



UN 200 SMART PLC Catalog



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V1.0版本



UN 200 smart PLC

1.Product summary

UN 200 smart series PLC is a small PLC product with high performance, high integration and high cost-efficient plc which independently developed by UniMAT Automation. UN 200 smart PLC has different CPUs with different i/o points. The maximum i/o points of CPU local can reach 60 points, which can meet the control requirements of most small automation equipment.

The CPU has standard and economy types for users to choose, which can meet different application needs. The product configuration is more flexible and the cost can be controlled to the greatest extent.

2. Product picture



3.Product feature

- Local integrated 20, 30, 40, 60 points.
- Max. Expanding 6 I/O modules 1 BD board.
- Local support 6 channels single-phase 200KHz, AB phase 3 channels 100KHz+ 20KHz high speed pulse output supports 3 channels 200KHz (transistor)
- Bool instruction, 200 times FOR cycles, scan cycle is 8ms.
- Local integrated 10M/100M automatic adjustment Ethernet port, support TCP, UDP, MODBUS TCP and upper communication.

General Technical Specification

Working Temp.	-10℃~60℃(Hori.) -10℃~40℃(Verti)
Transport Temp.	-20~80℃
Humidity	5~95%, Non rh grade2, IEC60068-2
GND	Type D grounding (grounding resistance: below 100 Ω) is not allowed to be grounded together with strong current system
Machine vibration level	IEC61131-2

Protection level	IP20
Application environment	no corrosive or combustible gas, and the conductive dust (dust) is not serious
Application hight	Below 2000m (it cannot be used under the environment of pressurization above atmospheric pressure, otherwise it may cause failure)

