



## Operation interface panels/human machine interface (HMI)

- monochrome - shades of blue - full colour display
- incorporated system / function keys
- touch screen (HMI)
- extension modules - printer / I-O interface / Ethernet
- supports up to three COM ports
- rapid USB download transmission interface



Type	Operation Interface Panels				Economic HMI (Touch Screen)		
	TP02G-AS1	TP04G-AS2	TP04G-AL2	TP08-BT2	DOP-AS35THTD	DOP-AS57BSTD	DOP-AS57CSTD
Display Type	STN LCD				TFT LCD	TN LCD	
Display Colour	monochrome				65536 colours	8 shades of blue	256 colours
Display Resolution (pixels)	160 x 32	128 x 64	192 x 64	240 x 128	320 x 240	320 x 240	320 x 240
Back Light Life	50k Hours @25°C				30k hours	50k hours	
Display Size (mm)	72 x 22mm	3" (67 x 32mm)	4.1" (102 x 35)	3.8" (83 x 41)	3.5"(70 x 53)	5.7" (115 x 86)	
Operational System	-				Windows based real Time OS		
MCU	-	-	STM32F101	ST STR710RZT7	32-bit RISC Micro-Controller		
Flash Memory	256K Byte			1M Byte	1M Byte		
Program Memory (SDRAM)	-				8M	16M	
Backup Memory (Bytes)	32K		16K	64K	128K		
ROM	n/a				4M	2M	
SM Card	n/a				n/a		
Extension Slot	program copy card				yes		
Perpetual Calendar (RTC)	no	yes	yes	yes	built-in		
USB For Download (USB Client)	n/a				yes		
USB For Data Storage/Printer	n/a				USB		
External Memory card	n/a				USB disk		
Serial COM Port	COM 1	RS-232			RS-232		
	COM 2	RS-485	RS-485/422	RS-422	RS-422/485		
	COM 3			RS-485	RS-232	RS-422/485	
System keys	6	7	5	12	4		
Function keys	10	5	5	12	1		
Operating Voltage	DC=24 (-10 - +15%)				DC=24 (-10 - +15%)		
Power Consumption	3W	3.5W	1.7W	1.8W	-	7.2W	
Backup Battery	3V Lithium Battery CR2032 x 1				3V Lithium Battery CR2032 x 1		
Buzzer	85dB	85dB	no	85dB	85dB		
Cooling Method	Natural Air Circulation				Natural Air Circulation		
Front Panel Protection	IP65 / NEMA / CE, UL				IP65 / NEMA / CE, UL		
Operating Temp	0 - 50 C; 20 - 90% RH (non-condensating)				0 - 50 C; 20 - 90% RH (non-condensating)		
Storage Temperature	-20 - +60°C				-20 - +60°C		
Ambient Humidity	10 - 90% RH (0 - 40 C) Pollution Degree 2				10 - 90% RH (0 - 40 C) Pollution Degree 2		
Vibration Resistance (TEST Fc)	IEC61131-2/ IEC 68-2-6	5Hz≤f<8.4Hz Continuous: 3.5mm / 8.4Hz≤f≤150Hz Continuous: 1.0g			5Hz≤f<8.4Hz Continuous: 3.5mm / 8.4Hz≤f≤150Hz Continuous: 1.0g		
External Dimensions (H) x (W) x (D)	97 x 147 x 36	98 x 147 x 36	110 x 164 x 37	122 x 210 x 45	105 x 141 x 44.8	145 x 184 x 48	
Panel Cutout (H) x (W)	(H) x(W)	85 x 136	85 x 136	97 x 150	109 x 198	93 x 119	94 x 119
Editing Software	TPEditor				Screen Editor 1.05.79		
Price							



Wide Screen HMI (Touch Screen)				High End HMI (Touch Screen)			
DOP-B05S100	DOP-B05S101	DOP-B07S201	DOP-B07S211	DOP-AE57GSTD	DOP-AE57BSTD	DOP-AE80THTD	DOP-AE10THTD1
TFT LCD				STN LCD		TFT LCD	TFT LCD
65536 colours				16 Shades of grey	8 Shades of Blue	65536 colours	65536 colours
480 x 234				320 x 240		640 x 480	
50k hours				50k hours		50k hours	30k hours
5.6" (113 x 85)		7" (154 x 87)		5.7" (115 x 86)		8" (162 x 122)	10.4" (211 x 158)
Windows based real Time OS				Windows based real Time OS		Windows based real Time OS	
32-bit RISC Micro-Controller				32-bit RISC Micro-Controller		32-bit RISC Micro-Controller	
4M	6M	4M		3M		8M	
8 Mbytes	16 Mbytes	16 Mbytes		16 Mbytes		32 Mbytes	32 Mbytes
128K		256K		512K			
4M				4M		8M	
n/a				yes		yes	no
n/a				yes			
built-in				built-in			
yes				yes			
yes				n/a		USB	
yes				n/a		yes	
RS-232				RS-232			
RS-422/485		RS-232/422/486		RS-232/422/485			
RS-422/486		RS-232/422/487		RS-232/422/486			
n/a		4	n/a	4		6	7
n/a		4	n/a	1		1	1
DC +24V (-10% +15%)				DC +24V (-10% +15%)			
3.0W		4.8W		7.2W		14W	15W
3V Lithium Battery CR2032 x 1				3V Lithium Battery CR2032 x 1			
Multi-Tone Frequency (2 - 4K Hz) ?85dB				85dB			
Natural Air Circulation				Natural Air Circulation			
IP65 / NEMA / CE, UL				IP65 / NEMA / CE, UL			
0 - 50 C; 20 - 90% RH (non condensating)				0 - 50 C; 20 - 90% RH (non condensating)			
-20 - +60°C				-20 - +60°C			
10 - 90% RH (0 - 40 C) Pollution Degree 2				10 - 90% RH (0 - 40 C) Pollution Degree 2			
5Hzsf<8.4Hz Continuous: 3.5mm / 8.4Hzsf≤150Hz Continuous: 1.0g				5Hzsf<8.4Hz Continuous: 3.5mm / 8.4Hzsf≤150Hz Continuous: 1.0g			
144 x 184 x 50		161 x 215 x 50		145 x 184 x 48		178 x 243 x 52.4	222 x 297 x 51
133 x 173		143 x 197		94 x 119		167 x 232	210 x 286
Screen Editor 2.00.05				Screen Editor 1.05.79			



