

The Innovative Solution with High Performance,
an Abundant Selection and Amazing Expandability.



Automation for a Changing World

Delta Programmable Logic Controller DVP Series



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DELTA
Smarter. Greener. Together.

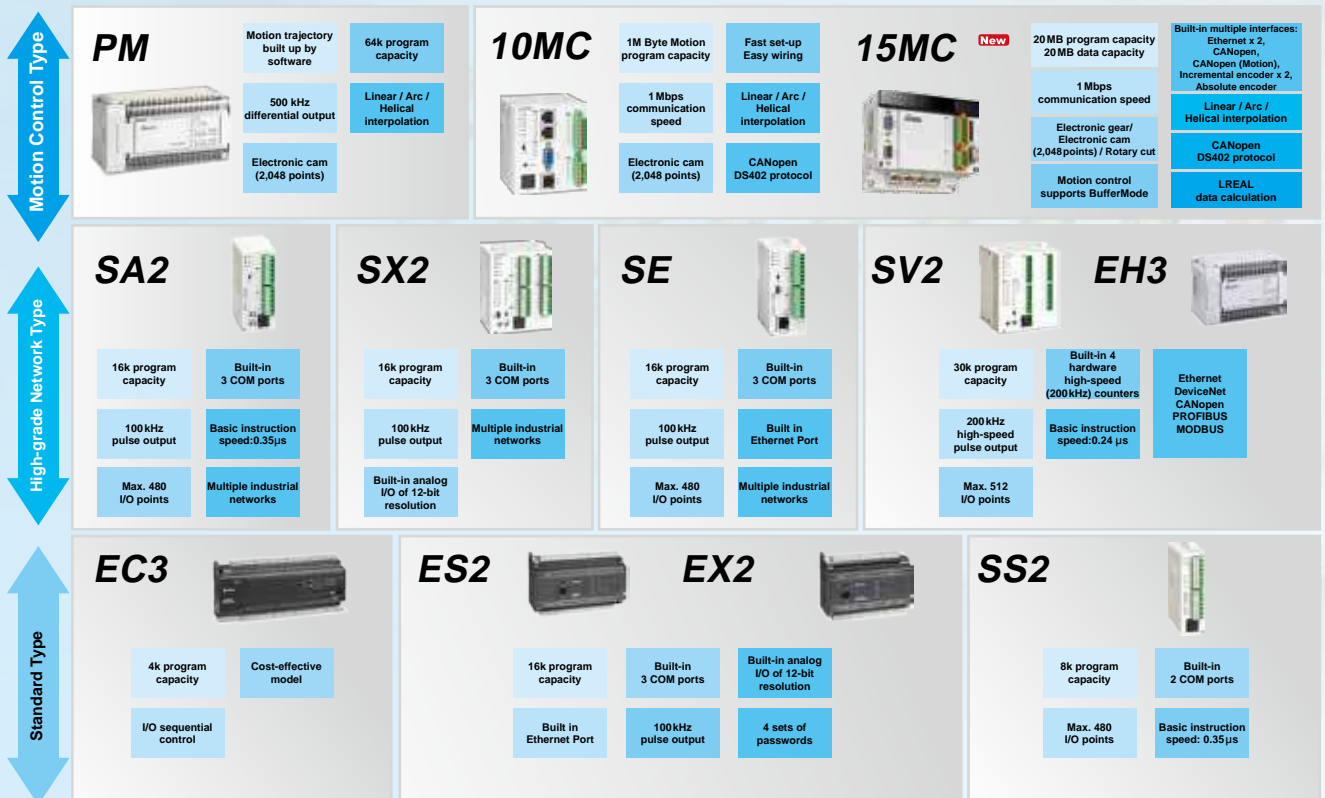
The Perfect Small PLC Revolution!

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.

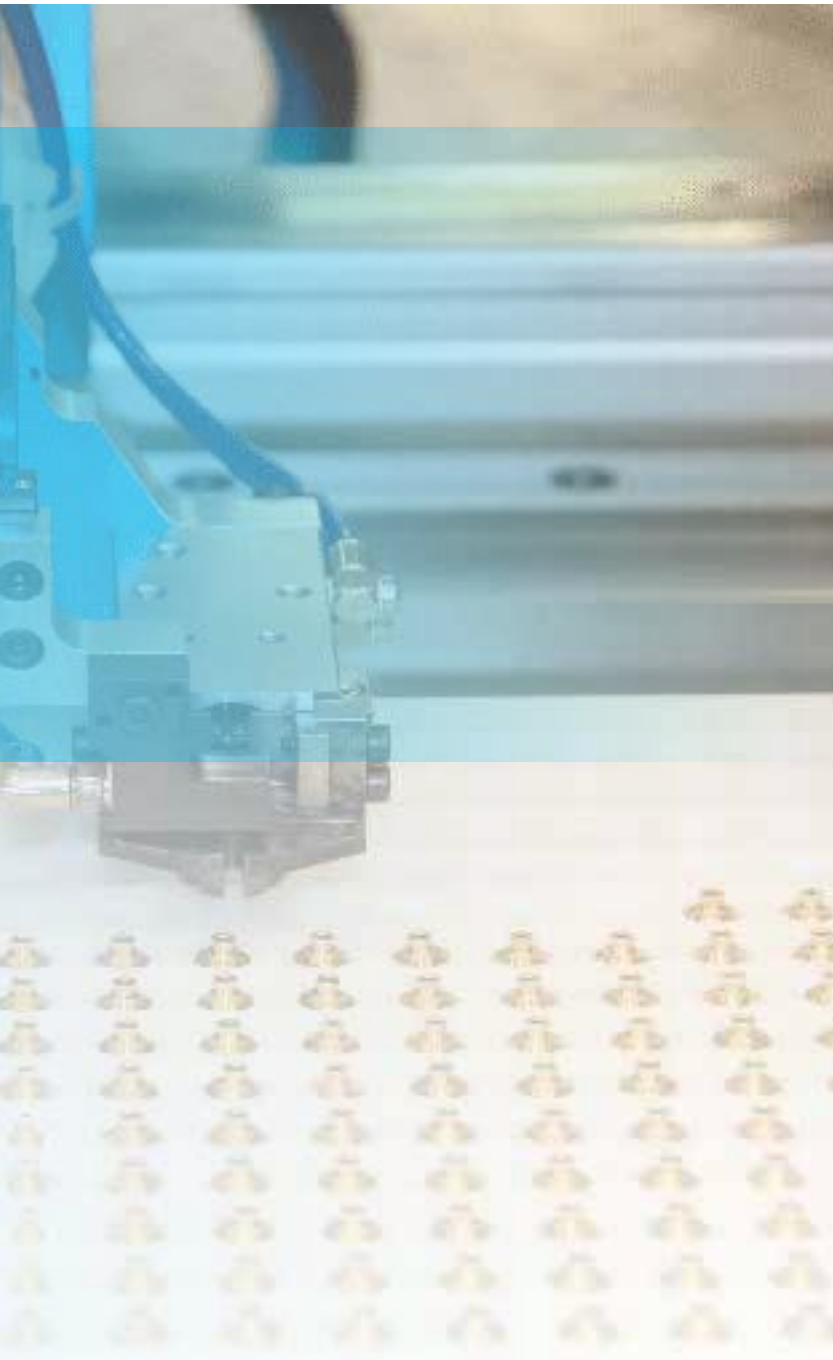
Delta PLCs offer a broad range of controllers and modules which all feature high performance, multiple functions and efficient program editing tools. In addition to the user-friendly programming software and faster execution speed, we also provide complete industry-focused solutions, motion control solutions,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

