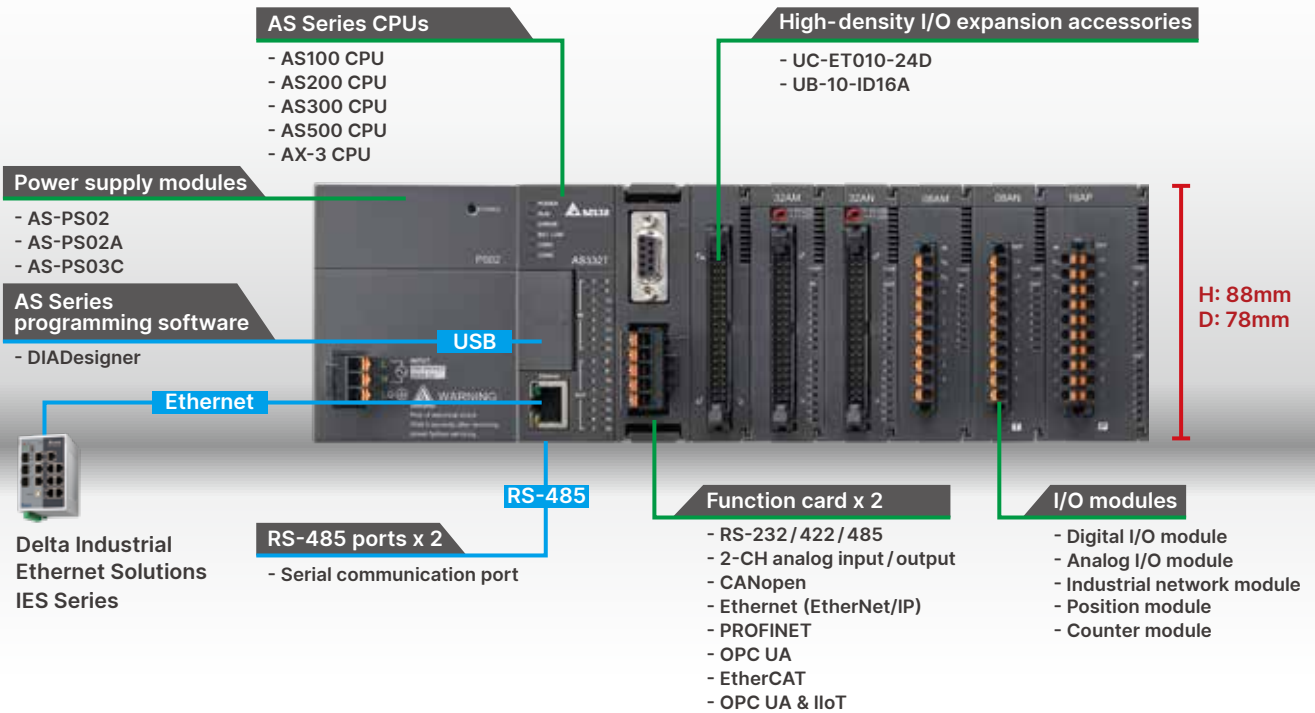


Product Models and Specifications



CPUs

AS500 CPUs



AS500 Series CPU Standard Specifications			
Program capacity 20 MB	1 GHz CPU	Expansion modules: 32	
USB/ RS-232 / 485 / Ethernet / CANopen	Micro SD Card	EtherNet/IP, Modbus CANopen	Advanced motion control
Model	Built-in I/O	Incremental Encoder	SSI Absolute Encoder
AS516E-B / AS524C-B AS532EST-B / AS564EST-B	16 DI / 8 DO	2 CHs	1 CH

AS300 CPUs



AS300 Series CPU Standard Specifications (*1: Needs CANopen function card; *2: Not supported by relay output models)			
Program capacity 128k steps	Basic instruction 25 ns	Real I/O capability: 1,024 pts Expansion modules: 32	
USB / RS-485 x 2 / EtherNet	Micro SD Card	Function card x 2	EtherNet/IP Modbus CANopen remote I/O ^(*1) CANopen DS301 Position Control ^(*1)
Model	Built-in I/O	High-speed Output ^(*2)	High-speed Input
AS332T-A, AS332P-A	16 DI / 16 DO	6 axes 200 kHz pulse output	6 channels 200 kHz high-speed counters
AS324MT-A (Differential)	12 DI / 12 DO	2 axes 4 MHz + 4 axes 200 kHz pulse output	2 channels 4 MHz + 4 channels 200 kHz high-speed counters
AS320T-B / AS320P-B	8 DI / 12 DO	6 axes 200 kHz pulse output	4 channels 200 kHz high-speed counters
AS300N-A	-	-	-

