



Digitized Automation for a Changing World

# Delta Programmable Logic Controller DVP Series



reddot design award  
winner 2010

[www.deltaww.com](http://www.deltaww.com)

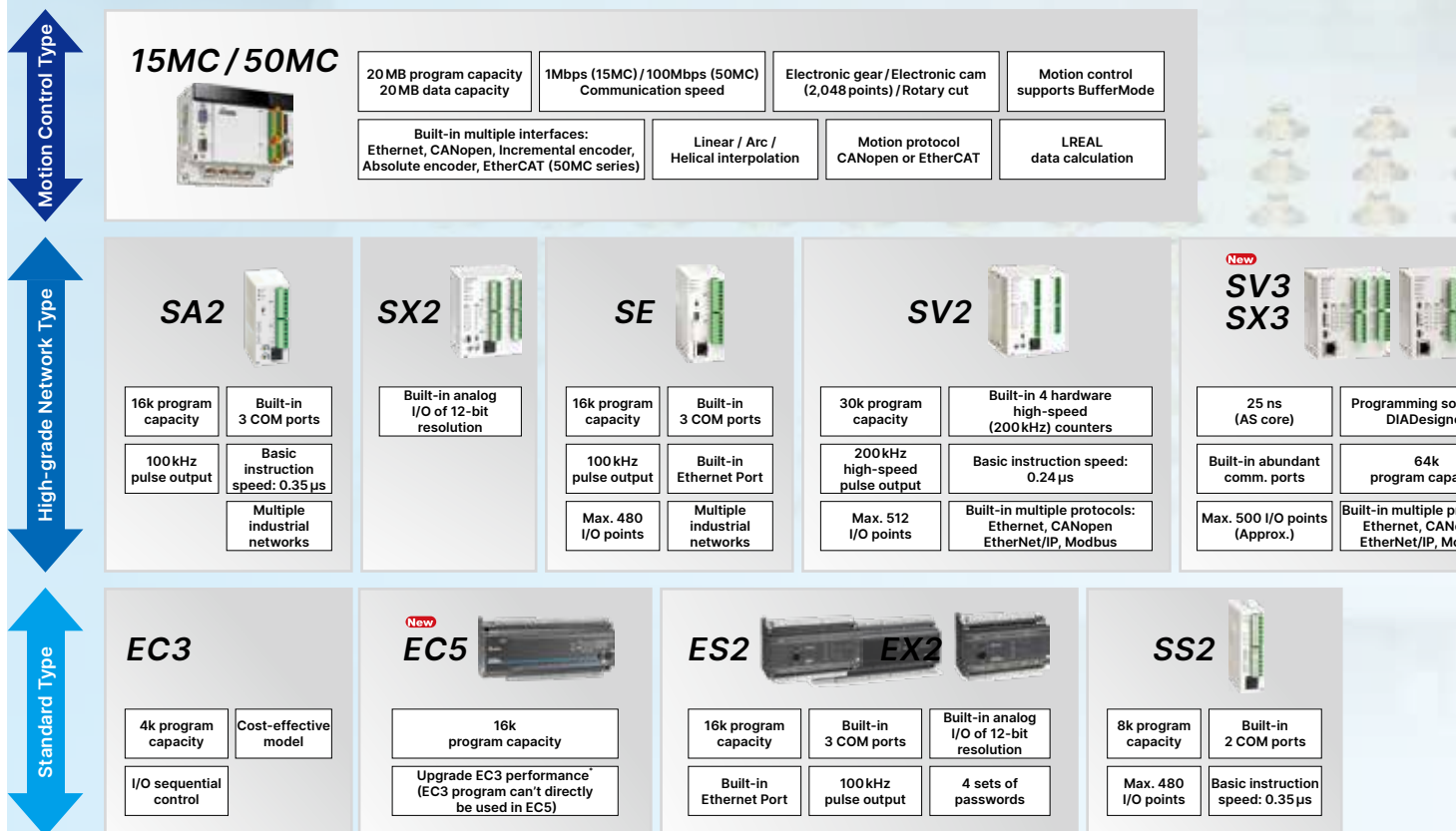


# The Perfect Small PLC Revolution!

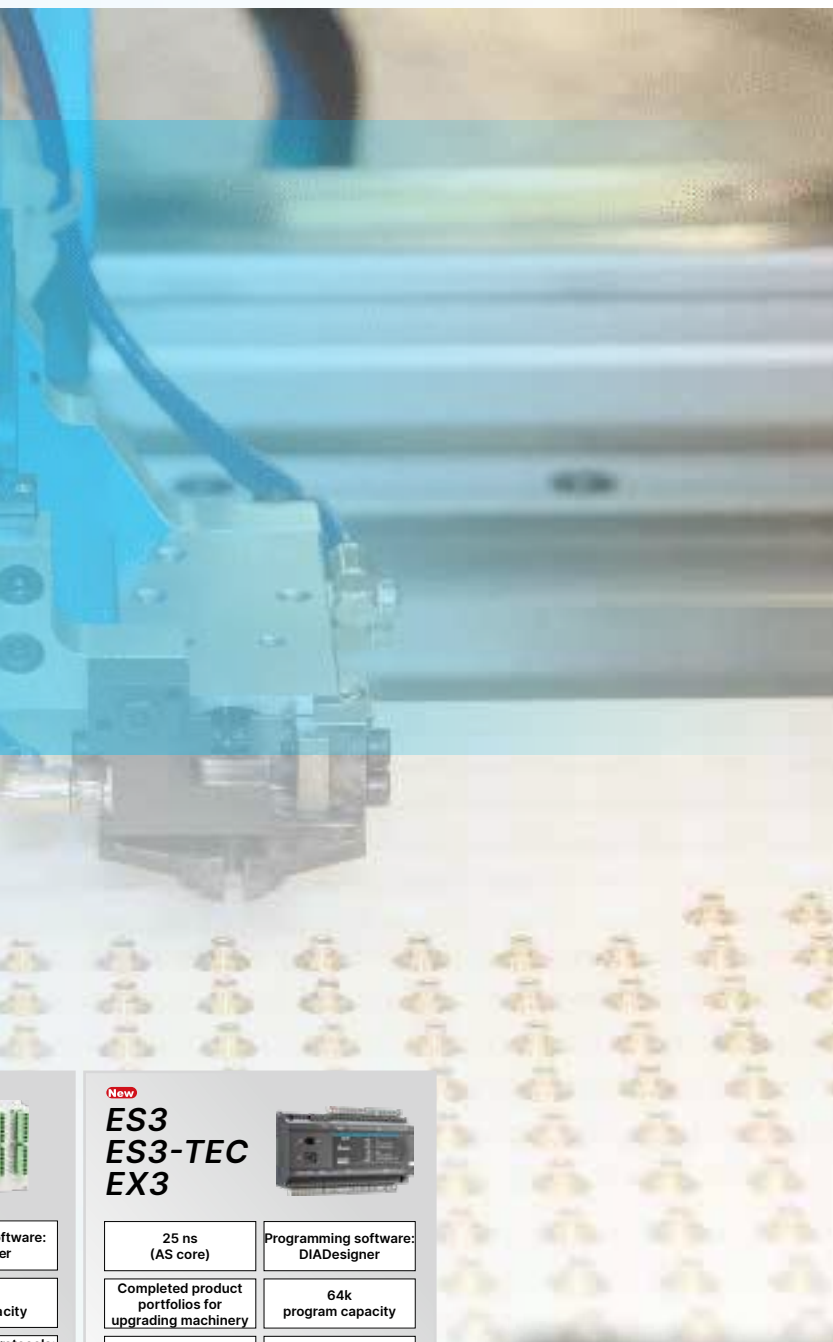
After launching our first DVP series PLCs for industrial automation applications, Delta has been devoted to delivering more innovative products that satisfy customers' needs and meet the requirements of a wide variety of applications.

Delta PLCs offer a broad range of controllers and modules which all feature high performance, multiple functions and efficient program editing tools. In addition to the user-friendly programming software and faster execution speed, we provide complete industry-focused solutions, motion control solutions, and industrial fieldbus solutions with Delta's new PLC series. We also integrate our PLCs with industrial automation products to deliver total solutions for various field applications.

As your most reliable partner, Delta is dedicated to creating value for our customers.




DVP Series PLCs - Best solution among controllers of the same level



# Contents

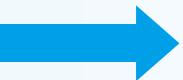
	Page
Brick PLC DVP-E Series	5
Slim PLC DVP-S Series	8
Multi-axis Motion Controller DVP-MC Series	12
DVP Series Extension Modules	23
Electrical Specifications	24
Dimensions	25
PLC Editing Software ISPSoft	29
Touch / Text Panel HMI with Built-in PLC TP Series	31
DVP Series Model Name Instruction	35
DVP Series Function Overview	36
Ordering Information	37

**New**  
**ES3  
ES3-TEC  
EX3**



25 ns (AS core)	Programming software: DIADesigner
Completed product portfolios for upgrading machinery	64k program capacity
Built-in abundant comm. Ports	Max. 256 I/O points

Software: er  
Capacity  
Protocols: open, ddbus





**NEW**

# The 3<sup>rd</sup> Generation DVP-ES Series PLC Gives You a Better Control Experience with its NEW CPU

The option for upgrading machines with multi-functions



AS Core inside



## The 3<sup>rd</sup> DVP generation Standard / EtherCAT / AIO brick PLC DVP-ES3 / ES3-TEC / EX3

- ▶ Min. execution time of basic instruction: 25 ns (adopts the compact AS Series PLC)
- ▶ 64K program capacity
- ▶ Max. 256 points for the total of inputs and outputs (Max. 8 x AIO extension modules)
- ▶ Built-in 2 x RS-485, AIO (EX3 only), Micro SD card
- ▶ Supports EtherCAT\* (ES3-TEC only), EtherNet/IP Scanner/Adapter, Modbus TCP, CANopen DS301 (ES3 & EX3 only) controls up to 64 slaves
- ▶ Delta mode: controls 8 Delta servos and 8 Delta motor drives (ES3 & EX3 only)

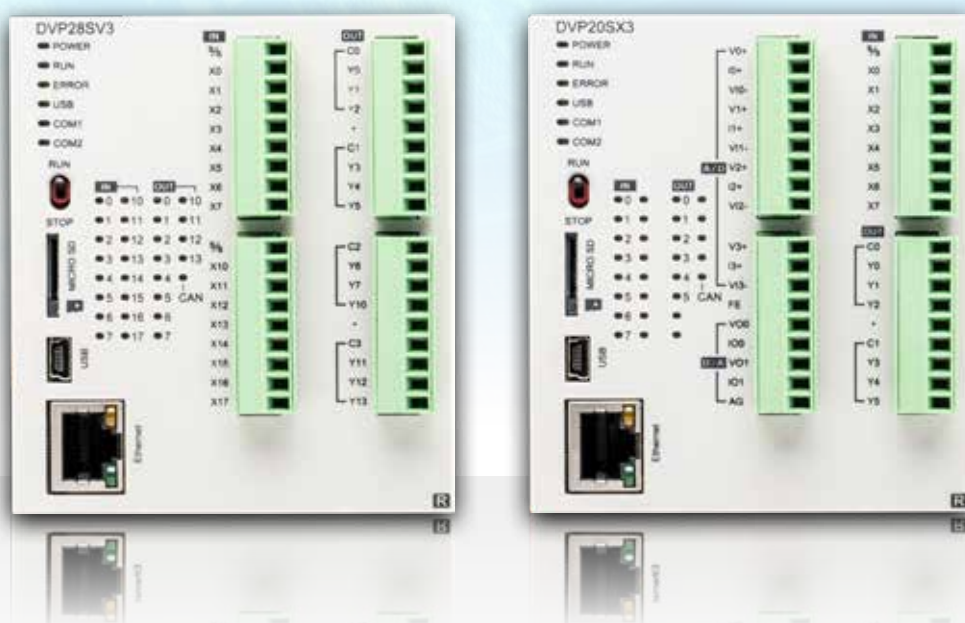
\*Only support Delta servo (ASDA-A2-E, ASDA-A3-E and ASDA-B3-E) and Delta VFDs (C2000 and CH2000 series) up to 16 axes

# Increased Built-in I/O Points to Enhance Competitiveness for Solutions

The recommend for upgrading compact machines



AS Core inside



## The 3<sup>rd</sup> DVP generation Standard / AIO slim PLC DVP-SV3 / SX3

- ▶ Min. execution time of basic instruction: 25 ns (adopts the compact AS Series PLC)
- ▶ 64K program capacity
- ▶ 512 points (256 inputs + 256 outputs, including of its built-in 16 inputs and 16 outputs), both left and right side expansion up to 8 modules per each side
- ▶ Built-in 2 x RS-485, AIO (SX3 only), Micro SD card
- ▶ Supports EtherNet/IP Scanner/Adapter, Modbus TCP, CANopen DS301 (controls up to 64 slaves)
- ▶ Delta mode: controls 8 Delta servos and 8 Delta motor drives



## Basic Brick PLC DVP-EC3

Applicable for sequence control and simple RS-485/Modbus communication

- ▶ Built-in I/O: 10/14/16/20/24/30/32/40/48/60
- ▶ Program capacity: 4k steps
- ▶ COM port: Built-in RS-232 & RS-485 ports (10/14-point models do not support RS-485), compatible with Modbus ASCII/RTU protocol
- ▶ Supports 2 points (Y0, Y1) of independent high-speed (max. 10 kHz) pulse output  
(Hardware version V8.00 and above support this function)

### Built-in High-Speed Counters

1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
2/2	20kHz/10kHz	1	20kHz	1	4kHz

## DVP-EC5 New

Currently using DVP-EC3 series but demand upgrade for performance

- ▶ Built-in I/O: 32/48/60
- ▶ Program capacity: 16k steps
- ▶ Supports 4 points high-speed pulse output 50kHz, 2 points high-speed pulse input 50kHz
- ▶ 8 points external interrupts

### Built-in High-Speed Counters

1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
2	50kHz	2	50kHz	1	25kHz

## The 2<sup>nd</sup> Generation Standard PLC / Analog I/O PLC

### DVP-ES2 / EX2

Standard PLCs with integrated communication and highly efficient processing ability for your control systems

- ▶ 32-bit CPU for high-speed processing
- ▶ Standard PLC DVP-ES2 Series: 16/20/24/32/40/60/80 I/O points for a variety of applications
- ▶ Analog I/O PLC DVP-EX2:
  - Built-in 12-bit 4 analog inputs / 2 analog output; and 14-bit analog I/O extension module
  - Built-in PID auto tuning function for a complete analog control solution
- ▶ Built-in 1 RS-232 and 2 RS-485 ports
- ▶ Program capacity: 16k steps
- ▶ Data register: 10k words
- ▶ Max. execution speed of basic instructions: 0.35µs
- ▶ RTC function and file register (5k words) (hardware version 2.0 and above)
- ▶ Highly efficient processing ability: 1k steps of programs can be completed within 1ms
- ▶ Max. 100 kHz pulse control; specific motion control instructions (mark/masking and instant frequency changing) available for multi-axis applications
- ▶ Up to 4 levels of password protection secures your source programs and intellectual property

### Built-in High-Speed Counters

1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
2/6	100kHz/10kHz	2	100kHz	1/3	15kHz/5kHz





Fast processing speed

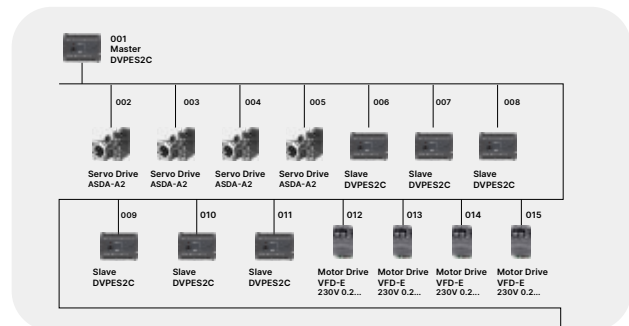


High-speed industrial network: CANopen

## Built-in CANopen Brick PLC DVP32ES200RC / TC

Boosts productivity with high execution speed and built-in CANopen interface, and specializes in noise-immunity and easy wiring

- ▶ Built-in 1Mbps CANopen interface; COM3 supports standard CANopen DS301 protocol
- ▶ Versatile communication types: PDO, SDO, synchronous (SYNC), Emergency, NMT and many more
- ▶ 1Mbps high-speed transmission for large data:
  - Max. PDO transmission: up to 390 bytes
  - Max. PDO receiving: up to 390 bytes
- ▶ Ability to connect with 16 slaves via CANopen
- ▶ Built-in 1 RS-232 and 1 RS-485 ports



## Built-in Ethernet Brick PLC DVP-ES2-E

Higher communication speed and easier external connection with built-in Ethernet

- ▶ Built-in I/O: 20/32/40/60
- ▶ Communication speed: 100M
- ▶ Supports Modbus and EtherNet/IP (slave)
- ▶ Built-in 1 RS-232 and 2 RS-485 ports

## Built-in AIO Brick PLC DVP30EX200R / T

Integrated controller for temperature control and analog input

- ▶ Built-in 16-bit 3 analog inputs / 12-bit 1 analog output
- ▶ Built-in PID auto tuning function to offer a complete analog control solution
- ▶ 3 analog inputs for Pt / Ni temperature input, precision of 0.1 degree can be readily achieved

### Built-in Ethernet

Modbus		EtherNet/IP	
<b>Number of Connections</b>	Server: 16 Client: 8	<b>Number of Connections</b>	TCP: 4 CIP: 8
<b>Max. Data Exchange</b> (each connection)	100 words	<b>Max. Data Exchange</b> (each connection)	250 words
		<b>RPI</b>	5 ~ 1,000 ms
		<b>PPS</b>	1,000 PPI

### Built-in Analog I/O in DVP-EX2 Model

Analog Input		Analog Output	
<b>Channels</b>	3	<b>Channels</b>	1
<b>Resolution</b>	16-bit	<b>Resolution</b>	12-bit
<b>Spec.</b>	-20 ~ 20 mA or -10 ~ 10V	<b>Spec.</b>	0 ~ 20 mA or -10 ~ 10V