CPU Name Rule

UN Series PLC

200 SMART

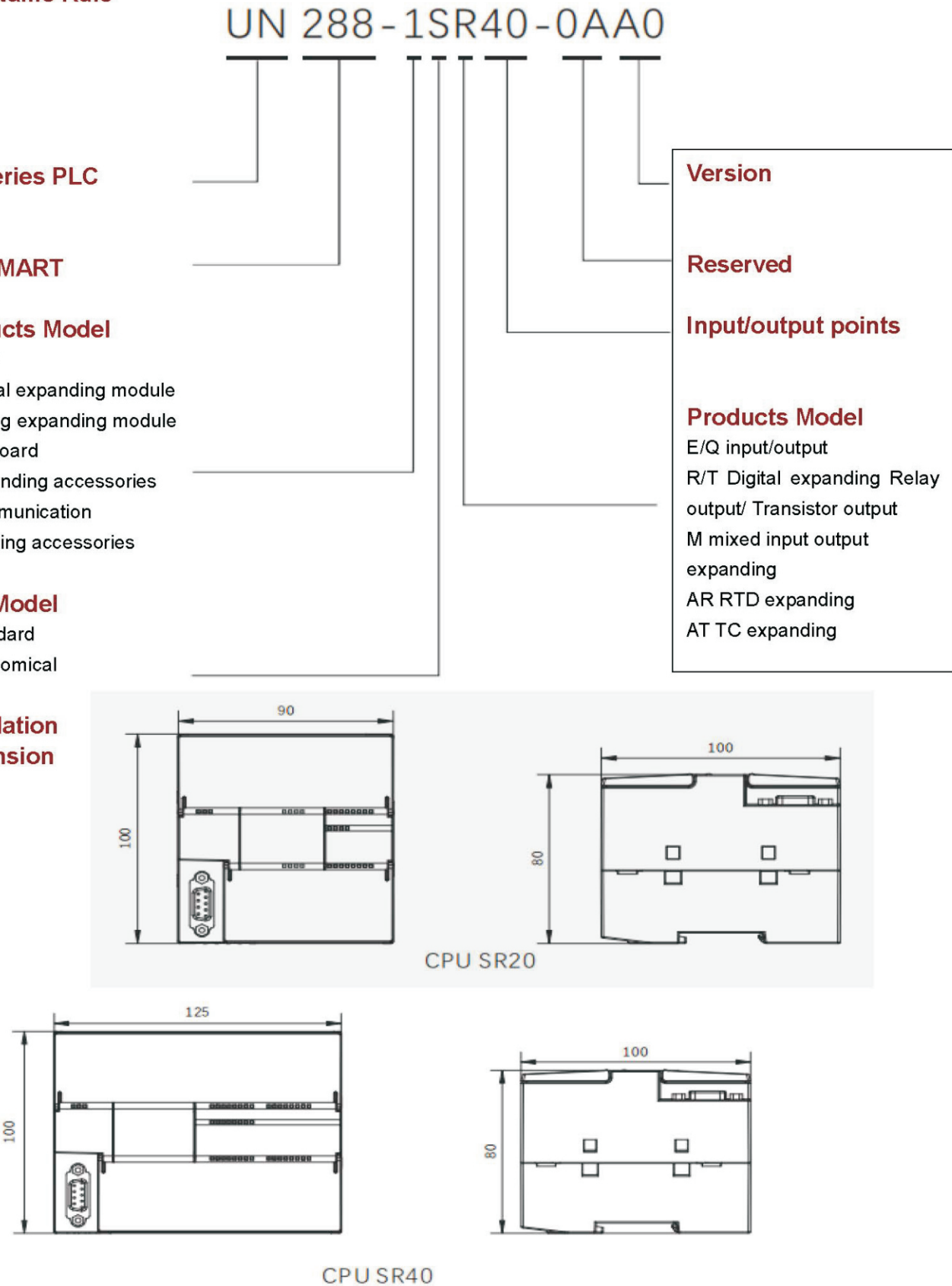
Products Model

1. CPU
 2. Digital expanding module
 3. Analog expanding module
 5. BD board
 6. Expanding accessories
 7. Communication
- Expanding accessories

