

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	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 200 kHz 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



Motion Control

Single-Axis Positioning

- DVP01PU-H2



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

High-Speed Counter

- DVP01HC-H2



Specifications

Electrical Specifications

	AC	DC
Power Supply Voltage	100 ~ 240 V _{AC} (-15% ~ 10%), 50/60Hz ±5%	24 V _{DC} (-15% ~ 20%)
Fuse Capacity	2A/250 V _{AC}	ES: 2A/250 V _{AC} ; SV: 2.5A/30 V _{DC}
Spike Voltage Durability	1500 V _{AC} (Primary-secondary); 1500 V _{AC} (Primary-PE); 500 V _{AC} (Secondary-PE)	
Insulation Impedance	> 5 MΩ (all I/O point-to-ground: 500 V _{DC})	
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	

Input Specifications ^{*1}

Max. Input Frequency	10 kHz	20 kHz	100 kHz	200 kHz	
Input Signal Type	NPN (Sink)/PNP (Source)				
Input Signal Voltage	24 V _{DC} ±10% (5 mA)				
Response time ^{*2}	DVP-EH3/SV2/PM	OFF→ON: 20 μs ON→OFF: 50 μs	ES/EX/SX/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/EH3/SV2/PM OFF→ON: 0.15 μs ON→OFF: 3 μs
	DVP-ES3/ES2/EX2				
	DVP-ES/EX				
	DVP-SX				
	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 ^{*1}

	Relay-R	Transistor-T		
		General-speed	High-speed	
Max. Exchange (working) Frequency	1Hz ^{*2}	10 kHz	100 kHz	200 kHz
Current spec.	DVP-EH3/SV2/PM	0.3A/point @40°C	SA2/SX2/ES2/EX2/SE Resistive: 0.5A/point (4A/COM) Conductive: 12W (24 V _{DC}) Light bulb: 2W (24 V _{DC})	ES3/EH3/SV2/PM Resistive: 0.5A/point (4A/COM) Conductive: 12W (24 V _{DC}) Light bulb: 2W (24 V _{DC})
	DVP-ES3/ES2/EX2			
	DVP-ES/EX			
	DVP-SX			
	DVP-SS2/SA2/SX2/SE			
Voltage Spec.	250 V _{AC} /30 V _{DC}	30 V _{DC}		
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

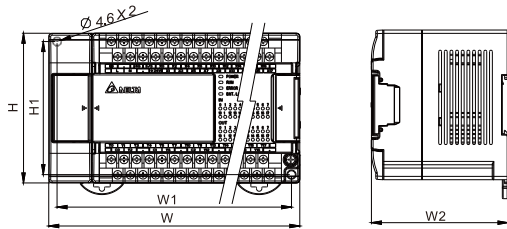
*1. For more detailed specifications, see the "Specification" section in the instruction sheet of each model.

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

DVP-EH3 Series

Model Name (mm)	H	H1	W	W1	W2
DVP16EH00R3 / T3	90	80	113	103	82
DVP20EH00R3 / T3	90	80	113	103	82
DVP32EH00M3 / MT	90	80	143.5	133.5	82
DVP32EH00R3 / T3	90	80	143.5	133.5	82
DVP32EH00R3-L	90	80	143.5	133.5	82
DVP32EH00T3-L	90	80	143.5	133.5	82
DVP40EH00R3 / T3	90	80	158.8	153.8	82
DVP48EH00R3 / T3	90	80	174	164	82
DVP64EH00R3 / T3	90	80	212	202	82
DVP80EH00R3 / T3	90	80	276	266	82

*The dimensions of the DVP-EH3 and DVP-EH2 Series are the same.

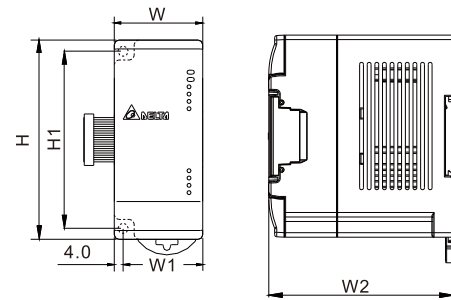


DVP-EH3 Series I/O & Extension Modules

Model Name (mm)	H	H1	W	W1	W2
DVP08HM11N	90	80	40	36	82
DVP16HM11N	90	80	55	51	82
DVP32HM11N	90	80	143.5	133.5	82.2
DVP08HN11R/T	90	80	40	36	82
DVP32HN00R/T	90	80	143.5	133.5	82.2
DVP08HP11R/T	90	80	40	36	82
DVP16HP11R/T	90	80	55	51	82
DVP32HP00R/T	90	80	143.5	133.5	82.2
DVP48HP00R/T	90	80	174	164	82.2

Model Name (mm)	H	H1	W	W1	W2
DVP04AD-H2	90	80	60	56	82
DVP04DA-H2	90	80	60	56	82
DVP06XA-H2	90	80	60	56	82
DVP04PT-H2	90	80	60	56	82
DVP04TC-H2	90	80	60	56	82
DVP01PU-H2	90	80	60	56	82
DVPDT02-H2	90	80	40	46	82
DVPCP02-H2	90	80	40	46	82
DVPPF02-H2	90	80	40	46	82
DVP04AD-H3	90	80	60	56	82
DVP04DA-H3	90	80	60	56	82
DVP06XA-H3	90	80	60	56	82

*The dimensions of the DVP-EH3 and DVP-EH2 Series are the same.