CPUs

AS100 New / 200 CPUs



AS100/200 Series CPU Standard Specifications (*1: Not supported by relay output models)			
Program capacity 64k steps	Basic instruction 25 ns	Real I/O capability: 1,024 pts Expansion modules: 32	
USB/RS-485 x 2 / EtherNet/CANopen	Micro SD Card	EtherNet/IP, Modbus CANopen remote I/O	CANopen DS301 Position Control
Model	Built-in I/O	High-speed Output ^(*)	High-speed Input
AS132T-A/AS132P-A/ AS132R-A/AS148T-A/ AS148P-A/AS148R-A/ AS164T-A/AS164P-A/ AS164R-A	AS132: 16DI/16DO AS148: 24DI/24DO AS164: 32DI/32DO	6 axes 200kHz pulse output	4 channels 200 kHz high-speed counters
AS228T-A/AS228P-A/ AS228R-A	16 DI/12 DO	6 axes 200kHz pulse output	4 channels 200 kHz high-speed counters
AS218TX-A/AS218PX-A/ AS218RX-A	8 DI/6 DO 2 AI/2 AO	3 axes 200kHz pulse output	4 channels 200 kHz high-speed counters

AX-3 CPU New



AX-3 Series CPU Standard Specifications			
Program capacity 8 MB ^{(*)1}	Basic instruction 5 ns ^{(*)2}	Expansion modules: 32	
USB/RS-232/485/ Ethernet (1G) ^{(*)3}	Micro SD Card	EtherNet/IP, Modbus	CODESYS solution
Model	Built-in I/O	Encoder	High-speed Input / Output
AX-308EA0MA1T AX-308EA0MA1P AX-316EA0MA1T AX-364ELA0MA1T	16 DI/8 DO	Incremental encoder: 2 CHs SSI absolute encoder: 1 CH	200 kHz pulse output: 4 axes 200 kHz high-speed counters: 6 CHs
AX-304ELA0PA1T AX-304ELA0PA1P AX-324NA0PA1P	16 DI/8 DO	-	200 kHz PWM output: 4 CHs 200 kHz high-speed counters: 6 CHs
AX-300NA0PA1	-	-	-
AX-332EP0MB1T	6 DI/6 DO	Incremental encoder: 1 CH SSI absolute encoder: 1 CH	200 kHz pulse output : 1 axis 200 kHz high-speed counters: 6 CHs

*1 : AX-332EP supports 128 MB

*2 : AX-332EP supports up to 1.6 ns

*3 : AX-332EP supports USB/RS-422/485/Ethernet (1G)

Power Supply Modules

Power Supply Modules Specifications			
AS-PS02 	Input 100 V _{AC} ~ 240 V _{AC}	AS-PS02A 	Input 100 V _{AC} ~ 240 V _{AC}
	24 V _{DC} , 2 A (for internal bus)		24 V _{DC} , 1.5 A (for internal bus) 24 V _{DC} , 0.5 A (for external I/O)
AS-PS03C 	Input 100 V _{AC} ~ 240 V _{AC}		
	24 V _{DC} , 3 A (for external I/O)		
	RS-485 (Modbus)		
	Provides information of power status/abnormal alarm/life prediction		

