such as solid shaft and hollow shaft, light duty and heavy-duty options.

The HTR series encoders, provide precise positioning and speed sensing functions. They convert rotary motion or position data to electronic pulses for speed and position detection. These high-quality incremental optical encoders are used to translate rotary or linear motion into a digital signal for monitoring or controlling speed, direction, distance, or position.

Common characteristics

- Output phase: ABZ phase (*std*)
- Output form: P: Push Pull HL: Line Driver 5 - 26 VDC
- Resolution: 5 - 5000 ppr (*pulse per revolution*) *model and output dependant*
- Protection: against polarity reversal

type	resolution (ppr)	supply voltage	detection system	description	dimensions body	Ø mm shaft	price
------	------------------	----------------	------------------	-------------	-----------------	------------	-------

Solid shaft type

Medium duty incremental encoders

(IP50)

push-pull type

HTR-3A-100A-P	100	5 - 26 VDC	incremental	rotary encoder	38	6	2 485.23
HTR-3A-360A-P	360	5 - 26 VDC	incremental	rotary encoder	38	6	2 609.44
HTR-3A-500A-P	500	5 - 26 VDC	incremental	rotary encoder	38	6	2 485.23
HTR-3A-1024A-P	1024	5 - 26 VDC	incremental	rotary encoder	38	6	3 077.50
HTR-5B-360A-P	360	5 - 26 VDC	incremental	rotary encoder	50	8	2 485.23
HTR-5B-1024A-P	1024	5 - 26 VDC	incremental	rotary encoder	50	8	3 231.61
HTR-5B-2000A-P	2000	5 - 26 VDC	incremental	rotary encoder	50	8	4 348.29

Medium duty incremental encoders

(IP50)

line driver type

HTR-5B-360A-H	360	5 - 26 VDC	incremental	rotary encoder	50	8	2 964.80
HTR-5B-1024A-H	1024	5 - 26 VDC	incremental	rotary encoder	50	8	3 585.82
HTR-5B-2000A-H	2000	5 - 26 VDC	incremental	rotary encoder	50	8	4 856.61

Other (ppr) resolution available on request.

Heavy duty incremental encoders

(IP54)

push-pull type

- HPN square flange mount (63.5 x 63.5 mm)

HPN-6A-2500-3-PP	2500	8 - 26 VDC	incremental	rotary encoder	63.5 □	10	7 941.00
------------------	------	------------	-------------	----------------	--------	----	----------

Other (ppr) resolution available on request.

Hollow shaft incremental encoders

IP50

push-pull type

hole

HTR-HN-8-360A-P	360	5 - 26 VDC	incremental	rotary encoder	38	8	3 021.15
HTR-HN-8-500A-P	500	5 - 26 VDC	incremental	rotary encoder	38	8	3 021.15
HTR-HN-8-1024A-P	1024	5 - 26 VDC	incremental	rotary encoder	38	8	3 218.96
HTR-HM15-600-3-PP	600	8 - 26 VDC	incremental	rotary encoder	59	15	7 495.94
HTR-HM15-1024-3-PP	1024	8 - 26 VDC	incremental	rotary encoder	59	15	7 052.03
HTR-HD30-600-3-PP	600	8 - 26 VDC	incremental	rotary encoder	100	30	7 813.35
HTR-HD30-1024-3-PP	1024	8 - 26 VDC	incremental	rotary encoder	100	30	8 386.07

Other (ppr) resolution available on request.

A series - Absolute encoders

IP50

- Signal output G: Gray code
- Output form C: NPN open-collector

A2-G-256-C	256	10 - 26 VDC	absolute	rotary encoder	44	6	5 272.92
------------	-----	-------------	----------	----------------	----	---	----------

Other (ppr) resolution available on request.

Encoder accessories

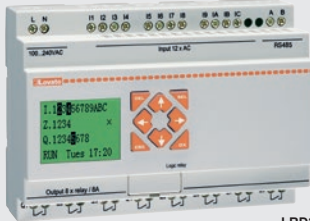
type	material	rated torque (N.m)	bore (mm)		wrench torque (N.m)	dimensions Ø mm		price
			hole Ø1	hole Ø2		body Ø	length	

Flexible couplings

HJ-6X6	plastic	1.0	6	6	0.3	16	23	353.07
SCT-16-6X6	aluminium	0.3	6	6	0.7	16	23	706.13
SCT-20-8X8	aluminium	0.5	8	8	0.7	20	26	847.58
SCT-25-8X10	aluminium	1.0	8	10	1.7	25	31	989.04
SCT-25-10X10	aluminium	2.0	10	10	1.7	25	31	989.04



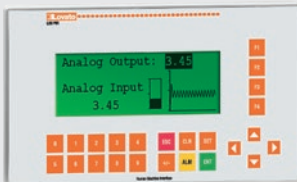
LRD10RA240



LRD20R...



