

**C**

# AUTOMATION

**C<sub>1</sub>**

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DVP14SS...

**SS2/SA2 series**

Delta's high-performance, high-speed DVP series PLCs are the most efficient and incorporates communication capabilities. Advantages include numerous built-in convenient commands for easy operation access and communication function monitoring.

The module-type unit affords tremendous space-saving, allowing simple, clip-on expansion possibilities. The PLCs 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
- Supports Modbus Master. Can connect up to 16 slaves (VFD, Temp controller, PLC)

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

**SS2 series - Economic, compact ultra-slim PLC**

The DVP-SS2 series slim type PLC provides basic sequential control functions with fast execution speed.

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

**High speed functions**

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

DVP14SS211R	24 VDC	8	6	25.2	compact ultra slim PLC	relay	2 214.00
DVP14SS211T	24 VDC	8	6	25.2	compact ultra slim PLC	transistor (NPN)	2 214.00
DVP12SS211S	24 VDC	8	4	25.2	compact ultra slim PLC	transistor (PNP)	2 214.00



DVP12SA2...

**SA2 series - Advanced compact slim PLC**

DVP-SA2 series offers larger program capacity and executing efficiency, offering 100 kHz high-speed output and counting functions. Expandable with DVP-S extension modules.

**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

**High speed 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		width (mm)	description	output type	price
		(DI)	(DO)				
DVP12SA211R	24 VDC	8	4	37.4	advanced slim PLC	relay	3 125.00
DVP12SA211T	24 VDC	8	4	37.4	advanced slim PLC	transistor (NPN)	3 125.00
DVP28SA211R*	24 VDC	16	12	46	advanced slim PLC	relay	3 815.00
DVP28SA211T*	24 VDC	16	12	46	advanced slim PLC	transistor (NPN)	3 815.00

\* Right hand side expansion only



new

DVP28SA211R



DVP12SE11R



new

DVP26SE11R



DVP28SV11R

**SE/SV2 series****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 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 (DI)	outputs (DO)	width (mm)	description	output type	price
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**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 & Ethernet/IP (*adapter mode*)  
**DVP26SE:** MODBUS TCP/IP & Ethernet/IP (*adapter mode*)

**High speed 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

<b>DVP12SE11R</b>	24 VDC	8	4	37.4	network type PLC	relay	<b>4 392.00</b>
<b>DVP12SE11T</b>	24 VDC	8	4	37.4	network type PLC	transistor (NPN)	<b>4 392.00</b>
<b>DVP26SE11R*</b>	24 VDC	14	12	46	network type PLC	relay	<b>5 078.00</b>
<b>DVP26SE11T*</b>	24 VDC	14	12	46	network type PLC	transistor (NPN)	<b>5 078.00</b>

\* 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.

- 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

**Excellent high speed 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

type	supply	inputs (DI)	outputs (DO)	width (mm)	description	output type	
<b>DVP28SV11R2</b>	24 VDC	16	12	70	high perform PLC	relay	<b>5 911.00</b>
<b>DVP28SV11T2</b>	24 VDC	16	12	70	high perform PLC	transistor (NPN)	<b>6 174.00</b>
<b>DVP28SV11S2</b>	24 VDC	16	12	70	high perform PLC	transistor (PNP)	<b>6 174.00</b>



DVP10SX11R

**SX2/MC series**

**DVP series** PLCs for industrial automation applications have been devoted to delivering more innovative products satisfying customer needs while meeting 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		width (mm)	output type	price
		(DI)	(AI)	(DO)	(AO)			

**SX2 series - Analog I/O slim PLC**

Compact PLC with outstanding analog functions with highly efficient PID control function. Supports "general" (right side) and "high speed" (left side) expansion modules.

- 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*)

**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	37.4	relay	4 159.00
DVP20SX211R	24 VDC	8	4	6	2	relay	5 519.00
DVP20SX211T	24 VDC	8	4	6	2	transistor (NPN)	5 519.00
DVP20SX211S	24 VDC	8	4	6	2	transistor (PNP)	5 519.00

\* 2 x 7 segment display

**MC series - Multi-axis motion controller****CANopen 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.

- Built-in CANopen and encoder interface
- High precision control with interpolation function
- Synchronization time: 4 axes in 2ms / 8 axes in 4ms
- Built-in Ethernet, RS-232 and RS-485 communication ports
- Up to 16 axes synchronous control through CANopen communication
- Supports electronic gear, E-cam (2.048 points), flying shear and rotary cut instructions
- Built-in 12 I/O points (*8 sets of high-speed inputs, 4 sets of high-speed outputs*)
- Built-in motion control instructions of electronic cam, flying shear, rotary cut for easy operation

inputs	
(DI)	(DO)

DVP10MC11T	24 VDC	8	4	motion controller	transistor (NPN)	19 320.00
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**PLC starter kits**

Each kit comes complete with programming software for the PLC and HMI products, an I/O simulator board, 24 VDC power supply, all interconnecting cables, and a printed starter kit user manual. A Delta Branded USB memory stick is also included with product user manuals, product instruction sheets, and example application programs – all designed to increase commissioning productivity of feature use and interconnected communication.

- Available as Ethernet based kit or economical serial port based kit
- For learning PLC and HMI programming
- UT-14SS2-A (*Serial Kit - DVP-14SS11R + 7" serial HMI*)
- UT-12SE-A1 (*Ethernet Kit - DVP12SE11R + 7" Ethernet HMI*)

UT-14SS2-A	starter kit for learning programming of PLC /HMI	relay	8 883.00
UT-12SE-A1	as above , but with hardware for Ethernet communication	relay	14 610.00



DVP10MC11T



PLC starter kit



DVP08SM...



DVP04DA-S2



DVP04PT-S



DVPT01-S

### Extension modules for SS2/SA2/SE/SX2/SV2/MC PLC's

Extension modules simply clip onto CPU's 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)			
<b>Digital Input extension modules</b>						
<b>DVP08SM11N</b>	24 VDC	8	–	extension module	–	<b>818.00</b>
<b>DVP16SM11N</b>	24 VDC	16	–	extension module	–	<b>1 361.00</b>
<b>DVP32SM11N*</b>	24 VDC	32	–	extension module	–	<b>1 753.00</b>
<b>UB-10-ID32A</b>	MIL con	32	–	terminal module for above	DVP32SM	<b>1 031.00</b>
<b>UC-ET010-24A</b>	MIL con	1 met	–	I/O connection cable for above	DVP32SM/MSN	<b>521.00</b>
<b>Digital Output extension modules</b>						
<b>DVP06SN11R</b>	24 VDC	–	6	extension module	relay (6A)	<b>1 624.00</b>
<b>DVP08SN11R</b>	24 VDC	–	8	extension module	relay (1.2A)	<b>1 215.00</b>
<b>DVP08SN11T</b>	24 VDC	–	8	extension module	transist (NPN)	<b>1 215.00</b>
<b>DVP16SN11T</b>	24 VDC	–	16	extension module	transist NPN)	<b>1 671.00</b>
<b>DVP16SN11TS</b>	24 VDC	–	16	extension module	transist (PNP)	<b>1 671.00</b>
<b>DVP32SN11TN*</b>	24 VDC	–	32	extension module	transist (NPN)	<b>1 928.00</b>
<b>UB-10-OT32A</b>	MIL con	–	32	output terminal module	DVP32SN	<b>1 031.00</b>
<b>UC-ET010-24A</b>	MIL con	1 met	–	I/O connection cable for above	DVP32SM/MSN	<b>521.00</b>
<b>UC-ET020-24D</b>	MIL con	2 met	–	shielded cable for above	DVP32SM/MSN	<b>1 873.00</b>
<b>UC-ET030-24D</b>	MIL con	3 met	–	shielded cable for above	DVP32SM/MSN	<b>2 185.00</b>
* Pin head termination. For other cable types and lengths, see C-14						
<b>Digital I/O extension modules</b>						
<b>DVP08SP11R</b>	24 VDC	4	4	extension module	relay	<b>1 274.00</b>
<b>DVP16SP11R</b>	24 VDC	8	8	extension module	relay	<b>1 408.00</b>
<b>DVP08SP11T</b>	24 VDC	4	4	extension module	transist (NPN)	<b>1 197.00</b>
<b>DVP16SP11T</b>	24 VDC	8	8	extension module	transist (NPN)	<b>1 408.00</b>
<b>DVP16SP11TS</b>	24 VDC	8	8	extension module	transist (PNP)	<b>1 519.00</b>
<b>Analog I/O extension modules</b>						
• Built-in RS-485 interface						
		(AI)	(AO)			
<b>DVP04AD-S2</b>	24 VDC	4	–	extension module	–	<b>2 762.00</b>
<b>DVP06AD-S</b>	24 VDC	6	–	extension module	–	<b>2 979.00</b>
<b>DVP04DA-S2</b>	24 VDC	–	4	extension module	analog	<b>4 181.00</b>
<b>DVP06XA-S2</b>	24 VDC	4	2	extension module	analog	<b>3 086.00</b>
<b>Temperature measurement modules</b>						
• Resolution: 0.1°C						
<b>DVP04PT-S*</b>	24 VDC	4	–	RTD temperature module	PT100/1000	<b>3 318.00</b>
<b>DVP06PT-S</b>	24 VDC	6	–	RTD temperature module	PT100/1000	<b>3 876.00</b>
<b>DVP04TC-S*</b>	24 VDC	4	–	thermocouple temp. module	(J,K,R,S,T)	<b>3 324.00</b>
* Built-in RS-485 interface						
<b>DVP02TU series temperature control modules (universal input)</b>						
• 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)						
<b>DVP02TUL-S</b>	24 VDC	2	2	analog	output voltage/current	<b>2 268.00</b>
<b>DVP02TUN-S</b>	24 VDC	2	4	transistor	NPN output overheat/current	<b>2 268.00</b>
<b>DVP02TUR-S</b>	24 VDC	2	4	relay	output overheat/overcurrent	<b>2 268.00</b>
<b>Positioning control module (single axis, 200kHz)</b>						
<b>DVP01PU-S</b>	single-axis, 200kHz			servo position control module		<b>4 515.00</b>
<b>Communication modules</b>						
<b>DVPT01-S</b>	DeviceNet			slave communication module		<b>4 346.00</b>
<b>DVPPF01-S</b>	PROFIBUS-DP			slave communication module		<b>6 746.00</b>



### High-speed expansion modules for SA2/SE2/SX2/SV2 PLC's (left side mount)

Extension modules simply clip onto CPU's to add many additional functions, additional analog I/O's, communication and load cell monitoring.