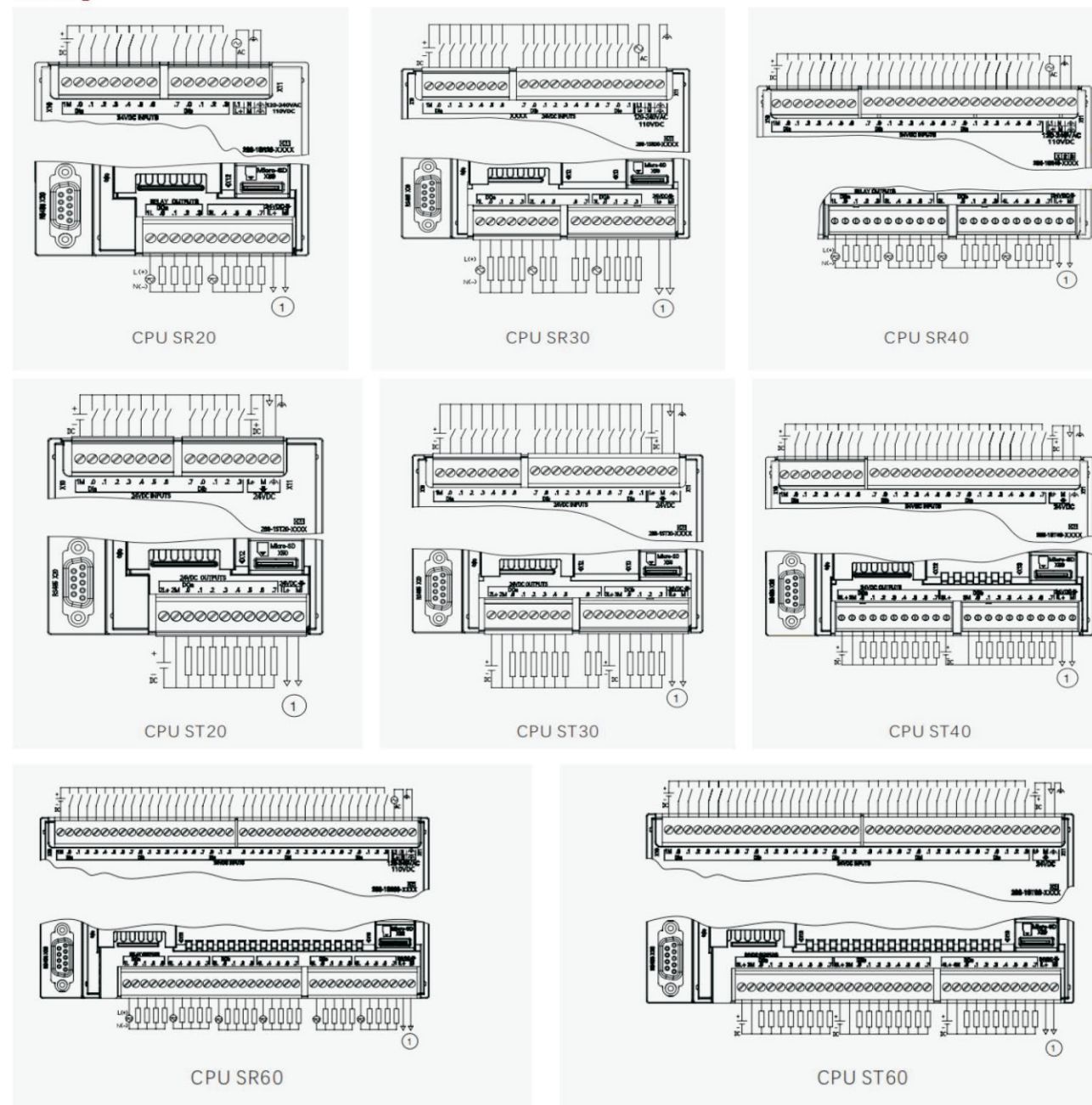
CPU Model

1. Standard
2. Economical

Installation Dimension



Item	CPU SR20	CPU ST20	CPU SR30	CPU ST30	CPU SR40	CPU ST40	CPU SR60	CPU ST60
Part No.	UN 288-1SR20-0AA0	UN 288-1ST20-0AA0	UN 288-1SR30-0AA0	UN 288-1ST30-0AA0	UN 288-1SR40-0AA0	UN 288-1ST40-0AA0	UN 288-1SR60-0AA0	UN 288-1ST60-0AA0
Dimension(W*H*D)mm	90*100*81		110*100*81		125*100*81		175*100*81	
Current supply	Max.300mA		Max.300mA		Max.300mA		Max.300mA	
Digital input current consumer(24VDC)	4mA input of each using point		4mA input of each using point		4mA input of each using point		4mA input of each using point	
CPU Characters								
User Memory	12KB programming memory,8KB data memory,10KB retentive memory		18KB programming memory,12KB data memory,10KB retentive memory		24KB programming memory,16KB data memory,10KB retentive memory		30KB programming memory,20KB data memory,10KB retentive memory	
Local digital I/O	12DI/10DO		18DI/12DO		24DI/16DO		36DI/24DO	
Module expansion	Max. 6		Max. 6		Max. 6		Max. 6	
Communication Board	Max.1		Max.1		Max.1		Max.1	
High speed counter	6 total		6 total		6 total		6 total	
	Single phase : 6*200KHz		Single phase : 6*200KHz		Single phase : 6*200KHz		Single phase : 6*200KHz	
	AB phase: 3*100KHz+1*20KHz		AB phase: 3*100KHz+1*20KHz		AB phase: 3*100KHz+1*20KHz		AB phase: 3*100KHz+1*20KHz	
Communication								
Ports	Ethernet:1		Ethernet:1		Ethernet:1		Ethernet:1	
	Com port:1 (RS485)		Com port:1 (RS485)		Com port:1 (RS485)		Com port:1 (RS485)	
	Expanding port: RS232 or RS485 BD (optional)		Expanding port: RS232 or RS485 BD (optional)		Expanding port: RS232 or RS485 BD (optional)		Expanding port: RS232 or RS485 BD (optional)	
Programming device	Com port: 1 connection, Ethernet port : 1 connection		Com port: 1 connection, Ethernet port : 1 connection		Com port: 1 connection, Ethernet port : 1 connection		Com port: 1 connection, Ethernet port : 1 connection	
CPU(PUT/GET)	Ethernet, client, server connections total 6				Ethernet, client, server connections total 6			
Power input								
Voltage range	85~264VAC	20.4~28.8VDC	85~264VAC	20.4~28.8VDC	85~264VAC	20.4~28.8VDC	85~264VAC	20.4~28.8VDC
Power output								
Voltage range	20.4~28.8VDC		20.4~28.8VDC		20.4~28.8VDC		20.4~28.8VDC	
Rated output current (Max.)	300mA		300mA		300mA		300mA	
Digital input								
Input points	12		18		24		36	
Type	NPN/PNP		NPN/PNP		NPN/PNP		NPN/PNP	
Rated voltage	Normal DI: 4mA rated 24VDC		4mA 24VDC rated		Normal DI: 4mA rated 24VDC		4mA 24VDC rated	
	High speed DI: 6.5mA rated 24VDC				High speed DI: 6.5mA rated 24VDC			
Allowed continue voltage	Max.30VDC		Max. 30VDC		Max.30VDC		Max. 30VDC	
Digital output								
Output points	8		12		16		24	
Type	Relay dry contact	Transisitor	Relay dry contact	Transisitor	Relay dry contact	Transisitor	Relay dry contact	Transisitor
Voltage range	5~30VDC or 5~250VAC	20.4~28.8VDC	5~30VDC or 5~250VAC	20.4~28.8VDC	5~30VDC or 5~250VAC	20.4~28.8VDC	5~30VDC or 5~250VAC	20.4~28.8VDC
Rated current(Max.) per point	2.0A	0.5A	2.0A	0.5A	2.0A	0.5A	2.0A	0.5A