We 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



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NEW

Built-in Ethernet for Advanced Applications



Standard PLC DVP-ES2-E

- ▶ Built-in 20 / 32 / 40 / 60 I/O points
- ▶ Built-in Ethernet port that supports MODBUS TCP and EtherNet/IP (slave)

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

PLCs

DVP-28SS2

DVP-28SA2

- ▶ 16DI + 12DO
- ▶ Compatible with DVP-S Series extension modules (right-side)



Complete Interface Design and 24-axis Motion Control



24-axis Motion Controller DVP-15MC

- ▶ 1GHz CPU
- ▶ Program capacity + data capacity = 20MB + 20MB
- ▶ Up to 24 real axes control

Built-in Interface

| | | | | |
|------------------|------------------|---------------------------------------|--------------------------------------|-------------------|
| 16DI 8DO | RS-232 | RS485 | Ethernet *2 | Memory card:SD |
| CANopen DS301 | CANopen DS402 | Incremental encoder interface*2 | SSI absolute encoder interface | |

Motion Function

| | | | | |
|--------------------------|--------------------------------------------|------|--------|----------------|
| Multi-axis Gear / Cam | Linear / Arc / Helical interpolation | Jerk | G-Code | Buffer Mode |
|--------------------------|--------------------------------------------|------|--------|----------------|



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Basic 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: 4 k 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. 10kHz) 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 | 20 kHz/10 kHz | 1 | 20 kHz | 1 | 4 kHz |

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: 6/20/24/32/40/60 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: 16 k steps
- ▶ Data register: 10 k words
- ▶ Execution speed: LD: 0.35µs, MOV: 3.4µs
- ▶ RTC function and file register (5 k words) (hardware version 2.0 and above)
- ▶ Highly efficient processing ability: 1 k steps of programs can be completed within 1 ms
- ▶ 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 | 100 kHz/10 kHz | 2 | 100 kHz | 1/3 | 15 kHz/5 kHz |



Standard PLC with built-in CANopen interface

DVP32ES200RC/TC

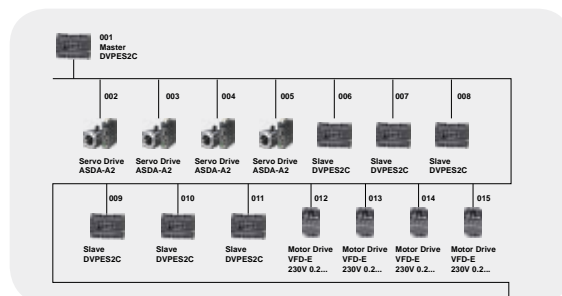
Boosts productivity with high execution speed and built-in CANopen interface, and specializes in noise-immunity and easy wiring

- ▶ 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

Fast processing speed



High-speed industrial network: CANopen



Standard PLC with built-in Ethernet interface

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)

Temperature / Analog I/O 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 | |
|---------------------------------------------|-------------------------|---------------------------------------------|------------------|
| Number of Connections | Server: 16 Client: 8 | Number of Connections | TCP: 4 CIP: 8 |
| Max. Data Exchange (each connection) | 100 words | Max. Data Exchange (each connection) | 250 words |
| | | RPI | 5~1,000 ms |
| | | PPS | 1,000 PPI |

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

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

Built-in Temperature Control Function

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

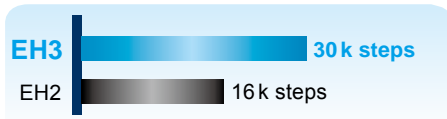


High Performance PLC

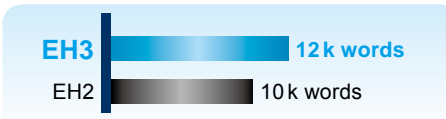
DVP-EH3

High-end model of Delta's DVP-E Series PLC with large program capacity and data registers for demanding and complex applications

Program capacity



Data register



Execution speed



Excellent Motion Control

- ▶ High-speed pulse output: 4 axes of 200 kHz pulse output (DVP32/40/48/64/80EH00T3)
- ▶ Supports max. 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

Outstanding Operation Performance

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

Flexible Function Extension Modules & Cards

- ▶ Multiple selections of extension modules and function cards: analog I/O, temperature measurement, additional single-axis motion control, high-speed counting
- ▶ 3rd serial communication port and Ethernet communication card are available

PLC Link

- ▶ PLC Link allows users to link up a max. of 32 units to the network without extra communication extension modules

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 kHz | 4 | 200 kHz |

The specifications of high-speed input and output on this page are applicable only for DVP40EH00R3 / DVP40EH00T3.

Refer to the I/O specifications table on page 20 for more information on other models.

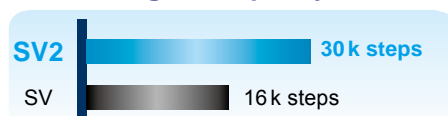


High Performance Slim PLC

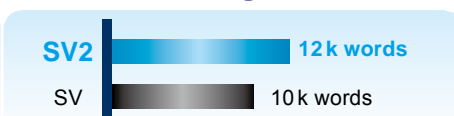
DVP-SV2

High-end model of the DVP-S Series with larger program capacities and data registers for more demanding and complex applications

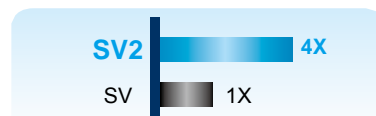
Program capacity



Data register



Execution speed



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 10kHz 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



Standard Slim PLC DVP-SS2

Economic and compact model

- ▶ 32-bit CPU for high-speed processing
- ▶ Max. I/O: 480 points
- ▶ Program capacity: 8 k steps
- ▶ Data register: 5 k words
- ▶ Execution speed: LD: 0.35 μ s, MOV: 3.4 μ s
- ▶ 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 10 kHz pulse output
- ▶ 8 points of high-speed counters: 20 kHz/4 points, 10 kHz/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 | 20 kHz/10 kHz | 2 | 20 kHz | 2/2 | 10 kHz/5 kHz |

Advanced Slim PLC DVP-SA2

Advanced model supporting 2-axis interpolation

- ▶ 32-bit CPU for high-speed processing
- ▶ Program capacity: 16 k steps
- ▶ Data register: 10 k words
- ▶ Execution speed: LD: 0.35 μ s, MOV: 3.4 μ s
- ▶ 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 15 days after power off
- ▶ 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, 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 |