- Simply clips onto and derives supply from main CPU

type	supply	inputs (AI)	outputs (AO)	description	output type	price
<b>Analog I/O extension modules</b> <i>(left side high-speed)</i>						
DVP04AD-SL	24 VDC	4	—	extension module	analog	3 791.00
DVP04DA-SL	24 VDC	—	4	extension module	analog	5 426.00
<b>Load cell modules</b> <i>(left side high-speed)</i>						
DVP201LC-SL	24 VDC	1	—	load cell input module	1 channel	3 935.00
DVP211LC-SL	24 VDC	1	1	load cell input mod	1 channel	6 147.00
DVP202LC-SL	24 VDC	2	—	load cell input module	2 channel	5 549.00
<b>Communication modules</b> <i>(left side high-speed)</i>						
DVPEN01-SL	Ethernet			communication module	10/100Mbps	4 398.00
DVPDNET-SL	DeviceNet			master communication module	500kbps	4 375.00
DVPCOPM-SL	CANopen			master communication module	1Mbps	4 371.00
DVPPF02-SL	PROFIBUS-DP			slave communication module	12Mbps	4 696.00
DVPSCM12-SL	RS-485/RS-422			serial communication module	460kbps	5 175.00
DVPSCM52-SL	BACnet MS/TP			slave communication module	460kbps	10 660.00
<b>Remote I/O communication modules</b>						
RTU-485	Modbus RS-485			max. 8 special modules and 128DI and 128DO		1 770.00
RTU-EN01	Modbus TCP/IP			max. 8 special modules and 128DI and 128DO		4 799.00
RTU-DNET	DeviceNET			max. 8 special modules and 128DI and 128DO		4 667.00
RTU-PD01	PROFIBUS-DP			max. 8 special modules and 128DI and 128DO		6 708.00
<b>Accessories for S series PLC's</b>						
<b>Power supply modules (DIN rail mounting)</b>						
DVPPS01	85-240 VAC to 24 VDC	1A		power supply module		602.00
DVPPS02	85-240 VAC to 24 VDC	2A		power supply module		777.00
DVPPS05	85-240 VAC to 24 VDC	5A		power supply module		1 431.00
<b>Accessories and cables</b>						
UC-PRG020-12A	8-pin mini-DIN+female DB9 connector to USB (type A) connector			2 met		777.00
UC-PRG030-01A	mini USB connector to USB (type A) connector			3 met		208.00
UC-MS030-01A	8-pin mini-DIN connector to female DB9 connector RS-232			3 met		187.00
IFD6500	RS-485 to USB (type A) converter module					1 525.00
DVP08ST11N	input point switch module for DVP-S series					1 461.00
DVPPC01	program-data backup memory card for all DVP series		(64k words)			1 344.00
<b>Software (windows based) easy to learn and use with provided "help" file</b>						
DELTA-SW	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)			(USB)		295.00
	ISPsoft					
	DOPsoft					
	TPEditor					
	VFDsoft					
	ASDAsoft					
	DIAdevice					
	DOCS					
<b>Manuals</b>						



# INDUSTRIAL AUTOMATION COURSES

LEVEL 1 AND 2 PLC • VFD • SERVO

CPD ACCREDITED COURSES

Successful industrial facilities rely on personnel who have the technical understanding and capability to maintain smooth system operation.

The industrial automation training is recommended for any individual or group that requires more in-depth knowledge on the basic components, implementation and management thereof.

## PLC LEVEL 1

(Own laptop required)



### Course Content:

- PLC terminology
- How to wire a PLC
- Program a PLC
- Program analysis
- Basic HMI introduction

Accreditation: 1 CPD Point

Duration: 1 Day

## PLC LEVEL 2

(Own laptop required)



### Course Content:

- Advanced PLC function
- Analog inputs and outputs
- High-speed signal processing
- Working with real values
- Basic HMI introduction
- Integrated HMI examples

Accreditation: 1 CPD Point

Duration: 1 Day

## PLC LEVEL 3

(Own laptop required)



### Course Content:

- Fieldbus and communication types
- Data mapping/exchange
- Network topology
- System planning

Accreditation: 1 CPD Point

Duration: 1 Day

## VFD LEVEL 1



### Course Content:

- Basic motor principles
- Selecting the correct VFD
- Practical operation and wiring of VFD
- Fault finding exercises
- Application examples

Accreditation: 1 CPD Point

Duration: 1 Day

## VFD LEVEL 2



### Course Content:

- Theory and exercises on the different control modes namely:  
Vector, Speed, Torque
- Position control modes
- Advanced drive features

Accreditation: 1 CPD Point

Duration: 1 Day

## SERVO LEVEL 1 & 2

(Own laptop required)



### Course Content:

- Covers all available control modes
- External position (PLC)
  - Internal position (HMI)
  - Speed/torque
  - Electronic Cam (ECAM)

Accreditation: 2 CPD Points

Duration: 2 Day



Visit [www.em.co.za](http://www.em.co.za) or scan QR code for more information.





DVP20ES2...

**ES2 series** PLCs are 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
- E- 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



Top entry Ethernet port



DVP20ES200TE

type	supply	inputs (DI)	outputs (DO)	width (mm)	description	output type	price
<b>ES2 series - Standard PLC</b>							
<b>Relay output</b>							
DVP20ES200RE*	100 - 240 VAC	12	8	125	standard PLC	relay	3 913.00
DVP32ES200RE*	100 - 240 VAC	16	16	165	standard PLC	relay	4 658.00
DVP32ES200RC*	100 - 240 VAC	16	16	145	standard PLC	relay	7 546.00
DVP40ES200RE*	100 - 240 VAC	24	16	194	standard PLC	relay	6 033.00
DVP60ES200RE*	100 - 240 VAC	36	24	255	standard PLC	relay	6 701.00
<b>Transistor output</b>							
DVP20ES200TE*	100 - 240 VAC	12	8	125	standard PLC	transist (NPN)	3 913.00
DVP32ES200TE*	100 - 240 VAC	16	16	165	standard PLC	transist (NPN)	4 658.00
DVP32ES200TC*	100 - 240 VAC	16	16	145	standard PLC	transist (NPN)	7 546.00
DVP40ES200TE*	100 - 240 VAC	24	16	194	standard PLC	transist (NPN)	6 033.00
DVP60ES200TE*	100 - 240 VAC	36	24	255	standard PLC	transist (NPN)	6 701.00

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

		digital I	analog I	digital O	analog O		
DVP20EX200R	100 - 240 VAC	8	4	6	2	relay	5 414.00
DVP20EX200T	100 - 240 VAC	8	4	6	2	transist (NPN)	5 414.00

#### 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	—	1 023.00
DVP16XM211N	24 VDC	16	—	expansion module	—	1 817.00
DVP08XN211R	24 VDC	—	8	expansion module	relay	1 647.00
DVP16XN211R	24 VDC	—	16	expansion module	relay	2 558.00
DVP08XP211R	24 VDC	4	4	expansion module	relay	1 315.00
DVP16XP211R	24 VDC	8	8	expansion module	relay	2 436.00
DVP08XN211T	24 VDC	—	8	expansion module	transist (NPN)	1 647.00
DVP16XN211T	24 VDC	—	16	expansion module	transist (NPN)	2 558.00
DVP08XP211T	24 VDC	4	4	expansion module	transist (NPN)	1 315.00
DVP16XP211T	24 VDC	8	8	expansion module	transist (NPN)	2 436.00

#### 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	3 196.00
DVP24XP200R	100 - 240 VAC	16	8	expansion module	relay	3 067.00
DVP32XP200R	100 - 240 VAC	16	16	expansion module	relay	4 030.00
DVP24XN200T	100 - 240 VAC	—	24	expansion module	transist (NPN)	3 551.00
DVP24XP200T	100 - 240 VAC	16	8	expansion module	transist (NPN)	3 067.00
DVP32XP200T	100 - 240 VAC	16	16	expansion module	transist (NPN)	4 030.00



DVP16XP2...



DVP24XN...



DVP04AD-E2



DVP04PT-E2



DVP16EC00R3



DVPPCC01



DELTA-SW

**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
<b>Analog extension modules for ES2/EX2 series</b>						
• 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			
<b>DVP04AD-E2</b>	24 VDC	4	—	expansion modules	analog/inputs	<b>2 839.00</b>
<b>DVP02DA-E2</b>	24 VDC	—	2	expansion modules	analog/outputs	<b>3 318.00</b>
<b>DVP04DA-E2</b>	24 VDC	—	4	expansion modules	analog/outputs	<b>3 966.00</b>
<b>DVP06XA-E2</b>	24 VDC	4	2	expansion modules	analog I/O	<b>3 966.00</b>

**Temperature measurement modules for ES2/EX2**

type	supply	description	
<b>RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input / 0 - 300Ω resistance input</b>			
• Resolution:	16-bit		
• Built-in PID temperature control			
<b>DVP04PT-E2</b>	24 VDC	4 points resistance (Pt100, Pt1000, Ni 100/1000)	<b>3 674.00</b>
<b>Thermocouple (J, K, R, S, T, E, N type) sensor input/-80mV - +80V voltage input</b>			
• Resolution:	16-bit		
• Built-in PID temperature control			
<b>DVP04TC-E2</b>	24 VDC	4 points of thermocouple (J, K, R, S, T, N type)	<b>3 674.00</b>

**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	
<b>DVP-EC3 - Economic series PLC</b>						
<b>DVP10EC00R3</b>	100 - 240 VAC	6	4	standard econo PLC	relay	<b>2 106.00</b>
<b>DVP16EC00R3</b>	100 - 240 VAC	8	8	standard econo PLC	relay	<b>2 745.00</b>
<b>DVP24EC00R3</b>	100 - 240 VAC	12	8	standard econo PLC	relay	<b>3 446.00</b>
<b>DVP32EC00R3</b>	100 - 240 VAC	16	16	standard econo PLC	relay	<b>3 959.00</b>
<b>DVP40EC00R3</b>	100 - 240 VAC	24	16	standard econo PLC	relay	<b>4 436.00</b>

**Accessories for DVP-ES2/EX2/EC PLC's**

<b>DVPPCC01</b>	program-data backup memory card for all DVP series	(64k words)		<b>1 344.00</b>
<b>UC-PRG020-12A</b>	mini-DIN USB (type-A)	programming cable PLC to PC	2 met	<b>777.00</b>
<b>UC-MS030-01A</b>	male mini-DIN female DB9	programming cable PLC to HMI	3 met	<b>187.00</b>
<b>DVPAEXT01-E2</b>	connection kit with cable for DVP-ES2 / EX2 and exp. modules		0.7 met	<b>1 472.00</b>
<b>UC-PRG030-10A</b>	RS-232 program cable for above <b>DVPAEXT01-E2</b>			<b>312.00</b>
<b>DELTA-SW</b>	PLC editing software for AH500 and DVP series <i>supports 5 programming languages: (LD, FBD, SFC, ST, IL)</i>	(USB)		<b>295.00</b>
	Programming software for DVP-PLC ( <i>freely downloadable via internet</i> )			