### Built-in Temperature Control Function

<b>Sensor</b>	Pt100/Pt1000	Ni100/Ni1000
<b>Temperature Range</b>	-200 °C ~ 800 °C	-100 °C ~ 180 °C
<b>Value Range</b>	-2,000 ~ 8,000	-1,000 ~ 1,800



## The 3<sup>rd</sup> DVP Generation Standard / EtherCAT / AIO Brick PLC DVP-ES3 / ES3-TEC / EX3 New

### The option for upgrading machines with multi-functions

- ▶ Support EtherCAT<sup>™</sup> (ES3-TEC only), EtherNet/IP Scanner/Adapter, Modbus TCP, CANopen DS301 (ES3 & EX3 only) controls up to 64 slaves
- ▶ Delta mode: controls 8 Delta servos and 8 Delta motor drives (ES3 & EX3 only)

\* Only support Delta servo (ASDA-A2-E, ASDA-A3-E and ASDA-B3-E) and Delta VFDs (C2000 and CH2000 series) up to 16 axes

DVP Brick Type PLC	ES3	EX3	ES3-TEC
<b>Model</b>	DVP32ES300*T/R** DVP32ES311***T DVP48ES300T/R DVP64ES300T/R DVP80ES300T/R	DVP22EX300T DVP22EX300R DVP28EX300MT**** DVP36EX300T DVP36EX300R	DVP32ES300TEC (NPN output)
<b>Program Capacity</b>	64k Steps		
<b>Software</b>	ISPSOFT, DIADesigner		
<b>Execution Speed</b>	25ns, support AS APIs		
<b>Max. I/O Points</b>	256 points		
<b>DIO &amp; AIO Points</b>	32: 16DI + 16DO 48: 24DI + 24DO 64: 32DI + 32DO 80: 40DI + 40DO	22: 12DI + 8DO + 2AI 28: 4 diff. DI + 8DI + 4 diff. DO + 8DO + 2AI + 2AO 36: 16DI + 16DO + 2AI + 2AO	32: 16DI + 16DO
<b>Ethernet Port</b>	1	2	1
<b>SD Card</b>	Micro SDHC, Max. 32G		
<b>USB</b>	Mini USB, B type		
<b>RS485</b>	2 x RS485		
<b>CAN Port</b>	1	1	X
<b>EtherCAT Port</b>	X	X	1

\*300\*: AC power | T\*: NPN output | R\*: Relay out | 311\*: DC power | MT\*\*\*\*: diff





## The 3<sup>rd</sup> DVP Generation Standard / AIO Slim PLC

### DVP-SV3 / SX3 New

The recommend for upgrading compact machines

- ▶ Support EtherNet/IP Scanner/Adapter, Modbus TCP, CANopen DS301 (controls up to 64 slaves)
- ▶ Delta mode: controls 8 Delta servos and 8 Delta motor drives

DVP Slim Type PLC	SV3	SX3
Model	DVP28SV311T* DVP28SV311R** DVP28SV311S***	DVP20SX311T DVP20SX311R DVP20SX311S
Program Capacity	64k Steps	
Software	DIADesigner	
Execution Speed	25 ns, support AS APIs	
Max. I/O Points	512 points (256 inputs + 256 outputs, including of its built-in 16 inputs and 16 outputs)	
DIO & AIO Points	28: 16DI + 12DO	20: 8DI + 6DO + 2AO + 4AI
Ethernet Port	1	1
SD Card	Micro SDHC, Max. 32G	
USB	Mini USB, B type	
RS485	2 x RS485	
CAN Port	1	1

T\*: NPN output | R\*\*: Relay out | S\*\*\*: PNP output



## The 2<sup>nd</sup> Generation High Performance Slim PLC DVP-SV2

Well address performances from small to middle machines

### Excellent Motion Control

- ▶ High-speed pulse output: 4 axes of 200 kHz pulse output
- ▶ Supports 4 hardware 200 kHz high speed counters
- ▶ Various motion control instructions to achieve high-speed and high-precision positioning control for labeling machines, packaging machines, printing machines and more applications
- ▶ Linear / arc interpolation motion control function
- ▶ Provides up to 16 external interrupt pointers

### Complete Program Protection

- ▶ Auto backup function prevents program and data loss even when the battery runs out
- ▶ Secondary backup function saves an extra copy of programs and data to enhance program safety
- ▶ Up to 4 levels of password protection protects your source programs and intellectual property

Supports DVP-S Series modules (left-side and right-side); additional new Ethernet communication command (ETHRW)

### Outstanding Operation Performance

- ▶ 32-bit CPU + ASIC dual processors support floating point operations
- ▶ Max. execution speed of basic instructions: 0.24μs

The DVP-24SV2 model has a built-in 2AI (12-bit) with Y10 / Y12 of 10 kHz output.

Built-in 4 Hardware High-Speed Counters							
Standard		Hardware high-speed counter					
1-phase 1 input		1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
8	10 kHz	4	200 kHz	4	200 kHz4	4	200 kHz

The X11 / X15 have been upgraded to 200kHz since 2016 October



## The 2<sup>nd</sup> Generation Standard Slim PLC DVP-SS2

### Economic and compact model

- ▶ 32-bit CPU for high-speed processing
- ▶ Max. I/O: 480 points
- ▶ Program capacity: 8k steps
- ▶ Data register: 5k 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

### Motion Control Functions

- ▶ 4 points of 10kHz pulse output
- ▶ 8 points of high-speed counters: 20kHz/4 points, 10kHz/4 points

Built-in High-Speed Counters					
1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
4/4	20kHz/10kHz	2	20kHz	2/2	10kHz/5kHz

## The 2<sup>nd</sup> Generation Advanced Slim PLC DVP-SA2

### Advanced model supporting 2-axis interpolation

- ▶ 32-bit CPU for high-speed processing
- ▶ Program capacity: 16k steps
- ▶ Data register: 10k words
- ▶ Max. execution speed of basic instructions: 0.35 μs
- ▶ Built-in 1 RS-232 and 2 RS-485 ports (Master/Slave)
  - ※ Note: RS-485 will be reduced to 1 port in DVP28SA2
- ▶ Supports standard Modbus ASCII/RTU protocol and PLC Link function
- ▶ No battery required; RTC function operates for 15 days after power off
- ▶ Supports DVP-S Series modules (left-side and right-side)
  - ※ Note: DVP28SA2 only supports right-side modules

### Motion Control Functions

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

Built-in High-Speed Counters					
1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
2/6	100kHz/10kHz	2	100kHz	1/3	50kHz/5kHz





## The 2<sup>nd</sup> Generation AIO Slim PLC DVP-SX2

### Analog model with highly efficient PID control function

- ▶ 32-bit CPU for high-speed processing
- ▶ Program capacity: 16k steps
- ▶ Data register: 10k words
- ▶ Max. execution speed of basic instructions: 0.35 μs
- ▶ Built-in 4 analog inputs / 2 analog outputs
- ▶ Built-in mini USB, RS-232 and RS-485 ports (Master / Slave)
- ▶ Supports standard Modbus ASCII/RTU protocol and PLC Link function
- ▶ PID Auto Tuning function for highly efficient PID control
- ▶ No battery required; RTC function operates for at least one week after power off (hardware version 2.0 and above)
- ▶ Supports DVP-S Series modules (left-side and right-side)

### 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

Built-in Analog I/O			
Analog Input		Analog Output	
Channels	4	Channels	2
Resolution	12-bit	Resolution	12-bit
Spec.	-20 ~ 20 mA or -10 ~ 10 V or 4 ~ 20 mA	Spec.	0 ~ 20 mA or -10 V ~ 10 V or 4 ~ 20 mA

## Network Type Advanced Slim PLC DVP-SE

### Complete network communication functions for advanced industrial applications

- ▶ 32-bit CPU for high-speed processing
- ▶ Program capacity: 16k steps
- ▶ Data register: 12k words
- ▶ Max. execution speed of basic instructions: 0.64 μs
- ▶ Built-in Ethernet  
DVP12SE : Modbus & Ethernet/IP (Explicit message)  
DVP26SE : Modbus & Ethernet/IP (Adapter mode, explicit message)
- ▶ Built-in mini USB port, RS-485 port\*2 and Ethernet port that supports Modbus TCP and EtherNet/IP Slave (adapter)  
※ Note: RS-485 will be reduced to 1 port in DVP26SE
- ▶ IP Filter functions as firewall for first line protection against malware and network threats
- ▶ Supports DVP-S Series modules (left-side and right-side)  
※ Note: DVP26SE only supports right-side modules
- ▶ No battery required; RTC function operates for 15 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, 1 set of A / B phase 50 kHz
- ▶ Supports 2-axis linear and arc interpolation

Built-in High-Speed Counters					
1-phase 1 input		1-phase 2 inputs		2-phase 2 inputs	
Counters	Bandwidth	Counters	Bandwidth	Counters	Bandwidth
2/6	100 kHz / 10 kHz	2	100 kHz	1/3	50 kHz / 5 kHz

# Multi-Axis Motion Controller

## DVP-MC

The DVP15MC/DVP50MC Series is a multi-axis motion controller designed for the CANopen / EtherCAT network architecture. It supports CANopen/EtherCAT with built-in motion control instructions (BufferMode and Jerk) for flexible configuration and fast project development. DVP15MC/DVP50MC controls up to 32 real axes via Motion port. It also supports single axis motion control instructions such as speed, position, torque, homing, position setup and multi-axis motion control instructions such as electronic gear, electronic cam (E-Cam), rotatory cut and G-code.

DVP15MC/DVP50MC features multiple built-in communication interfaces, and can be easily connected to other equipment without additional communication modules. It also provides high-speed and reliable motion control via CANopen/EtherCAT for printing, packaging, wire cutting, robots and other automation control industries.

### Motion Control

- Up to 32 real axes control (virtual axis no.: 1~32, can't be repetitive with real axis no.)
- Built-in motion control instructions and easy to use
- Supports encoder axis and virtual axis
- Single axis motion control instructions: speed, torque, homing, and position setup
- Application instructions: electronic gear, E-Cam, and rotary cut
- G-code: 8 axes linear / arc / helical interpolation
- Coordinates motion control instructions

### Performance

- 1 GHZ high-speed floating point operation
- High-precision computing: supports LREAL (Double-precision floating-point format)
- Synchronization time:
  - DVP15MC: 4 axes in 2ms, 8 axes in 4ms
  - DVP50MC: 32 axes in 1ms
- Program capacity: 20 MB
- Data capacity: 20 MB

### External Interfaces

- 1 CANopen port as host or slave station
- 1 Motion port (DVP15MC: CANopen, DVP50MC: EtherCAT)
- 16 high-speed inputs / 8 high-speed outputs
- 2 incremental encoder interfaces
- 1 SSI absolute encoder interface
- Ethernet port: DVP15MC x2, DVP50MC x1
- 1 SD card slot
- 1 RS-232 port and 1 RS-485 port
- Extension:
  - Left-side: supports up to 8 DVP-S Series modules (AIO Slave)
  - Right-side: compatible with DVP-S Series modules (240 DI, 240 DO and 8 special modules)

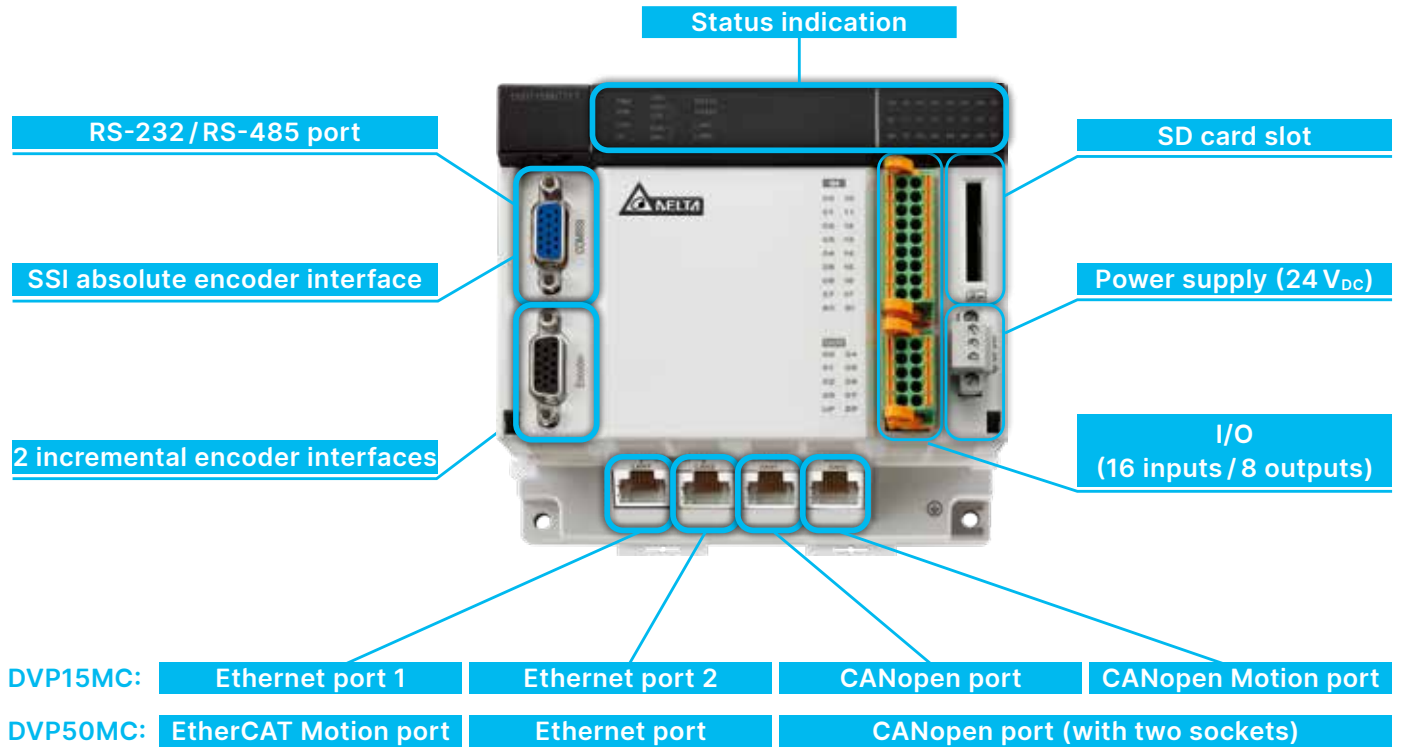
### Motion Network and Wiring

- DVP15MC
  - Motion network: CANopen
  - Communication speed: Max. 1Mbps
  - Distance: Max. 100m (at 500 kbps)
- DVP50MC
  - Motion network: EtherCAT
  - Communication speed: Max. 100Mbps
  - Distance: Max. 50m (Node-to-node)
- Simple wiring, plug-and-play



## DVP15MC / DVP50MC Interface

Multiple built-in communication interfaces allow easy connection to other equipment without additional communication modules.



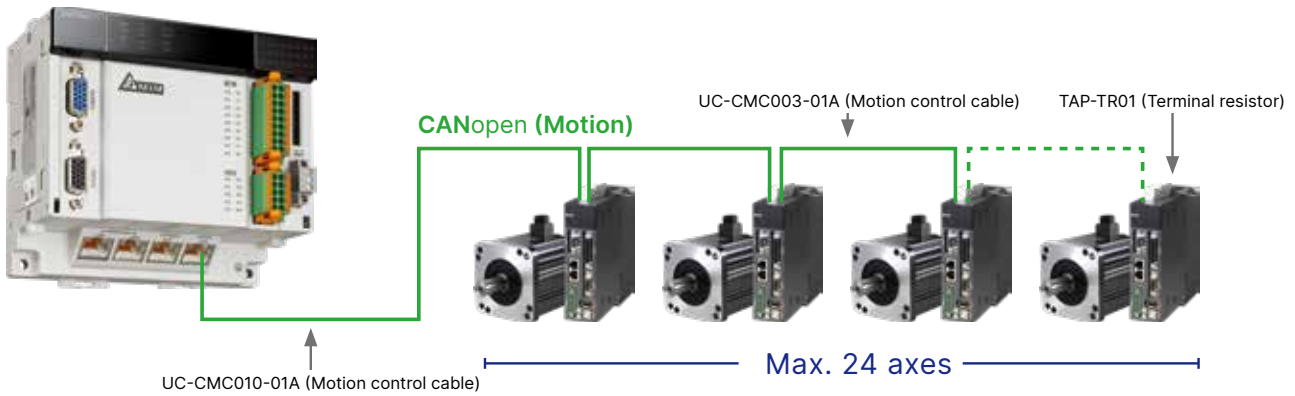


## Simple Wiring, Plug-and-Play Motion Control Network

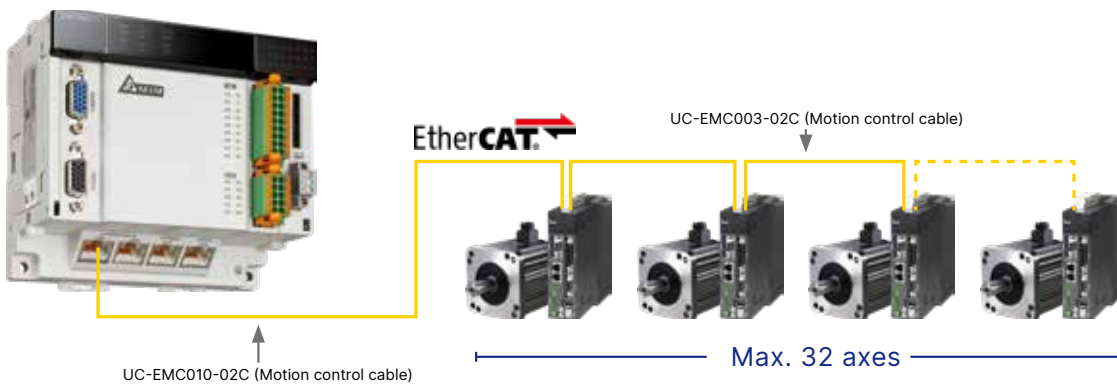
The DVP15MC / DVP50MC features stable CANopen / EtherCAT communication, simple wiring, plug-and-play functions, and communicates with servo drives (axes) via CANopen/EtherCAT network. Delta provides communication cable, terminal resistor and distribution box.