Analog I/O 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
- ▶ Execution speed: LD: 0.35 μ s, MOV: 3.4 μ s
- ▶ 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 ~ 20mA or -10 ~ 10V or 4 ~ 20mA | Spec. | 0 ~ 20mA or -10V ~ 10V or 4 ~ 20mA |

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
- ▶ Execution speed: LD: 0.64 μ s, MOV: 2 μ s
- ▶ Built-in mini USB port, RS-485 port*2 and Ethernet port that supports MODBUS TCP and EtherNet/IP Slave (adapter)
- ▶ IP Filter functions as firewall for first line protection against malware and network threats
- ▶ Supports DVP-S Series modules (left-side and right-side) (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 | 100kHz/ 10kHz | 2 | 100kHz | 1/3 | 50kHz/ 5kHz |

General Motion Controller

DVP-PM



Standard Motion Controller

DVP10PM00M

Standard motion controller for general applications

- ▶ Built-in 24 I/O points. Max. 256 I/O points
- ▶ Program capacity: 64k steps
- ▶ Data register: 10k words
- ▶ Execution speed LD: 0.13 μ s, MOV: 2.1 μ s
- ▶ Built-in RS-232 and RS-485 ports
- ▶ 2 / 3 / 4 / 5 / 6 axes linear interpolation motion control
- ▶ Highly accurate PWM 200 kHz output, resolution 0.3%
- ▶ 8 groups of high-speed captures (mark correction, frequency measurement), comparative output, Mark / Mask function (for bag making)
- ▶ Supports standard MODBUS ASCII / RTU protocol

Motion Control Functions

- ▶ High-speed pulse output: built-in 6 sets of A/B phase pulse outputs
- ▶ 2 sets of 200 kHz output, 4 sets of 1 MHz output
- ▶ 6 sets of high-speed counters and hardware digital filter for counting
- ▶ Supports MPG inputs
- ▶ Single-axis motion control function (supports MPG, single-speed and two-speed positioning)
- ▶ Electronic gear function

Advanced Motion Controller

DVP20PM00D / M / DT

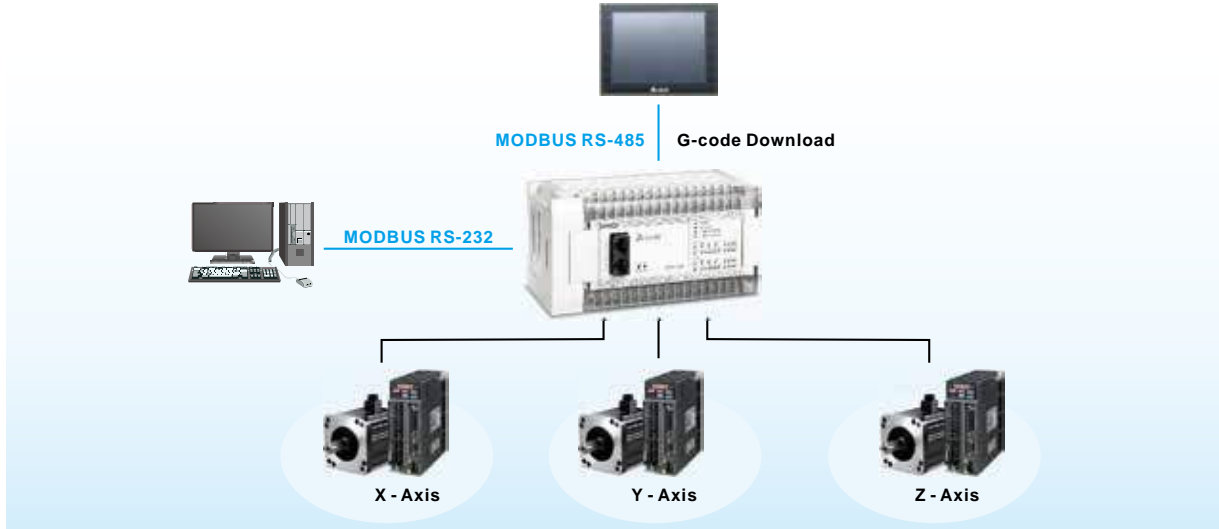
Excellent as motion controllers or extension modules and supports advanced motion control functions

- ▶ Built-in 16 I/O points. Max. 512 I/O points
- ▶ Program capacity: 64k steps
- ▶ Data register: 10k words
- ▶ Compatible with G-code / M-Code
- ▶ 3-axis linear / arc / helical interpolation
- ▶ Supports electronic cam (2,048 points) function for flying shear and rotary cut applications
- ▶ All models can be applied as motion controllers or extension modules
- ▶ Built-in RS-232 and RS-485 ports, and supports standard MODBUS ASCII/RTU protocol

Motion Control Functions

- ▶ Built-in A/B phase differential signal outputs: 2 sets (DVP20PM00D)/3 sets (DVP20PM00M)
Max. differential output frequency: 500 kHz
- ▶ Supports MPG inputs
- ▶ Single-axis motion control function (supports MPG, single-speed and two-speed positioning)
- ▶ Electronic gear function

General Motion Controller DVP-PM Series: Pulse-train communication



| Function Cards for DVP-PM | | |
|---------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model Name | Specifications | Features |
| DVP-FPMC | Ethernet/CANopen communication card *Supports DVP-EH2 function cards: DVP-F2AD, DVP-F2DA, DVP-F232S, DVP-F485S | <ol style="list-style-type: none"> 1. Complies with CANopen CiA301 V4.0.2 protocol. 2. Supports CANopen CiA402 V2.0 synchronous axes, 126 asynchronous axes. 3. Provides high-speed program upload/download via Ethernet. |

Programming Software for DVP-PM Series: PMSoft

The programming software for G-Code editing, motion path simulation, positioning route planning and electronic cam setup

Variable Declaration

Separate from the program. The corresponding physical I/O point of the variable is defined only after the program is compiled. Users do not need to modify the program.

Function Block

- A completed project can be divided into many function blocks.
- Every function block can be used repeatedly, and the import / export function makes the programming more convenient.

Comprehensive Monitoring

The "program monitoring" and "device monitoring" allow users to keep track of program operation.