ISPsoft



DOPsoft



TPEditor



VFDsoft



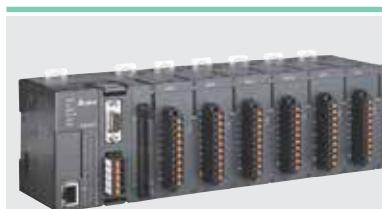
ASDAsoft



DIADevice



DOCS



**new**



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						
<b>AS200 series - CPU</b>		<i>(64k steps / 60k words)</i>				<i>(H) 88 x (W) 88 x (D) 95 mm</i>					
AS228R-A	24 VDC	16	12	—	—	AS200 CPU module	relay	6 815.00			
AS228T-A	24 VDC	16	12	—	—	AS200 CPU module	transist(NPN)	6 815.00			
AS228P-A	24 VDC	16	12	—	—	AS200 CPU module	transist (PNP)	6 815.00			
AS218TX-A	24 VDC	8	6	2	2	AS200 CPU module	transist (NPN)	7 016.00			
AS218RX-A	24 VDC	8	6	2	2	AS200 CPU module	relay	7 016.00			
AS218PX-A	24 VDC	8	6	2	2	AS200 CPU module	transist (PNP)	7 016.00			
<b>AS300 series - CPU</b>		<i>(128k steps / 60k words)</i>				<i>(H) 88 x (W) 80 x (D) 95 mm</i>					
AS300N-A	24 VDC	—	—	—	—	AS300 CPU module	—	4 969.00			
AS320T-B	24 VDC	8	12	—	—	AS300 CPU module	transist (NPN)	7 438.00			
AS320P-B	24 VDC	8	12	—	—	AS300 CPU module	transist (PNP)	7 438.00			
AS332T-A*	24 VDC	16	16	—	—	AS300 CPU module	transist (NPN)	8 667.00			
AS332P-A*	24 VDC	16	16	—	—	AS300 CPU module	transist (PNP)	8 667.00			
AS324MT-A*	24 VDC	12	12	—	—	AS300 CPU module	differential type	7 589.00			
❖ 2 axes 4MHz + 4 axes 200kHz output / 2 channels 4MHz + 4 channels 200kHz input											
<b>Power supply modules (Clips onto left side of CPU)</b>											
AS-PS02	100 - 240 VAC	24 VDC	2A for internal bus			power supply	1 053.00				
AS-PS02A	100 - 240 VAC	24 VDC	1.5A internal bus	0.5A for external I/O	power supply		1 239.00				
AS-ATXB*	—	24 VDC	to supply via bottom entry (side mount)			power adaptor	361.00				
* Used with external power supplies for PLC racks which require more than 2A.											
<b>Digital I/O modules - for AS series PLC's</b>											
<b>Input modules</b>											
• Plug-in, screwless ( <i>push-in</i> ) terminals (32 and 64 I/O modules high density MIL connector)			(DI)	(DO)							
AS08AM10N-A	24 VDC	8	—	digital input module (DI)	—		991.00				
AS16AM10N-A	24 VDC	16	—	digital input module (DI)	—		2 105.00				
AS32AM10N-A*	24 VDC	32	—	digital input module (DI)	—		3 158.00				
AS64AM10N-A*	24 VDC	64	—	digital input module (DI)	—		4 705.00				
<b>Output modules</b>											
AS08AN01R-A	24 VDC	—	8	digital output module (DO)	relay	1 486.00					
AS08AN01T-A	24 VDC	—	8	digital output module (DO)	transist (NPN)	1 486.00					
AS08AN01P-A	24 VDC	—	8	digital output module (DO)	transist (PNP)	1 486.00					
AS16AN01R-A	24 VDC	—	16	digital output module (DO)	relay	2 229.00					
AS16AN01T-A	24 VDC	—	16	digital output module (DO)	transistor (NPN)	2 229.00					
AS16AN01P-A	24 VDC	—	16	digital output module (DO)	transist (PNP)	2 229.00					
AS32AN02T-A*	24 VDC	—	32	digital output module (DO)	transist (NPN)	3 282.00					
AS64AN02T-A*	24 VDC	—	64	digital output module (DO)	transist (NPN)	4 953.00					
<b>Mixed I/O modules</b>											
AS16AP11R-A	24 VDC	8	8	digital input/output mod. (DI/O)	relay	2 105.00					
AS16AP11T-A	24 VDC	8	8	digital input/output mod. (DI/O)	transist (NPN)	2 105.00					
AS16AP11P-A	24 VDC	8	8	digital input/output mod. (DI/O)	transist (PNP)	2 105.00					

\* High density MIL terminal block, see C-15



AS04AD-A



AS-FEN02



AS08TC-A



AS02LC-A

**AS series - I/O modules and accessories**

type	supply	analog		description	price		
		Inputs	Output				
<b>Analog I/O modules</b>					(W) 35 mm		
<ul style="list-style-type: none"> <li>Single channel on/off setting to enhance overall conversion efficiency</li> <li>Wire break detection at 1 - 5V and 4 - 20mA</li> <li><b>Voltage:</b> 1 - 5V, 0 - 5V, ±5V, 0 - 10V, ±10V      <b>Current:</b> 4 - 20mA, 0 - 20mA, ±20mA</li> </ul>							
<b>Input module (analog)</b>							
• Hardware resolution: 16-bit		(AI)	(AO)				
AS04AD-A	24 VDC	4	–	voltage and current input	3 158.00		
AS08AD-B	24 VDC	8	–	voltage input	4 970.00		
AS08AD-C	24 VDC	8	–	current input	4 970.00		
<b>Output module (analog)</b>							
• Hardware resolution: 12-bit							
AS04DA-A	24 VDC	–	4	voltage and current output	4 210.00		
<b>Mixed I/O modules (analog)</b>							
• Hardware resolution: 16-bit (input) / 12-bit (output)							
AS06XA-A	24 VDC	4	2	voltage and current Input/Output	3 591.00		
<b>Communication modules</b>							
<b>Comm. extension module</b>		accepts comm. and/or analog function cards		(W) 56 mm			
AS00SCM-A	24 VDC	function card module for CPU / remote I/O interface			2 601.00		
<b>Communication function cards (isolated)</b>							
• Plugs directly into <b>AS300</b> main CPU or <b>AS00SCM-A</b> module							
AS-F232	RS-232	serial COM, RS-232 interface for CPU or AS00SCM-A			620.00		
AS-F422	RS-422	serial COM, RS-422 interface for CPU or AS00SCM-A			805.00		
AS-F485	RS-485	serial COM, RS-485 interface for CPU or AS00SCM-A			681.00		
AS-FCOPM*	CANopen	CANopen port, support DS301, for CPU or AS00SCM-A			1 548.00		
AS-FEN02*	Ethernet	MODBUS TCP, EtherNet/IP adaptor CPU modules			2 467.00		
<b>Analog I/O Function cards</b>		plugs directly into main <b>AS300</b> CPU or <b>AS00SCM-A</b> module					
AS-F2AD	24 VDC	2	–	0 - 10V (12-bit), 4 - 20mA (11-bit)	1 239.00		
AS-F2DA	24 VDC	–	2	0 - 10V, 4 - 20mA (12-bit)	1 486.00		
<b>DeviceNet communication module</b>							
AS01DNET-A*	DeviceNet	supports master / slave modes, supports RTU function			4 357.00		
* Can be used as remote I/O modules							
<b>Temperature measurement modules</b>		resolution: 0.1°C		(W) 35 mm			
<b>Pt, Ni temperature sensor</b>		±0.1% overall accuracy					
<ul style="list-style-type: none"> <li>Pt100/1000, Ni100/1000, JPt100, LG-Ni1000, Cu50/100, resistor 0~300/3000Ω</li> </ul>							
AS04RTD-A	24 VDC	4 CH	PT, NI temperature sensor module		3 653.00		
AS06RTD-A	24 VDC	6 CH	PT, NI temperature sensor module		4 556.00		
<b>Thermocouple temperature sensor</b>		±0.5% overall accuracy					
<ul style="list-style-type: none"> <li>Thermocouple - J, K, R, S, T, E, N, B; ±100mV</li> </ul>							
AS04TC-A	24 VDC	4 CH	thermocouple temperature sensor module		3 653.00		
AS08TC-A	24 VDC	8 CH	thermocouple temperature sensor module		5 473.00		
<b>Load cell module</b>		selectable signal input ranges		(W) 35 mm			
<ul style="list-style-type: none"> <li>Resolution: 24-bit for hardware (ADC), 32-bit for data output</li> <li>High speed dynamic measurement</li> </ul>							
AS02LC-A	24 VDC	2 CH	16bit load cell module (for 4 / 6 wire load cell sensors)		6 005.00		



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
- Utilizes 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
- 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			function blocks	extension backplane	price			
			(K words)								
			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	7 374.00
AHCPU511-RS2	1280	96k	48	48	1024	1024	1	8 783.00

**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	17 970.00
AHCPU511-EN	1280	96k	48	48	1024	1024	1	19 530.00
AHCPU521-EN	2304	192k	96	96	2048	2048	3	22 110.00
AHCPU531-EN	4352	384k	128	128	4096	4096	7	24 730.00

**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
		main	remote	power	
AHBP04M1-5A	4	main	remote	power	3 421.00
AHBP06M1-5A	6	main	remote	power	4 493.00
AHBP08M1-5A	8	main	remote	power	5 348.00
AHBP12M1-5A	12	main	remote	power	7 485.00

**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	5 131.00
AHBP08E1-5A*	8	ext. backplane supports CPU, remote I/O modules	5 986.00

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

- Power supply for the modules on the racks

type	power	supply			price
		AC	VDC	frequency	
AHPS05-5A	60W	100 - 240 VAC	50/60Hz	power supply module	3 848.00
AHPS15-5A	36W	24 VDC		power supply module	3 687.00

\* 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								
<b>Input modules</b>										
<ul style="list-style-type: none"> <li>• PNP/NPN mixed mode design</li> <li>• Individual LED status indicator</li> </ul>										
<b>AH16AM10N-5A</b>	16	-	24 VDC 5mA	JIS removable	digital input module	<b>2 751.00</b>				
<b>AH16AM30N-5A</b>	16	-	120 - 240 VAC	JIS removable	digital input module	<b>4 059.00</b>				
<b>AH16AR10N-5A</b>	16	-	24 VDC 5mA	JIS removable	interruption card	<b>3 575.00</b>				
<b>AH32AM10N-5C*</b>	32	-	24 VDC 5mA	MIL terminal	digital input module	<b>5 161.00</b>				
<b>AH64AM10N-5C*</b>	64	-	24 VDC 3.2mA	MIL terminal	digital input module	<b>8 260.00</b>				
<b>Output modules</b>										
<ul style="list-style-type: none"> <li>• Supports keep-last-value function when CPU shuts down</li> <li>• Individual LED status indicator</li> </ul>										
<b>AH16AN01R-5A</b>	-	16	Relay 2A	JIS removable	digital output module	<b>3 842.00</b>				
<b>AH16AN01T-5A</b>	-	16	NPN ( <i>Sink</i> )	JIS removable	digital output module	<b>3 043.00</b>				
<b>AH16AN01P-5A</b>	-	16	PNP ( <i>Source</i> )	JIS removable	digital output module	<b>3 532.00</b>				
<b>AH16AN01S-5A</b>	-	16	TRIAC	JIS removable	digital output module	<b>4 133.00</b>				
<b>AH32AN02T-5C*</b>	-	32	NPN ( <i>Sink</i> )	MIL terminal	digital output module	<b>5 161.00</b>				
<b>AH32AN02P-5C*</b>	-	32	PNP ( <i>Source</i> )	MIL terminal	digital output module	<b>5 899.00</b>				
<b>AH64AN02T-5C*</b>	-	64	NPN ( <i>Sink</i> )	MIL terminal	digital output module	<b>8 260.00</b>				
<b>AH64AN02P-5C*</b>	-	64	PNP ( <i>Source</i> )	MIL terminal	digital output module	<b>9 443.00</b>				
<b>Mixed Input/Output</b>										
<ul style="list-style-type: none"> <li>• PNP/NPN mixed mode design</li> <li>• Individual LED status indicator</li> <li>• Supports keep-last-value function when CPU shuts down</li> </ul>										
<b>AH16AP11R-5A</b>	8	8	Relay 2A	JIS removable	digital I/O module	<b>3 297.00</b>				
<b>AH16AP11T-5A</b>	8	8	NPN ( <i>Sink</i> )	JIS removable	digital I/O module	<b>2 900.00</b>				
<b>AH16AP11P-5A</b>	8	8	PNP ( <i>Source</i> )	JIS removable	digital I/O module	<b>3 142.00</b>				

*\* Pin head termination. For other cable types and lengths, see C-14***Analog I/O modules***supports hot-swapping function*