Expansion Module

Digital input module specification

Model	EM DE08	EM DE16
Part No.	UN 288-2DE08-0AA0	UN 288-2DE16-0AA0
General Characters		
Dimension W*H*D mm	45*100*81	
Power	1.5W	2.3W
Current consumer	SM bus 105mA	24VDC 4mA of each using point
Digital input		
Input points	8	16
Type	NPN/PNP	
Rated voltage	4mA, 24VDC rated	

Model	EM DE08	EM DE16
Allowed continue voltage	30VDC (Max.)	
Surge voltage	35VDC 0.5s	
Logic 1 signal(Min.)	2.5mA, 15VDC	
Logic 0 signal(Max.)	1mA 5VDC	
Isolation (site & logic)	500VDC 1Min.	
Isolation group	2	4
Inputs at the same time	8	16
Cable length	500m(shield) 300m(Unshield)	

Digital output module specification

Model	EM DR08	EMDT08	EM QR16	EM QT16
Part No.	UN 288-2DR08-0AA0	UN 288-2DT08-0AA0	UN 288-2QR16-0AA0	UN 288-2QT16-0AA0
General Character				
Dimension W*H*D mm	45*100*81			
Power	4.5W	1.5W	4.5W	1.7W
Current consumer SM bus	120mA		110mA	120mA
Digital output				
Output points	8		16	
Type	Relay dry contact	Solid-MOSFET(PNP)	Relay dry contact	Solid-MOSFET(PNP)
Voltage range	5~30VDC or 5~250VAC	20.4~28.8VDC	5~30VDC or 5~250VAC	20.4~28.8VDC
Logic 1 signal at Max current	-	20V	-	20V
Logic 0 signal at 10kΩ load	-	0.1V	-	0.1V
Rated current(Max) of each point	2.0A	0.75A	2.0A	0.75A
Lamp load	30W DC/200W AC	5W	30W DC/200W AC	5W
On-state contact resistance	New device 0.2Ω Max.	0.6Ω	New device 0.2Ω Max.	0.6Ω
Leakage current of each point	-	10μA	-	10μA
Surge current	7A at contact close	8A 100ms	7A at contact close	8A 100ms
Over load protection	no			
Isolation (site & logic)	1500VAC 1min.(coil &contact) no (coil & logic)	500VAC 1min.	1500VAC 1min.(coil &contact) no (coil & logic)	500VAC 1min.
Isolation resistance	New device 100mΩ Max	-	New device 100mΩ Max	-
Insulation between breaking contacts	750VAV 1min.	-	750VAV 1min.	-
Isolation group	2	2	4	4
Current (Max.) at each common port	8A	3A	8A	3A
Switching delay	10ms Max.	Off-on 50μs Max. on-off 200μs Max.	10ms Max.	Off-on 50μs Max. on-off 200μs Max.
Mechanical life (non-load)	10,000,000 off/on	-	10,000,000 off/on	-
Contact life at rated load	100,000 off/on	-	100,000 off/on	-
Output status at STOP mode	Last value or replacement value (defalt 0)			
Outputs at same time	8		16	
Cable length	500m(shield) 150m(unshield)			