Motion Network Function Block

PLCopen Function Block allows users to easily use motion control functions

Electronic Cam

Electronic cam editing

| Class | Identifiers | Address | Type | Initial | Comment |
|-------|-------------|---------|--------------------|---------|----------------|
| VAR | Axis_Scan | | FFMC_Scan | | FFMC軸ASO-AS/AS |
| VAR | Axis_Enable | | FFMC_Servo_OrvOFF | | FFMC軸ASO-AS/AS |
| VAR | Axis_YIP | | FFMC_IParameter | | FFMC軸YIP參數 |
| VAR | Axis_EP | | FFMC_ReadParameter | | FFMC軸讀參數 |

| Axis No. | Start Pos. | Start Vel. | Start Acc. | Start Dec. | End Pos. | End Vel. | End Acc. | End Dec. |
|----------|------------|------------|------------|------------|----------|----------|----------|----------|
| 1 | 0 | 0 | 100 | 100 | 100 | 0 | 100 | 100 |
| 2 | 0 | 0 | 100 | 100 | 100 | 0 | 100 | 100 |
| 3 | 0 | 0 | 100 | 100 | 100 | 0 | 100 | 100 |

Multi-axis Motion Controller

DVP-MC

16-axis Motion Controller

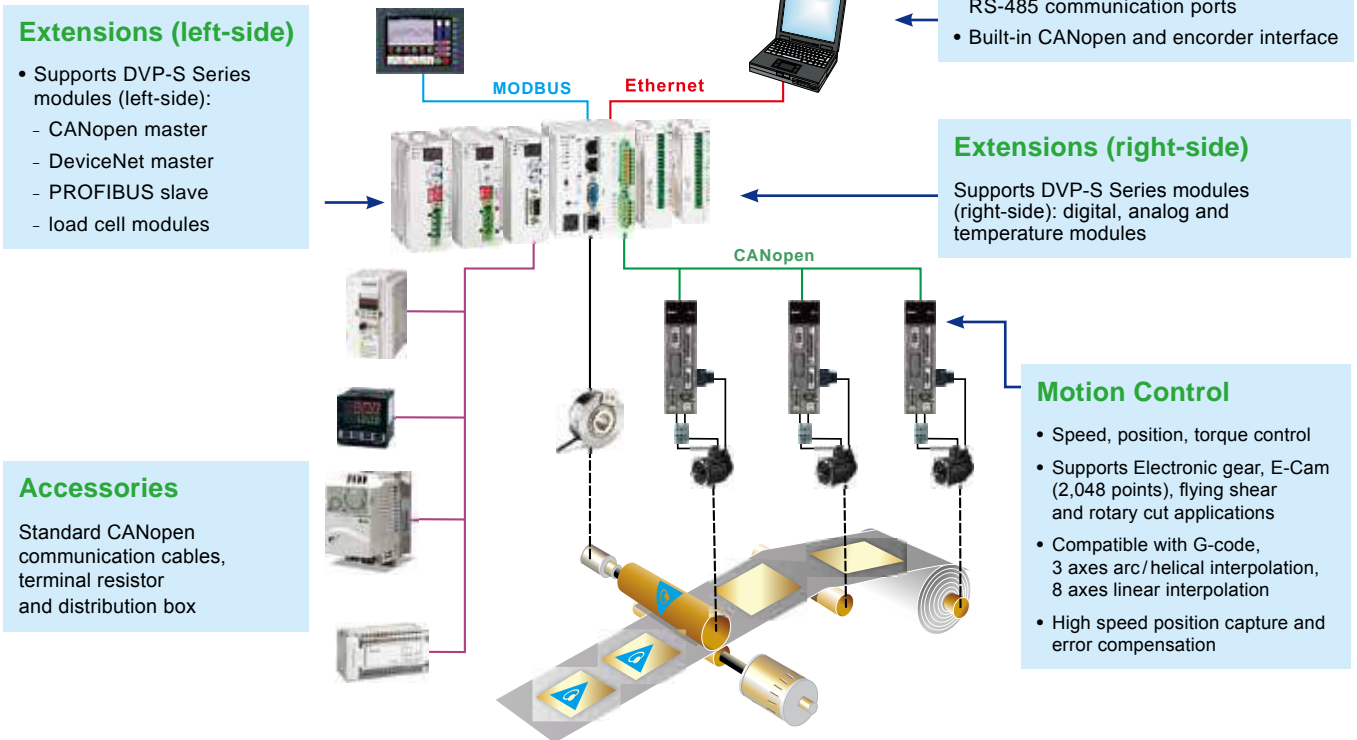
DVP10MC11T

Perfect controller to offer highly stable multi-axis motion control solutions through CANopen communication

- ▶ Built-in 12 I/O points (8 sets of high-speed inputs, 4 sets of high-speed outputs)
- ▶ Up to 16 axes synchronous control through CANopen communication
- ▶ Synchronization time: 4 axes in 2ms / 8 axes in 4ms
- ▶ Built-in motion control instructions of electronic cam, flying shear, rotary cut for easy operation
- ▶ High precision control with interpolation function



System Control Architecture



CANopen Accessories

| Model Name | Specifications | Features |
|------------------|----------------------------|------------------------------------------------------------------------|
| UC-CMCXXX-01A | CANopen sub-line | RJ45 connector for both ends |
| UC-DN01Z-01A/02A | CANopen main-line/sub-line | AWG18/AWG24 CANopen cables for long distance communication via CANopen |
| TAP-CN01/02/03 | Distribution box | Built-in terminal resistor 120Ω |
| TAP-TR01 | Terminal resistor | Terminal resistor 120Ω |

24-axis Motion Controller

DVP15MC11T New

The DVP-MC Series is a multi-axis motion controller designed for the CANopen network architecture. It supports CANopen DS301 and DSP402 with built-in motion control instructions (BufferMode and Jerk) for flexible configuration and fast project development. DVP15MC11T controls up to 24 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.

DVP15MC11T 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 for printing, packaging, wire cutting, robots and other automation control industries.

Motion Control

- Up to 24 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: 4 axes in 2 ms/8 axes in 4 ms
- Program capacity: 20 MB
- Data capacity: 20 MB

External Interfaces

- 1 CANopen port as host or slave station
- 1 CANopen (Motion) communication port for motion control
- 16 high-speed inputs/8 high-speed outputs
- 2 incremental encoder interfaces
- 1 SSI absolute encoder interface
- 2 Ethernet ports
- 1 SD card slot
- 1 RS-232 port and 1 RS-485 port
- Extension:
 - Left-side: supports up to 8 DVP-S Series modules (master/slave/load cell modules)
 - Right-side: compatible with DVP-S Series modules (240 I/O, 8 special modules)