Product Specifications - AS300/200/100 Series

Model		AS332T-A AS332P-A	AS324MT-A	AS320T-B AS320P-B	AS300N-A	AS228 ^{(*)1} AS132 ^{(*)2} AS148 ^{(*)2} AS164 ^{(*)2}	AS218TX-A AS218PX-A AS218RX-A
Programming Languages		Ladder Diagram (LD), Structured Text (ST), Continuous Function Chart (CFC), Sequential Function Chart (SFC), C Language					
Instruction Processing Speed	LD Instruction	25 ns					
	MOV Instruction	0.15 μs					
	Elementary Arithmetic for Integers	0.92 μs ~ 1.02 μs					
	Elementary Arithmetic for Floating Point	1.69 ~ 1.85 μs					
Program Capacity		128k steps				64k steps	
Memory Capacity	Data (D)	64k words (including 30k user-defined, 30k software configuration and 4k special registers)					
	Extension (FR)	64k words (user parameter storage)					
Function Cards		The CPUs support up to 2 function cards				-	
Max. Extension Modules		32 modules (max. 16 analog modules / 4 communication modules)					
Max. Number of Real Inputs / Outputs		1,024 points (input & output)					
CPU Built-in Inputs / Outputs		16 DI / 16 DO	12 DI / 12 DO	8 DI / 12 DO	-	AS228: 16 DI / 12 DO AS132: 16 DI / 16 DO AS148: 24 DI / 24 DO AS164: 32 DI / 32 DO	8 DI / 6 DO & 2 AI / 2 AO
CPU Built-in Differential Inputs / Outputs		-	4 inputs + 4 outputs	-			
Input / Output Devices	X	1,024 inputs (X0.0 ~ X63.15)					
	Y	1,024 outputs (Y0.0 ~ Y63.15)					
Bit Devices	M	8,192 bits (M0 ~ M8191)					
	S	2,048 bits (S0 ~ S2047)					
Timer	T	512 (T0 ~ T511)					
16-bit Counter	C	512 (C0 ~ C511)					
32-bit Counter	HC	256 (HC0 ~ HC255)					
Pulse Output		Open collector: 6 axes, 200 kHz	Open collector: 4 axes, 200 kHz Differential: 2 axes, 4 MHz General: 4 CHs, 200 kHz	Open collector: 6 axes, 200 kHz	-	Open collector: 6 axes, 200 kHz (not supported in relay output models)	Open collector: 3 axes, 200 kHz (not supported in relay output models)
High-Speed Counter		General: 6 CHs, 200 kHz	4 CHs, 200 kHz Differential: 2 CHs, 4 MHz	General: 4 CHs, 200 kHz	-	General: 4 CHs, 200 kHz	General: 4 CHs, 200 kHz
DO Type		AS332T-A: NPN AS332P-A: PNP	Diff. / NPN	AS320T-B: NPN AS320P-B: PNP	-	AS1xxT-A: NPN AS228T-A: NPN AS1xxP-A: PNP AS228P-A: PNP AS1xxR-A: Relay AS228R-A: Relay	AS218TX-A: NPN AS218PX-A: PNP AS218RX-A: Relay
Built-in Communication Port		USB, Ethernet, RS-485 x 2				USB, Ethernet, RS-485 x2, CANopen	
Communication Protocol		Modbus, Modbus TCP, EtherNet/IP, CANopen (requires a CANopen function card)				Modbus, Modbus TCP, EtherNet/IP, CANopen	
Ethernet Connection Resource		Modbus (Client / Server): 32 / 32 EtherNet/IP (CIP): 32				Modbus (Client / Server): 16 / 16 EtherNet/IP (CIP): 16	
Data Backup (Without Battery)	Program	Flash ROM, rewritable up to 100,000 times					
	Latched Area	MRAM, no rewriting limit					
CANopen DS301	Connectable Slave Stations	Max. 64 points					
	CPDO Data Capacity (Host)	Max. 2,000 bytes (Read & Write)					
	PDO Data Capacity (Slave)	Max. 8 PDO (Read & Write); Max. 8 bytes for each PDO					
Real-time Clock (RTC)		General Lithium button battery (CR1620)					
Self-Diagnosis Function		CPU errors, built-in memory errors, and more					
Rated Input Current	AS-PS02 / AS-PS02A / AS-PS03C	110 V _{AC} ~ 240 V _{AC} (±10%)					
	CPU Extension Modules	24 V _{DC} (±10%)					