Digital input/output module specification

Digital input output module specification

Model		EM DR16	EMDT16	EM DR32	EM DT32
Part No.		UN 288-2DR16-0AA0	UN 288-2DT16-0AA0	UN 288-2DR32-0AA0	UN 288-2DT32-0AA0
Dimension W*H*D mm		45*100*81		70*100*81	
Weight		201.9g	179.7g	295.4g	257.3g
Power		5.5W	2.5W	10W	4.5W
Current consumer	SM BUS	145mA	145mA	180mA	185mA
	24VDC	Each using input 4mA			
		Each using rly coil 11mA	-	Each using rly coil 11mA	-
Digital input					
Input points		8		16	
Type		NPN/PNP			

Rated voltage	4mA, 24VDC rated			
Allowed continue voltage	30VDC (Max.)			
Surge voltage	35VDC 0.5s			
Logic 1 signal(Min.)	15VDC			
Logic 0 signal(Max.)	5VDC			
Isolation (site & logic)	500VDC 1Min.			
Isolation group	2			
Inputs at the same time	8	16		
Cable length	500m(shield) 150m(Unshield)			
Digital output				
Output points	8	16		
Type	Relay dry contact	Solid-MOSFET(PNP)	Relay dry contact	Solid-MOSFET(PNP)
Voltage range	5~30VDC or 5~250VAC	20.4~28.8VDC	5~30VDC or 5~250VAC	20.4~28.8VDC
Logic 1 signal at Max current	-	20V Min.	-	20V Min.
Logic 0 signal at 10kΩ load	-	0.1V Max.	-	0.1V Max.
Rated current(Max) of each point	2.0A	0.75A	2.0A	0.75A
Lamp load	30W DC/200W AC	5W	30W DC/200W AC	5W
On-state contact resistance	New device 0.2Ω Max.	0.6Ω Max.	New device 0.2Ω Max.	0.6Ω Max.
Leakage current of each point	-	10μA Max.	-	10μA Max.
Surge current	7A at contact close	8A 100ms	7A at contact close	8A 100ms
Over load protection	no			
Isolation (site & logic)	1500VAC 1min.(coil &contact) no (coil & logic)	500VAC 1min.	1500VAC 1min.(coil &contact) no (coil & logic)	500VAC 1min.
Isolation resistance	New device 100mΩ Max	-	New device 100mΩ Max	-
Insulation between breaking contacts	750VAV 1min.	-	750VAV 1min.	-
Isolation group	2	2	4	4
Current (Max.) at each common port	8A	3A	8A	3A
Clamp voltage of inductor	-	-48V	-	-48V
Switching delay	Off-on 50μs Max. on-off 200μs Max.	10ms Max	Off-on 50μs Max. on-off 200μs Max	10ms Max
Mechanical life (non-load)	10,000,000 off/on	-	10,000,000 off/on	-
Contact life at rated load	100,000 off/on	-	100,000 off/on	-
Output status at STOP mode	Last value or replacement value (default 0)			
Outputs at same time	8	16		
Cable length	500m(shield) 150m(unshield)			

Analog input module specification

Model	EM AE04	EM AE08
Part No.	UN 288-3AE04-0AA0	UN 288-3AE08-0AA0
General Character		
Dimension W*H*Dmm	45*100*81	
Weight	147g	186g
Power	1.5W(empty)	2.0W(empty)
Current	SM BUS	80mA
Consumer	24VDC	40mA(empty) 70mA(empty)

Analog output module specification

Model	EM AQ02	EM AQ04
Part No.	UN 288-3AE04-0AA0	UN 288-3AE08-0AA0
General Character		
Dimension	45*100*81	
Weight	147.1g	170.5g
Power	1.5W(empty)	2.0W(empty)
Current	Sm bus	60mA
Consumer	24vdc	50mA(empty) 75mA(empty)