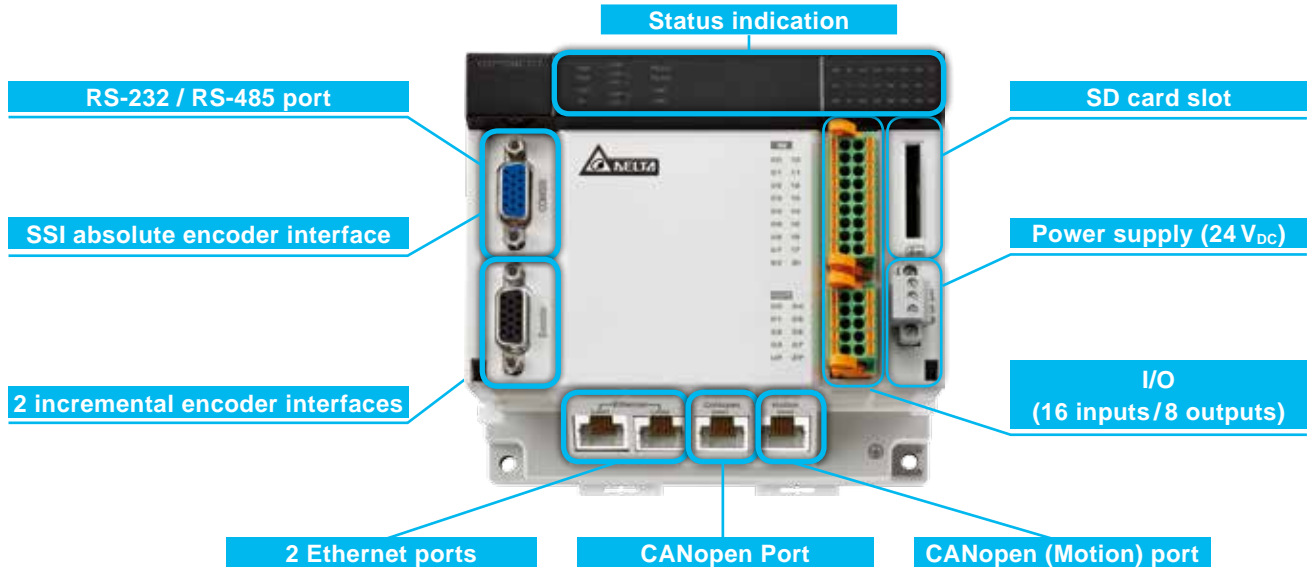
Motion Network and Wiring

- CANopen motion network
- Up to 1 Mbps communication speed
- Up to 100m communication distance (at 500 Kbps)
- Simple wiring, plug-and-play (communication cable, terminal resistor and distribution box)



DVP15MC11T Interface

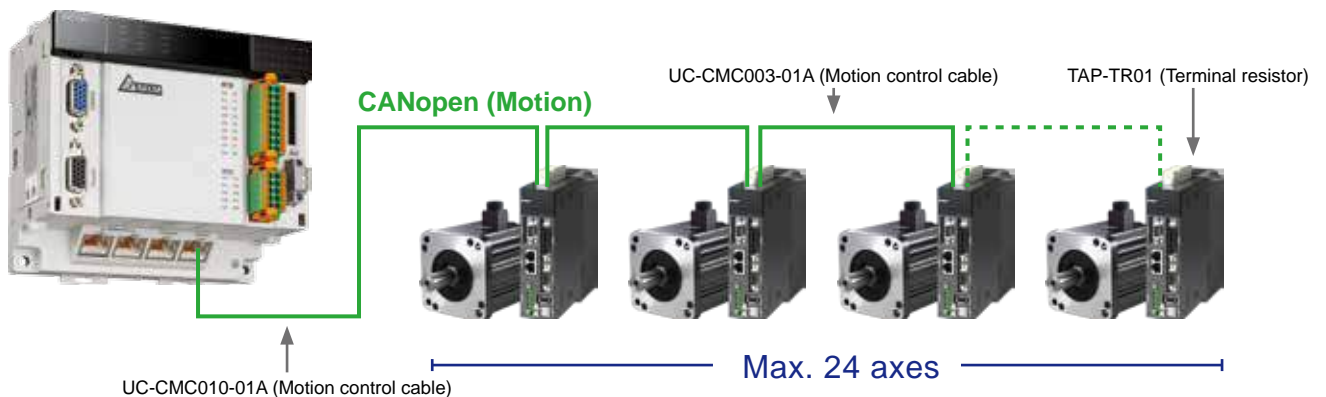
Multiple built-in communication interfaces allow easy connection to other equipment without additional communication modules.



Simple Wiring, Plug-and-Play Motion Control Network

The DVP15MC11T features stable CANopen communication, simple wiring, plug-and-play functions, and communicates with servo drives (axes) via CANopen network. Delta provides communication cable, terminal resistor and distribution box.

*Please refer to "Accessories" for detail information.



Compatible with Servo Drives via CANopen (Motion) Port

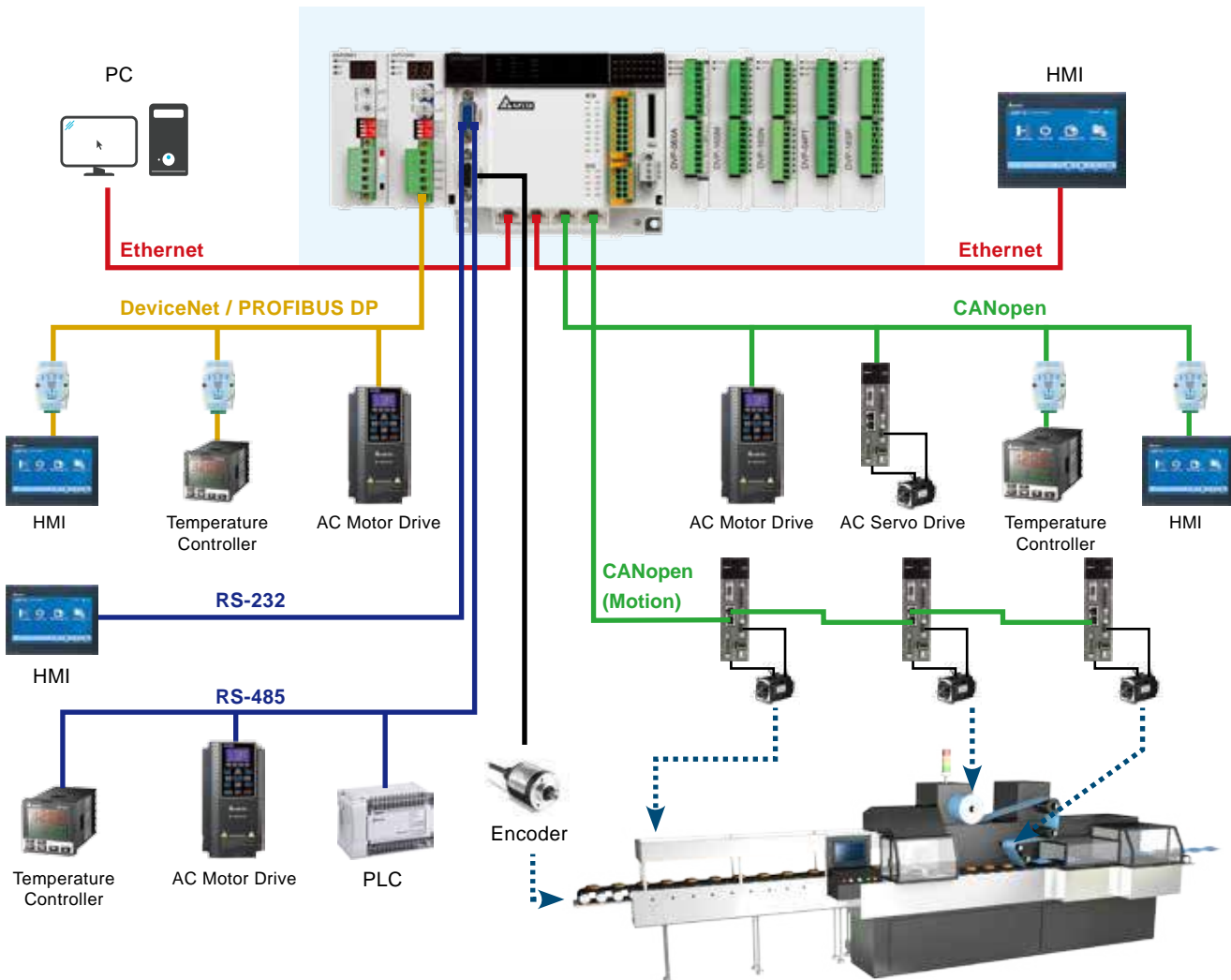
Delta's AC Motor Drives ASDA-A2-XXXX*-M models support CANopen communication, and they are the only models that can be connected to a DVP15MC11T CANopen (Motion) port and DVP10MC11T for motion control networks. The other CANopen port can be connected to all equipment that supports CANopen networks. The ASDA-A2-XXXX-M models provide high positioning accuracy and low-speed operation stability when matched with ECMA Series servo motors with high-precision encoder (20-bit resolution and 1,280,000 pulse/rev).