\*Please refer to "Accessories" for detailed information

### DVP15MC:



### DVP50MC:



## Compatible with Servo Drives via Motion Port

- Delta's AC Motor Drives ASDA-A2-XXXX\*-M / ASDA-A2-XXXX\*-MN models support CANopen communication, and they are the only models that can be connected to a DVP10MC11T for motion control networks.
- Delta's AC Motor Drives ASDA-A3-XXXX\*-M / ASDA-A2-XXXX\*-M / ASDA-B3-XXXX\*-M models support CANopen communication, and they are the only models that can be connected to a DVP15MC CANopen (Motion) port for motion control networks.
- Delta's AC Motor Drives ASDA-A3-XXXX\*-E / ASDA-A2-XXXX\*-E / ASDA-B3-XXXX\*-E models support EtherCAT communication, and they are the only models that can be connected to a DVP50MC EtherCAT (Motion) port for motion control networks.

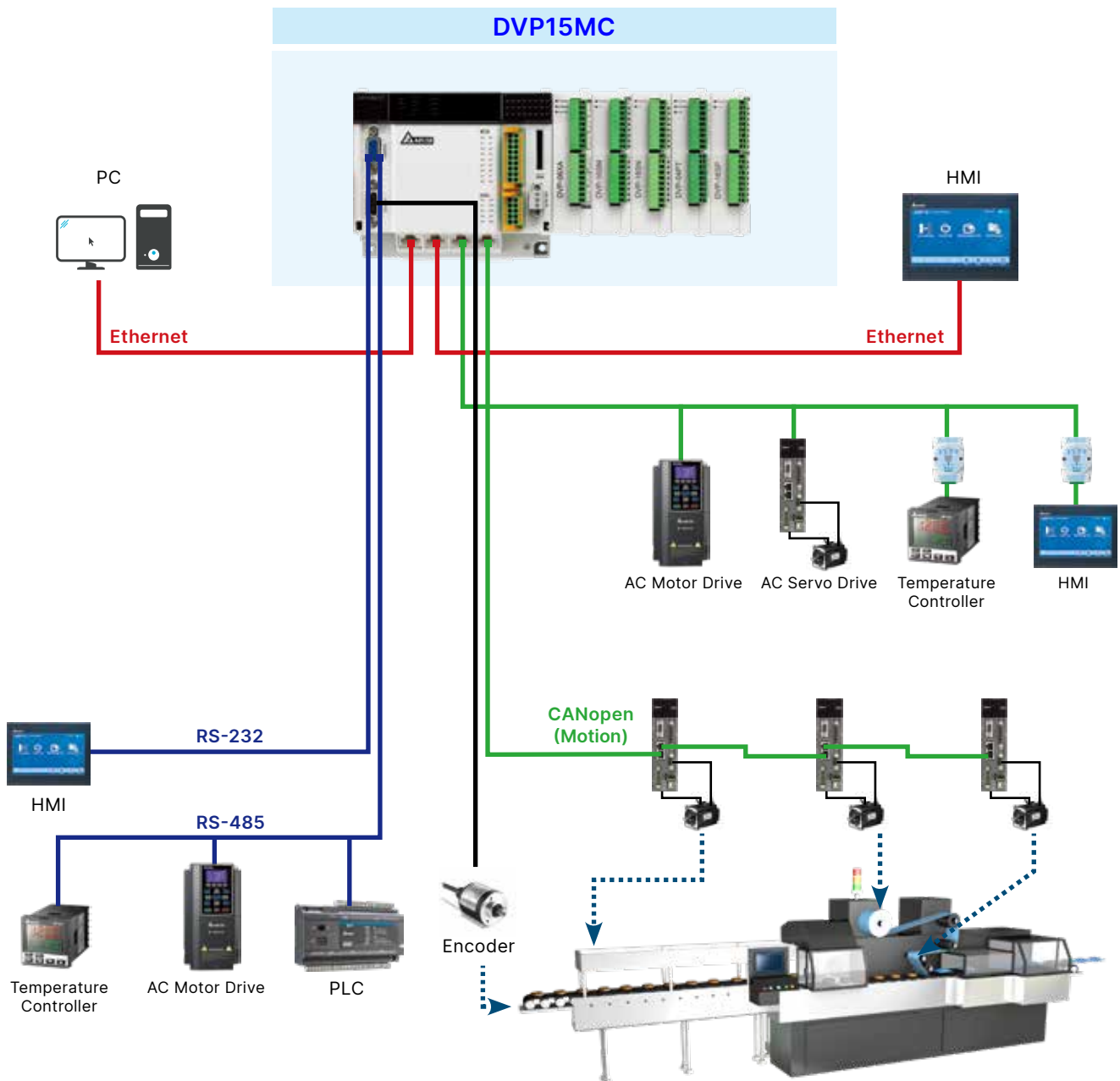
The standard CANopen port of DVP15MC / DVP50MC can be connected to all equipment that supports CANopen networks. The ASDA-A3 / A2 / B3 Series models provide high positioning accuracy and low-speed operation stability.

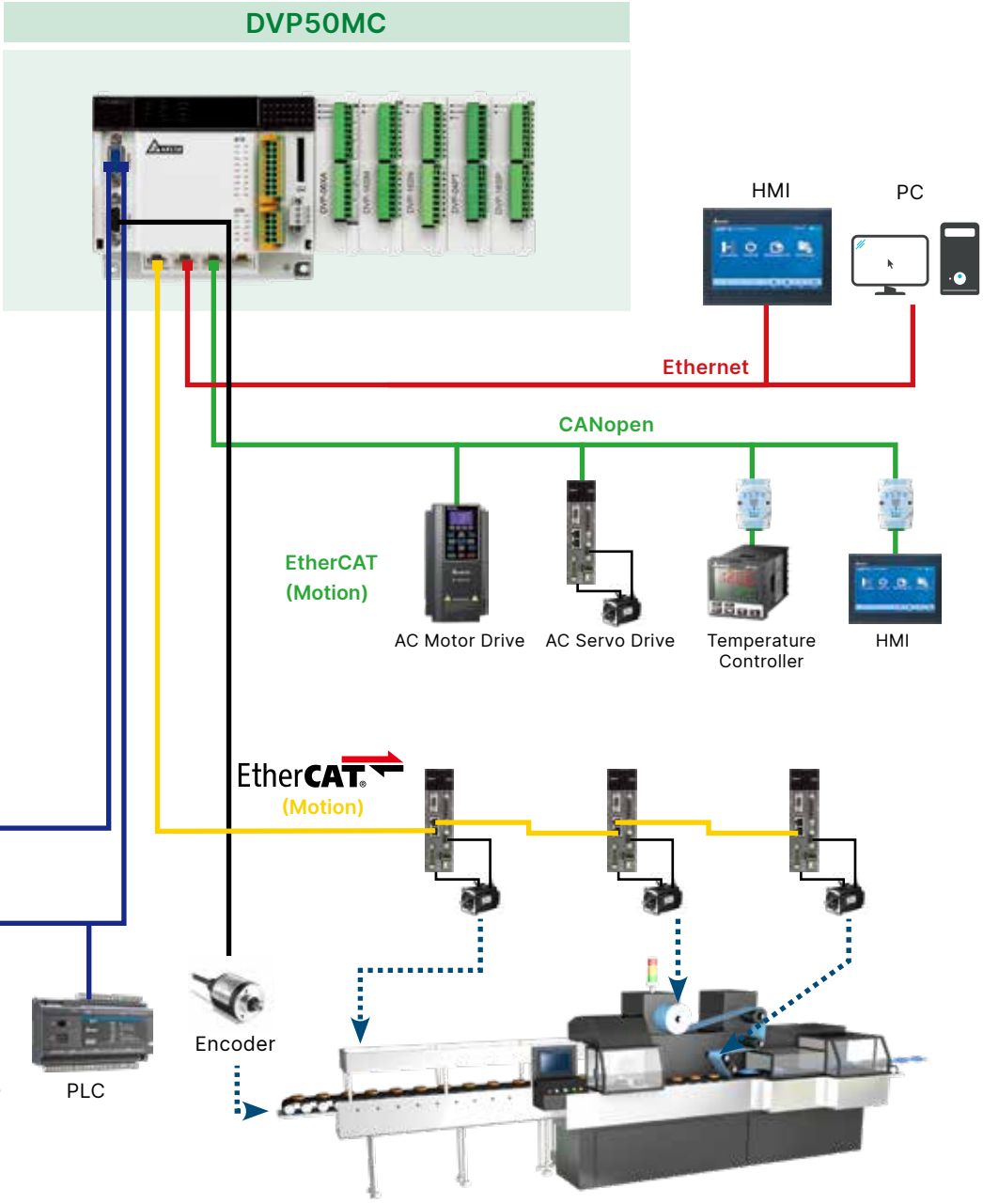
\* XXXX represents output power and input voltage



## System Structure

DVP15MC/DVP50MC provides multiple industrial networks. As in the structure shown below, DVP15MC/DVP50MC can be connected to a variety of industrial automation equipment via Ethernet (upper layer), EtherCAT, CANopen, DeviceNet and RS-485 (lower layer, support Modbus).







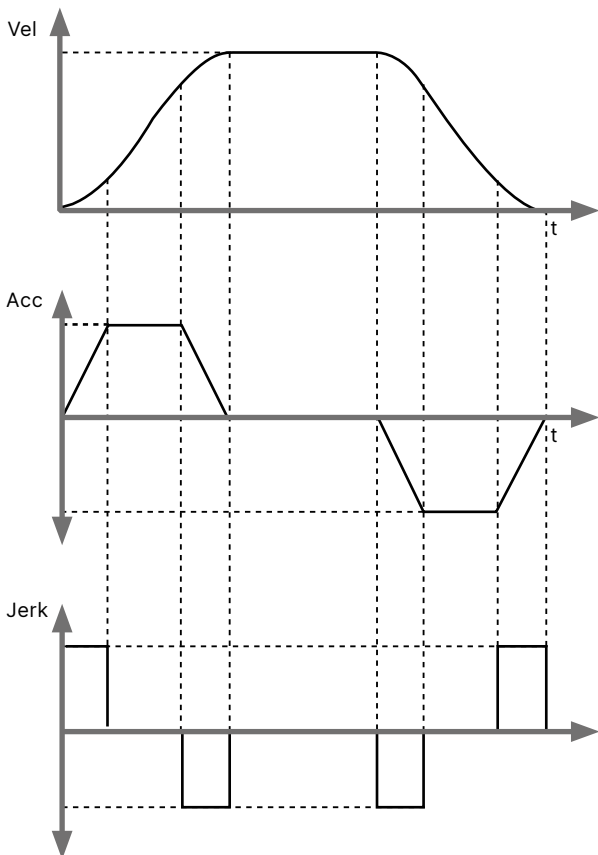
# Motion Control

Supports BufferMode and Jerk motion instructions:

		Rel			
Axis1	Axis	MC_MoveRelative	Done	Rel_Done	
Rel_Ex	Execute		Busy	Rel_Bsy	
	Continuous Update		Active	Rel_Act	
LREAL #900.0	Distance	CommandAborted	Rel_Abt	Rel_Abt	
LREAL #500.0	Velocity	Error	Rel_Err	Rel_Err	
LREAL #100.0	Acceleration	ErrorID	Rel_ErrID	Rel_ErrID	
LREAL #100.0	Deceleration				
LREAL #100.0	Jerk				
Rel_BM	BufferMode				

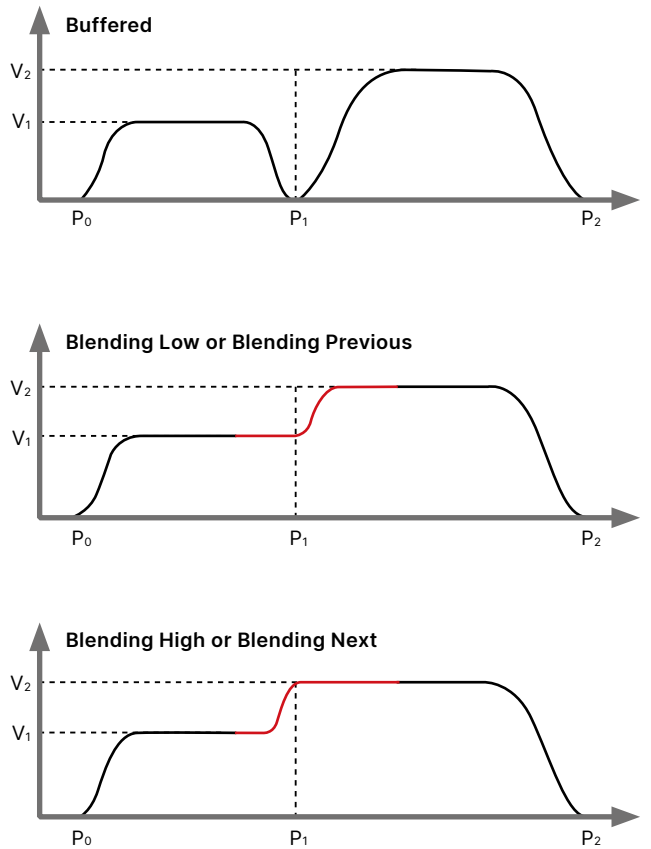
Supports Jerk motion instruction:

Modifies the Jerk value to make the velocity curve smoother



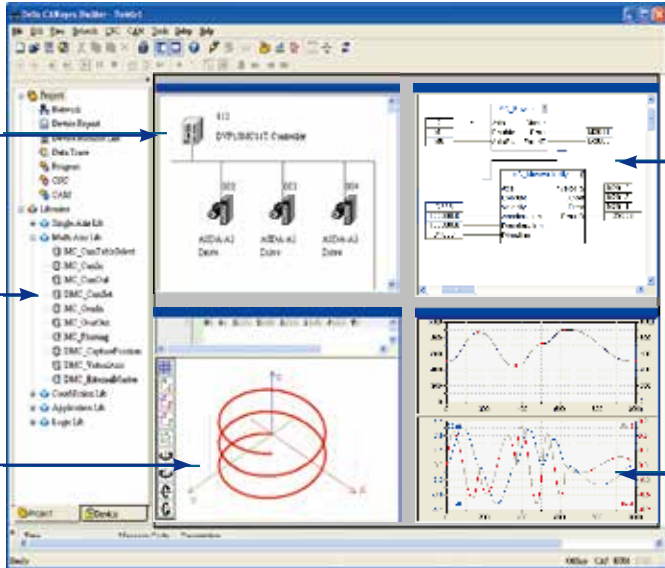
Supports BufferMode motion instruction:

Enables smooth transition between 2 instructions



# CANopen Configuration Software: CANopen Builder

- Features network arrangement, motion control programming, G-code editor / graph preview and E-Cam curve planning
- Supports international standard function blocks for motion control, enhancing program editing efficiency



- Network Arrangement**  
 Network scanning for listing all the equipment
- Motion Control**  
 Supports international standard function blocks for motion control
- G-code Editor and Preview**  
 G-code editing and preview, direct DXF files import available

- Program Editing**  
 CFC, LD, ST, function blocks connection and syntax check
- E-Cam Curve Planning**  
 Allows users to plan E-Cam curves according to their needs for more complex control

## Professional Motion Control Applications

Designed as the most outstanding and economical motion controller, the DVP-PM Series provides flying shear, rotary cut, electronic cam and many advanced functions to achieve highly precise motion control

### Robot Arm

Electronic Cam (E-Cam) function enables the robot arm to perform multi-axis control. After the required positions are memorized in the PLC, users can enable the electronic cam function to create the E-Cam profile and conduct trajectory tracking and multi-axes motion control required in robot arm applications.



### High-Speed Cutting Machine

Average PLC cutting motion is limited by operation speed, poor synchronization, large amounts of calculations and long CPU processing time, resulting in a disproportionate cutting result and affecting the quality of end products. The basic demands, however, can be fulfilled under low speed while rough surface and low quality appear under high speed. The electronic cam function offered by DVP-MC is able to generate dynamic cam curves for rotary cutting to ensure precise cutting results.



### Digital Board Cutting Machine

The DVP-PM Series' built-in flying shear function is able to complete synchronous conveyance and cutting speed, and ensures precise cutting results on conveyor belts.



### CNC Lathe

The DVP-PM Series controls multi-axis motion. Two axes complete the motion by linear or arc interpolation, and the other two work independently, controlling the independent or synchronous ascending/descending of the vertical axis on two sides.