## Human machine interface (HMI)



TP02G



TP04G



TP08G-AS2



DOP-AS35



DOP-B05S



DOP-B07S



DOP-AE80

### TP series operation interface panel (STN-LCD display with backlight)

- built-in dual communication port RS-232 and RS-485
- built-in real time clock with perpetual calendar (TP04 and TP08 only)
- numerous built-in software functions, value, meter, texts, graphic options
- function keys (systems functions)
- password facility (to lock out unwanted program changes)

type	display size	keys	description	price
TP02G-AS1	(72 x 22)	16	2 lines display operation interface panel	
TP04G-AS2	3.0" (67 x 32)	12	4 lines display operation interface panel	
TP04G-AL2	4.1" (102 x 35)	10	4 lines display operation interface panel	
TP08G-BT2	3.8" (83 x 41)	24	8 lines display operation interface panel	

### Accessories

- DVP-ACAB530** communication cable to PC TP02/04/08 via RS-232  
**DVP-ACAB2A30** communication cable DVP (PLC) to TP02/04/08  
**TPEditor** software editor for TP series operation interface

### DOP series HMI (human machine interface) touch screens

The Delta DOP series HMIs supports, not only Delta products (AC drives, temperature controllers, PLCs) but also many well known and different PLC types. The Windows-based software ISP soft is very powerful and user friendly for user design and configuration.

#### DOP-AS Series (economic version) touch screen

- ARM9 32-bit CPU
- 320 x 240 pixels
- 4 function keys
- 1M flash memory - 128k SRAM
- 3 sets of COM ports for multiple communication protocols

<b>DOP-AS35THTD</b>	3.5" (70 x 53)	4/1	65536 colours	HMI touch panel
<b>DOP-AS57BSTD</b>	5.7" (115 x 86)	4/1	8 shades blue	HMI touch panel

#### DOP-B series (wide screen version) touch screen

- ARM9 32-bit CPU
- 8 function keys (DOP-B07)
- multimedia sound effect output
- 3M flash memory - 128k/256k SRAM
- supports: CF memory card - ethernet
- 3 sets of COM ports for multiple communication protocols

<b>DOP-B05S100</b>	5.6" (113 x 85)	-	65536 colours	HMI touch panel
<b>DOP-B05S101</b>	5.6" (113 x 85)	-	65536 colours	HMI touch panel
<b>DOP-B07S201</b>	7.0" (154 x 87)	4/4	65536 colours	HMI touch panel
<b>DOP-B07S211</b>	7.0" (154 x 87)	4/4	65536 colours	no buttons touch panel

#### DOP-AE Series (high end series) touch screen

- ARM9 32-bit CPU
- 3M, 7M flash memory - 512k SRAM
- supports SM card (except 9.4" model)
- USB1.1 for high speed screen data download
- extension slot for accepting plug-in add-ons
- 3 sets of COM ports for multiple communication protocols

<b>DOP-AE57GSTD</b>	5.7" (115 x 86)	4/1	16 shades grey	HMI touch panel
<b>DOP-AE57BSTD</b>	5.7" (115 x 86)	4/1	8 shades blue	HMI touch panel
<b>DOP-AE57CSTD</b>	5.7" (115 x 86)	4/1	256 colours	HMI touch panel
<b>DOP-AE80THTD</b>	8.0" (162 x 122)	6/1	65536 colours	HMI touch panel
<b>DOP-AE10THTD</b>	10.4" (211 x 158)	7/1	65536 colours	HMI touch panel

### Accessories

Digital I/O modules simply plug into rear of HMI enabling your HMI to be an all-in-one, cost effective controller with excellent control performance. For display, control and operation utilising HMI-WPLsoft with built-in Delta screen editor software.

- DOP-EXI014RAE** 8 digital inputs/6 digital outputs extension module (AE series)  
**DOP-EXI028RAE** 16 digital inputs/12 digital outputs extension module (AE series)

- DOP-EXLNHJ1AE** ethernet extension module (AE series)  
**DOP-EXPM110** printer extension module (AE series)

- DOP-CAUSBAB** PC to touch panel (via USB) communication cable  
**DOP-CA232DP** PLC to touch panel (via RS-232) communication cable

### SCREEN Editor software editor for DOP series HMIs

provides screen editing and program self-debugging capability, built-in rich objects library and build-your-own picture library support text and graphics editing tools windows operation interface