*1: AS228: AS228T-A / AS228P-A / AS228R-A

*2: AS132: AS132T-A / AS132P-A / AS132R-A; AS148: AS148T-A / AS148P-A / AS148R-A; AS164: AS164T-A / AS164P-A / AS164R-A

I/O Modules

■ Digital Input Modules

				Rated input voltage 5 ~ 24 V _{DC}
8 inputs	16 inputs	32 inputs	64 inputs	Response time 1 ms
Easy wiring terminal block	Easy wiring terminal block	High-density MIL terminal block	High-density MIL terminal block	Filter function 1 ~ 20 ms
AS08AM10N-A	AS16AM10N-A	AS32AM10N-A	AS64AM10N-A	Screwless removable terminal block 8 / 16 inputs

■ Digital Output Modules

				NPN (Sink) or PNP (Source) module
8 outputs	8 outputs	8 outputs	32 outputs	Response time 1ms (Transistor) 10ms (Relay)
Easy wiring terminal block Transistor output NPN (Sink)	Easy wiring terminal block Relay output	Easy wiring terminal block Transistor output PNP (Source)	High-density MIL terminal block Transistor output NPN (Sink)	Screwless removable terminal block 8 / 16 outputs
AS08AN01T-A	AS08AN01R-A	AS08AN01P-A	AS32AN02T-A	

				
16 outputs	16 outputs	16 outputs	64 outputs	
Easy wiring terminal block Transistor output NPN (Sink)	Easy wiring terminal block Relay output	Easy wiring terminal block Transistor output PNP (Source)	High-density MIL terminal block Transistor output NPN (Sink)	
AS16AN01T-A	AS16AN01R-A	AS16AN01P-A	AS64AN02T-A	

I/O Modules

■ Digital I/O Modules

			NPN (Sink) or PNP (Source) module	
16 inputs / outputs	16 inputs / outputs	16 inputs / outputs	Rated input voltage 5 ~ 24 V _{DC}	Filter function 1 ~ 20 ms
Easy wiring terminal block 8 inputs/8 transistor outputs NPN (Sink)	Easy wiring terminal block 8 inputs 8 relay outputs	Easy wiring terminal block 8 inputs/8 transistor outputs PNP (Source)	Screwless removable terminal block	
AS16AP11T-A	AS16AP11R-A	AS16AP11P-A	Response time 1 ms (Transistor) 10 ms (Relay)	

■ Analog I/O Modules

					
2 channels	4 channels	8 channels	8 channels	4 channels	6 channels
Analog input	Analog input	Analog input	Analog input	Analog output	Analog input/output
AS02ADH-A New	AS04AD-A	AS08AD-B	AS08AD-C	AS04DA-A	AS06XA-A
Conversion time 20 μs/channel	Conversion time 2 ms/channel	50/60 Hz filter		A: Voltage and current B: Voltage C: Current	Resolution AI: 16-bit AO: 12-bit
Accuracy ±0.2%	Accuracy ±0.2%	4/6/8 CHs		Module monitoring/configuration	Differential inputs

■ Load Cell Module

	Functions	
2 channels	50/60 Hz filter	High-speed dynamic measurement
	2 channels of independent sampling	Accuracy 0.04% of full-scale
	2 CHs	Connectable to 4-wire/6-wire load cell sensor
	Software	
Filter function		Multi-point calibration
Online monitoring/configuration		
AS02LC-A		

■ Pulse Unit Modules

		Input: AS02PU: 200kHz
2 channels	4 channels	Output: AS02PU: 200kHz AS04PU: 100kHz
		Open Collector / Diff.
		2 / 4 CHs
Differential	Open Collector	Support Motion APIs
AS02PU-A	AS04PU-A	

■ High Speed Counter Module

2 channels		200 kHz
Open collector / Diff.		Incremental / Absolute (SSI)
AS02HC-A New		Open Collector / Diff.
		2 CHs
		Compare / Capture

■ Temperature Measurement Modules



4 channels	6 channels
PT, NI temperature sensor	PT, NI temperature sensor
AS04RTD-A	AS06RTD-A

Conversion time 200 ms/channel		Resolution 0.1°C/0.18°F	Wire breaking detection
Overall accuracy ±0.1%	50/60 Hz filter	Module monitoring/configuration	4/6 CHs
Pt100/Ni100/Pt1000/Ni1000/JPt100/LG-Ni1000/Cu50/Cu100, resistor 0~300Ω, 0~3,000Ω			