# The 3<sup>rd</sup> DVP generation Standard / EtherCAT / AIO (DVP-ES3 / ES3-TEC / EX3 Series) and Extension Modules

The option for upgrading machines with multi-functions

Model Name	Specifications					
DVP32ES300R	⊖	↻16	↻16	⊗	⊠	⌚ <sup>E</sup>
DVP32ES300T	⊖	↻16	↻16	⊕	⊠	⌚ <sup>E</sup>
DVP32ES311T	⊖	↻16	↻16	⊕	⊠	⌚ <sup>E</sup>
DVP48ES300R	⊖	↻24	↻24	⊗	⊠	⌚ <sup>E</sup>
DVP48ES300T	⊖	↻24	↻24	⊕	⊠	⌚ <sup>E</sup>
DVP64ES300R	⊖	↻32	↻32	⊗	⊠	⌚ <sup>E</sup>
DVP64ES300T	⊖	↻32	↻32	⊕	⊠	⌚ <sup>E</sup>
DVP80ES300R	⊖	↻40	↻40	⊗	⊠	⌚ <sup>E</sup>
DVP80ES300T	⊖	↻40	↻40	⊕	⊠	⌚ <sup>E</sup>
<b>New</b> DVP32ES300TEC	⊖	↻16	↻16	⊕	EtherCAT	⌚ <sup>E</sup>
<b>New</b> DVP22EX300R	⊖	↻12	↻8	⊗	⊠	⌚ <sup>E</sup> 2AI
<b>New</b> DVP22EX300T	⊖	↻12	↻8	⊕	⊠	⌚ <sup>E</sup> 2AI
<b>New</b> DVP28EX300MT	⊖	↻8	↻8	⊕	⊠	⌚ <sup>E</sup> 4*diff.DI/DO +2AI+2AO
<b>New</b> DVP36EX300R	⊖	↻16	↻16	⊗	⊠	⌚ <sup>E</sup> 2AI+2AO
<b>New</b> DVP36EX300T	⊖	↻16	↻16	⊕	⊠	⌚ <sup>E</sup> 2AI+2AO



⊖ AC power supply    ↻ Inputs    ⊕ Transistor output    ⌚<sup>E</sup> Ethernet  
 ⊖ DC power supply    ↻ Outputs    ⊗ Relay output    ⊠ CANopen  
    ⊕ Diff. output    EtherCAT

# Standard / AIO PLC (DVP-ES2 / EX2 Series) and Extension Modules

The Most Profitable Solution for Sequential Control

Model Name	Specifications			
DVP16ES200R	⊖	↻6	↻8	⊗
DVP16ES200T	⊖	↻6	↻8	⊕
DVP20ES200RE	⊖	↻12	↻8	⊗
DVP20ES200TE	⊖	↻12	↻8	⊕
DVP24ES200R	⊖	↻16	↻8	⊗
DVP24ES200T	⊖	↻16	↻8	⊕
DVP32ES200R	⊖	↻16	↻16	⊗
DVP32ES200T	⊖	↻16	↻16	⊕
DVP32ES211T	⊖	↻16	↻16	⊕
DVP32E200RC	⊖	↻16	↻16	⊗
DVP32E200TC	⊖	↻16	↻16	⊕
DVP32E200RE	⊖	↻16	↻16	⊗
DVP32E200TE	⊖	↻16	↻16	⊕
DVP40ES200R	⊖	↻24	↻16	⊗
DVP40ES200T	⊖	↻24	↻16	⊕

Model Name	Specifications			
DVP40ES200RE	⊖	↻24	↻16	⊗
DVP40ES200TE	⊖	↻24	↻16	⊕
DVP60ES200R	⊖	↻36	↻24	⊗
DVP60ES200T	⊖	↻36	↻24	⊕
DVP60ES200RE	⊖	↻36	↻24	⊗
DVP60ES200TE	⊖	↻36	↻24	⊕
DVP80ES200R	⊖	↻40	↻40	⊗
DVP80ES200T	⊖	↻40	↻40	⊕
DVP20EX200R	⊖	↻6	↻6	⊗
DVP20EX200T	⊖	↻6	↻6	⊕
DVP30EX200R	⊖	↻16	↻10	⊗
DVP30EX200T	⊖	↻16	↻10	⊕

⊖ AC power supply    ↻ Inputs    ⊕ Transistor output    ⌚<sup>E</sup> Ethernet  
 ⊖ DC power supply    ↻ Outputs    ⊗ Relay output    ⊠ CANopen  
    ⊕ Diff. output    EtherCAT

### Digital I/O Modules

- **Input Point Extension**  
DVP08XM211N  
DVP16XM211N
- **Output Point Extension**  
DVP08XN211R/T  
DVP16XN211R/T  
DVP24XN200R/T
- **Input/Output Point Extension**  
DVP08XP211R/T  
DVP16XP211R/T  
DVP24XP200R/T  
DVP32XP200R/T



### Analog I/O Modules

- **Input Point Extension**  
DVP04AD-E2
- **Output Point Extension**  
DVP04DA-E2  
DVP02DA-E2
- **Input/Output Point Extension**  
DVP06XA-E2



### Temperature Measurement Modules

- DVP04PT-E2
- DVP06PT-E2
- DVP04TC-E2



### DVP-ES2 Series Extension Cable Modules

- DVPAEXT01-E2



## Slim PLC DVP-S Series

### Compact, Flexible Extension

#### DVP-SV3 New

The 3<sup>rd</sup> DVP generation Standard slim PLC



Model Name	Specifications
DVP28SV311R	DC, 6I, 12O, R, C, Ethernet
DVP28SV311T	DC, 6I, 12O, T, C, Ethernet
DVP28SV311S	DC, 6I, 12O, S, C, Ethernet

- DC DC power supply
- Inputs
- Outputs
- T Transistor output (NPN)
- R Relay output
- S Transistor output (PNP)
- E Ethernet
- C CANopen

#### DVP-SX3 New

The 3<sup>rd</sup> DVP generation AIO slim PLC



Model Name	Specifications
DVP20SX311R	DC, 8I, 6O, R, C, Ethernet, 4AI/2AO
DVP20SX311T	DC, 8I, 6O, T, C, Ethernet, 4AI/2AO
DVP20SX311S	DC, 8I, 6O, S, C, Ethernet, 4AI/2AO

- DC DC power supply
- Inputs
- Outputs
- T Transistor output (NPN)
- R Relay output
- S Transistor output (PNP)
- E Ethernet
- C CANopen



# Slim PLC DVP-S Series

## Compact, Flexible Extension

### DVP-SS2

Standard Slim PLC



Model Name	Specifications
DVP28SS211R	⎓ DC 16 I 12 O (R) →
DVP28SS211T	⎓ DC 16 I 12 O (T) →
DVP28SS211S	⎓ DC 16 I 12 O (S) →
DVP14SS211R	⎓ DC 8 I 6 O (R) →
DVP14SS211T	⎓ DC 8 I 6 O (T) →
DVP12SS211S	⎓ DC 8 I 4 O (S) →

⎓ DC power supply    (T) → Transistor output (NPN)  
 ↻ Inputs                      (R) → Relay output  
 ↶ Outputs                      (S) → Transistor output (PNP)

### DVP-SX2

Analog I/O Slim PLC



Model Name	Specifications
DVP20SX211R	⎓ DC 8 I 6 O (R) → 4AI/2AO
DVP20SX211T	⎓ DC 8 I 6 O (T) → 4AI/2AO
DVP20SX211S	⎓ DC 8 I 6 O (S) → 4AI/2AO

⎓ DC power supply    (T) → Transistor output (NPN)  
 ↻ Inputs                      (R) → Relay output  
 ↶ Outputs                      (S) → Transistor output (PNP)

### DVP-SA2

Advanced Slim PLC



Model Name	Specifications
DVP28SA211R*1	⎓ DC 16 I 12 O (R) →
DVP28SA211T*1	⎓ DC 16 I 12 O (T) →
DVP28SA211S*1	⎓ DC 16 I 12 O (S) →
DVP12SA211R	⎓ DC 8 I 4 O (R) →
DVP12SA211T	⎓ DC 8 I 4 O (T) →

\*1 The models do not support left-side modules.

⎓ DC power supply    (T) → Transistor output (NPN)  
 ↻ Inputs                      (R) → Relay output  
 ↶ Outputs                      (S) → Transistor output (PNP)

### DVP-SE

Network Type Advanced Slim PLC



Model Name	Specifications
DVP26SE11R*1	⎓ DC 14 I 12 O (R) →
DVP26SE11T*1	⎓ DC 14 I 12 O (T) →
DVP26SE11S*1	⎓ DC 14 I 12 O (S) →
DVP12SE11R	⎓ DC 8 I 4 O (R) →
DVP12SE11T	⎓ DC 8 I 4 O (T) →

⎓ DC power supply    (T) → Transistor output (NPN)  
 ↻ Inputs                      (R) → Relay output  
 ↶ Outputs                      (S) → Transistor output (PNP)

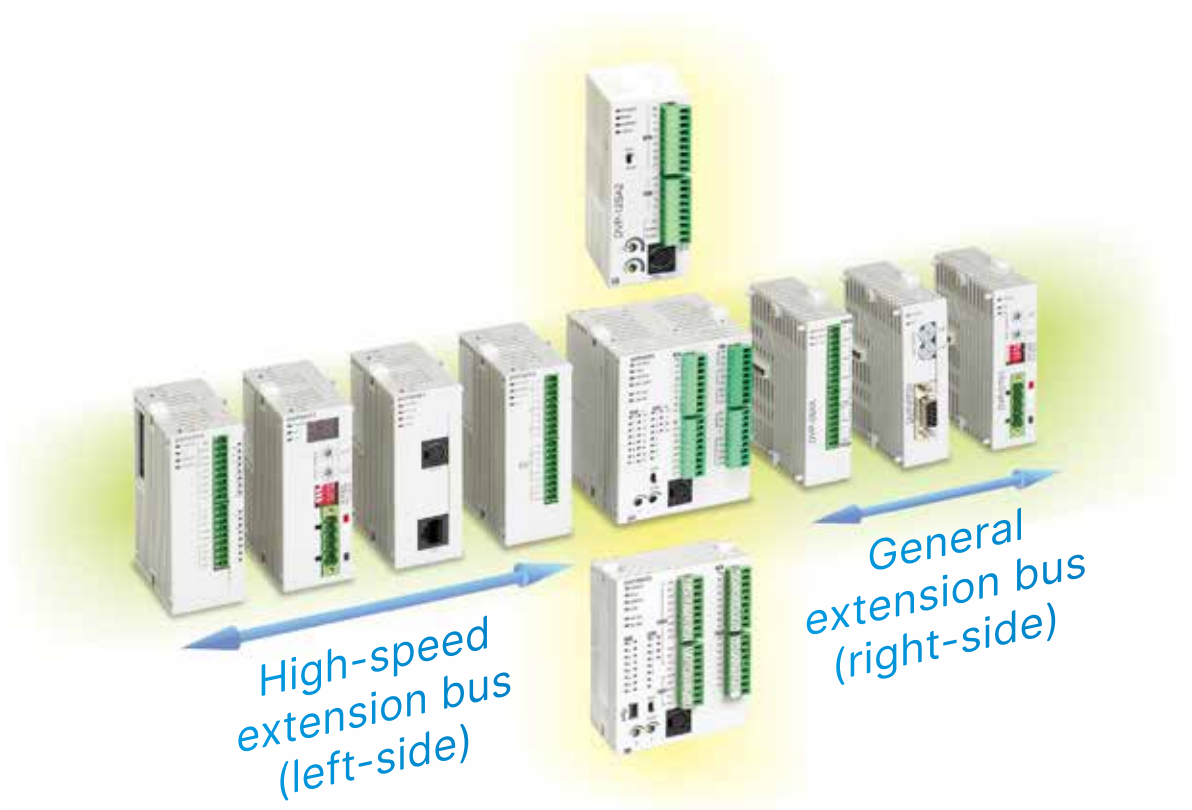
# DVP-SV2

## High Performance Slim PLC



























Model Name	Specifications
DVP28SV11R2	⊖DC ⊖ 16 ⊕ 12 (R) ⊢
DVP28SV11T2	⊖DC ⊖ 16 ⊕ 12 (T) ⊢
DVP28SV11S2	⊖DC ⊖ 16 ⊕ 12 (S) ⊢
DVP24SV11T2	⊖DC ⊖ 10 ⊕ 12 (T) ⊢ 2AI

- ⊖DC ⊖ DC power supply
- ⊖ Inputs
- ⊕ Outputs
- (T) ⊢ Transistor output (NPN)
- (R) ⊢ Relay output
- (S) ⊢ Transistor output (PNP)



# Slim PLC DVP-S Series Extension Modules

High-speed Extension Modules (left-side)	General Extension Modules (right-side)*1
<p><b>Network Modules</b></p> <ul style="list-style-type: none"> <li>■ <b>DeviceNet Master</b> DVPDNET-SL </li> <li>■ <b>CANopen Master</b> DVPCOPM-SL </li> <li>■ <b>Ethernet</b> DVPEN01-SL </li> <li>■ <b>RS-422/RS-485 Serial Communication Module</b> DVPCSM12-SL </li> <li>■ <b>BACnet MS/TP Slave Serial Communication Module</b> </li> </ul> <p><b>Analog Extension</b></p> <ul style="list-style-type: none"> <li>■ <b>Analog Input</b> DVP04AD-SL </li> <li>■ <b>Analog Output</b> DVP04DA-SL </li> </ul> <p><b>Load Cell/Tension</b></p> <ul style="list-style-type: none"> <li>■ <b>Load Cell Module</b> DVP201LC-SL DVP211LC-SL DVP202LC-SL </li> </ul> <p><b>Left-Side Positioning Module</b></p> <ul style="list-style-type: none"> <li>■ <b>2 Axes Positioning</b> DVP02PU-SL <span style="color: red; font-weight: bold;">New</span> </li> </ul>	<p><b>I/O Point Extension</b></p> <ul style="list-style-type: none"> <li>■ <b>Input Point Extension</b> DVP08SM11N DVP16SM11N </li> <li>■ <b>Output Point Extension</b> DVP06SN11R DVP08SN11R/T DVP08SN11TS DVP16SN11T DVP16SN11TS </li> <li>■ <b>Input/Output Point Extension</b> DVP08SP11R/T DVP08SP11TS DVP16SP11R/T DVP16SP11TS </li> <li>■ <b>Pin Header Input</b> DVP32SM11N </li> <li>■ <b>Pin Header Output</b> DVP32SN11TN </li> <li>■ <b>Digital Switch</b> DVP08ST11N </li> </ul> <p><b>Analog Extension</b></p> <ul style="list-style-type: none"> <li>■ <b>Analog Input</b> DVP06AD-S DVP04AD-S2 </li> <li>■ <b>Analog Output</b> DVP02DA-S DVP04DA-S2 </li> <li>■ <b>Analog Input/Output</b> DVP06XA-S2 </li> </ul> <p><b>Temperature Measurement</b></p> <ul style="list-style-type: none"> <li>■ <b>Sensor: Pt100, Pt1000</b> DVP04PT-S DVP06PT-S </li> <li>■ <b>Sensor: J,K,R,S,T thermocouple</b> DVP04TC-S </li> <li>■ <b>Sensor: NTC thermistor</b> DVP08NTC-S </li> <li>■ <b>Temperature Control:</b> DVP02TUN-S DVP02TUR-S DVP02TUL-S </li> <li>■ <b>Remote Temperature Control Module:</b> DVP02TKN-S DVP02TKR-S DVP02TKL-S </li> </ul> <p><b>Power Supply Modules</b></p> <ul style="list-style-type: none"> <li>DVPPS01 </li> <li>DVPPS02</li> <li>DVPPS05</li> </ul>

\*1. Max. quantity of right-side extension module is 14, among which the quantity of -S and -S2 modules must be equal to or less than 8. If the total quantity of extension modules is over 14, applying high density extension modules is recommended

# Specifications

## Electrical Specifications

	AC	DC
Power Supply Voltage	100 ~ 240 V <sub>AC</sub> (-15% ~ 10%), 50/60Hz ±5%	24 V <sub>DC</sub> (-15% ~ 20%)
Fuse Capacity	2 A / 250 V <sub>AC</sub>	
Spike Voltage Durability	1500 V <sub>AC</sub> (Primary-secondary); 1500 V <sub>AC</sub> (Primary-PE); 500 V <sub>AC</sub> (Secondary-PE)	
Insulation Impedance	> 5 MΩ (all I/O point-to-ground: 500 V <sub>DC</sub> )	
Noise Immunity	ESD: 8 kV Air Discharge EFT: Power Line, 2 kV Digital I/O: 1 kV Analog & Communication I/O: 1 kV RS: 26 MHz ~ 1 GHz, 10 V/m	
Earth	The diameter of grounding wire shall not be shorter than that of the power supply cable. (When many PLCs are in use at the same time, please make sure every PLC is properly grounded.)	
Storage / Operation	Storage: -25 °C ~ 70 °C (temperature); 5% ~ 95% (humidity) Operation: 0 °C ~ 55 °C (temperature); 5% ~ 95% (humidity); pollution degree 2	
Conformal Coating	Yes	
IP Rating	IP20	

## Input Specifications<sup>\*1</sup>

Max. Input Frequency	10 kHz	20 kHz	100 kHz	200 kHz	
Input Signal Type	NPN (Sink) / PNP (Source)				
Input Signal Voltage	24 V <sub>DC</sub> ±10% (5 mA)				
Response time <sup>*2</sup>	DVP-SV3/SX3/SV2	OFF→ON: 20 μs ON→OFF: 50 μs	SS2/SX2 OFF→ON: 3.5 μs ON→OFF: 20 μs	ES2/EX2/SA2/SX2 OFF ON: 2.5 μs ON→OFF: 5 μs	ES3/EX3/SV3/SX3/SV2 OFF→ON: 0.15 μs ON→OFF: 3 μs
	DVP-ES3/EX3/ES2/EX2				
	DVP-SS2				
	DVP-SA2/SX2/SE				

\*1. For more detailed specifications, see the "Specification" section in the instruction sheet of each model

\*2. When the input point on PLC conducts only general input functions, use D1020 or D1021 to adjust the response time (default: 10ms)

## Output Specifications<sup>\*1</sup>

	Relay-R	Transistor-T		
		General-speed	High-speed	
Max. Exchange (working) Frequency	1Hz <sup>*2</sup>	10 kHz	100 kHz	200 kHz
Current spec.	DVP-SV3/SX3/SV2	0.3 A / point @40 °C	SA2/SX2/ES2/EX2/SE Resistive: 0.5A / point (4 A / COM) Conductive: 12 W (24 V <sub>DC</sub> ) Light bulb: 2 W (24 V <sub>DC</sub> )	ES3/EX3/SV3/SX3/SV2 Resistive: 0.5A / point (4 A / COM) Conductive: 12 W (24 V <sub>DC</sub> ) Light bulb: 2 W (24 V <sub>DC</sub> )
	DVP-ES3/EX3/ES2/EX2			
	DVP-SS2/SA2/SX2/SE			
Voltage Spec.	250 V <sub>AC</sub> / 30 V <sub>DC</sub>	30 V <sub>DC</sub>		
Response Time	10 ms	OFF→ON: 20 μs ON→OFF: 30 μs	OFF→ON: 2 μs ON→OFF: 3 μs	OFF→ON: 0.5 μs ON→OFF: 2.5 μs

\*1. For more detailed specifications, see the "Specification" section in the instruction sheet of each model