DVP Series Model Name Instructions

• PLC

Series ① ② ③ ④ ⑤

- Total I/O**
- Model**
 ES/ES2/ES3: DVP-ES/ES2/ES3 series PLC
 EX/EX2: DVP-EX/EX2 series PLC
 SS/SS2: DVP-SS/SS2 series PLC
 SA/SA2: DVP-SA/SA2 series PLC
 SX/SX2: DVP-SX/SX2 series PLC
 SC: DVP-SC series PLC
 SV: DVP-SV series PLC
 SE: DVP-SE series PLC
 PM: DVP-PM series PLC
 MC: DVP-MC series PLC
 EH: DVP-EH 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

Series ① ② ③

- Total I/O**
- Module function**
 HC: High-speed counter
 PU: Single-axis positioning module
- Compatible model**
 S: DVP-SS/SA/SX/SC/SV/SS2/SA2/SX2/SV2/SE/MC Series PLC
 H2/H3: DVP-EH2/EH3/PM Series PLC
 SL: left-side extension for DVP-S Series PLC

• Remote I/O

Series ①

- Type**
 DNET: DeviceNet
 485: RS-485
 EN01: Modbus TCP

• DI/DO Module

Series ① ② ③ ④ ⑤

- Total I/O**
- Model**
 X: DVP-ES/EX/ES2/EX2 series PLC
 S: DVP-SS/SA/SX/SC/SV/SS2/SA2/SX2/SV2/SE/MC series PLC
 H: DVP-EH2/EH3/PM 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

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

Series ① ② ③ ④

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

• AI/AO Module

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
 XA: AD + DA module
 LC: Load cell module
 RC: Resolver module
- Compatible model**
 S or S2: DVP-SS/SA/SX/SC/SV/SS2/SA2/SX2/SV2/SE/MC Series PLC
 SL: left-side extension for DVP-S Series PLC
 E2: DVP-ES2/EX2 Series PLC

• Network Module

Series ① ②

- Module function**
 EN01: Modbus TCP
 DNET: DeviceNet master
 COPM: CANopen master
 CP02: CANopen Slave
 DT01/02: DeviceNet Slave
 PF01/02: PROFIBUS DP Slave
- Compatible model**
 S: DVP-SS/SA/SX/SC/SV/SS2/SA2/SX2/SV2/SE/MC Series PLC
 H2/H3: DVP-EH2/EH3/PM Series PLC
 SL: left-side extension for DVP-S Series PLC

• Accessory: Other

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

ue.

DVP Series PLC Function Overview

Select your desired specifications and locate the most suitable PLC.



Item	Specifications	Check	Model							
			ES2	EX2	EH3	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"/>			○				○	
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	△*1
	CANopen	<input type="checkbox"/>	⊙		△*1		△*1	△*1	△*1	△*1
	PROFIBUS	<input type="checkbox"/>			△*1		△*1	△*1	△*1	△*1
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"/>			○*3	△	△	△	○	△
	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



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

*3: In addition to the built-in 4 channels of high-speed counters, the DVP-EH3 Series can connect high-speed counter modules

DVP-EH3 Series PLC

Product name	Power Supply	Output Method	Inputs	Outputs	Model Name	Certificates
DVP-EH3 Series High Performance PLC	100 ~ 240V _{AC}	Relay	8	8	DVP16EH00R3	 
	100 ~ 240V _{AC}	Transistor	8	8	DVP16EH00T3	
	100 ~ 240V _{AC}	Relay	12	8	DVP20EH00R3	
	100 ~ 240V _{AC}	Transistor	12	8	DVP20EH00T3	
	100 ~ 240V _{AC}	Transistor	16	16	DVP32EH00T3	
	100 ~ 240V _{AC}	Relay	16	16	DVP32EH00R3	
	100 ~ 240V _{AC}	Differential + Relay	16	16	DVP32EH00M3	
	100 ~ 240V _{AC}	Differential + Transistor	16	16	DVP32EH00MT	
	100 ~ 240V _{AC}	Relay	16	16	DVP32EH00R3-L	
	100 ~ 240V _{AC}	Transistor	16	16	DVP32EH00T3-L	
	100 ~ 240V _{AC}	Transistor	24	16	DVP40EH00T3	
	100 ~ 240V _{AC}	Relay	24	16	DVP40EH00R3	
	100 ~ 240V _{AC}	Relay	24	24	DVP48EH00R3	
	100 ~ 240V _{AC}	Transistor	24	24	DVP48EH00T3	
	100 ~ 240V _{AC}	Relay	32	32	DVP64EH00R3	
	100 ~ 240V _{AC}	Transistor	32	32	DVP64EH00T3	
	100 ~ 240V _{AC}	Relay	40	40	DVP80EH00R3	
100 ~ 240V _{AC}	Transistor	40	40	DVP80EH00T3		
Execution time of basic instructions			0.24 μs			