4 channels	8 channels
TC temperature sensor	TC temperature sensor
AS04TC-A	AS08TC-A

Conversion time 200 ms/channel		Resolution 0.1°C/0.18°F	Disconnection detection
Overall accuracy ±0.5%	50/60 Hz filter	Module monitoring/configuration	4/8 CHs
J, K, R, S, T, E, N, B type thermocouple; ±100mV			

■ Communication Modules/Remote I/O Modules



2 COM ports
AS00SCM-A

COM port	RS-232C	RS-422	RS-485	CANopen	Ethernet	PROFINET
Function	Supports standard Modbus protocols and user-defined protocols			Slave mode and RTU mode	EtherNet/IP RTU mode	PROFINET RTU mode
Software	SCMSoft			CANopen Builder	EIP Builder	-

Note: The above functions need optional function cards



EtherCAT
ASRTU-EC16AP1TA New

COM port	EtherCAT
Function	RIO/ Built-in 8 DI/8 DO/ Supports right-side extension with AS Series modules
Software	EtherCAT master configuration software



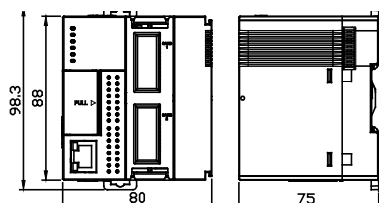
DeviceNet	IO-Link
AS01DNET-A	AS04SIL-A



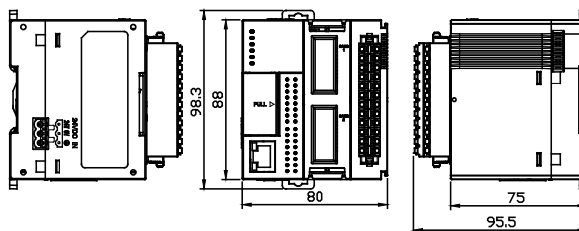
COM port	DeviceNet	IO-Link (4-CH)
Function	Master/Slave/RIO	Master
Software	DeviceNet Builder	HWCONFIG

CPUs

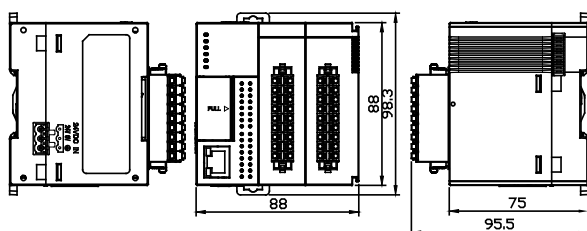
AS300N-A



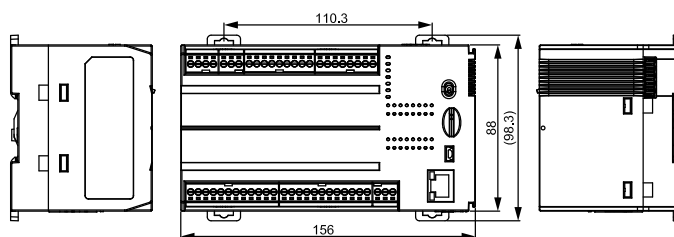
AS320T-B / AS320P-B



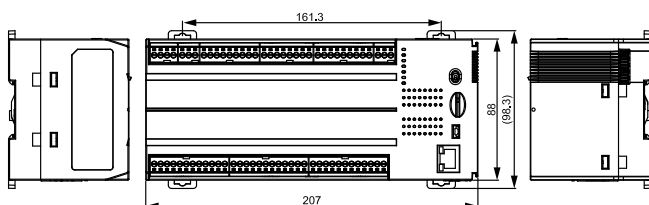
AS228T-A / AS228P-A / AS228R-A /
AS218TX-A / AS218PX-A / AS218RX-A