* XXXX represents output power and input voltage.



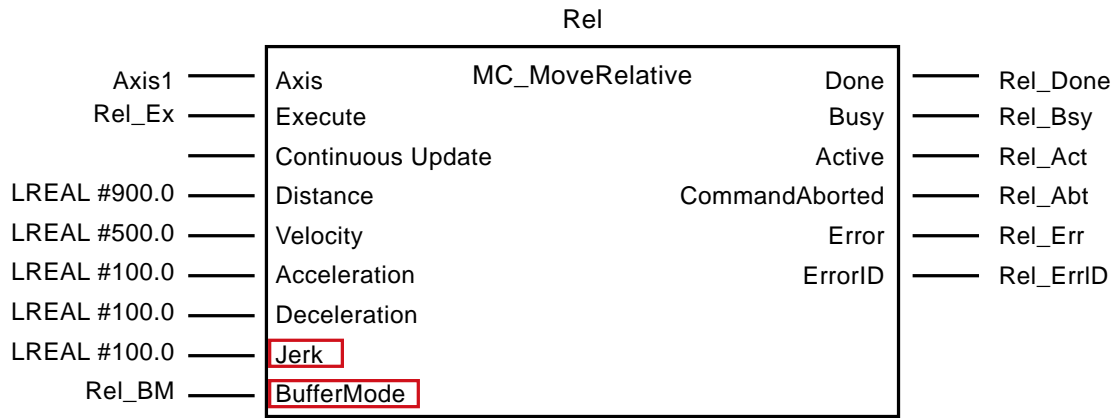
System Structure

DVP15MC11T provides multiple industrial networks. As in the structure shown below, DVP15MC11T can be connected to a variety of industrial automation equipment via Ethernet (upper layer), CANopen, DeviceNet, PROFIBUS DP (middle layer) and RS-485 (lower layer, support Modbus).

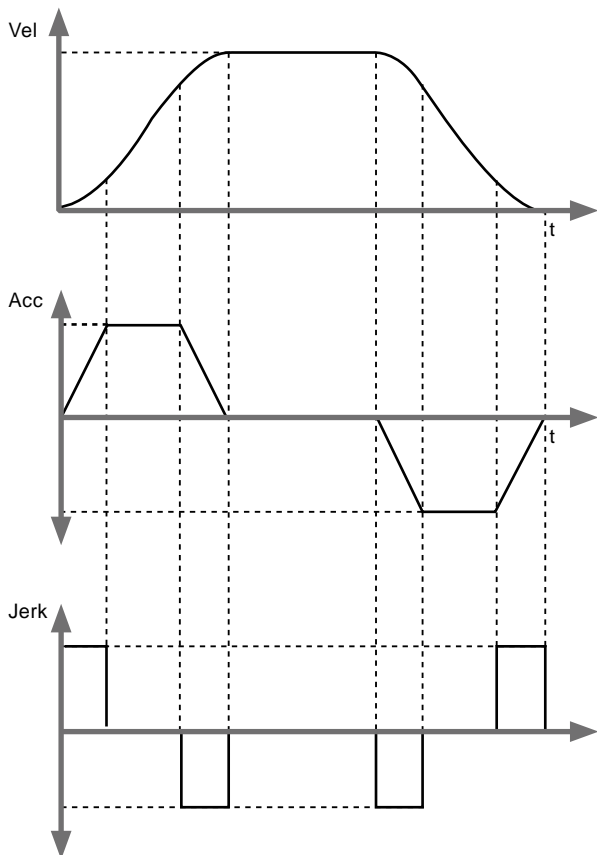


Motion Control

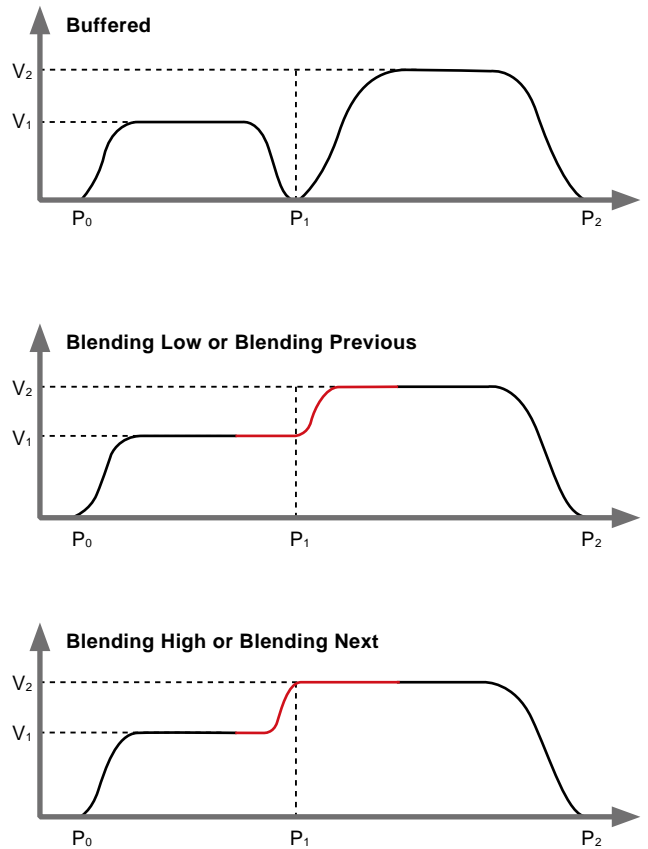
Supports BufferMode and Jerk motion instructions:



Supports Jerk motion instruction: modify the Jerk value to make the velocity curve smoother

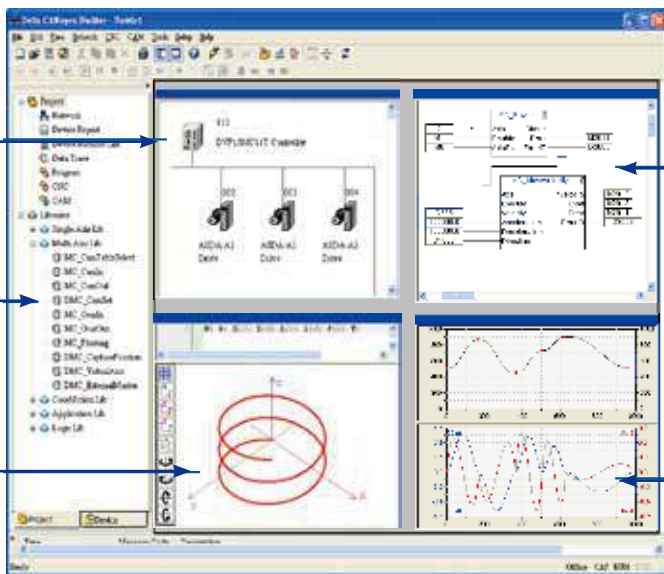


Supports BufferMode motion instruction: enables smooth transition between 2 instructions



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-PM and 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.