Analog input		
Input	4	8
Type	Voltage or current (differential motion can be 2 in a group)	
Range	±10V, ±5V ±2.5V or 0~20mA	
Full scale range(data word)	-27,648~27,648	
Uprush/undershoot range (data word)	Voltage 27649~32511/-27649~-32512 Current:27649~32511/-4864~0	
Overflow/underflow (data word)	Voltage 32512~32767/-32513~-32768 Current:32512~32767/-4865~-32768	
Resolution	Voltage mode: 12bits+sign bit Current mode: 12bits	
Max. Anti-voltage¤t	±35V/±40mA	
Smooth	No, weak, middle or strong	
Noise suppression	400, 60, 50 or 10Hz	
Isolation (site & logic)	no	
Accuracy (25°C/0~55°C)	Voltage mode:±0.1%/±0.2% of full range Current mode:±0.2%/±0.3% of full range	
Common-mode rejection	40dB,DC to 60Hz	
Work signal range	-12V<Signal+common-mode voltage<+12V	
Cable length(Max.)	100m shield	
Diagnose		
Overflow/underflow	√	
24VDC low voltage	√	

Analog input/output module specification

Model	EM AM03	EM AM06
Part No.	UN 288-3AM03-0AA0	UN 288-3AM06-0AA0
General Character		
Dimension	45*100*81	
Weight	172g	173.4g
Power	1.1W(empty)	2.0W(empty)
Current	SM BUS	60mA
Consumer	24VDC	30mA(empty) 60mA(empty)
Analog input		
Input	2	4
Type	Voltage or current (differential motion, can be 2 in a group)	
Range	±10V, ±5V ±2.5V or 0~20mA	
Full scale range(data word)	-27,648~27,648	
Uprush/undershoot range (data word)	Voltage 27649~32511/-27649~-32512 Current:27649~32511/-4864~0	
Overflow/underflow (data word)	Voltage 32512~32767/-32513~-32768 Current:32512~32767/-4865~-32768	
Resolution	Voltage mode: 12bits+sign bit	

Analog output		
output	2	4
Type	Voltage or current	
Range	±10V or 0~20mA	
Resolution	Voltage mode: 11bits+sign bit Current mode: 11bits	
Full scale range(data word)	Voltage -27,648~27,648	
Accuracy (25°C/0~55°C)	±0.5%/±1.0% of full range	
Output status at STOP mode	Last value or replacement value (default 0)	
Isolation((site & logic)	no	
Cable length(Max.)	100m shield	
Diagnose		
Overflow/underflow	√	
Short circuit to ground	√	
Break(current only)	√	
24VDC low voltage	√	

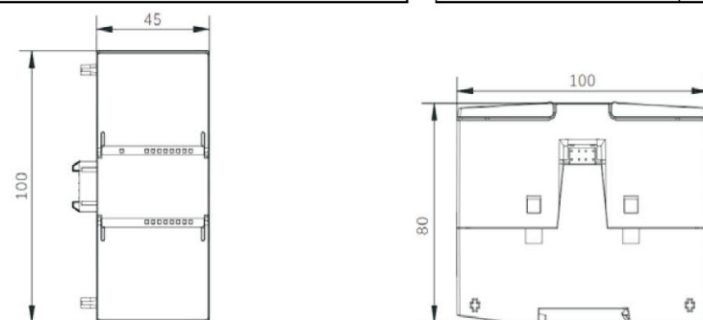
Model	EM AM03	EM AM06
Part No.	UN 288-3AM03-0AA0	UN 288-3AM06-0AA0
General Character		
Dimension	45*100*81	
Weight	172g	173.4g
Power	1.1W(empty)	2.0W(empty)
Current	Sm bus	60mA
Consumer	24vdc	30mA(empty) 60mA(empty)
Analog output		
output	1	2
Type	Voltage or current	
Range	±10V or 0~20mA	
Resolution	Voltage mode: 11bits+sign bit	
Full scale range(data word)	Voltage -27,648~27,648	
Accuracy (25°C/0~55°C)	±0.5%/±1.0% of full range	
Output status at	Last value or replacement value	