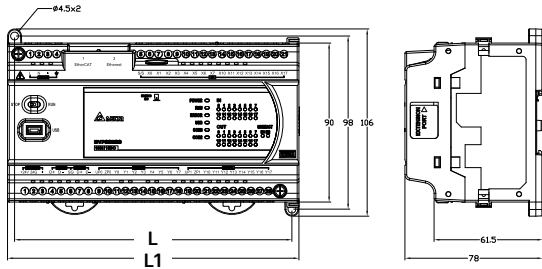
\*2. Relay life: Resistive load more than 200,000 times; conductive load more than 80,000 times



# Dimensions

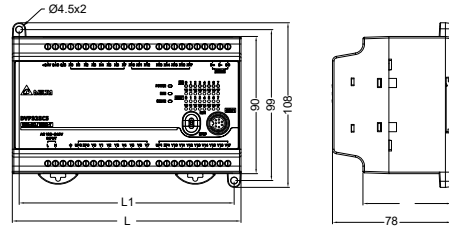
## DVP-ES3/ES3-TEC/EX3 Series

Model Name (mm)	L	L1
DVP32ES300T/R	165	157
DVP32ES311T	165	157
DVP48ES300T/R	216	208
DVP64ES300T/R	267	259
DVP80ES300T/R	310	302
DVP32ES300TEC <b>New</b>	165	157
DVP22EX300T/R <b>New</b>	165	157
DVP28EX300MT <b>New</b>	216	208
DVP36EX300T/R <b>New</b>	216	208



## DVP-EC5 Series

Model Name (mm)	L	L1
DVP32EC500T <b>New</b>	150	141
DVP48EC500T <b>New</b>	240	231
DVP60EC500T <b>New</b>	240	231

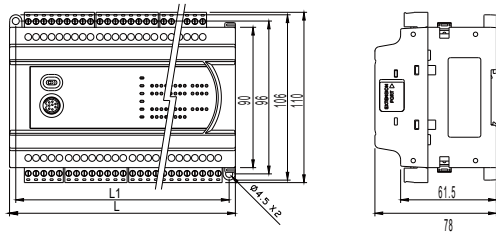
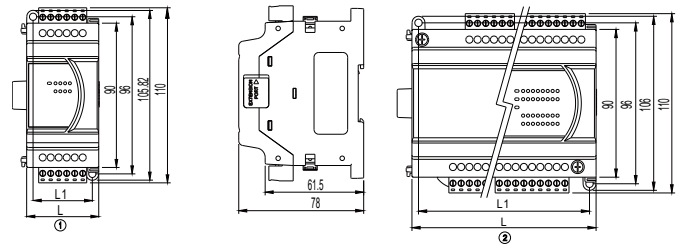


## DVP-ES3/ES2/EX2 Series

Model Name (mm)	L	L1	Type
DVP08XM211N	45	37	①
DVP08XP211R/T	45	37	①
DVP08XN211R/T	45	37	①
DVP16XM211N	70	62	②
DVP16XP211R/T	70	62	②
DVP16XN211R/T	70	62	②
DVP24XP200R/T	145	137	②
DVP24XN200R/T	145	137	②
DVP32XP200R/T	145	137	②
DVP04AD-E2	70	62	②
DVP02DA-E2	70	62	②
DVP04DA-E2	70	62	②
DVP06XA-E2	70	62	②
DVP04PT-E2	70	62	②
DVP06PT-E2	70	62	②
DVP04TC-E2	70	62	②

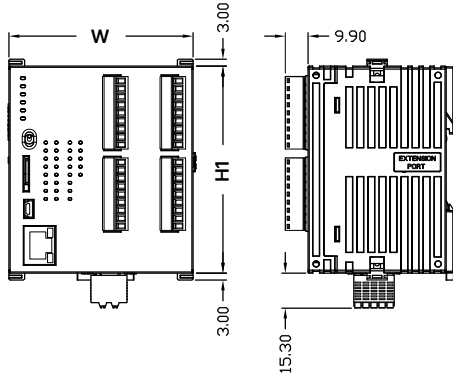
## DVP-ES2/EX2 Series

Model Name (mm)	L	L1
DVP16ES200R/T	105	97
DVP20ES200RE	125	117
DVP20ES200TE	125	117
DVP24ES200R/T	125	117
DVP32ES200R/T	145	137
DVP32ES200RC	145	137
DVP32ES200TC	145	137
DVP32ES200RE	165	157
DVP32ES200TE	165	157
DVP32ES211T	145	137
DVP40ES200R/T	165	157
DVP40ES200RE	194	186
DVP40ES200TE	194	186
DVP60ES200R/T	225	217
DVP60ES200RE	255	247
DVP60ES200TE	255	247
DVP80ES200R/T	302	294
DVP20EX200R/T	145	137
DVP30EX200R/T	165	157



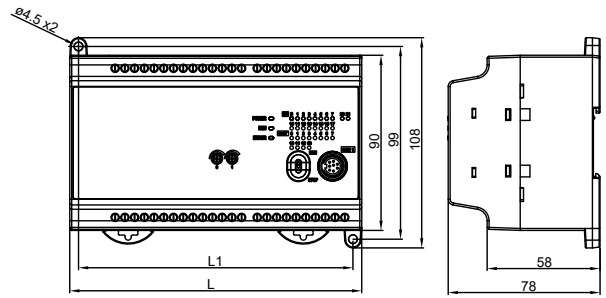
### DVP-SV3/SX3 Series New

Model Name (mm)	H	H1	W	W1
DVP28SV311T/R/S	60	90	80	62.6
DVP20SX311T/R/S	60	90	80	62.6



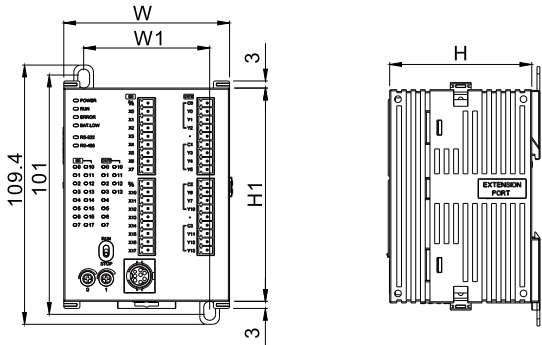
### DVP-EC3 Series

Model Name (mm)	L	L1
DVP10EC00R3/T3	95	86
DVP14EC00R3/T3	95	86
DVP16EC00R3/T3	95	86
DVP20EC00R3/T3	150	141
DVP24EC00R3/T3	150	141
DVP30EC00R3/T3	150	141
DVP32EC00R3/T3	150	141
DVP40EC00R3/T3	164	155
DVP48EC00R3/T3	240	231
DVP60EC00R3/T3	240	231



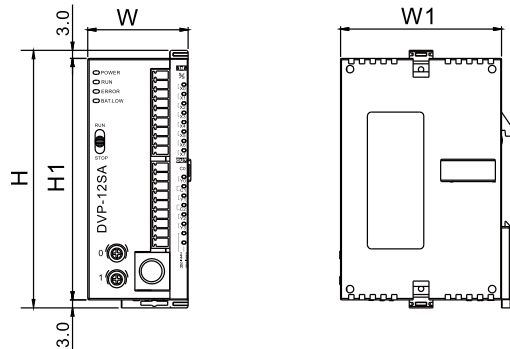
### DVP-SV2/SX2/MC Series

Model Name (mm)	H	H1	W	W1
DVP28SV11R2/T2	60	90	70	53.2
DVP20SX211R/T/S	60	90	70	53.2

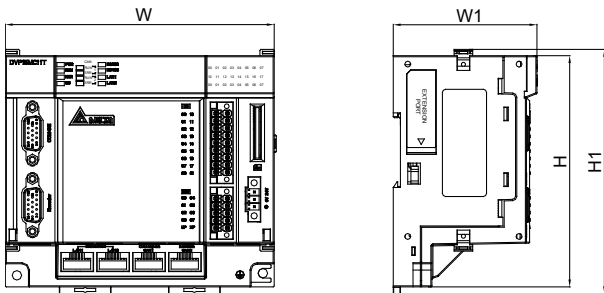


### DVP-SE/SS2/SA2 Series

Model Name (mm)	H	H1	W	W1
DVP28SS211R/T/S	96	90	46	60
DVP28SA211R/T/S	96	90	46	60
DVP26SE11R/T/S	96	90	46	60
DVP14SS211R/T	96	90	25.2	60
DVP12SS211S	96	90	25.2	60
DVP12SA211R/T	96	90	37.4	60
DVP12SE11R/T	96	90	37.4	60



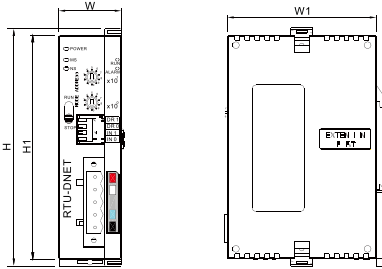
Model Name (mm)	H	H1	W	W1
DVP15MC11T	110	116.2	128	68.4
DVP15MC11T-06	110	116.2	128	68.4
DVP50MC11T/P	110	116.2	128	68.4
DVP50MC11T/P-06	110	116.2	128	68.4
DVP50MC11T-04S/16S	110	116.2	128	68.4



# Dimensions

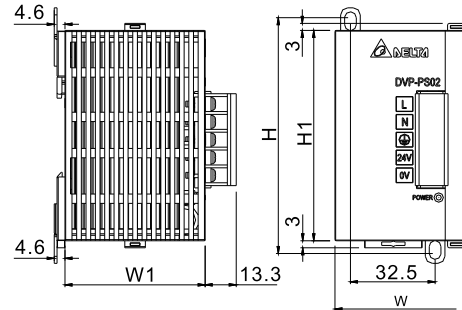
## Remote I/O Modules

Model Name (mm)	H	H1	W	W1
RTU-485	96	90	25.2	60
RTU-EN01	96	90	25.2	60
RTU-CN01	96	90	25.2	60
RTU-ECAT	96	90	25.2	60



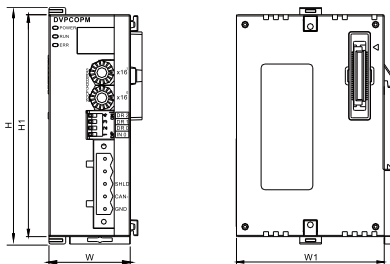
## DVP-PS01/02 Power Supply Modules

Model Name (mm)	H	H1	W	W1
DVPPS01	100	90	36.5	60
DVPPS02	100	90	55	60



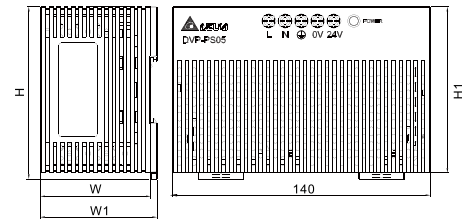
## High-Speed Extension Modules (left-side)

Model Name (mm)	H	H1	W	W1
DVP02PU-SL <b>New</b>	96	90	33.1	60
DVPEN01-SL	96	90	33.1	60
DVPCOPM-SL	96	90	33.1	60
DVPDNET-SL	96	90	33.1	60
DVPSCM12-SL	96	90	33.1	60
DVPSCM52-SL	96	90	33.1	60
DVP04AD-SL	96	90	33.1	60
DVP04DA-SL	96	90	33.1	60
DVP201LC-SL	96	90	33.1	60
DVP202LC-SL	96	90	33.1	60
DVP211LC-SL	96	90	33.1	60

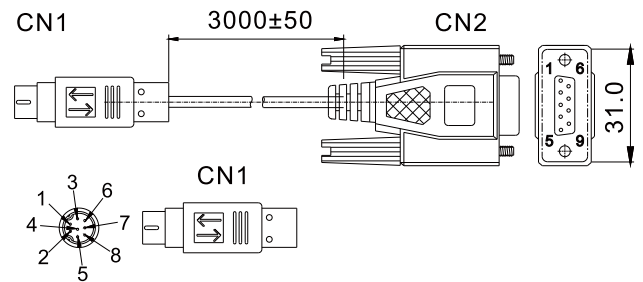


## DVP-PS05 Power Supply Modules

Model Name (mm)	H	H1	W	W1
DVPPS05	93.3	90	60	63.4

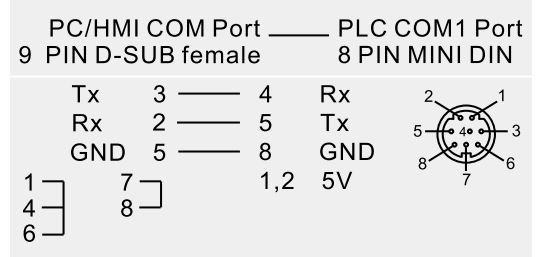
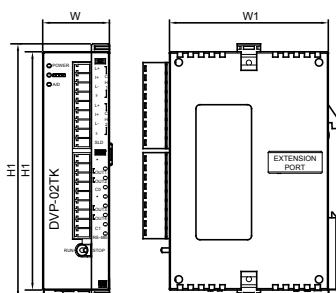


## PIN Definition of UC-MS030-01A



## Remote Temperature Control Modules

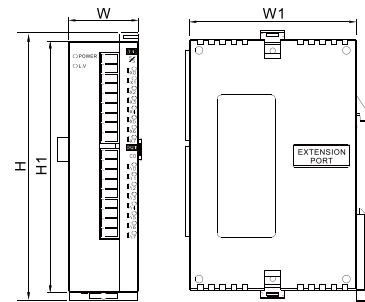
Model Name (mm)	H	H1	W	W1
DVP02TKN-S	96	90	25.2	60
DVP02TKR-S	96	90	25.2	60
DVP02TKL-S	96	90	25.2	60



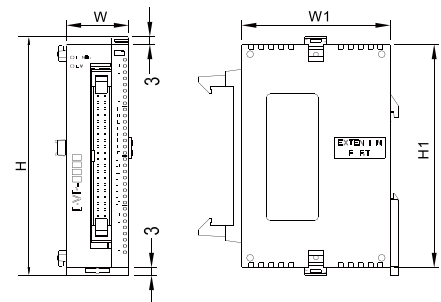
Unit: mm

## DVP-S Series I/O and Extension Modules

Model Name (mm)	H	H1	W	W1
DVP08SM11N	96	90	25.2	60
DVP16SM11N	96	90	25.2	60
DVP06SN11R	96	90	25.2	60
DVP08SN11R/T/TS	96	90	25.2	60
DVP08SP11R/T/TS	96	90	25.2	60
DVP16SP11R/T/TS	96	90	25.2	60
DVP16SN11T	96	90	25.2	60
DVP16SN11TS	96	90	25.2	60
DVP04AD-S2	96	90	25.2	60
DVP06AD-S	96	90	25.2	60
DVP02DA-S	96	90	25.2	60
DVP04DA-S2	96	90	25.2	60
DVP06XA-S2	96	90	25.2	60
DVP04PT-S	96	90	25.2	60
DVP08NTC-S	96	90	25.2	60
DVP06PT-S	96	90	25.2	60
DVP04TC-S	96	90	25.2	60
DVP02TUN-S	96	90	25.2	60
DVP02TUR-S	96	90	25.2	60
DVP02TUL-S	96	90	25.2	60



Model Name (mm)	H	H1	W	W1
DVP32SN11TN	96	90	25.2	60
DVP32SM11N	96	90	25.2	60

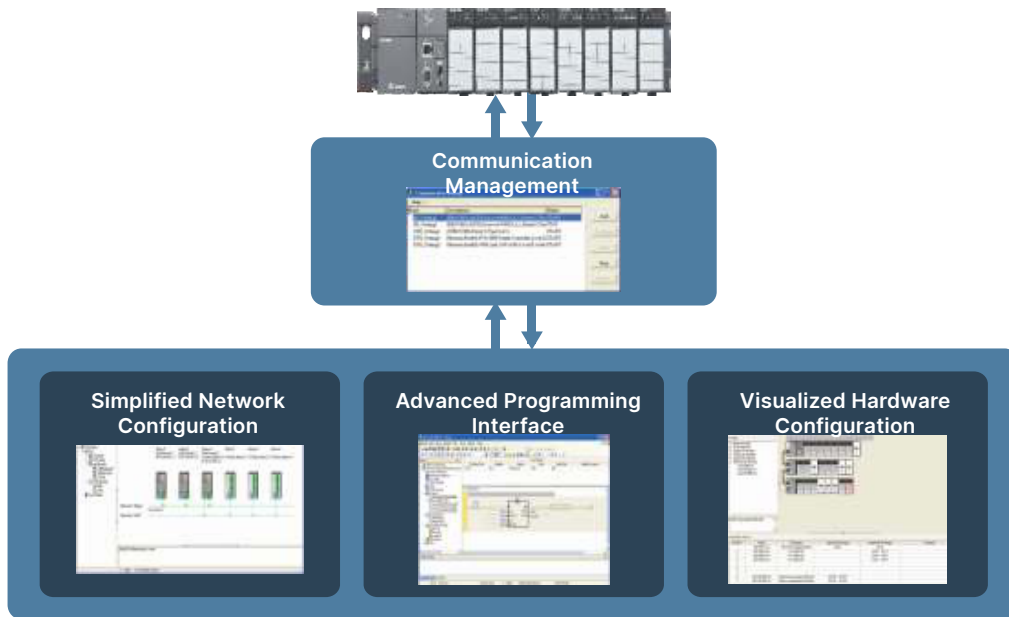




# PLC Editing Software: ISPSoft

## Highly Accessible Programming Software with Fully Integrated Interface

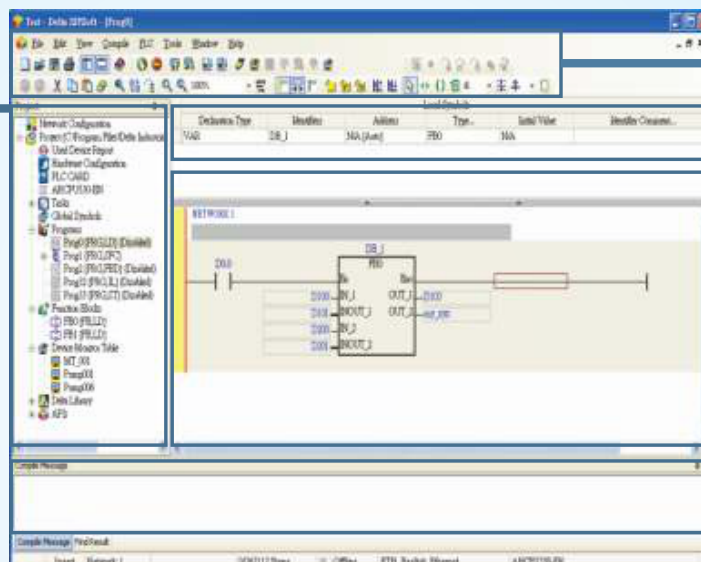
Advanced Programming Interface + Visualized Hardware Configuration + Simplified Network Configuration