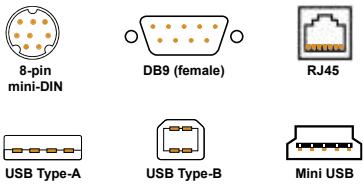
<ul style="list-style-type: none"> <li>• Conversion time: 150 <math>\mu</math>s/channel</li> <li>• Diagnose function</li> <li>• Module status LED display</li> <li>• Isolated signal design</li> <li>• Supports interrupt function</li> </ul>						
<b>Analog input modules</b>						
<i>Hardware resolution: 16-bit</i>						
<ul style="list-style-type: none"> <li>• Accuracy (at 25°C)</li> <li>• Voltage mode: <math>\pm 0.02\%</math> (<i>full scale</i>)</li> <li>• Current mode: <math>\pm 0.05\%</math> (<i>full scale</i>)</li> </ul>						
<b>AH04AD-5A</b>	4	-	0/1-5V, 0-10V, 0/4-20mA	JIS removable	analog input module	<b>8 380.00</b>
<b>AH08AD-5B</b>	8	-	0/1-5V, 0-10V	JIS removable	analog input module	<b>12 580.00</b>
<b>AH08AD-5C</b>	8	-	0/4-20mA	JIS removable	analog input module	<b>12 600.00</b>
<b>Analog Output modules</b>						
<i>Hardware resolution: 16-bit</i>						
<ul style="list-style-type: none"> <li>• Supports keep-last-value function when CPU shuts down</li> <li>• Accuracy (at 25°C)</li> <li>• Voltage mode: <math>\pm 0.05\%</math> (<i>full scale</i>)</li> <li>• Current mode: <math>\pm 0.1\%</math> (<i>full scale</i>)</li> </ul>						
<b>AH04DA-5A</b>	-	4	0/1-5V, 0-10V, 0/4-20mA	JIS removable	analog output module	<b>11 260.00</b>
<b>AH08DA-5B</b>	-	8	0/1-5V, 0-10V	JIS removable	analog output module	<b>13 290.00</b>
<b>AH08DA-5C</b>	-	8	0/4-20mA	JIS removable	analog output module	<b>13 270.00</b>
<b>Mixed Analog Input/Output</b>						
<i>Hardware resolution: 16-bit</i>						
<b>AH06XA-5A</b>	4	2	0/1-5V, 0-10V, 0/4-20mA	JIS removable	analog I/O module	<b>12 360.00</b>

**Temperature measurement modules***Hardware resolution: 20-bit*

<ul style="list-style-type: none"> <li>• Accuracy: <math>\pm 0.06\%</math> (<i>full scale</i>)</li> <li>• Diagnose function</li> <li>• Module status LED display</li> <li>• Signal isolated design</li> <li>• PID function</li> <li>• Supports disconnection detect function</li> </ul>						
<b>2/3/4-wire RTD input</b>						
<ul style="list-style-type: none"> <li>• PT100/1000, Ni100/1000, 0-300<math>\Omega</math></li> </ul>						
<b>AH04PT-5A</b>	4	-	PT100/1000, Ni100/1000, 0-300 $\Omega$	JIS removable	temperature module	<b>12 510.00</b>
<b>Thermocouple</b>						
<b>AH04TC-5A</b>	4	-	J,K,R,S,T,E,N	JIS removable	temperature module	<b>9 046.00</b>
<b>AH08TC-5A</b>	8	-	J,K,R,S,T,E,N	JIS removable	temperature module	<b>11 730.00</b>

<b>AH500 accessories</b>				
type	signals	terminal type	description	price
<b>Network modules</b>				
AH10EN-5A	<ul style="list-style-type: none"> <li>Diagnose function</li> <li>Module status LED indicator</li> <li>Supports hot-swapping function</li> </ul>	Ethernet 100Mbps comm. port x 2 / Etherlink , MODBUS TCP function / Automatic data exchange function / NTP network time correction function / SNMP/E-mail Filter function	communication module (Master/Slave)	<b>13 430.00</b>
<b>Remote I/O RTU modules</b>				
AHRTU-DNET-5A	<ul style="list-style-type: none"> <li>Diagnose function</li> <li>Supports max. speed of 1Mbps</li> <li>Module status LED indicator</li> </ul>	Profibus DP DeviceNet	remote Input/Output module remote Input/Output module	<b>7 776.00</b> <b>5 019.00</b>
<b>Motion control modules</b>				
<b>High speed counters</b>				
AH02HC-5A AH04HC-5A	<ul style="list-style-type: none"> <li>Diagnose function</li> <li>UD/PD/AB/4AB modes</li> <li>Supports interrupt function</li> <li>Module status LED indicator</li> </ul>	HDC terminal HDC terminal	2 high speed counter channels (200K Hz) input 4 high speed counter channels (200K Hz) input	<b>13 430.00</b> <b>20 120.00</b>
<b>Pulse train motion control modules</b>				
AHACAB06-5A	<ul style="list-style-type: none"> <li>Supports G-Code</li> <li>Diagnose function</li> <li>Supports Micro SD card</li> <li>Module status LED indicator</li> <li>Supports hot-swapping function</li> <li>Built-in Ethernet communication port</li> <li>Built-in Mini USB programming communication port</li> </ul>	HDC terminal HDC terminal	6-axis pulse train motion control module 12-axis DMCNET communication motion control	<b>24 100.00</b> <b>39 340.00</b>
<b>Cables for AH500 PLC</b>				
type	std. length	for which modules		
<b>Cables for extending main to extension backplane</b>				
AHACAB06-5A AHACAB10-5A AHACAB15-5A AHACAB30-5A	0.6 met 1.0 met 1.5 met 3.0 met	AHBP06E1-5A / AHBP08E1-5A AHBP06E1-5A / AHBP08E1-5A AHBP06E1-5A / AHBP08E1-5A AHBP06E1-5A / AHBP08E1-5A		
<b>Accessories</b>				
AHASP01-5A AHADINADP1-5A FMC-SD1G HASP-20-OPC01	space module to protect empty backplane slots DIN rail adaptor for rack installation SD memory card capacity 1GB Delta OPC server for AH500 series			<b>316.00</b> <b>248.00</b> <b>2 008.00</b> <b>6 191.00</b>

**Comm. cables connector's type**



UC-PRG015-01A



UC-PRG030-02A



UC-PRG030-20A



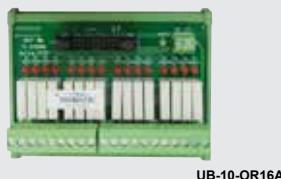
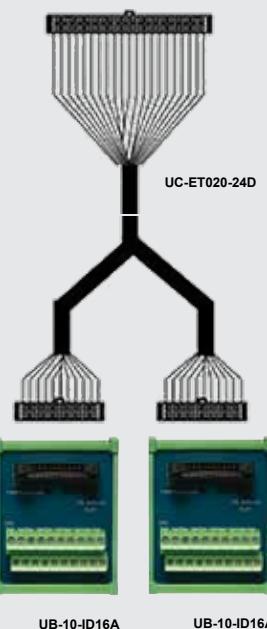
**Communication cables for PLC's**

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	RS232	RJ45	Length (met)	for PLC/HMI	price
<b>Programming cables</b>																	
UC-PRG020-12A	•	•							•						2	•	777.00
UC-PRG015-01A			•						•						1.5	•	188.00
UC-PRG030-01A		•							•						3	•	208.00
UC-PRG030-02A			•						•						3	•	208.00
UC-PRG030-10A	•								•						3	•	312.00
UC-PRG030-20A			•						•						3	•	479.00
IFD6500		•							•						•	•	1 525.00
IFD8500		•	•						•						•	•	1 647.00
<b>Communication cables</b>																	
UC-MS010-02A*	•								•						1	•	187.00
UC-MS020-06A	•								•						2	•	187.00
UC-MS030-01A	•								•						3	•	187.00
UC-MS030-03A	•								•						3	•	211.00
UC-MS030-04A		•							•						3	•	211.00
UC-MS030-06A	•								•						3	•	211.00

\* 90° angled connector

**Programming cables**      **PLC to PC \ HMI to PC**

type	from	to	description	length	price
<b>For PLC's - SS2, SA2, SV2, SX, SX2, MC, ES2, EC3, AS200/300, AH500</b>					
UC-PRG020-12A	mini-DIN	USB (type-A)	program. cable PLC to PC	2 met	777.00
<b>For PLC's - SE, SX2, AS200/300, AH500</b>					
UC-PRG015-01A	mini-USB	USB (type-A)	program. cable PLC to PC	1.5 met	188.00
UC-PRG030-01A	mini-USB	USB (type-A)	program. cable PLC to PC	3 met	208.00
UC-PRG030-02A	USB (type-B)	USB (type-A)	program. cable HMI to PC	3 met	208.00
UC-PRG030-20A	RJ45	RJ45	program. cable HMI to PC	3 met	479.00
UC-PRG030-10A	DB9 (female)	DB9 (female)	RS-232 program. cable	3 met	312.00
<b>Communication cables (RS-232)</b> <b>PLC to HMI</b>					
<b>For PLC's - SS2, SA2, SV2, SX2, MC, ES2, EC3, MC</b>					
UC-MS010-02A*	male mini-DIN	female DB9	program. cable PLC to HMI	1 met	187.00
UC-MS030-01A	male mini-DIN	female DB9	program. cable PLC to HMI	3 met	187.00
* 90° mini-DIN plug (male)					
<b>Exclusive to DOP103 HMI (RS-232)</b>					
UC-MS020-06A	male mini-DIN	male DB9	program. cable PLC to HMI	2 met	187.00
UC-MS030-06A	male mini-DIN	male DB9	program. cable PLC to HMI	3 met	211.00
<b>For PLC's - SE, MC, AS200/300, AH500 (EN)</b>					
UC-PRG030-20A	RJ45	RJ45	program. cable PLC to HMI	2 met	479.00
<b>Industrial network cables</b>					
UC-CMC003-01A	RJ45	RJ45	CANopen comm. cable	0.3 m	136.00
UC-CMC005-01A	RJ45	RJ45	CANopen comm. cable	0.5 m	136.00
UC-CMC010-01A	RJ45	RJ45	CANopen comm. cable	1.0 m	177.00
UC-CMC020-01A	RJ45	RJ45	CANopen comm. cable	2.0 m	260.00
UC-CMC030-01A	RJ45	RJ45	CANopen comm. cable	3.0 m	469.00
<b>For PLC's - AH500</b>					
UC-PRG030-10A	DB9 (female)	DB9 (female)	RS-232 program. cable	3 met	312.00
<b>Adaptors, splitters and terminal resistors</b>					
TAP-CN01			DeviceNet CANopen distribution box, 1 to 2 (Terminator 121Ω)		1 566.00
TAP-CN02			DeviceNet CANopen distribution box, 1 to 4 (Terminator 121Ω)		2 407.00
TAP-CN03			DeviceNet CANopen distribution box, (RJ45) 1 to 4 (Terminator 121Ω)		1 385.00
TAP-TR01			CANopen (Terminator, 121 W)		59.00