High Performance PLC DVP-EH Series and Extension Modules

Small PLC with Highest Operation Efficiency

DVP-EH3

- ▶ Max. 512 I/O points
- ▶ 200 kHz high-speed pulse output
- ▶ High-speed extension modules
- ▶ Linear/Arc interpolation
- ▶ L type, supports extension modules (left-side)



Function Cards

- RS-232/RS-422/RS-485 Communication (COM3 Port, DVP-EH3 series PLC only)

DVP-F232



DVP-F422



DVP-F485



- Ethernet Communication

DVP-FEN01 (DVP-EH3 only)



- Analog I/O

DVP-F2AD
DVP-F2DA



Accessories

- Data Backup Card

DVP-512FM (DVP-EH3 only)













































































DVPPCC01
(for general applications)








- Data Transmission Cable

UC-MS030-01A



| Model Name | Specifications |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DVP16EH00R3 |     2 counters of 200 kHz input |
| DVP16EH00T3 |     2 counters of 200 kHz input, 2 axes of 200 kHz output |
| DVP20EH00R3 |     2 counters of 200 kHz input, 1 counter of 20 kHz input |
| DVP20EH00T3 |     2 counters of 200 kHz input, 2 axes of 200 kHz output |
| DVP32EH00R3 |     4 counters of 200 kHz input |
| DVP32EH00T3 ^{*2} |     4 counters of 200 kHz input, 4 axes of 200 kHz output |
| DVP32EH00M3 |      4 counters of 200 kHz input (Differential: 2 sets), 2 axes of 200 kHz output (Differential: 2 axes) |
| DVP32EH00MT New |      4 counters of 200 kHz input (Differential: 2 sets), 2 axes of 200 kHz output (Differential: 2 axes) |
| DVP32EH00R3-L ^{*1} |     4 counters of 200 kHz input |
| DVP32EH00T3-L ^{*1*2} |     4 counters of 200 kHz input, 4 axes of 200 kHz output |
| DVP40EH00R3 |     4 counters of 200 kHz input |
| DVP40EH00T3 |     4 counters of 200 kHz input, 4 axes of 200 kHz output |
| DVP48EH00R3 |     4 counters of 200 kHz input |
| DVP48EH00T3 |     4 counters of 200 kHz input, 4 axes of 200 kHz output |
| DVP64EH00R3 |     4 counters of 200 kHz input |
| DVP64EH00T3 |     4 counters of 200 kHz input, 4 axes of 200 kHz output |
| DVP80EH00R3 |     4 counters of 200 kHz input |
| DVP80EH00T3 |     4 counters of 200 kHz input, 4 axes of 200 kHz output |

 AC power supply  Inputs  Outputs  Relay output  Transistor output  Differential output

*1 Supports high-speed extension (left-side).

*2 DVP32EH Series produced after 2014 support 4 axes of 200kHz output

Digital I/O Modules

Input Point Extension

DVP08HM11N
DVP16HM11N
DVP32HM11N



Output Point Extension

DVP08HN11R/T
DVP32HN00R/T



Input/Output Point Extension

DVP08HP11R/T
DVP16HP11R/T
DVP32HP00R/T
DVP48HP00R/T



Analog I/O Modules

Analog Function Extension

Analog Input

- DVP04AD-H2
V: 14-bit
I: 13-bit
- DVP04AD-H3
V: 16-bit
I: 16-bit



Analog Output

- DVP04DA-H2
V: 12-bit
I: 12-bit
- DVP04DA-H3
V: 16-bit
I: 16-bit



Analog Input/Output

- DVP06XA-H2
Input 4CH/Output 2CH
V: 12-bit/V : 12-bit
I: 11-bit/I : 12-bit
- DVP06XA-H3
V: 16-bit
I: 16-bit



Temperature Measurement

Sensor: Pt100

- DVP04PT-H2



Sensor:

- DVP04TC-H2
J, K, R, S, E, N, T
thermocouple
0 ~ 150mV
- DVP08TC-H2
J, K, R, S, E, N, T
thermocouple
±150mV



DVP32EH00R3-L & DVP32EH00T3-L: compatible with DVP-SV Series' high-speed extension modules (left-side)

Motion Control

Single-Axis Positioning

- DVP01PU-H2



High-Speed Counter

- DVP01HC-H2



Standard PLC DVP-ES2 / EX2 Series and Extension Modules

The Most Profitable Solution for Sequential Control



reddot design award
winner 2010

DVP-ES2/EX2

- ▶ 100 kHz pulse output
- ▶ Analog input/output



| Model Name | Specifications |
|-------------------------|----------------|
| DVP16ES200R | ⊖ 8 8 R → |
| DVP16ES200T | ⊖ 8 8 T → |
| DVP20ES200RE New | ⊖ 12 8 R → E |
| DVP20ES200TE New | ⊖ 12 8 T → E |
| DVP24ES200R | ⊖ 16 8 R → |
| DVP24ES200T | ⊖ 16 8 T → |
| DVP32ES200R | ⊖ 16 16 R → |
| DVP32ES200T | ⊖ 16 16 T → |
| DVP32ES211T | ⊖ 16 16 T → |
| DVP32ES200RC | ⊖ 16 16 R → C |
| DVP32ES200TC | ⊖ 16 16 T → C |
| DVP32ES200RE New | ⊖ 16 16 R → E |
| DVP32ES200TE New | ⊖ 16 16 T → E |
| DVP40ES200R | ⊖ 24 16 R → |
| DVP40ES200T | ⊖ 24 16 T → |
| DVP40ES200RE New | ⊖ 24 16 R → E |
| DVP40ES200TE New | ⊖ 24 16 T → E |
| DVP60ES200R | ⊖ 36 24 R → |
| DVP60ES200T | ⊖ 36 24 T → |
| DVP60ES200RE New | ⊖ 36 24 R → E |
| DVP60ES200TE New | ⊖ 36 24 T → E |

- ⊖ AC power supply
- ↪ Inputs
- ↪ Transistor output
- E Ethernet
- ⊖ DC power supply
- ↪ Outputs
- R Relay output
- C CANopen

DVP-EX2

| Model Name | Specifications |
|-------------|---------------------|
| DVP20EX200R | ⊖ 8 6 R → 4AI/2AO |
| DVP20EX200T | ⊖ 8 6 T → 4AI/2AO |
| DVP30EX200R | ⊖ 16 10 R → 3AI/1AO |
| DVP30EX200T | ⊖ 16 10 T → 3AI/1AO |

- ⊖ AC power supply
- ↪ Inputs
- ↪ Transistor output
- ⊖ DC power supply
- ↪ Outputs
- R Relay output

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

DVP04TC-E2



Resolver Modules

DVP10RC-E2^{*1}



DVP-ES2 Series Extension Cable Modules

DVPAEXT01-E2



*1. Contact your sales representative for the official launch date of the DVP10RC-E2 module.