LRE08R...



LRXP01

Micro Programmable Logic Controllers (PLCs)

Lovato's micro PLC is a compact, flexible, easy to use and highly cost effective "intelligent relay". Base units are available with 10,12 or 20 I/O points and can be expanded up to 44 digital I/O points with plug-in expansion modules.

Programming is simple and intuitive and can be done directly with the built-in keypad/display or by personal computer with **LRXSW** software and **LRXC03** programming USB cable.

Two common language logics are available for programming:

- LD (*relay ladder*) up to 300 lines of four instructions each
- FBD (*function block diagram*) up to 260 programmable blocks

Advantages:

System control and supervision

- Contact status viewing in simple and small screen display
- Possibility to add the micro PLC equipped with **LREP00** Modbus to systems integrated on data networks by using Synergy (*supervision and energy management software*)

Quick control board installation

- Fewer number of components
- Less wiring with minor number of connections

Repetitiveness

- Less errors during panel building
- Considerable time saving

Flexibility

- Quick correction of abnormal conditions at final testing
- Fast changes on control boards

type	supply	inputs	outputs	description	price
------	--------	--------	---------	-------------	-------

Base units

- Addition-Subtraction on variables
- Multiplication-Division on variables
- Comparator on variables
- HMI display for parameter viewing and programming
- PWM output
- High speed input (1kHz)
- PID function

LRD10RA240	100 - 240 VAC	6	4	intelligent relay	3 523.72
LRD20RA240	100 - 240 VAC	12	8	intelligent relay	4 940.56
LRD12RD024	24 VDC	8*	4	intelligent relay	3 351.21
LRD20RD024	24 VDC	12*	8	intelligent relay	4 940.56
LRD20RD012	12 VDC	12*	8	intelligent relay	7 056.63
LRD20RD024P1 ❖	24 VDC	12*	8	intelligent relay	5 928.44

* 2/4 inputs can be analog (0-10 VDC)

❖ With built-in RS-485 modbus port

Expansion modules (plug-in)

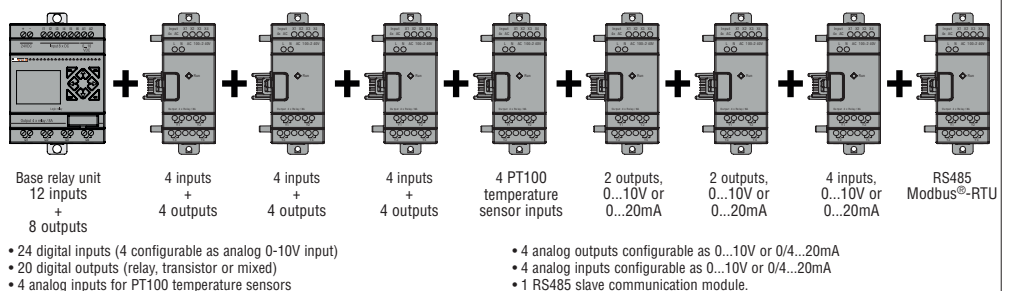
Inputs and outputs of the base relay unit can be increased with plug-in expansion modules. Up to three expansion modules, can be added.

LRE08RA240	100 - 240 VAC	4	4	expansion module	1 955.07
LRE08RD024	24 VDC	4	4	expansion module	1 993.02
LREP00				modbus - RTU protocol communication unit	7 613.24

Accessories

LRXC03	cable: PC (USB) to LRD relay connecting cable (1.5 meter)	2 624.39
LRXSW	programming and supervision software (CD-ROM)	339.27
LRXM00	plug-in program back-up memory module	662.43
LRXP01	HMI operator panel, 24 VDC, RS-232, RS-485	5 824.94
LRXSWP01	LRXP01 editor software (CD-ROM)	339.27
LRXC02	cable: PC (RS-232) - LRXP01 programming cable	710.73

Maximum combinations



N.B. The sequence of the products given above must be respected for correct operation.



Lovato
electric

SIRENA



BACO