### Advanced Programming Interface

#### Project Management Window

- **New functions:** Network configuration (NWCONFIG), hardware configuration (HWCONFIG) and PLC card utility
- 5 programming languages for programs and function blocks (FB): LD / FBD / SFC / IL / ST
- **Function Blocks:** Symbols can be introduced in call-by-value or call-by-reference types. Function blocks can be called in a function block for up to 32 levels
- **Monitor Table:** It can be stored and managed separately. Multiple monitor tables can be stored in a single project
- **User Library:** Users can design frequently used instructions for specific applications in different industries
- **Task:** Supports cyclic, I/O interrupt, timer interrupt, external interrupt, and more. Software will provide the usable tasks for different CPUs
- Built-in Delta Function Blocks provide a convenient programming environment for operators



Toolbar

Symbol Table

Program Editing Area

Message Window

## Visualized Hardware Configuration

**Module Selection**

**Module Description**

**Toolbar**

- System hardware configuration can be monitored in On-Line mode
- Hardware configuration can be displayed by Scan function

**Hardware Configuration Area**

- Operations of Cut / Copy / Paste / Delete are available for modules and racks
- Parameters of each module can be directly configured

**Rack Information**

- I/O device range can be specified by the user

Slot No.	Name	Description	Input Device Range	Output Device Range	Comments
0	AP00K-5A	AP00K-5A			
1	AP00K-5A	AP00K-5A			
2	AP00K-5A	AP00K-5A			
3	AP00K-5A	AP00K-5A			
4	AP00K-5A	AP00K-5A			
5	AP00K-5A	AP00K-5A			
6	AP00K-5A	AP00K-5A			
7	AP00K-5A	AP00K-5A			

## Simplified Network Configuration

192.168.1.11 Station 11

192.168.1.12 Station 12

192.168.1.13 Station 13

Ethernet

FMCS

RS-485

Station 21 Station 22 Station 23

**Network Device Selection**

**Toolbar**

**Network Configuration Area**

- Master device settings
- Ether Link editing function
- PLC Link editing function

**Network Information**

**Ether Link**

**PLC Link**

## 4-Line Text Panel HMI

### TP04G-AL-C

### TP04G-AL2

- ▶ 4.1" STN-LCD
- ▶ User-defined function keys available
- ▶ Supports RS-232/RS-422/RS-485 ports (TP04G-AL2)
- ▶ Password protection function available
- ▶ User-defined boot screen available
- ▶ Built-in real time clock (RTC)

Dimensions	4.1" (101.8 × 35.24 mm)
Resolution	192 × 64
Display Color	Monochrome
Flash Memory	256k bytes
Function Key	10 function keys
Password	Available
Recipe Function	Not available
RTC	Available
Serial COM Port	RS-232 & RS-422 / 485
Editing Software	TPEditor

## 4-Line Text Panel HMI

### TP04G-BL-C

- ▶ 4.1" STN-LCD
- ▶ 0~9 numeric keys and user-defined function available
- ▶ Built-in RS-232 and RS-422/RS-485 ports
- ▶ Supports Modbus ASCII/RTU modes
- ▶ Password protection function available
- ▶ User-defined boot screen available
- ▶ Built-in real time clock (RTC)

Dimensions	4.1" (101.8 × 35.24 mm)
Resolution	192 × 64
Display Color	Monochrome
Flash Memory	256k bytes
Function Key	17 function keys
Password	Available
Recipe Function	Not available
RTC	Available
Serial COM Port	RS-232 & RS-422 / 485
Editing Software	TPEditor

## 8-Line Text Panel HMI

### TP08G-BT2

- ▶ 3.8" STN-LCD
- ▶ Resolution: 240x128 dots
- ▶ Built-in 1,024KB flash memory
- ▶ 24 user-defined function keys
- ▶ Built-in RS-232 and RS-422/RS-485 ports
- ▶ Supports recipes and macro functions

Dimensions	3.8" ( 83 x 41 mm)
Resolution	240 × 128
Display Color	Monochrome
Flash Memory	1 M bytes
Function Key	24 function keys
Password	Available
Recipe Function	Available
RTC	Available
Serial COM Port	RS-232 & RS-422 / 485
Editing Software	TPEditor

### Applications

Intelligent control systems for aquaculture, steel sleeve tapping machines, air compressors, plant factories

## 7-Inch Touch Panel HMI with Built-in PLC

### TP70P

- ▶ Adopts the core of the DVP-SS2 Series PLC: program capacity: 4 k steps / D device: 5k words
- ▶ Provides 2 sets of 10 kHz high-speed pulse input
- ▶ 7" TFT-LCD
- ▶ Touch screen
- ▶ Built-in USB port for program upload/download
- ▶ Built-in RS-485 port\*2
- ▶ Supports Modbus ASCII/RTU modes
- ▶ Built-in real time clock (RTC)
- ▶ Digital and analog I/O terminals available

Dimensions	7" (154 × 85 mm)
Resolution	800 × 480
Display Color	65,535 colors
Flash Memory	64 M bytes
Function Key	Not available
Password	Available
Recipe Function	Not available
RTC	Available
Serial COM Port	2 sets of RS-485
Editing Software	TPEditor








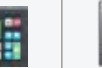
## 4-Line Text Panel HMI with Built-in PLC

### TP04P

- ▶ Adopts the core of the DVP-SS2 Series PLC: program capacity: 8 k steps / D device: 5k words
- ▶ Provides 2 sets of 10 kHz high-speed pulse input
- ▶ 4.1" STN-LCD
- ▶ Provides 0~9 numeric keys with user-defined function
- ▶ Built-in USB port for program upload/download
- ▶ Built-in RS-485 port\*2
- ▶ Supports Modbus ASCII/RTU modes
- ▶ User-defined boot screen available
- ▶ Built-in real time clock (RTC)
- ▶ Digital and analog I/O terminals available

Dimensions	4.1" (101.8 × 35.24 mm)
Resolution	192 × 64
Display Color	Monochrome
Flash Memory	1 M bytes
Function Key	17 function keys
Password	Available
Recipe Function	Not available
RTC	Available
Serial COM Port	2 sets for RS-485
Editing Software	TPEditor



		Text Panel HMI					Text / Touch Panel HMI with Built-in PLC		
Model		TP02G-AS1	TP04G-AS2	TP08G-BT2	TP04G-AL-C	TP04G-AL2	TP04G-BL-C	TP04P-Series	TP70P-Series
									
Display Specifications	Screen Type	STN-LCD							TFT-LCD
	Display Color	Monochrome							65,535
	Resolution	160 x 32	128 x 64	240 x 128	192 x 64			800 x 480	
	Backlight	Life span of backlight is about 50,000 hours at 25°C							20,000 hours
	Display Range	72 x 22 mm	3" (67 x 32 mm)	3.8" (83 x 41 mm)	4.1" (101.8 x 35.24 mm)			7" (154 x 85 mm)	
Flash Memory	256k bytes		1M bytes	256k bytes			1M bytes	64M bytes	
Program Download Port	COM1 (RS-232)							COM1 (USB)	USB
Serial COM Port	COM1	RS-232	RS-232/422		RS-232	RS-232/422	RS-232	-	-
	COM2	RS-485			-	RS-422/485	RS-422/485	RS-485	TP70 with I/O: RS-485
	COM3	-			-	-	-	RS-485	
Extension Interface	The slot for program copy card							-	
Real-time Clock	-	Built-in							
Auxiliary Keys	System Keys	6	7	12	5		7	-	
	Function Keys	10	5	12	5		10	-	
Operating Voltage	+24 V <sub>DC</sub> (-10% ~ +20%)							-	
Backup Battery	3V lithium battery CR2032 x 1/battery life: 5 years								
Buzzer	85 dB								
Cooling Method	Natural air circulation								
Operating Temperature	0°C ~ 50°C								
Storage Temperature	-20°C ~ +60°C								
Operating Humidity	10% ~ 90% RH (0 ~ 40°C)								
Vibration	IEC 61131-2, IEC 68-2-6 (TEST Fc); 5 Hz ≤ f < 8.4 Hz Continuous: 3.5 mm; 8.4 Hz ≤ f ≤ 150 Hz Continuous: 1.0 g								
Shock	IEC 61131-2, IEC 68-2-27 (TEST Ea); 15g peak, 11ms duration, half-sine, three shocks in each direction per axis, on 3 mutually perpendicular axes (total of 18 shocks)								
Radiated Emission	CISPR11, Class A Frequency: 30 ~ 230 MHz, Limits: 40 dB uV/m Frequency: 230 MHz ~ 1 GHz, Limits: 47 dB uV/m								
Radiated Electromagnetic Field	EN61000-4-3, Frequency: 80 ~ 2000 MHz, Limits: 10V/m								
Electrostatic Discharge	EN61000-4-2, Air Discharge: 8KV, Contact Discharge: 4KV								
Fast Transient Burst	EN61000-4-4, Power Line: 1KV, Communication I/O: 500 V								
Dimensions Width (W) × Height (H) × Depth (D)	147 x 97 x 35.5	210 x 122 x 45	163.6 x 108.6 x 37		175.8 x 108.8 x 37		TP04P Series: 175.8 x 108.6 x 59.2 TP04P-20EXL1T: 175.8 x 108.6 x 82.4	TP70P Series: 205.6 x 142.6 x 49 TP70P-211LC1T : 205.6 x 142.6 x 87.7	
Panel Cutout	136 x 85	196 x 108	151 x 96		163 x 96		163 × 96	191 × 128	
Weight	240 g	430 g	268 g	270 g	292 g	TP04P Series: 500 g TP04P-20EXL1T: 650 g	TP70P Series: 680 g TP70P-211LC1T: 900 g		
Safety Approvals (Waterproof Class of Front Panel)	IP66/NEMA 4x/UL Type 4x (Indoor use only)								
Editing Software	TPEditor								

# Product Outline and Dimensions

Unit: mm

TP02G-AS1	TP04G-AS2	TP04G-AL-C/TP04G-AL2
		
TP04G-BL-C	TP04P-Series (Exclude TP04P-20EXL1T)	TP08G-BT2
		
TP70P-Series (Exclude TP70P-211LC1T)	TP04P-20EXL1T	TP70P-211LC1T
		

# DVP Series Model Name Instructions

**• PLC**

DVP ○ ○ □ □ ○ ○ □ ○

Series ① ② ③ ④ ⑤

- Total I/O**
- Model**  
 ES2/ES3: DVP-ES2/ES3 series PLC  
 EX2/EX3: DVP-EX2/EX3 series PLC  
 SS2: DVP-SS2 series PLC  
 SV2/SV3: DVP-SV2/SV3 series PLC  
 SA2: DVP-SA2 series PLC  
 SX2/SX3: DVP-SX2/SX3 series PLC  
 SE: DVP-SE series PLC  
 MC: DVP-MC series PLC  
 EC: DVP-EC series PLC
- Power supply**  
 00: AC power input  
 11: DC power input
- Output type**  
 R: Relay  
 T: Transistor (NPN)  
 M: Mixed with differential signal  
 S: Transistor (PNP)  
 RC: Relay + CANopen  
 TC: Transistor + CANopen  
 RE: Relay + Ethernet  
 TE: Transistor + Ethernet
- Version**

**• PI/PO Module**

DVP ○ ○ □ □ - □ ○

Series ① ② ③

- Total I/O**
- Module function**  
 HC: High-speed counter  
 PU: Single-axis positioning module
- Compatible model**  
 S: DVP-SV3/SX3/SS2/SA2/SX2/SV2/SE/MC series PLC  
 SL: left-side extension for DVP-S Series PLC

**• Remote I/O**

RTU □ □ ○

Series ①

- Type**  
 485: RS-485  
 EN01: Modbus TCP  
 CN01: CANopen  
 ECAT: EtherCAT

**• DI/DO Module**

DVP ○ ○ □ □ ○ ○ □

Series ① ② ③ ④ ⑤

- Total I/O**
- Model**  
 X: DVP-ES2/EX2/ES3 series PLC  
 S: DVP-SV3/SX3/SS2/SA2/SX2/SV2/SE/MC series PLC
- I/O type**  
 M: Input point  
 N: Output point  
 P: Input + output
- Power supply**  
 00: AC power input  
 11: DC power input
- Output type**  
 R: Relay  
 T: Transistor (NPN)  
 TS: Transistor (PNP)  
 N: None output

**• Function Card**

DVP - F ○ ○ ○ □

Series ① ② ③

- Function Card**
- Function**  
 232: RS-232 card  
 422: RS-422 card  
 485: RS-485 card  
 2AD: 2ch analog input  
 2DA: 2ch analog output
- Particular definition**  
 S: Slave mode  
 (applicable to COM3 coding only)

**• Accessory: Cable**

DVP A CAB ○ ○ ○

Series ① ② ③ ④

- Accessory**
- Accessory definition**  
 CAB: Cable
- Type**  
 1, 2, 3, 4, .....
- Cable length**  
 15: 1.5m  
 30: 3.0m

**• AI/AO Module**

DVP ○ ○ □ □ - □ ○

Series ① ② ③

- Total I/O**
- Module function**  
 AD: Analog/digital conversion  
 DA: Digital/analog conversion  
 PT: PT type temperature module  
 TC: Thermocouple type temperature module  
 NTC: Thermistor type temperature module  
 XA: AD + DA module  
 LC: Load cell module
- Compatible model**  
 S2: DVP-SV3/SX3/SS2/SA2/SX2/SV2/SE/MC series PLC  
 SL: left-side extension for DVP-S Series PLC  
 E2: DVP-ES2/EX2/ES3/EX3 series PLC

**• Network Module**

DVP □ □ ○ ○ - □ ○

Series ① ②

- Module function**  
 EN01: Modbus TCP  
 DNET: DeviceNet master  
 COPM: CANopen master
- Compatible model**  
 S: DVP-SV3/SX3/SS2/SA2/SX2/SV2/SE/MC series PLC  
 SL: left-side extension for DVP-S Series PLC

**• Accessory: Other**

DVP A BT ○ ○ ○

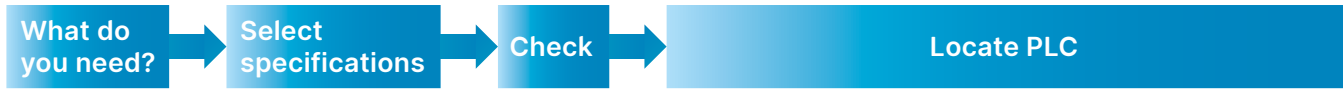
Series ① ② ③

- Accessory**
- Accessory definition**  
 Bt: Battery
- Type: 01, 02, .....**

\*For the availability of the product models, please contact Delta sales representatives or refer to "Ordering Information" in this catalogue

# DVP Series PLC Function Overview

Select your desired specifications and locate the most suitable PLC.