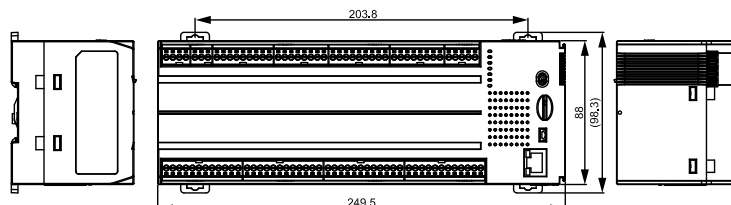
AS132P-A / AS132T-A / AS132R-A **New**



AS148P-A / AS148T-A / AS148R-A **New**



AS164P-A / AS164T-A / AS164R-A **New**

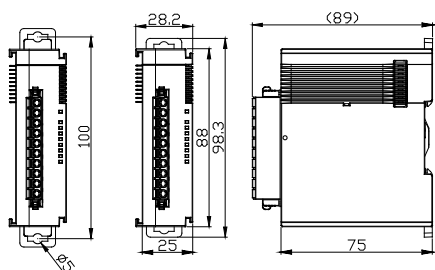


(Unit: mm)

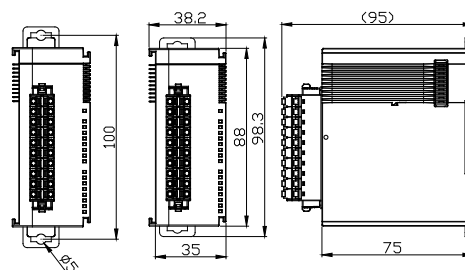
Dimensions

Digital I/O Modules

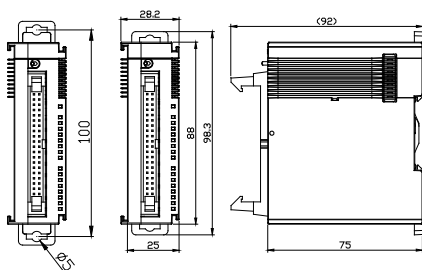
AS08AM10N-A / AS08AN01R-A /
AS08AN01T-A / AS08AN01P-A



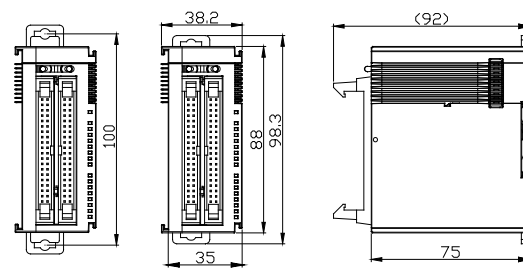
AS16AM10N-A / AS16AN01R-A / AS16AN01T-A /
AS16AN01P-A / AS16AP11R-A / AS16AP11T-A /
AS16AP11P-A



AS32AM10N-A / AS32AN02T-A

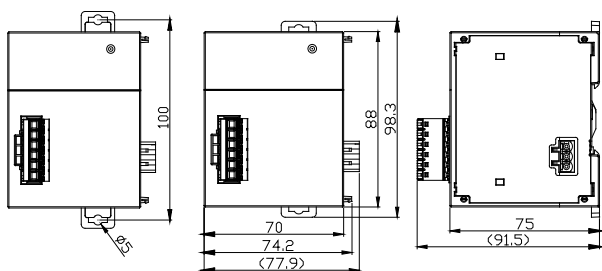


AS64AM10N-A / AS64AN02T-A

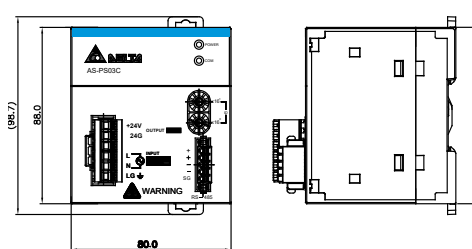


Power Supply Modules

AS-PS02 / AS-PS02A

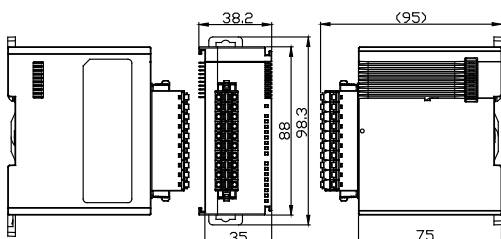


AS-PS03C **New**



Pulse Unit Modules

AS02PU-A / AS04PU-A



(Unit: mm)