### I/O external screw terminal module

terminal module	Input unit	Output unit	applicable module / CPU	cable	price
<b>UB-10-ID16A</b> Supports I/O cards through terminal	16 or 16		AS332 CPU, AS32AM, AS32AN AS64AM, AS64AN, DVP32SN11TN AH32AN, AH64AN	UC-ET0◆0-24D UC-ET010-24C	729.00
<b>UB-10-ID32A</b> Supports I/O cards through terminal	32	—	AS32AM, AS64AM, DVP32SM AH32AM10N-5C, AH64AM10N-5C	UC-ET0◆0-24B UC-ET010-24A	1 031.00
<b>UB-10-OR16A</b> 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	1 994.00
<b>UB-10-OR16B</b> Supports Output Cards PNP switching	—	16 relay	AS332P-A, AH32AN02P-5C, AH64AN02P-5C	UC-ET0◆0-24D UC-ET010-24C	1 994.00
<b>UB-10-OT32A</b> 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	1 031.00
<b>UB-10-IO32D</b> Supports I/O cards through terminal	16 and 16		AS332 CPU	Adaptor board	1 757.00

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

### For motion control modules

type	inputs conn.	outputs conn.	output type	cable type	—	—
UB-10-IO16C	differential	MDR36	transistor	UC-ET010-13B	—	1 040.00
UB-10-IO24C	differential	MDR50	transistor	UC-ET010-15B	—	1 145.00

### Cables for terminal modules PLC to terminal board

type	from	to	description	length	—	—
UC-ET010-24C	32 ID40	2 x 16 ID20	ribbon cable for terminal module	1 met	573.00	
UC-ET020-24D	32 ID40	2 x 16 ID20	shielded cable for term. module	2 met	1 873.00	
UC-ET030-24D	32 ID40	2 x 16 ID20	shielded cable for term. module	3 met	2 185.00	
UC-ET010-24A	32 ID40	32 ID40	ribbon cable for terminal module	1 met	521.00	
UC-ET020-24B	32 ID40	32 ID40	shielded cable for term. module	2 met	1 249.00	
UC-ET030-24B	32 ID40	32 ID40	shielded cable for term. module	3 met	1 457.00	
UC-ET010-13B	MDR36	MDR36	cable for UB-10-IO16C board	1 met	1 903.00	
UC-ET010-15B	MDR50	MDR50	cable for UB-10-IO24C board	2 met	2 289.00	

## 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 digitalization

Logistic applications: Transportation/stereoscopic warehouse

Inspection and monitoring of electronic equipment

Equipment monitoring systems



new

### 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 the 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

<b>DIAVH-PPC10J103</b>	10"	128GB	No Win	Celeron	58	198	258	<b>26 010.00</b>
<b>DIAVH-PPC15J103</b>	15"	128GB	No Win	Celeron	59	300	380	<b>34 940.00</b>

### Advanced PPC

<b>DIAVH-PPC153103A</b>	15"	256GB	No Win	I3 (6 <sup>th</sup> GEN)	59	300	380	<b>50 770.00</b>
<b>DIAVH-PPC195104</b>	19"	512GB	Win 10	I5 (6 <sup>th</sup> GEN)	57	308	475	<b>84 820.00</b>

### 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

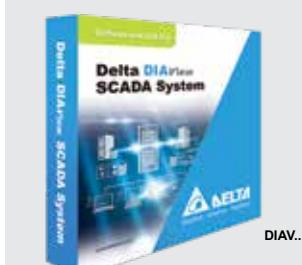
type	hard drive SSD MSATA	OS	CPU intel	dimensions (mm) (H) (W) (D)			
<b>DIAVH-IPC005104</b>	512GB SSD	Win Pro	I5 (6 <sup>th</sup> GEN)	211.5	200	67	<b>59 560.00</b>

### DIAvie SCADA system

The DIAvie 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 authorizations
- Stable industrial communication, seamless integration with Delta PLC & other products

type	license type	description			No. tags	
<b>DIAV-010640000C</b>	64 points	DIAvie SCADA license for	64 tags		<b>6 314.00</b>	
<b>DIAV-011280000C</b>	128 points	DIAvie SCADA license for	128 tags		<b>16 260.00</b>	
<b>DIAV-012560000C</b>	256 points	DIAvie SCADA license for	256 tags		<b>25 530.00</b>	
<b>DIAV-015120000C</b>	512 points	DIAvie SCADA license for	512 tags		<b>34 790.00</b>	
<b>DIAV-0101K0000C</b>	1000 points	DIAvie SCADA license for	1000 tags		<b>46 350.00</b>	
<b>DIAV-011K50000C</b>	1500 points	DIAvie SCADA license for	1500 tags		<b>54 070.00</b>	
<b>DIAV-0103K0000C</b>	3000 points	DIAvie SCADA license for	3000 tags		<b>58 770.00</b>	
<b>DIAV-0199K0000C</b>	unlimited	DIAvie SCADA license for	unlimited		<b>62 600.00</b>	





DOP-103WQ

new



DOP-107EG



DOP-110WS



DOP-W127B



DELTA-SW

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

Delta DOP-100 series HMI's provide various touch screens in multiple dimensions and colours providing fast, convenient control functions for industrial automation machines. 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

DOP-B - DOP-100  
Transition document

type	display size	version	Ethernet	host ports SD/USB	description	price					
<b>DOP-103</b> (H) 103 x (W) 137 x (D) 31 mm				panel cutout: 92.8 x 118.8 mm							
• Resolution: 480 x 272 pixels											
DOP-103BQ	4.3" (95 x 54)	standard	–	USB	2x COM ports	<b>4 079.00</b>					
DOP-103WQ	4.3" (95 x 54)	hi performance	Yes	USB	2x COM ports	<b>5 222.00</b>					
<b>DOP-107</b> (H) 161 x (W) 215 x (D) 51.2 mm				panel cutout: 142.9 x 196.9 mm							
• Resolution: 800 x 480 pixels											
DOP-107BV	7" (154 x 86)	basic	–	USB	2x COM ports	<b>4 464.00</b>					
DOP-107EV	7" (154 x 86)	standard	Yes	SD/USB	3x COM ports	<b>6 465.00</b>					
<b>Squared version</b> (H) 144 x (W) 184 x (D) 51.1 mm				panel cutout: 132.4 x 172.4 mm							
DOP-107EG*	7" (141 x 106)	standard	Yes	SD/USB	3x COM ports	<b>7 012.00</b>					
<b>Narrow border</b> (H) 136 x (W) 196 x (D) 32 mm				panel cutout: 126.8 x 186.8 mm							
DOP-107WV	7" (154 x 86)	hi performance	Yes	SD/USB	3x COM ports	<b>7 398.00</b>					
<b>DOP-110</b> (H) 200 x (W) 272 x (D) 51.9 mm				panel cutout: 189.3 x 261.3 mm							
• Resolution: 1024 x 600 pixels											
DOP-110CS	10" (226 x 128)	standard	–	–	3x COM ports	<b>9 247.00</b>					
DOP-110IS*	10" (226 x 128)	standard	Yes	SD/USB	3x COM ports	<b>10 530.00</b>					
<b>Narrow border</b> (H) 180 x (W) 270 x (D) 47.75 mm				panel cutout: 170.5 x 255.5 mm							
DOP-110WS	10" (225 x 128)	hi performance	Yes	SD/USB	3x COM ports	<b>12 820.00</b>					
<b>DOP100-MX Multi-media type</b>											
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.											
<ul style="list-style-type: none"> <li>• 1024 x 768 pixel 8GB ROM</li> <li>• 1G RAM DDR3 1000Mhz</li> <li>• Colour- 24bit</li> <li>• Dual core 1GHz speed processor for higher computing performance</li> <li>• Multi-media functions: Camera (<i>analog / IP</i>),video playback , VGA input, event trigger</li> <li>• Multiple Interfaces: 4 COM ports, 2 Ethernet ports, 1 Mini USBMini Slave 2.0, 1 USB Host 2.0</li> </ul>											
<b>12-inch</b> (H) 317.4 x (W) 246.4 x (D) 52.7 mm				panel cutout: 302.7 x 228.7 mm							
DOP-112MX	12"(245 x 184)	advanced	Yes	SD/USB	4 x COM ports	<b>27 850.00</b>					
<b>15-inch</b> (H) 387.7 x (W) 295.7 x (D) 63.5 mm				panel cutout: 372.4 x 283.7 mm							
DOP-115MX	15" (304 x 228)	advanced	Yes	SD/USB	4 x COM ports	<b>31 660.00</b>					
<b>DOP-W Large size HMI's</b>											
The DOP-W series offers large-size HMI's with high resolution and high brightness touch screens the ultimate in industrial versatility.											
<ul style="list-style-type: none"> <li>• Multiple Interfaces: 2 COM ports, 2 Ethernet ports, 3 USB Host 2.0 ports, SD card</li> </ul>											
<b>12-inch</b> (H) 313 x (W) 239.5 x (D) 67.5 mm				panel cutout: 302.7 x 228.7mm							
DOP-W127B*	12"(245 x 184)	advanced	Yes	SD/USB	2 x COM ports	<b>28 880.00</b>					
<b>15-inch</b> (H) 384.4 x (W) 295.8 x (D) 67.8 mm				panel cutout: 372.4 x 283.7 mm							
DOP-W157B*	15" (304 x 228)	advanced	Yes	SD/USB	2 x COM ports	<b>32 310.00</b>					
* Incorporates audio stereo output											
<b>Accessories for above HMI's</b>											
DELTA-SW	editing/design software for DOP/TP series HMI's					<b>295.00</b>					
New upgraded configuration software provides complete functions in a very user-friendly operator interface											
Note: For HMI's cables, see C-14											



TP04G-AS2



TP08G-BT2



TP04P-16TP1R



TP70P-16TP1R



DELTA-SW

### 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 (text panel)

type	display size inch / (mm)	function keys	text lines	description	price
TP Text Panels offer simple operation/control functions to support various communication protocols they offer cost effective, high flexibility solutions In control systems, improving working efficiency.					
• 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					
<b>TP04G-AS2</b>	3.0" (67 x 32)	12	4 line	operational interface panel	<b>3 534.00</b>
<b>TP04G-AL2</b>	4.1" (102 x 35)	10	4 line	operational interface panel	<b>3 195.00</b>
<b>TP04G-AL-C*</b>	4.1" (102 x 35)	10	4 line	operational interface panel	<b>2 740.00</b>
<b>TP08G-BT2</b>	3.8" (83 x 41)	24	8 line	operational interface panel	<b>3 878.00</b>

\* With RS232 communication port only.

### Text Panel with built-in PLC functionality

4.1" STN-LCD

- 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
	inputs	outputs	inputs	outputs		
<b>TP04P-16TP1R</b>	8	8	—	—	10	text panel/PLC
<b>TP04P-22XA1R</b>	8	8	4	2	10	text panel/PLC
<b>TP04P-32TP1R</b>	16	16	—	—	10	text panel/PLC

### 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
	inputs	outputs	inputs	outputs		
<b>TP70P-16TP1R</b>	8	8	—	—	—	combination HMI/PLC
<b>TP70P-32TP1R</b>	16	16	—	—	—	combination HMI/PLC
<b>TP70P-21EX1R*</b>	8	8	2	1	2	combination HMI/PLC
<b>TP70P-22XA1R</b>	8	8	4	2	—	combination HMI/PLC

\* Only mA analogs

### Accessories

<b>TP-PCC01</b>	program / data backup module	<b>1 461.00</b>
<b>UC-PRG020-12A</b>	TP series program upload/download cable (RS-232)	<b>777.00</b>
<b>UC-PRG030-02A</b>	USB type B to USB type A - programming TP-04P/70P	<b>208.00</b>
<b>DELTA-SW</b>	editing/design software for DOP/TP series HMI's	<b>295.00</b>





DVS-005I00



DVS-016W01



DVS-G406W01-2GF




DVS-110W02-3SFP

### DVS series - Unmanaged Industrial Ethernet switches

DVS series industrial 5, 8 and 16-port Ethernet switches support IEEE 802.3/802.3u/802.3x with 10/100M, full/half-duplex, MDI/MDIX auto-sensing RJ45 ports. Specifically designed for harsh and hazardous industrial environments.