Slim PLC DVP-S Series

Compact, Flexible Extension

DVP-SS2

Standard Slim PLC



| Model Name | Specifications |
|--------------------------------|--------------------|
| DVP28SS211R <small>New</small> | —DC— 16 I 12 O (R) |
| DVP28SS211T <small>New</small> | —DC— 16 I 12 O (T) |
| DVP14SS211R | —DC— 8 I 6 O (R) |
| DVP14SS211T | —DC— 8 I 6 O (T) |
| DVP12SS211S | —DC— 8 I 4 O (S) |

—DC— DC power supply I Inputs O Outputs
 (T) Transistor output (NPN) (R) Relay output
 (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— DC power supply I Inputs O Outputs
 (T) Transistor output (NPN) (R) Relay output
 (S) Transistor output (PNP)

DVP-SA2

Advanced Slim PLC



| Model Name | Specifications |
|----------------------------------|--------------------|
| DVP28SA211R*1 <small>New</small> | —DC— 16 I 12 O (R) |
| DVP28SA211T*1 <small>New</small> | —DC— 16 I 12 O (T) |
| DVP12SA211R | —DC— 8 I 4 O (R) |
| DVP12SA211T | —DC— 8 I 4 O (T) |

*1 The DVP28SA2 models do not support left-side modules.

—DC— DC power supply I Inputs O Outputs
 (T) Transistor output (NPN) (R) Relay output

DVP-SV2

High Performance Slim PLC



| Model Name | Specifications |
|-------------|------------------------|
| DVP28SV11R2 | —DC— 16 I 12 O (R) |
| DVP28SV11T2 | —DC— 16 I 12 O (T) |
| DVP28SV11S2 | —DC— 16 I 12 O (S) |
| DVP24SV11T2 | —DC— 10 I 12 O (T) 2AI |

—DC— DC power supply I Inputs O Outputs
 (T) Transistor output (NPN) (R) Relay output
 (S) Transistor output (PNP)

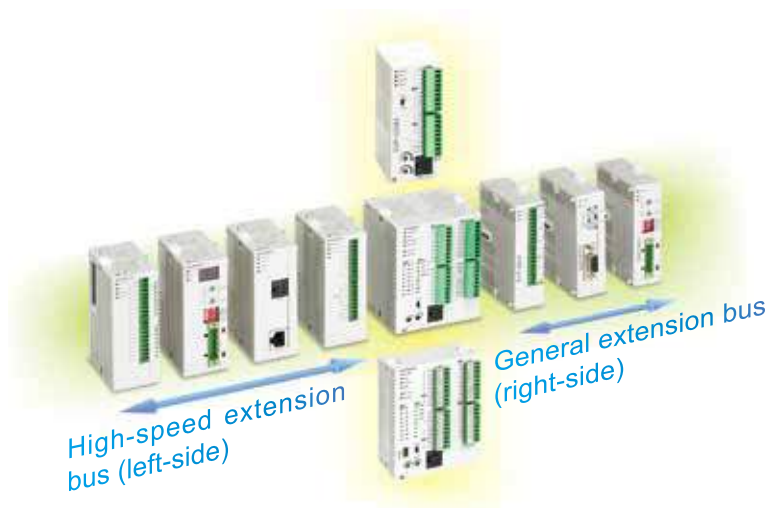
DVP-SE

Network Type Advanced Slim PLC



| Model Name | Specifications |
|-------------------------------|--------------------|
| DVP26SE11R <small>New</small> | —DC— 14 I 12 O (R) |
| DVP26SE11T <small>New</small> | —DC— 14 I 12 O (T) |
| DVP12SE11R | —DC— 8 I 4 O (R) |
| DVP12SE11T | —DC— 8 I 4 O (T) |

—DC— DC power supply I Inputs O Outputs
 (T) Transistor output (NPN) (R) Relay output



Slim PLC DVP-S Series Extension Modules

High-speed Extension Modules (left-side)¹

Network Modules

- **DeviceNet Master**
DVPCNET-SL
- **CANopen Master**
DVPCOPM-SL



- **Ethernet**
DVPEN01-SL



- **PROFIBUS-DP Slave**
DVPPF02-SL

- **RS-422/RS-485 Serial Communication Module**
DVPSCM12-SL



- **BACnet MS/TP Slave Serial Communication Module**

Analog Extension

- **Analog Input**
DVP04AD-SL
- **Analog Output**
DVP04DA-SL



Load Cell/Tension

- **Load Cell Module**
DVP01LC-SL
DVP02LC-SL
DVP201LC-SL
DVP211LC-SL
DVP202LC-SL



General Extension Modules (right-side)²

I/O Point Extension

- **Input Point Extension**
DVP08SM11N
DVP16SM11N

- **Output Point Extension**
DVP06SN11R
DVP08SN11R/T
DVP08SN11TS
DVP16SN11T
DVP16SN11TS

- **Input/Output Point Extension**
DVP08SP11R/T
DVP08SP11TS
DVP16SP11R/T
DVP16SP11TS



- **Pin Header Input**
DVP32SM11N

- **Pin Header Output**
DVP32SN11TN

- **Digital Switch**
DVP08ST11N



Analog Extension

- **Analog Input**
DVP04AD-S
DVP06AD-S
DVP04AD-S2

- **Analog Output**
DVP04DA-S
DVP02DA-S
DVP04DA-S2

- **Analog Input/Output**
DVP06XA-S
DVP06XA-S2



Temperature Measurement

- **Sensor : Pt100, Pt1000**
DVP04PT-S
DVP06PT-S

- **Sensor : J,K,R,S,T thermocouple**
DVP04TC-S

New

- **Temperature Control :**
DVP02TUN-S
DVP02TUR-S
DVP02TUL-S



Communication Modules

- **PROFIBUS Slave**
DVPPF01-S
- **DeviceNet Slave**
DVPDT01-S



Power Supply Modules

- DVPPS01
DVPPS02
DVPPS05



Axis Control Module

- **Single-Axis Positioning**
DVP01PU-S



*1. DVP32EH00R3-L & DVP32EH00T3-L are also compatible with the left-side high-speed extension modules.

*2. 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.