Item	Specifications	Check	Model										
			ES3	EX3	SV3	SX3	ES2	EX2	SS2	SA2	SX2	SV2	SE
Power Supply	AC	<input type="checkbox"/>	○	○			⊙	⊙					
	DC	<input type="checkbox"/>	○		○	○				○	○	○	○
I/O Points	< 256	<input type="checkbox"/>	△	△			△	△					
	< 512	<input type="checkbox"/>			△	△			△	△	△	△	△
Program Capacity	< 8 k	<input type="checkbox"/>							○				
	<16 k	<input type="checkbox"/>					○	○		○	○		○
	< 32 k	<input type="checkbox"/>										○	
	< 64 k	<input type="checkbox"/>	○	○	○	○							
Output Type	Transistor (NPN)	<input type="checkbox"/>	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Transistor (PNP)	<input type="checkbox"/>			⊙	⊙			⊙	△	⊙	⊙	△
	Relay	<input type="checkbox"/>	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Differential signal	<input type="checkbox"/>		○		○							
Communication	3 COM ports (RS-232 / 485)	<input type="checkbox"/>	○	○	○	○	○	○		○	△	△	△
	Ethernet	<input type="checkbox"/>	○	○	○	○	⊙			△	△	△	○
	USB	<input type="checkbox"/>	○	○	○	○					○		○
	DeviceNet	<input type="checkbox"/>			△	△				△*1	△*1	△*1	△*1
	CANopen	<input type="checkbox"/>	○	○	○	○	⊙			△*1	△*1	△*1	△*1
	EtherCAT	<input type="checkbox"/>	ES3-TEC										
Positioning	2-axis output	<input type="checkbox"/>					○	○	○	○	○		○
	4-axis output	<input type="checkbox"/>										○	
	> 4 axes	<input type="checkbox"/>	○	○	○	○			△	△	△	△	△
	2-axis interpolation	<input type="checkbox"/>	○	○	○	○	○	○		○	○	○	○
	100 kHz high speed	<input type="checkbox"/>					○	○		○	○		○
	200 kHz high speed	<input type="checkbox"/>	○	○	○	○			△	△	△	○	△
High-speed Counting	≤ 2 channels	<input type="checkbox"/>					○	○	○	○	○		○
	≥ 3 channels	<input type="checkbox"/>	○	○	○	○			△	△	△	○	△
	100 kHz high speed	<input type="checkbox"/>					○	○		○	○		○
	200 kHz high speed	<input type="checkbox"/>	○	○	○	○			△	△	△	○	△
Analog Function	< 4 channels (AD)	<input type="checkbox"/>	△	△	△	○	△	○	△	△	○	△	△
	< 2 channels (DA)	<input type="checkbox"/>	△	○	△	○	△	○*2	△	△	○*2	△	△

Note:



○ With such specification ⊙ Varies upon model △ With such specification when connected to extension module /function card

\*1: Series that support left-side modules can support both master and slave; other series support only slave  
 (Note: DVP26SE / DVP28SA2 only supports right-side modules)



\*2: DVP-EX2 / SX2 Series have 4 channels of analog input and 2 channels of analog output

## Ordering Information


### DVP-EC3 Series PLC

Product Name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
DVP-EC3 Series Basic PLC	100 ~ 240 V <sub>AC</sub>	Relay	6	4	DVP10EC00R3	 
	100 ~ 240 V <sub>AC</sub>	Transistor	6	4	DVP10EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	8	6	DVP14EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	8	6	DVP14EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	8	8	DVP16EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	8	8	DVP16EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	12	8	DVP20EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	12	8	DVP20EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	12	12	DVP24EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	12	12	DVP24EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	18	12	DVP30EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	18	12	DVP30EC00T3	

### DVP-EC3 Series PLC



Product Name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
DVP-EC3 Series Basic PLC	100 ~ 240 V <sub>AC</sub>	Relay	16	16	DVP32EC00R3	 
	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	24	16	DVP40EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	24	16	DVP40EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	28	20	DVP48EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	28	20	DVP48EC00T3	
	100 ~ 240 V <sub>AC</sub>	Relay	36	24	DVP60EC00R3	
	100 ~ 240 V <sub>AC</sub>	Transistor	36	24	DVP60EC00T3	
Fastest execution time of basic instructions		3.8 μs	Execution time of MOV instruction		5.04 μs	

### DVP-EC5 Series PLC

Product Name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
DVP-EC5 Series Basic PLC	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32EC500T	
	100 ~ 240 V <sub>AC</sub>	Transistor	28	20	DVP48EC500T	
	100 ~ 240 V <sub>AC</sub>	Transistor	36	24	DVP60EC500T	




## DVP-ES3/ES3-TEC/EX3/ES2/EX2 Series PLC

Product Name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
DVP-ES3 Series Standard PLC	24 V <sub>DC</sub>	Transistor	16	16	DVP32ES311T	 
	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32ES300T	
	100 ~ 240 V <sub>AC</sub>	Relay	16	16	DVP32ES300R	
	100 ~ 240 V <sub>AC</sub>	Transistor	24	24	DVP48ES300T	
	100 ~ 240 V <sub>AC</sub>	Relay	24	24	DVP48ES300R	
	100 ~ 240 V <sub>AC</sub>	Transistor	32	32	DVP64ES300T	
	100 ~ 240 V <sub>AC</sub>	Relay	32	32	DVP64ES300R	
	100 ~ 240 V <sub>AC</sub>	Transistor	40	40	DVP80ES300T	
100 ~ 240 V <sub>AC</sub>	Relay	40	40	DVP80ES300R		
<b>New</b> DVP-ES3 Series Standard PLC	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32ES300TEC	
DVP-ES2 Series Standard PLC	100 ~ 240 V <sub>AC</sub>	Relay	8	8	DVP16ES200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	8	8	DVP16ES200T	
	100 ~ 240 V <sub>AC</sub>	Relay	16	8	DVP24ES200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	16	8	DVP24ES200T	
	100 ~ 240 V <sub>AC</sub>	Relay	16	16	DVP32ES200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32ES200T	
	24 V <sub>DC</sub>	Transistor	16	16	DVP32ES211T	
	100 ~ 240 V <sub>AC</sub>	Relay	24	16	DVP40ES200R DVP40ES200RM <sup>*1</sup>	
	100 ~ 240 V <sub>AC</sub>	Transistor	24	16	DVP40ES200T	
	100 ~ 240 V <sub>AC</sub>	Relay	36	24	DVP60ES200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	36	24	DVP60ES200T	
DVP-ES2 Series Standard PLC with Built- in CANopen	100 ~ 240 V <sub>AC</sub>	Relay	16	16	DVP32ES200RC	
	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32ES200TC	
DVP-ES2 Series Standard PLC with Ethernet Communication	100 ~ 240 V <sub>AC</sub>	Relay	12	8	DVP20ES200RE	
	100 ~ 240 V <sub>AC</sub>	Transistor	12	8	DVP20ES200TE	
	100 ~ 240 V <sub>AC</sub>	Relay	16	16	DVP32ES200RE	
	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32ES200TE	
	100 ~ 240 V <sub>AC</sub>	Relay	24	16	DVP40ES200RE	
	100 ~ 240 V <sub>AC</sub>	Transistor	24	16	DVP40ES200TE	
	100 ~ 240 V <sub>AC</sub>	Relay	36	24	DVP60ES200RE	
100 ~ 240 V <sub>AC</sub>	Transistor	36	24	DVP60ES200TE		
<b>New</b> DVP-EX3 Series AIO PLC	100 ~ 240 V <sub>AC</sub>	Transistor Relay	12	8	DVP22EX300T DVP22EX300R	
		Analog	2AI	0		
	100 ~ 240 V <sub>AC</sub>	Transistor Analog	4 x diff.DI + 8DI	4 x diff.DO + 8DO	DVP28EX300MT	
		Relay	2AI	2AO		
	100 ~ 240 V <sub>AC</sub>	Transistor Relay	16	16	DVP36EX300T DVP36EX300R	
Analog		2AI	2AO			
DVP-EX2 Series Analog PLC	100 ~ 240 V <sub>AC</sub>	Relay	8	6	DVP20EX200R	
		Analog	4	2		
	100 ~ 240 V <sub>AC</sub>	Transistor	8	6	DVP20EX200T	
DVP-EX2 Series Temperature/ Analog PLC	100 ~ 240 V <sub>AC</sub>	Relay	16	10	DVP30EX200R	
		Analog	3	1		
	100 ~ 240 V <sub>AC</sub>	Transistor	16	10	DVP30EX200T	
		Analog	3	1		
Fastest execution time of basic instructions		ES3: 0.025μs ES2/EX2: 0.35μs	Execution time of MOV instruction		ES3: 0.15μs ES2/EX2: 3.4μs	




\*1: Built-in SD card slot

## Ordering Information

### DVP-ES3/ES3-TEC/EX3/ES2/EX2 Series Digital I/O Module (AC power supply)




Product Name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
Digital Module	100 ~ 240 V <sub>AC</sub>	Relay	-	24	DVP24XN200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	-	24	DVP24XN200T	
	100 ~ 240 V <sub>AC</sub>	Relay	16	8	DVP24XP200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	16	8	DVP24XP200T	
	100 ~ 240 V <sub>AC</sub>	Relay	16	16	DVP32XP200R	
	100 ~ 240 V <sub>AC</sub>	Transistor	16	16	DVP32XP200T	

### DVP-ES3/ES3-TEC/EX3/ES2/EX2 Series Digital I/O Module (AC power supply)

Product Name	Output Method	Inputs	Outputs	Model Name	Certificates
Digital Module	-	8	-	DVP08XM211N	
	Relay	-	8	DVP08XN211R	
	Transistor	-	8	DVP08XN211T	
	Relay	4	4	DVP08XP211R	
	Transistor	4	4	DVP08XP211T	
	-	16	-	DVP16XM211N	
	Relay	-	16	DVP16XN211R	
	Transistor	-	16	DVP16XN211T	
	Relay	8	8	DVP16XP211R	
	Transistor	8	8	DVP16XP211T	
Analog I/O Module	<ul style="list-style-type: none"> <li>4 points of analog voltage (10 V, 5 V) / current (20 mA, 0 ~ 20 mA, 4 ~ 20 mA) input *1</li> <li>Resolution: 14-bit (-32,000 ~ +32,000)</li> </ul>			DVP04AD-E2	
	<ul style="list-style-type: none"> <li>4 points of analog voltage (-10 V ~ +10 V) / current (0 ~ 20 mA, 4 ~ 20 mA) output *1</li> <li>Resolution: 14-bit (-32,000 ~ +32,000) / (0 ~ +32,000)</li> </ul>			DVP04DA-E2	
	<ul style="list-style-type: none"> <li>2 points of analog voltage (-10 V ~ +10 V) / current (0 ~ 20 mA, 4 ~ 20 mA) output *1</li> <li>Resolution: 14-bit (-32,000 ~ +32,000) / (0 ~ +32,000)</li> </ul>			DVP02DA-E2	
	<ul style="list-style-type: none"> <li>4 points of analog voltage (10 V, 5 V) / current (20 mA, 0 ~ 20 mA, 4 ~ 20 mA) input *1</li> <li>Input resolution: 14-bit (-32,000 ~ +32,000)</li> <li>2 points of analog voltage (-10 V ~ +10 V) / current (0 ~ 20 mA, 4 ~ 20 mA) output</li> <li>Output resolution: 14-bit (-32,000 ~ +32,000) / (0 ~ +32,000)</li> </ul>			DVP06XA-E2	
Temperature Measurement Module	<ul style="list-style-type: none"> <li>4 points of platinum RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input / 0 ~ 300Ω resistance input *1</li> <li>Resolution: 16-bit</li> <li>With PID temperature control</li> </ul>			DVP04PT-E2	
	<ul style="list-style-type: none"> <li>6 points of platinum RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input / 0 ~ 300Ω resistance input *1</li> <li>Resolution: 16-bit</li> <li>With PID temperature control</li> </ul>			DVP06PT-E2	
	<ul style="list-style-type: none"> <li>4 points of thermocouple (J, K, R, S, T, E, N Type) sensor input / -80mV ~ +80mV voltage input *1</li> <li>Resolution: 20-bit</li> <li>With PID temperature control</li> </ul>			DVP04TC-E2	
Extension module	<ul style="list-style-type: none"> <li>Extends distance between the I/O modules of the DVP-ES2 Series within a given distance</li> </ul>			DVPAEXT01-E2	


\*1. Digital / analog photocoupler isolation. No isolation among channels

## DVP-S Series PLC


Product Name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
<b>New</b> DVP-SV3 Series Standard PLC	24 V <sub>DC</sub>	Transistor	16	12	DVP28SV311T	
	24 V <sub>DC</sub>	Relay	16	12	DVP28SV311R	
	24 V <sub>DC</sub>	Transistor (PNP)	16	12	DVP28SV311S	
DVP-SV2 Series Functional Slim PLC	24 V <sub>DC</sub>	Relay	16	12	DVP28SV11R2	
	24 V <sub>DC</sub>	Transistor	16	12	DVP28SV11T2	
	24 V <sub>DC</sub>	Transistor (PNP)	16	12	DVP28SV11S2	
	24 V <sub>DC</sub>	Transistor	10 (2AI)	12	DVP24SV11T2	
Execution time of basic instructions			0.24 μs			
DVP-SS2 Series Standard Slim PLC	24 V <sub>DC</sub>	Relay	16	12	DVP28SS211R	
	24 V <sub>DC</sub>	Transistor	16	12	DVP28SS211T	
	24 V <sub>DC</sub>	Transistor (PNP)	16	12	DVP28SS211S	
	24 V <sub>DC</sub>	Relay	8	6	DVP14SS211R	
	24 V <sub>DC</sub>	Transistor	8	6	DVP14SS211T	
	24 V <sub>DC</sub>	Transistor (PNP)	8	4	DVP12SS211S	
DVP-SA2 Series Advanced Slim PLC	24 V <sub>DC</sub>	Relay	16	12	DVP28SA211R	
	24 V <sub>DC</sub>	Transistor	16	12	DVP28SA211T	
	24 V <sub>DC</sub>	Transistor (PNP)	16	12	DVP28SA211S	
	24 V <sub>DC</sub>	Relay	8	4	DVP12SA211R	
	24 V <sub>DC</sub>	Transistor	8	4	DVP12SA211T	
<b>New</b> DVP-SX3 Series AIO PLC	24 V <sub>DC</sub>	Transistor Relay Transistor (PNP)	8 4AI	6 2AO	DVP20SX311T DVP20SX311R DVP20SX311S	
DVP-SX2 Series Analog Slim PLC	24 V <sub>DC</sub>	Relay	8 (4AI)	6 (2AO)	DVP20SX211R	
	24 V <sub>DC</sub>	Transistor	8 (4AI)	6 (2AO)	DVP20SX211T	
	24 V <sub>DC</sub>	Transistor (PNP)	8 (4AI)	6 (2AO)	DVP20SX211S	
Fastest execution time of basic instructions		0.35 μs	Execution time of MOV instruction		3.4 μs	
DVP-SE Series Network Type Slim PLC	24 V <sub>DC</sub>	Relay	14	12	DVP26SE11R	
	24 V <sub>DC</sub>	Transistor	14	12	DVP26SE11T	
	24 V <sub>DC</sub>	Transistor (PNP)	14	12	DVP26SE11S	
	24 V <sub>DC</sub>	Relay	8	4	DVP12SE11R	
	24 V <sub>DC</sub>	Transistor	8	4	DVP12SE11T	
Fastest execution time of basic instructions		0.64 μs	Execution time of MOV instruction		2 μs	

# Ordering Information


## DVP-S Series Digital / Analog Module

Product name	Output Method	Inputs	Outputs	Model Name	Certificates
Digital Module	Relay	-	6	DVP06SN11R	
	Relay	-	8	DVP08SN11R	
	Transistor	-	8	DVP08SN11T	
	Transistor	-	16	DVP16SN11T	
	Relay	4	4	DVP08SP11R	
	Transistor	4	4	DVP08SP11T	
	-	8	-	DVP08SM11N	
	-	8	-	DVP08SM10N	
	Transistor (PNP)	-	8	DVP08SN11TS	
	Digital switch	8	-	DVP08ST11N	
	Relay	8	8	DVP16SP11R	
	Transistor (PNP)	4	4	DVP08SP11TS	
	Transistor (NPN)	8	8	DVP16SP11T	
	Transistor (PNP)	8	8	DVP16SP11TS	
	Transistor (PNP)	-	16	DVP16SN11TS	
	-	16	-	DVP16SM11N	
Transistor, MIL	-	32	DVP32SN11TN		
MIL	-	32	DVP32SM11N		
Product Name	Description			Model Name	Certificates
Analog I/O Module	<ul style="list-style-type: none"> <li>4 points of analog input voltage (-10V ~ +10V) / current (-20 mA ~ +20 mA)</li> <li>Input resolution: 14-bit</li> </ul>		<ul style="list-style-type: none"> <li>Built-in RS-485 interface</li> <li>Differential input</li> </ul>	DVP04 AD-S2	
	<ul style="list-style-type: none"> <li>4 points of analog output voltage (0V ~ +10V) / current (0 mA ~ +20 mA)</li> </ul>		<ul style="list-style-type: none"> <li>Output resolution: 12-bit</li> <li>Built-in RS-485 interface</li> </ul>	DVP04DA-S2	
	<ul style="list-style-type: none"> <li>Analog input+output module (6 points)</li> <li>4 points of analog input voltage (-10V ~ +10V) / current (-20 mA ~ +20 mA)</li> <li>2 points of analog output voltage (0V ~ +10V) / current (0 mA ~ +20 mA)</li> </ul>		<ul style="list-style-type: none"> <li>Input/output resolution: 12-bit</li> <li>Built-in RS-485 interface</li> <li>Differential input</li> </ul>	DVP06XA-S2	

## DVP-S Series Analog Module

Product Name	Description	Model Name	Certificates
Analog I/O Module	<ul style="list-style-type: none"> <li>2 points of analog output voltage (0V ~ +10V) / current (0 mA ~ +20 mA)</li> <li>Output resolution: 12-bit</li> </ul>	DVP02DA-S	
	<ul style="list-style-type: none"> <li>6 points of analog input voltage (-10V ~ +10V) / current (-20 mA ~ +20 mA)</li> <li>Input resolution: 14-bit</li> </ul>	DVP06 AD-S	

## DVP-S Series Extension Module / High-Speed Module (Left-side)


Product Name	Description	Model Name	Certificates	
High-Speed Analog I/O Module (Left-side)	<ul style="list-style-type: none"> <li>4 groups of analog input *1</li> <li>Signal range: 1~5 V, 0~5 V, -5~5 V, 0~10 V, -10~10 V, 4~20 mA, 0~20 mA, -20~20 mA</li> <li>Resolution: 16-bit</li> <li>Single channel On/Off setup enhances entire conversion efficiency</li> <li>Conversion time: 250 μs/point</li> <li>Off-line alarm (1~5 V, 4~20 mA)</li> </ul>	DVP04 AD-SL		
	<ul style="list-style-type: none"> <li>4 groups of analog output *1</li> <li>Signal range: 0~10 V, -10~10 V, 4~20 mA, 0~20 mA</li> <li>Resolution: 16-bit</li> <li>Offers single channel On/Off setup</li> <li>Conversion time: 250 μs/point</li> </ul>	DVP04DA-SL		
High-Speed Load Cell Module (Left-side)	<ul style="list-style-type: none"> <li>1 set of load cell module*1</li> <li>Resolution: 24-bit for hardware(ADC), 32-bit for data output</li> </ul>	<ul style="list-style-type: none"> <li>Connectable to 4-wire/6-wire load cell sensor</li> <li>Measurable range: 0~80 mV/V</li> </ul>		DVP201LC-SL
	<ul style="list-style-type: none"> <li>1 set of load cell module*1</li> <li>Resolution: 24-bit for hardware(ADC), 32-bit for data output</li> <li>Connectable to 4-wire/6-wire load cell sensor</li> </ul>	<ul style="list-style-type: none"> <li>Measurable range: 0~80 mV/V</li> <li>Built-in I/O control: 2DI/4DO/1AO</li> </ul>		DVP211LC-SL
	<ul style="list-style-type: none"> <li>2 sets of load cell module*1</li> <li>Resolution: 24-bit for hardware(ADC), 32-bit for data output</li> </ul>	<ul style="list-style-type: none"> <li>Connectable to 4-wire/6-wire load cell sensor</li> <li>Measurable range: 0~80 mV/V</li> </ul>		DVP202LC-SL
Temperature Measurement Module	<ul style="list-style-type: none"> <li>6 points of platinum RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input</li> <li>Resolution: 0.1°C/0.18°F</li> </ul>			DVP06PT-S
	<ul style="list-style-type: none"> <li>4 points of platinum RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input*1 (Version 4.06 and above supports Pt1000, Ni100, Ni1000)</li> <li>Resolution: 0.1°C/0.18°F</li> <li>Built-in RS-485 interface</li> </ul>			DVP04PT-S
	<ul style="list-style-type: none"> <li>4 points of thermocouple (J, K, R, S, T type) sensor input*1</li> <li>Resolution: 0.1°C/0.18°F</li> <li>Built-in RS-485 interface</li> </ul>			DVP04TC-S
	<ul style="list-style-type: none"> <li>8 points of thermistor (NTC) sensor input</li> <li>Resolution: 0.1°C/0.18°F</li> <li>Built-in RS-485 interface</li> </ul>		DVP08NTC-S	
	<ul style="list-style-type: none"> <li>2 points of universal analog input: 0~10 V, 0~20 mA, 4~20 mA; Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII; RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000</li> <li>Resolution: analog 16-bit; Sensor: 0.1°C/0.18°F</li> <li>4 points of NPN transistor output: 24V<sub>DC</sub>/300mA</li> <li>Output point: built-in PID program control/manual control</li> </ul>		DVP02TUN-S	
	<ul style="list-style-type: none"> <li>2 points of universal analog input: 0~10 V, 0~20 mA, 4~20 mA; Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII; RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000</li> <li>Resolution: analog 16-bit; Sensor: 0.1°C/0.18°F</li> <li>4 points of relay output: 24V<sub>DC</sub>/3A</li> <li>Output point: built-in PID program control/manual control</li> </ul>		DVP02TUR-S	
<ul style="list-style-type: none"> <li>2 points of universal analog input: 0~10 V, 0~20 mA, 4~20 mA; Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII; RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000</li> <li>Resolution: analog 16-bit; Sensor: 0.1°C/0.18°F</li> <li>2 points of analog output: 0~10 V, 0~20 mA, 4~20 mA</li> <li>Output point: built-in PID program control/manual control</li> </ul>		DVP02TUL-S		