- RJ45 connector 10/100Base-T, auto MDI/MDI-X, auto negotiation
- Std compliance: IEEE 802.3 10Base-T, 802.3u 100Base-T(X) and 100Base-FX, 802.3x flow control
- Housing: industrial DIN-rail mounting, IP40 aluminium metal case

type	No. Ports	operating temperature	alarm contact	fibre type	description	price
<b>Entry level Ethernet switches</b> (H) 145.3 x (W) 45 x (D) 108.7 mm						

- Input voltage: 12 to 48 VDC
- Dimensions: DVS-G... - (H) 110x (W) 28 x (D) 75 mm

DVS-G005I00C*	5	-20 to +70°C	–	–	compact Gigabit Ethernet switch	3 014.00
DVS-005I00	5	-10 to +60°C	–	–	entry level Ethernet switch	1 889.00
DVS-008I00	8	-10 to +60°C	–	–	entry level Ethernet switch	2 693.00
DVS-005W01*	5	-40 to +75°C	yes	–	standard Ethernet switch	4 083.00

\* Redundant dual inputs.

### Standard Ethernet switches

(H) 145.3 x (W) 75 x (D) 108.7 mm

- Supports IEEE 802.1p based QoS for packet forwarding precedence
- Input Voltage: 2 sets, 12 to 48 VDC redundant terminal block input

DVS-008W01	8	-40 to +75°C	yes	–	standard Ethernet switch	5 794.00
DVS-016W01	16	-40 to +75°C	yes	–	standard Ethernet switch	9 865.00

### Fibre series Ethernet switches

- Fibre Optic Ports: 1 100Base-FX (SC connector) MultiMode – 5 km

DVS-008W01-MC01	8	-40 to +75°C	yes	1 x SC	Ethernet switch with fibre port	9 672.00
DVS-016W01-MC01	16	-40 to +75°C	yes	1 x SC	Ethernet switch with fibre port	12 820.00

- Fibre Optic Ports: 1 100Base-FX (SC connector) SingleMode – 30 km

DVS-008W01-SC01	8	-40 to +75°C	yes	1 x SC	Ethernet switch with fibre port	10 720.00
DVS-016W01-SC01	16	-40 to +75°C	yes	1 x SC	Ethernet switch with fibre port	14 510.00

### Gigabit Ethernet switches

(H) 145.3 x (W) 45 x (D) 108.7 mm

- 10/100/1000Base-T, auto MDI/MDI-X, auto negotiation
- Input voltage: 12 to 48 VDC (1 set)
- 10Gbps, Wired speed

DVS-G005I00A	5	-40 to +75°C	–	–	Gigabit Ethernet switch	4 753.00
DVS-G008I00A	8	-40 to +75°C	–	–	Gigabit Ethernet switch	8 369.00

### PoE Gigabit Ethernet switches

(H) 144.3 x (W) 26.1 x (D) 94.9 mm

- 10/100/1000Base-T PoE(PSE) ports. 2 x 100/1000Base-SFP (only DVS-G406W01-2-GF)
- Based on IEEE 802.3at standard up to 30Watts per port. Backward compatible with IEEE 802.3af
- 48 to 57 VDC redundant terminal block power input

DVS-G406W01-2GF	6	-40 to +70°C	yes	2 x SFP	PoE Gigabit Ethernet switch	11 610.00
DVS-G408W01	8	-40 to +70°C	yes	–	PoE Gigabit Ethernet switch	12 100.00

### Managed Ethernet switches

(H) 145.3 x (W) 75 x (D) 109 mm

High-end Layer 2 management, redundant self-healing ring and a wide-operating temperature.

- Supports EtherNet/IP and MODBUS TCP protocols for remote management by SCADA etc.
- IEEE 802.1X, TACACS+, SSH, HTTPS and SNMP v3 for enhanced network security
- Compatible with most industrial protocols, including EtherNet/IP, Profinet, EtherCAT, CC-LINK IE, DNP 3.0
- RJ45 ports: 10/100/1000Base-T, auto MDI/MDI-X, auto negotiation
- SFP Ports: 100/1000Base-SFP (2x DVP108, 3x DVP110)

DVS-108W02-2SFP	6	-40 to +75°C	yes	2 x SFP	managed Ethernet switch	19 830.00
DVS-110W02-3SFP	7	-40 to +75°C	yes	3 x SFP	managed Ethernet switch	23 770.00

### 1-port Gigabit Ethernet SFP fibre transceiver

type	operating temperature	interface			
		connectors	fibre type	max. link distance	
LCP-1250A4FDRJ	-5°C to 70°C	duplex LC	multi mode	550 m	2 144.00
LCP-1250B4QDRJ	-5°C to 70°C	duplex LC	single mode	10 km	3 513.00

Communication devices				
type	No. Ports	operating temperature	description	price
<b>Wireless AP/WDS/Client/Gateway</b>		Industrial IEEE 802.11 a/b/g/n		
<p>The EEE 802.11n with better data rates by Multiple-input and Multiple-output (MIMO) technology. Supporting bandwidths from 20 MHz to 40 MHz doubling the speed of transmission performance.</p> <ul style="list-style-type: none"> <li>Compliant with IEEE 802.11n wireless technology capable of up to 450Mbps data rate</li> <li>Multiple Wireless modes: AP, Client CPE, WDS P-T-P, WDS P-T-MP, Repeater</li> <li>Supports 2 x ports RS-232/422/485-to-Ethernet Device Server</li> <li>Built-in 2 x ports MODBUS ASCII/RTU to MODBUS TCP Gateway</li> <li>Built-in 20MB buffer memory to avoid data loss when connection is down</li> <li>SNTP (<i>simple network time protocol</i>) for network clock synchronization</li> <li>USB console interface for easy connection with laptops</li> <li>Antennas: 3 x 2dBi omni-directional, RP-SMA(<i>male</i>) connector</li> </ul>				
DVW-W02W2-E2	2	-40 to +75°C	wireless AP/WDS/Client/Gateway	<b>16 060.00</b>
<b>DX-series - Industrial cloud solutions</b> <i>(Industrial DIN-rail and wall mounting)</i>				
<ul style="list-style-type: none"> <li>Data acquisition equipment connected to cloud servers.</li> <li>Supports a two-way data collection channel between the device and the cloud</li> <li>Supports MODBUS TCP and MODBUS RTU protocols</li> <li>Various peripheral interfaces include RS-485, RS-232 and LAN ports</li> <li>Built-in RTC and supports NTP time synchronization over a network</li> <li>Supports TCP/IP, UDP, ICMP, DHCP, HTTP, DNS, SSH, TCP and Modbus RTU protocols</li> </ul>				
<b>Industrial Ethernet cloud router</b>		(4-Port LAN FE + 1-Port WAN FE + 1 RS-232 + 1 R-S485)		
<p>Wired industrial router with multiple application interfaces, including Ethernet, RS-232 and RS-485 serial interfaces. For mobile network interconnection, industrial automation, video surveillance. Safe, reliable data transmission, remote management/configuration, maintenance can be realized.</p> <ul style="list-style-type: none"> <li>Flexible connection method over WAN ports, e.g. static IP, DHCP client and more</li> <li>Customisable SMS alarm functions</li> <li>SD card for data backup and quick installation</li> </ul>				
DX-2300LN-WW	5	-20 to +70°C	cloud based Industrial VPN router	<b>10 530.00</b>
<b>Industrial 3G cloud router</b>		(1-Port FE + 1-Port RS-232 + 1-Port RS-485)		
<ul style="list-style-type: none"> <li>UMTS/HSPA+ 3G technology, supports a wide range of bands           <ul style="list-style-type: none"> <li>Downward compatible with GSM / GPRS / EDGE 2G network</li> </ul> </li> </ul>				
DX-2100RW-WW	1	-20 to +70°C	cloud based Industrial 3G router	<b>13 000.00</b>
<b>Industrial 3G/WAN</b>		(1-Port FE + 1-Port RS-232 + 1-Port RS-485)		
<p><i>As above but with following additions:</i></p> <ul style="list-style-type: none"> <li>Dual redundancy design : seamless switch between two 3G/VPN for continuous online</li> </ul>				
DX-3001H9	5	-20 to +70°C	cloud based industrial 3G/WAN router	<b>20 120.00</b>
<b>Industrial FieldBus solution</b>				
<p>Industrial automation applications for converting communication signals of automation, servo and control devices. IFD communication modules are robust, high quality devices offering stable communication with in-built protection.</p> <p>Excellent signal processing and isolation properties ensure correct, reliable data transmission.</p>				
type	from	to	description	
<b>Ethernet to serial Modbus RS-232/485 converters (full isolation)</b>				
IFD9506	RS-232/485	MODBUS TCP	converter (inc. power supply)	<b>4 965.00</b>
IFD9507	RS-232/485	EtherNet/IP	MODBUS converter (inc. power supply)	<b>4 965.00</b>
<i>Note: To configure IFD devices you need to install DCI/Soft</i>				
<b>Serial to serial communication converters</b>				
IFD6500	USB	RS-485	converter ( <i>no ext. power supply required</i> )	<b>1 525.00</b>
IFD6530	USB	RS-485	with 9V power supply (115.2k bps Max.)	<b>2 558.00</b>
IFD8500	RS-232	RS-422/485	RS-232 isolated converter	<b>1 647.00</b>
IFD8520	RS-232	RS-422/485	isolated ( <i>addressable</i> ) converter	<b>2 173.00</b>
IFD8510	RS-485	isolated repeater/amplifier ( <i>extends transmission to 1.2 km</i> )		<b>1 899.00</b>
<i>Note: IFD65xx requires special driver to work with Windows OS, available on Delta website.</i>				
<b>CAN / Devicenet to serial converters</b>				
IFD6503	USB	CAN	CAN to serial converter	<b>6 641.00</b>
IFD9502	RS-232/485	DeviceNet	Devicenet to serial converter	<b>4 083.00</b>
IFD9503	RS-232/485	CANopen	CANopen to serial converter	<b>3 213.00</b>