DVP-EH3 Series Digital/Analog Module

Product Name	Output Method	Inputs	Outputs	Model Name	Certificates
Digital Module	Relay	4	4	DVP08HP11R	 
	Transistor	4	4	DVP08HP11T	
	Relay	-	8	DVP08HN11R	
	Transistor	-	8	DVP08HN11T	
	-	8	-	DVP08HM11N	
	Relay	8	8	DVP16HP11R	
	Transistor	8	8	DVP16HP11T	
	-	16	-	DVP16HM11N	
	-	32	-	DVP32HM11N	
	Relay	-	32	DVP32HN00R	
	Transistor	-	32	DVP32HN00T	
	Relay	16	16	DVP32HP00R	
	Transistor	16	16	DVP32HP00T	
	Relay	24	24	DVP48HP00R	
	Transistor	24	24	DVP48HP00T	
Analog Module	<ul style="list-style-type: none"> 4 points of analog voltage (-10V ~ +10V) / current (-20mA ~ +20mA)^{*1} Input resolution: 14-bit Built-in RS-485 interface 			DVP04AD-H2	
	<ul style="list-style-type: none"> 4 points of analog voltage (0V ~ +10V) / current (0mA ~ +20mA) output^{*1} Resolution: 12-bit Built-in RS-485 interface 			DVP04DA-H2	
	<ul style="list-style-type: none"> 4 points of analog voltage (-10V ~ +10V) / current (-20mA ~ +20mA) input 2 points of analog voltage (0V ~ +10V) / current (0mA ~ +20mA) output Resolution: 12-bit Built-in RS-485 interface 			DVP06XA-H2	
	<ul style="list-style-type: none"> 4 points of platinum RTD (Pt100, Pt1000, Ni100, Ni1000) sensor input^{*1} / 0 ~ 300Ω or 0 ~ 3000Ω resistance input Resolution: 0.1°C Built-in RS-485 interface 			DVP04PT-H2	
	<ul style="list-style-type: none"> 4 points of thermocouple (J, K, R, S, T, E, N Type) sensor input^{*1} / 0 ~ 150mV voltage input Resolution: 0.1°C Built-in RS-485 interface 			DVP04TC-H2	
	<ul style="list-style-type: none"> 8 points of thermocouple (J, K, R, S, T, E, N Type) sensor input^{*1} / 0 ~ 150mV or ±150mV voltage input Resolution: 0.1°C Built-in RS-485 interface 			DVP08TC-H2	
	<ul style="list-style-type: none"> 4 channels of differential voltage (-10V ~ +10V) / current (-20mA ~ +20mA) input Resolution: 16-bit Built-in RS-485 interface 			DVP04AD-H3	
	<ul style="list-style-type: none"> 4 channels of voltage (-10V ~ +10V) / current (0 ~ +20mA) output Resolution: 16-bit Built-in RS-485 interface 			DVP04DA-H3	
<ul style="list-style-type: none"> 4 channels of differential voltage (-10V ~ +10V) / current (-20mA ~ +20mA) input 2 channels of voltage (-10V ~ +10V) / current (0 ~ +20mA) output Resolution: 16-bit Built-in RS-485 interface 			DVP06XA-H3		

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

Ordering Information

DVP-EH3 Series Extension Module/Function Card

Product Name	Description	Model Name	Certificates
Positioning Module	Servo position control module (single axis, 200 kHz)	DVP01PU-H2	 
High-Speed Counter	High-speed counter module (1CH)	DVP01HC-H2	
Communication Module	PROFIBUS DP slave communication module	DVPPF02-H2	
	CANopen slave communication module	DVPCP02-H2	
	DeviceNet slave communication module	DVPDT02-H2	
Function Card	RS-232 port conversion (DVP-EH2: COM2; DVP-EH3: COM3)	DVP-F232	
	RS-422 port conversion (DVP-EH2: COM2; DVP-EH3: COM3)	DVP-F422	
	RS-485 port extension (COM3) (DVP-EH3 only)	DVP-F485	
	• 2 points of analog voltage (0~10V)/current (0~20mA) input • Resolution: 12-bit	DVP-F2AD	
	• 2 points of analog voltage (0~10V)/current (0~20mA) output • Resolution: 12-bit	DVP-F2DA	
	Ethernet communication card (compatible with controllers built-in with 32 I/O and above)	DVP-FEN01	