\*1. Digital / analog photocoupler isolation. No isolation among channels




# Ordering Information

## DVP-S Series Extension Module / High-Speed Module (Left-side)


Product Name	Description	Model Name	Certificates
<b>Left-Side Positioning Module</b>	<ul style="list-style-type: none"> <li>2-axis positioning left-side extension module.</li> <li>5 ~ 24 V<sub>DC</sub>, 1 x (A/B/Z phase) differential input (Max. 200 kHz frequency)</li> <li>24 V<sub>DC</sub>, 5mA, 5 points inputs (Max. 1kHz frequency)</li> <li>5 V<sub>DC</sub>, 2 axes (4 points) differential output (Max. 200 kHz frequency)</li> </ul>	DVP02PU-SL <small>New</small>	
<b>Left-Side High-Speed Communication Module</b>	Ethernet communication module, 10/100Mbps	DVPEN01-SL	
	DeviceNet master communication module, 500 Kbps	DVPDNET-SL	
	CANopen master communication module, 1Mbps	DVPCOPM-SL	
	RS-485/RS-422, serial communication module, 460 Kbps	DVPSCM12-SL	
	BACnet MS/TP Slave communication module, 460 Kbps	DVPSCM52-SL	
<b>Remote I/O Module</b>	RS-485 remote I/O module, connectable to DVP-S series I/O modules	RTU-485	
	Ethernet remote I/O module, connectable to DVP-S series I/O modules	RTU-EN01	
	CANopen remote I/O module, connectable to DVP-S series I/O modules	RTU-CN01	
	EtherCAT remote I/O module, connectable to DVP-S series I/O modules	RTU-ECAT	
<b>Remote Temperature Control Module</b>	<ul style="list-style-type: none"> <li>2 points of universal analog input: 0 ~ 10V, 0 ~ 20 mA, 4 ~ 20 mA; Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII; RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000</li> <li>Resolution: analog 16-bit; Sensor: 0.1 °C/0.18 °F</li> <li>4 points of NPN transistor output: 24V<sub>DC</sub>/300mA</li> <li>Output point: built-in PID program control/manual control</li> </ul>	DVP02TKN-S	
	<ul style="list-style-type: none"> <li>2 points of universal analog input: 0 ~ 10V, 0 ~ 20 mA, 4 ~ 20 mA; Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII; RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000</li> <li>Resolution: analog 16-bit; Sensor: 0.1 °C/0.18 °F</li> <li>4 points of relay output: 24V<sub>AC</sub>/3A</li> <li>Output point: built-in PID program control/manual control</li> </ul>	DVP02TKR-S	
	<ul style="list-style-type: none"> <li>2 points of universal analog input: 0 ~ 10V, 0 ~ 20 mA, 4 ~ 20 mA; Thermocouple: J, K, R, S, T, E, N, B, C, L, U, TXK, PLII; RTD: Pt100, JPt100, Pt1000, Cu50, Cu100, Ni100, Ni1000, LG-Ni1000</li> <li>Resolution: analog 16-bit; Sensor: 0.1 °C/0.18 °F</li> <li>2 points of analog output: 0 ~ 10V, 0 ~ 20 mA, 4 ~ 20 mA</li> <li>Output point: built-in PID program control/manual control</li> </ul>	DVP02TKL-S	

\*1. Digital/analog photocoupler isolation. No isolation among channels


## Communication Converter


Product Name	Description	Model Name	Certificates
<b>Converter</b>	USB to RS-485 converter	IFD6500	
	USB to CAN converter	IFD6503	
	USB to RS-485 converter	IFD6530	
	EtherNet/IP, Modbus TCP to RS-232,RS-485 converter	IFD9506	
	RS-232 to RS-422 / 485 isolated converter	IFD8500-A	
	RS-485 to RS-422 isolated repeater	IFD8510-A	

## DVP-MC Series

Product Name	Power Supply	Communication Protocol	Axes Controlled	Inputs	Outputs	Model Name	Certificates
Multi-axis Motion Controller	24 V <sub>DC</sub>	EtherCAT	24	16	8 (NPN)	DVP15MC11T	
			6	16	8 (NPN)	DVP15MC11T-06	
			32	16	8 (NPN)	DVP50MC11T	
			32	16	8 (PNP)	DVP50MC11P	
			6	16	8 (PNP)	DVP50MC11P-06	
			6	16	8 (NPN)	DVP50MC11T-06	
			4 (Point-to-Point)	16	8 (NPN)	DVP50MC11T-4S	
			16 (Point-to-Point)	16	8 (NPN)	DVP50MC11T-16S	

## TP Series

Product Name	Description	Model	Certificates
TP02	Resolution: 160 x 32, Serial COM ports: RS-232 & RS-485	TP02G-AS1	
TP04	Resolution: 128 x 64, Serial COM ports: RS-232 & RS-422/RS-485	TP04G-AS2	
	Resolution: 192 x 64, Serial COM ports: RS-232 & RS-422/RS-485	TP04G-AL2	
	Resolution: 192 x 64, Serial COM ports: RS-232	TP04G-AL-C	
	Resolution: 192 x 64, Serial COM ports: RS-232 & RS-422/RS-485, 0 ~ 9 numeric keys available	TP04G-BL-C	

Product Name	Description	DI	DO	AI* <sup>2</sup>	AO* <sup>2</sup>	PT	AX* <sup>1</sup>	LC	Output Type	Model	Certificates
TP04P	Resolution: 192 x 64 Serial COM ports: USB & RS-485*2	8	8						Relay	TP04P-16TP1R	
		16	16						Relay	TP04P-32TP1R	
		8	8	4 (V/I)	2 (V/I)				Relay	TP04P-22XA1R	
		8	8	2 (I)	1 (I)	2			Relay	TP04P-21EX1R	
		8	8						Transistor	TP04P-16TP1T	
		16	16						Transistor	TP04P-32TP1T	
		8	8	4 (V/I)	2 (V/I)				Transistor	TP04P-22XA1T	
		8	8	2 (I)	1 (I)	2			Transistor	TP04P-21EX1T	
TP70P	Resolution: 800 x 400 Serial COM ports: USB & RS-485*2	9	16	4 (V/I)	2 (V/I) 4 (I)		2	1	Transistor	TP04P-20EXL1T* <sup>3</sup>	
		8	8						Relay	TP70P-16TP1R	
		16	16						Relay	TP70P-32TP1R	
		8	8	4 (V/I)	2 (V/I)				Relay	TP70P-22XA1R	
		8	8	2 (I)	1 (I)	2			Relay	TP70P-21EX1R	
		8	8						Transistor	TP70P-16TP1T	
		16	16						Transistor	TP70P-32TP1T	
		8	8	4 (V/I)	2 (V/I)				Transistor	TP70P-22XA1T	
TP08	Resolution: 240 x 128 / Serial COM ports: RS-232, RS-422 & RS-485 / 0~9 numeric numeric keypad	8	8						Relay	TP70P-21EX1T	
		17	24		4 (I)		2	1	Transistor	TP70P-211LC1T* <sup>3</sup>	

\*1: Universal analog input (mA, V, RTD)

\*2: V (Voltage), I (Current)

\*3: USB & RS-485 are design with isolation

## Software


Product Name	Description	OS (Windows-based Software)
ISPSOft	PLC editing software for AH, AS and DVP Series (supports 5 programming languages: LD, FBD, SFC, ST, IL)	Windows 2000, XP, Vista, Windows 7 (32-bit/64-bit)
WPLSOft	Programming software for DVP Series	Windows 98, Me, NT4.0, 2000, XP, Vista, Windows 7 (32-bit/64-bit)
TPEditor	Editing software for TP Series	Windows 98, Me, NT4.0, 2000, XP, Vista, Windows 7 (32-bit/64-bit)
DCISOft	Delta communication integration software	Windows 2000, XP, Vista, Windows 7 (32-bit/64-bit)
DeviceNet Builder	DeviceNet configuration software	Windows 2000, XP, Vista, Windows 7 (32-bit/64-bit)
CANopen Builder	CANopen configuration software	Windows 2000, XP, Vista, Windows 7 (32-bit/64-bit)
NetView Builder	CAN bus message analysis software	Windows 2000, XP, Vista, Windows 7 (32-bit)

# Ordering Information

## Starter Kit

Product Name	Model Name	Contents
Delta PLC Starter Kit	UT-14SS2-A	DVP14SS211R (PLC), DOP-107BV (HMI) and accessory
	UT-12SE-A1	DVP12SE11R (PLC), DOP-107EV (HMI) and accessory

## Industrial Power Supply

Series	Power Supply	Inputs	Outputs	Power	Output Current	Model Name	Certificates
DVP	1-phase	85 ~ 264V <sub>ac</sub>	24V <sub>dc</sub>	24W	1A	DVPPS01	
				48W	2A	DVPPS02	
				120W	5A	DVPPS05	

\*Note: For more ordering information, please refer to the catalogue for Delta Industrial Power Supply

## Accessories

Type	Model Name	Description	Specification		Applicable Modules
			Length	Connector / Terminal Block	
PLC Programming and Serial Communication Cable	UC-PRG015-01A	Communication cable for PLC (mini USB) to PC	1.5 m	PC (USB↔mini USB) PLC	DVP-SE / DVP-SX2 / AH500
	UC-PRG015-02A	Communication cable for TP (USB B type) to PC	1.5 m	PC (USB↔USB B type) TP	TP70P / TP04P / DOP
	UC-PRG020-12A	Communication cable for PLC (DB9 female / 8-pin mini-DIN male) to PC	2 m	PC (DB9 female↔8-pin mini-DIN male) PLC	DVP / TP RS-232
	UC-PRG030-01A	Communication cable for PLC (mini USB) to PC	3 m	PC (USB↔mini USB) PLC	DVP-SE / SX2 AH500
	UC-PRG030-02A	Communication cable for TP (USB B type) to PC	3 m	PC (USB↔USB B type) TP	TP70P / TP04P / DOP
	UC-PRG030-10A	Communication cable for PLC / HMI / TP (DB9 female) to PC	3 m	PC (DB9 female↔DB9 female) PLC / HMI / TP	PLC / HMI / TP (DB9 female)
	UC-PRG030-20A	Communication cable for PLC / HMI (RJ45) to PC	3 m	PC (RJ45↔RJ45) PLC / HMI	DVP-SE DVPEN02-L AHCPU5□□-EN AH10EN-5A
	UC-MS010-02A	Communication cable for PLC (8-pin mini-DIN male) to PC	1 m	PC (DB9 female ↔ 8-pin mini-DIN right angle male) PLC	DVP PLC RS-232
	UC-MS020-01A	Communication cable for PLC (8-pin mini-DIN male) to PC	2 m	PC (DB9 female↔8-pin mini-DIN male) PLC	
	UC-MS020-06A	Communication cable for PLC (8-pin mini-DIN male) to HMI	2 m	HMI (DB9male↔8-pin mini-DIN male) PLC	
	UC-MS030-01A	Communication cable for PLC (8-pin mini-DIN male) to PC	3 m	PC (DB9 female↔8-pin mini-DIN male) PLC	
	UC-MS030-06A	Communication cable for PLC (8-pin mini-DIN male) to HMI	3 m	HMI (DB9male↔8-pin mini-DIN male) PLC	

## Accessories

Type	Model Name	Description	Specification		Applicable Modules
			Length	Connector / Terminal Block	
I/O External Terminal Module	UC-ET010-24A	I/O extension cable for connecting external terminal modules	1m	PLC (MIL IDC40↔IDC40) external terminal modules	DVP32SM11N↔UB-10-ID32A DVP32SN11TN↔UB-10-OT32A
	UC-ET010-24B	I/O extension cable for connecting external terminal modules	1m	PLC (MIL IDC40↔IDC40) external terminal modules (shielded wire)	DVP32SM11N↔UB-10-ID32A DVP32SN11TN↔UB-10-OT32A
	UC-ET010-24C	I/O extension cable for connecting external terminal modules	1m	PLC (MIL IDC40↔IDC20x2) external terminal modules	DVP32SN11TN↔UB-10-OR16A
	UC-ET010-24D	I/O extension cable for connecting external terminal modules	1m	PLC (MIL IDC40↔IDC20x2) external terminal modules (shielded wire)	DVP32SN11TN↔UB-10-OR16A
	UC-ET020-24B	I/O extension cable for connecting external terminal modules	2m	PLC (MIL IDC40↔IDC40) external terminal modules (shielded wire)	DVP32SM11N↔UB-10-ID32A DVP32SN11TN↔UB-10-OT32A
	UC-ET020-24D	I/O extension cable for connecting external terminal modules	2m	PLC (MIL IDC40↔IDC20x2) external terminal modules (shielded wire)	DVP32SN11TN↔UB-10-OR16A
	UC-ET030-24B	I/O extension cable for connecting external terminal modules	3m	PLC (MIL IDC40↔IDC40) external terminal modules (shielded wire)	DVP32SM11N↔UB-10-ID32A DVP32SN11TN↔UB-10-OT32A
	UC-ET030-24D	I/O extension cable for connecting external terminal modules	3m	PLC (MIL IDC40 to IDC20x2) external terminal modules (shielded wire)	DVP32SN11TN↔UB-10-OR16A
Motion Control Cable / Industrial Communication Cable	UC-CMC003-01A	CANopen communication cable	0.3m	RJ45	DVP-COPM-SL DVP15MC11T DVP15MC11T-06 TAP-CN03
	UC-CMC005-01A		0.5m		
	UC-CMC010-01A		1m		
	UC-CMC015-01A		1.5m		
	UC-CMC020-01A		2m		
	UC-CMC030-01A		3m		
	UC-CMC050-01A		5m		
	UC-CMC100-01A		10m		
	UC-CMC200-01A		20m		
	UC-EMC003-02C		EtherCAT communication cable (High anti-interference)		
	UC-EMC005-02C	0.5m			
	UC-EMC010-02C	1m			
	UC-EMC020-02C	2m			
	UC-EMC050-02C	5m			
	UC-EMC100-02C	10m			
	UC-EMC200-02C	20m			
	UC-EMC003-02B	EtherCAT communication cable		0.3m	RJ45
	UC-EMC005-02B		0.5m		
	UC-EMC010-02B		1m		
	UC-EMC020-02B		2m		
UC-EMC030-02B	3m				
UC-EMC050-02B	5m				
UC-EMC100-02B	10m				
Industrial Communication Cable	UC-DN01Z-01A*1		DeviceNet / CANopen communication cable (Trunk cable - thick)	On customer's demand (up to 305 m)	
	UC-DN01Z-02A*1	DeviceNet / CANopen communication cable (Drop cable - thin)	--		
External Terminal Module	UB-10-OR16A	external terminal module for DVP32SN output module	--	16-point relay output, 20-pin MIL	DVP32SN11TN
	UB-10-OT32A	external terminal module for DVP32SN output module	--	32-point transistor output, 40-pin MIL	DVP32SN11TN
	UB-10-ID32A	external terminal module for DVP32SM digital input module	--	32-point input, MIL	DVP32SM11TN
Connector	UN-03EN-04A	RJ45 connector	--	--	--
		Data backup memory card (DVP-ES2 only)			DVP-E64FM
		Data backup memory card (64k words)			DVPPCC01
		Communication cable for PC (9-pin & 25-pin D-Sub) and PLC, 1.5m			DVPACAB215
		Communication cable for PC (9-pin & 25-pin D-Sub) and PLC, 3m			DVPACAB230
		4 types of RS-485 connectors			ADP485-01
		Connection cable for ADP485-01 and ASDA-A series servo			ADPCAB03A
		Connection cable for ADP485-01 and ASDA-B series servo			ADPCAB03B
		DeviceNet / CANopen distribution box, 1 for 2			TAP-CN01
		DeviceNet / CANopen distribution box, 2 for 3			TAP-CN02
		DeviceNet / CANopen distribution box, 2 for 3 RJ45			TAP-CN03
		3.6V lithium battery (unchargeable) for RTU-EN01			DVPABT01
		Terminal resistance for CANopen communication (RJ45)			TAP-TR01
		Programming cable for TP Series			UCPRG030-10A

\*1: Not available in Taiwan



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