ASD-B2-0421-B



ASD-A2-0421-M



ECMA-C21010RS



ECMA-E11315RS

**ASD servo drives (200W - 15kW) *high precision, total control***

- Speed, Torque and position modes
- Digital keypad for parameter input and operational data
- External Pulse input control , 200kpps Open Collector and 500 k / 4M kpps Line driver
- ASD-A2 and B2 servo drives can be used with 17bit (160.000ppr) or 20 bit (1.280.000 ppr) servo motors

type	input power	input power	bandwidth	description	price
<b>B2 series - Econo servo drives (Modbus communication)</b>					
• Digital - 9x Inputs 6x Outputs / Analog - 2x I/O's					
<b>ASD-B2-0221-B</b>	200W	220V 1ph	550Hz	B2 series econo servo drives	<b>8 084.00</b>
<b>ASD-B2-0421-B</b>	400W	220V 1ph	550Hz	B2 series econo servo drives	<b>8 334.00</b>
<b>ASD-B2-0721-B</b>	700W	220V 1ph	550Hz	B2 series econo servo drives	<b>9 526.00</b>
<b>ASD-B2-1021-B</b>	1.0kW	220V 1ph	550Hz	B2 series econo servo drives	<b>9 637.00</b>
<b>ASD-B2-1521-B</b>	1.5kW	220V 1ph	550Hz	B2 series econo servo drives	<b>12 290.00</b>
<b>A2 series - Advanced servo drives (Modbus, CANopen, USB communication)</b>					
• Flexible position register control Mode PR mode					
• Digital - 9x Inputs 5x Outputs / Analog - 2x I/O's					
<b>ASD-A2-0121-M</b>	100W	220V 1ph	1kHz	A2 high advanced servo drives	<b>9 824.00</b>
<b>ASD-A2-0221-M</b>	200W	220V 1ph	1kHz	A2 high advanced servo drives	<b>9 824.00</b>
<b>ASD-A2-0421-M</b>	400W	220V 1ph	1kHz	A2 high advanced servo drives	<b>10 120.00</b>
<b>ASD-A2-0721-M</b>	750W	220V 1ph	1kHz	A2 high advanced servo drives	<b>10 850.00</b>
<b>ASD-A2-1021-M</b>	1.0kW	220V 1ph	1kHz	A2 high advanced servo drives	<b>11 210.00</b>
<b>ASD-A2-1521-M</b>	1.5kW	220V 1ph	1kHz	A2 high advanced servo drives	<b>14 140.00</b>
<b>ASD-A2-2043-M</b>	2.0kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>20 340.00</b>
<b>ASD-A2-3043-M</b>	3.0kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>25 340.00</b>
<b>ASD-A2-4543-M</b>	4.5kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>26 040.00</b>
<b>ASD-A2-5543-M</b>	5.5kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>34 900.00</b>
<b>ASD-A2-7543-M</b>	7.5kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>44 390.00</b>
<b>ASD-A2R-1B43-M</b>	11.0kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>45 130.00</b>
<b>ASD-A2R-1F43-M</b>	15.0kW	400V 3ph	1kHz	A2 high advanced servo drives	<b>52 570.00</b>
<b>ECMA Motors (for above servo drives)</b>					
type	output power	rated RPM	torque Nm	dimensions (mm)	
			PCD	flange	shaft Ø
<b>Econo servo motors - 17 bit</b>					
<b>ECMA-C20401RS</b>	100W	3000	0.32	46	40 x 40
<b>ECMA-C20602RS</b>	200W	3000	0.64	70	60 x 60
<b>ECMA-C20604RS</b>	400W	3000	1.27	70	60 x 60
<b>ECMA-C20807RS</b>	750W	3000	2.39	90	80 x 80
<b>ECMA-C21010RS</b>	1.0kW	3000	3.18	115	100 x 100
<b>ECMA-E21315RS</b>	1.5kW	3000	7.16	145	130 x 130
<i>With built-in (24 VDC) brake</i>					
<b>ECMA-C20401SS</b>	100W	3000	0.32	46	40 x 40
<b>ECMA-C20604SS</b>	400W	3000	1.27	70	60 x 60
<b>High resolution servo motors - 20 bit superior resolution encoder (1.280.000 pulses/revolution)</b>					
<b>ECMA-C10604RS</b>	400W	3000	1.27	70	60 x 60
<b>ECMA-C10807RS</b>	750W	3000	2.39	90	80 x 80
<b>ECMA-C11010RS</b>	1.0kW	3000	3.18	115	100 x 100
<b>ECMA-E11315RS</b>	1.5kW	2000	7.16	145	130 x 130
<b>ECMA-K11320RS</b>	2.0kW	2000	9.55	145	130 x 130
<b>ECMA-L11830RS</b>	3.0kW	1500	19.10	200	180 x 180
<b>ECMA-L11845RS</b>	4.5kW	1500	28.65	200	180 x 180
<b>ECMA-L11855R3</b>	5.5kW	1500	35.00	200	180 x 180
<b>ECMA-L11875R3</b>	7.5kW	1500	47.74	200	180 x 180
<b>ECMA-L1221BR3</b>	11kW	1500	70.00	235	220 x 220
<b>ECMA-L1221FRS</b>	15kW	1500	95.40	235	220 x 220
<i>With built-in (24 VDC) brake</i>					
<b>ECMA-C10807SS</b>	750W	3000	2.36	90	80 x 80
<b>ECMA-C11010SS</b>	1.0kW	3000	3.18	115	100 x 100
<b>ECMA-E11315SS</b>	1.5kW	2000	7.16	145	130 x 130
<b>ECMA-K11320SS</b>	2.0kW	2000	9.55	145	130 x 130
<b>ECMA-L11830SS</b>	3.0kW	1500	19.10	200	180 x 180
<b>ECMA-L11845SS</b>	4.5kW	1500	28.65	200	180 x 180

**C<sub>2</sub>****new**

WAB...



WPFR...



ASD-CAPW...



ASD-CAEN...

**Gearboxes for ECMA series servo motors**

- Low noise, helical gears allows for smooth and quiet 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 carburized 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	
<b>Straight gearboxes (helical gears)</b>								
<b>WAB-060-005-K-P1</b>	200 - 400W	5:1	60	≤3	70	60 x 60	16	<b>6 585.00</b>
<b>WAB-060-007-K-P1</b>	200 - 400W	7:1	50	≤3	70	60 x 60	16	<b>6 585.00</b>
<b>WAB-060-010-K-P1</b>	200 - 400W	10:1	40	≤3	70	60 x 60	16	<b>6 585.00</b>
<b>WAB-090-003-K-P1</b>	750W	3:1	130	≤3	100	90 x 90	22	<b>9 163.00</b>
<b>WAB-090-007-K-P1</b>	750W	7:1	140	≤3	100	90 x 90	22	<b>9 163.00</b>
<b>WAB-115-003-K-P1</b>	1.5 - 2kW	3:1	208	≤3	130	115 x 115	32	<b>13 880.00</b>
<b>WAB-142-003-K-P1</b>	3 - 4.5kW	3:1	342	≤3	165	142 x 142	40	<b>21 590.00</b>
<b>Angle gearboxes (spur gears)</b>								
<b>WPFR-060-005-K-P2</b>	200 - 400W	5:1	40	≤15	70	60 x 60	14	<b>7 785.00</b>
<b>WPFR-060-007-K-P2</b>	200 - 400W	7:1	20	≤15	70	60 x 60	14	<b>7 785.00</b>
<b>WPFR-060-010-K-P2</b>	200 - 400W	10:1	12	≤15	70	60 x 60	14	<b>7 785.00</b>
<b>WPFR-090-003-K-P2</b>	750W	3:1	40	≤15	100	92 x 92	20	<b>10 210.00</b>
<b>WPFR-090-007-K-P2</b>	750 W	7:1	40	≤15	100	92 x 92	20	<b>10 190.00</b>
<b>WPFR-120-003-K-P2</b>	1.5 - 2kW	3:1	125	≤15	130	120 x 120	35	<b>15 570.00</b>

*Note: Other ratios, frame sizes and precision options available on request.***Servo drive and motor accessories**

<b>ASD-CNCS0050</b>	50 pin solder plug	for series	ASD-A2	<b>275.00</b>
<b>ASD-IF-SC5020</b>	20 pin adaptor, push in term.	for series	ASD-A2	<b>659.00</b>
<b>ASD-BM-50A</b>	50 pin breakout board	for series	ASD-A2	<b>2 127.00</b>
<b>UC-CMC003-01A</b>	CANopen comms cable RJ45 (0.3m)	for series	ASD-A2	<b>136.00</b>
<b>UC-CMC010-01A</b>	CANopen comms cable RJ45 (1m)	for series	ASD-A2	<b>177.00</b>
<b>TAP-CN03</b>	Canopen distribution box	for series	ASD-A2	<b>1 385.00</b>
<b>UC-PRG030-02A</b>	USB type A - USB type B	for series	ASD-A2	<b>208.00</b>
<b>ASD-CARS0003</b>	9 pin D-SUB female - Firewire	for series	ASD-A2/B2	<b>225.00</b>
<b>ASD-CNIE0B06</b>	RS-485 Splitter 2x RJ45	for series	ASD-A2/B2	<b>185.00</b>
<b>ASD-CNUS0A08</b>	USB type A - Firewire	for series	ASD-B2	<b>699.00</b>
<b>ASDBCND0044</b>	D-SUB 44 Pin solder plug	for series	ASD-B2	<b>130.00</b>

**ASDA and ECMA connecting cables**

type	ECMA range	power cable	encoder cable	brake motor	for drive series	cable length	
<b>ASDBCAPW0000</b>	100 - 750W	•	-	-	ASD-A2	plug	<b>35.00</b>
<b>ASD-ABEN0000</b>	100 - 750W	-	•	•	ASD-A2	plug	<b>300.00</b>
<b>ASD-ABEN0003</b>	100 - 750W	-	•	•	ASD-A2	3m	<b>659.00</b>
<b>ASD-ABPW0005*</b>	100 - 750W	•	-	-	ASD-A2	5m	<b>859.00</b>
<b>ASD-ABPW0105</b>	100 - 750W	•	-	•	ASD-A2	5m	<b>884.00</b>
<b>ASD-ABEN0005*</b>	100 - 750W	-	•	•	ASD-A2	5m	<b>848.00</b>
<b>ASD-CAPW1000</b>	1kW	•	-	•	ASD-A2	plug	<b>595.00</b>
<b>ASD-CAEN1000</b>	1 - 15kW	-	•	•	ASD-A2	plug	<b>849.00</b>
<b>ASD-CAPW1005*</b>	1kW	•	-	-	ASD-A2	5m	<b>1 223.00</b>
<b>ASD-CAPW1105</b>	1kW	•	-	•	ASD-A2	5m	<b>1 473.00</b>
<b>ASD-CAEN1005*</b>	1 - 15kW	-	•	•	ASD-A2	5m	<b>1 373.00</b>
<b>ASD-CAPW1205</b>	2kW	•	-	-	ASD-A2	5m	<b>1 732.00</b>
<b>ASD-CAPW1305</b>	2kW	•	-	•	ASD-A2	5m	<b>2 092.00</b>
<b>ASD-CAPW2205</b>	3 - 5.5kW	•	-	-	ASD-A2	5m	<b>1 942.00</b>
<b>ASD-CAPW3205</b>	7.5kW	•	-	-	ASD-A2	5m	<b>3 115.00</b>
<b>ASD-CAPW4000</b>	11 - 15kW	•	-	•	ASD-A2	plug	<b>1 353.00</b>
<b>ASD-CAPW4505</b>	11kW	•	-	-	ASD-A2	5m	<b>5 626.00</b>
<b>ASD-CAPW4605</b>	15kW	•	-	-	ASD-A2	5m	<b>9 957.00</b>
<b>ASDBCAPW0000</b>	100 - 750W	•	-	-	ASD-B2	plug	<b>35.00</b>
<b>ASDBCAEN0000</b>	100 - 750W	-	•	•	ASD-B2	plug	<b>156.00</b>
<b>ASDBCAPW0205*</b>	100 - 750W	•	-	-	ASD-B2	5m	<b>335.00</b>
<b>ASDBCAEN0005*</b>	100 - 750W	-	•	•	ASD-B2	5m	<b>595.00</b>
<b>ASD-CAPW1000</b>	1 - 1.5kW	•	-	•	ASD-B2	plug	<b>595.00</b>
<b>ASDBCAEN1000</b>	1 - 1.5kW	-	•	•	ASD-B2	plug	<b>684.00</b>
<b>ASDBCAPW1205</b>	1 - 1.5kW	•	-	-	ASD-B2	5m	<b>1 817.00</b>
<b>ASDBCAEN1005</b>	1 - 1.5kW	-	•	•	ASD-B2	5m	<b>1 528.00</b>

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

**C<sub>2</sub>**

HTR-3A...



HTR-5B...



HPN-6A-2500-3-PP



HTR-HN...



HJ-6X6



SCT...

**HTR series - Incremental encoders**

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.

**Common characteristics**

- Output phase: ABZ phase (std)
- Output form: P: Push Pull
- Resolution: 5 - 5000 ppr (*pulse per revolution*)
- Protection: against polarity reversal

**HL:** Line Driver 5 - 26 VDC  
model and output dependant

type	resolution (ppr)	supply voltage	detection system	description	dimensions body	Ø mm shaft	price			
<b>Solid shaft type</b>										
<b>Medium duty incremental encoders</b>				(IP50)	<i>push-pull type</i>					
<b>HTR-3A-100A-P</b>	100	5 - 26 VDC	incremental	rotary encoder	38	6	<b>1 820.00</b>			
<b>HTR-3A-360A-P</b>	360	5 - 26 VDC	incremental	rotary encoder	38	6	<b>1 820.00</b>			
<b>HTR-3A-500A-P</b>	500	5 - 26 VDC	incremental	rotary encoder	38	6	<b>1 820.00</b>			
<b>HTR-3A-1024A-P</b>	1024	5 - 26 VDC	incremental	rotary encoder	38	6	<b>2 254.00</b>			
<b>HTR-5B-360A-P</b>	360	5 - 26 VDC	incremental	rotary encoder	50	8	<b>1 820.00</b>			
<b>HTR-5B-1024A-P</b>	1024	5 - 26 VDC	incremental	rotary encoder	50	8	<b>2 254.00</b>			
<b>HTR-5B-2000A-P</b>	2000	5 - 26 VDC	incremental	rotary encoder	50	8	<b>3 185.00</b>			
<b>Medium duty incremental encoders</b>				(IP50)	<i>line driver type</i>					
<b>HTR-5B-360A-H</b>	360	5 - 26 VDC	incremental	rotary encoder	50	8	<b>2 172.00</b>			
<b>HTR-5B-1024A-H</b>	1024	5 - 26 VDC	incremental	rotary encoder	50	8	<b>2 626.00</b>			
<b>HTR-5B-2000A-H</b>	2000	5 - 26 VDC	incremental	rotary encoder	50	8	<b>3 557.00</b>			
<i>Other (ppr) resolution available on request.</i>										
<b>Heavy duty incremental encoders</b>				(IP64)	<i>push-pull type</i>					
• HPN square flange mount (63.5 x 63.5 mm □)										
<b>HPN-6A-2500-3-PP</b>	2500	8 - 26 VDC	incremental	rotary encoder	63.5 □	10	<b>6 141.00</b>			
<i>Other (ppr) resolution available on request.</i>										
<b>Hollow shaft incremental encoders</b>				(IP50)	<i>push-pull type</i>		<b>hole</b>			
<b>HTR-HN-8-360A-P</b>	360	5 - 26 VDC	incremental	rotary encoder	38	8	<b>2 489.00</b>			
<b>HTR-HN-8-500A-P</b>	500	5 - 26 VDC	incremental	rotary encoder	38	8	<b>2 489.00</b>			
<b>HTR-HN-8-1024A-P</b>	1024	5 - 26 VDC	incremental	rotary encoder	38	8	<b>2 358.00</b>			
<b>HTR-HM15-600-3-PP</b>	600	8 - 26 VDC	incremental	rotary encoder	59	15	<b>5 490.00</b>			
<b>HTR-HM15-1024-3-PP</b>	1024	8 - 26 VDC	incremental	rotary encoder	59	15	<b>5 490.00</b>			
<b>HTR-HD30-600-3-PP</b>	600	8 - 26 VDC	incremental	rotary encoder	100	30	<b>5 723.00</b>			
<b>HTR-HD30-1024-3-PP</b>	1024	8 - 26 VDC	incremental	rotary encoder	100	30	<b>6 141.00</b>			
<i>Other (ppr) resolution available on request.</i>										
<b>A series - Absolute encoders</b>				(IP50)						
• Signal output G: Gray code										
• Output form C: NPN open-collector										
<b>A3-G-256-C</b>	256	10 - 26 VDC	absolute	rotary encoder	60	8	<b>5 444.00</b>			
<b>A3-G-1024-C</b>	1024	10 - 26 VDC	absolute	rotary encoder	60	8	<b>8 514.00</b>			
<i>Other (ppr) resolution available on request.</i>										
<b>Encoder accessories</b>										
type	material	rated torque (N.m)	bore (mm) hole Ø1	wrench hole Ø2	torque (N.m)	dimensions Ø mm body Ø	length			
<b>Flexible couplings</b>										
<b>HJ-6X6</b>	plastic	1.0	6	6	0.3	16	23	<b>259.00</b>		
<b>SCT-16-6X6</b>	aluminium	0.3	6	6	0.7	16	23	<b>517.00</b>		
<b>SCT-20-8X8</b>	aluminium	0.5	8	8	0.7	20	26	<b>621.00</b>		
<b>SCT-25-8X10</b>	aluminium	1.0	8	10	1.7	25	31	<b>724.00</b>		
<b>SCT-25-10X10</b>	aluminium	2.0	10	10	1.7	25	31	<b>724.00</b>		



LRD10RA240



LRD20R...



LRE08R...



LRXP01

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 LRX SW software and LRX C03 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

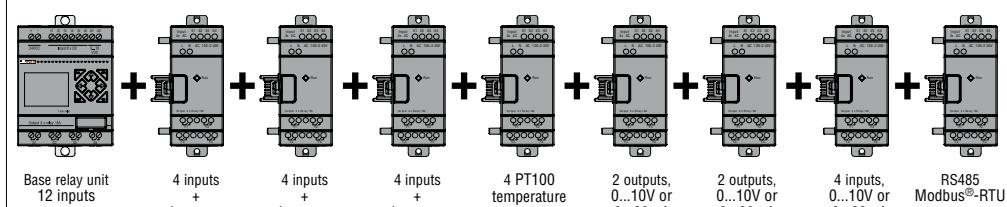
- Less errors during panel building
- Considerable time saving

Flexibility

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

type	supply	inputs	outputs	description	price
<b>Base units</b>					
LRD10RA240	100 - 240 VAC	6	4	intelligent relay	2 376.00
LRD20RA240	100 - 240 VAC	12	8	intelligent relay	3 330.00
LRD12RD024	24 VDC	8*	4	intelligent relay	2 259.00
LRD20RD024	24 VDC	12*	8	intelligent relay	3 330.00
LRD20RD012	12 VDC	12*	8	intelligent relay	4 757.00
LRD20RD024P1♦	24 VDC	12*	8	intelligent relay	3 997.00
* 2/4 inputs can be analog (0-10 VDC)					
♦ With built-in RS485 modbus port					
<b>Expansion modules (plug-in)</b>					
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	1 318.00
LRE08RD024	24 VDC	4	4	expansion module	1 344.00
LREP00		modbus - RTU protocol communication unit			5 133.00
<b>Accessories</b>					
LRXC03		cable: PC (USB) to LRD relay connecting cable (1.5 meter)			
LRXSW		programming and supervision software (CD-ROM)			
LRXM00		plug-in program back-up memory module			
LRXP01		HMI operator panel, 24 VDC, RS232, RS485			
LRXSWP01		LRXP01 editor software (CD-ROM)			
LRXC02		cable: PC (RS232) - LRXP01 programming cable			

#### Maximum combinations



- 24 digital inputs (4 configurable as analog 0-10V input)
- 24 digital outputs (relay, transistor or mixed)
- 4 analog inputs for PT100 temperature sensors

- 4 analog outputs configurable as 0...10V or 0/4...20mA
- 4 analog inputs configurable as 0...10V or 0/4...20mA
- 1 RS485 slave communication module.

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

C<sub>2</sub>

new



601400

**Ethernet gateways**

An Ethernet gateway converts data between different protocols ensuring consistent flow of information. **ETOR**, **WTOR** and **GTOR** gateways provide fast (*up to 115Kbps*) data transmission for serial devices.

- First class quality to fulfil all communication requirements with quick view of status via frontal LED's
- Bidirectional protocol converting with client and server mode
- Converting between Modbus TCP and Modbus RTU/ASCII
- Automatic or manual IP addressing and Ping blocking
- Line protection by galvanic isolation
- Compact modular (*H*) 90.4 x (*W*) 17.5 x (*D*) 66.5 mm (*same dimensions as single pole MCB*)

type	supply voltage	serial standard	connector type	No. Serial devices server	No. Serial devices client	description	price
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**ETOR      Ethernet / Serial Gateway**

- Converts between MODBUS and Ethernet protocols to permit user to control and monitor:
  - a) Serial devices in a plant over Internet or local area network in server mode
  - b) Devices which support Ethernet-based protocols, over the serial interface in client mode
- Mini USB port or WEB interface configuration
- Dual supply option: 18 - 50 VAC/DC or can be powered up through a mini USB cable

**ETOR-4      Ethernet gateway (TCP/IP - RS485)**

601400	18 - 50 VAC/DC	RS485	RJ45	64	1	Ethernet - Serial Gateway	<b>6 678.00</b>
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**ETOR-2      Ethernet gateway (TCP/IP - RS232)**

601401	18 - 50 VAC/DC	RS232	RJ45	1	1	Ethernet - Serial Gateway	<b>8 347.00</b>
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**GTOR      GPRS to RS485 Gateway**

**GTOR** series products connect to serial MODBUS devices with TCP/IP based systems to remotely control and monitor devices via GPRS. GTOR can be easily integrated into existing MODBUS networks due to their wide range of configuration options. GTOR series products works as a TCP/IP server.

- Micro SIM Card slot
- Supports up to 64 devices
- APN configuration with Mini USB
- 8 facia LED's indicate: power, signal strength level, operating status

601440	11 - 30 VDC	RS485	Micro USB	32	1	GPRS - RS485 Gateway	<b>7 950.00</b>
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**WTOR      Wi-Fi to RS485 Gateway**

**WTOR** series products connect to serial MODBUS devices with TCP/IP based systems to remotely control and monitor devices connected to the MODBUS network via a Wi-Fi service and can be easily integrated into existing MODBUS networks due to their wide range of configuration options. WTOR series products works as a TCP/IP server.

- RS485
- Point or station mode
- Operating with access
- Configuring via web interface

601450	11 - 30 VDC	RS485	RS485	64	1	WI-FI - RS485 Gateway	<b>6 890.00</b>
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**UTOR      Converters - USB to RS485, RS232 and TTL**

**UTOR** is powered from the USB port without external power supply requirements, they incorporate an isolation barrier providing electrical isolation between the PC and serial devices.

- Removable terminal block with screw connection
- Baudrate: 300 ... 115200 bps
- Connector: USB type A

type	supply voltage	serial standard	USB	converter from	converter to	description	
601430	USB port	RS485	1.1 + 2.0	RS485	USB	USB/RS485 converter	<b>1 855.00</b>
601431	USB port	RS232	1.1 + 2.1	RS232	USB	USB/RS232 converter	<b>1 590.00</b>
601432	USB port	TTL(5V)	1.1 + 2.2	TTL(5V)	USB	USB/TTL (5V) converter	<b>1 802.00</b>
601433	USB port	TTL(3V)	1.1 + 2.3	TTL(3V)	USB	USB/TTL (3V) converter	<b>1 696.00</b>



601432

## Notes