	Current mode: 12bits	STOP mode	(default 0)
Max. Anti-voltage¤t	$\pm 35V/\pm 40mA$	Isolation(site & logic)	no
Smooth	No, weak, middle or strong	Cable length(Max.)	100m shield
Noise suppression	400, 60, 50 or 10Hz	Diagnose	
Isolation (site & logic)	no	Overflow/underflow	✓
Accuracy (25°C/0~55°C)	Voltage mode: $\pm 0.1\%/\pm 0.2\%$ of full range Current mode: $\pm 0.2\%/\pm 0.3\%$ of full range	Short circuit to ground	✓
Common-mode rejection	40dB,DC to 60Hz	Break(current only)	✓
Work signal range	-12V<Signal+common-mode voltage<+12V	24VDC low voltage	✓
Cable length(Max.)	100m shield		

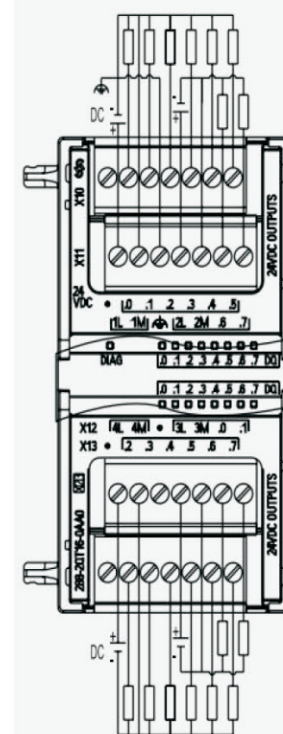
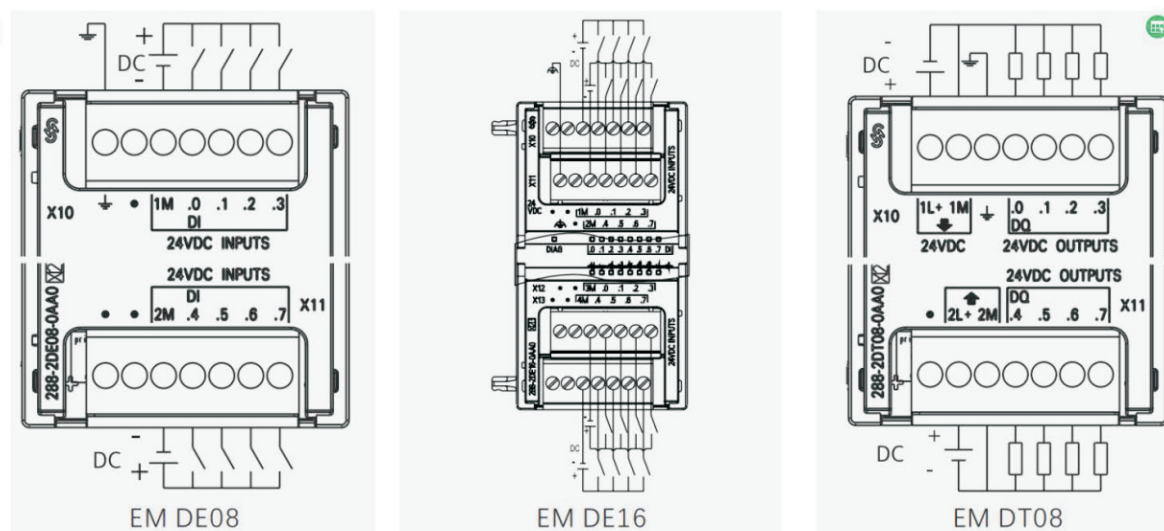
Battery and Signal Board specification

Model	SB BA01	Model	SB CM01
Part No.	UN 288-5BA01-0AA0	Part No.	UN 288-5CM01-0AA0
General Character		General Character	
Dimension	35*52.2*16	Dimension	35*52.2*16
Weight	20g	Weight	18.2g
Power	0.6W	Power	0.5W
Battery (need buy)		Current consumer	
Life	1year		5VDC 50mA 24VDC not suitable
Type	CR1025	Transmitter and receiver	
Rated voltage	3V	Common-mode voltage range	-7V~+12V,1s 3VRMS continue
Rated capacity	30mAh	Cable length shield	
Diagnose			With isolation repeater: 1000m Max. Baud rate is 187.5K Without isolation repeater: 50m
Battery diagnose	Low voltage, red LED on or low power 17.0=1		

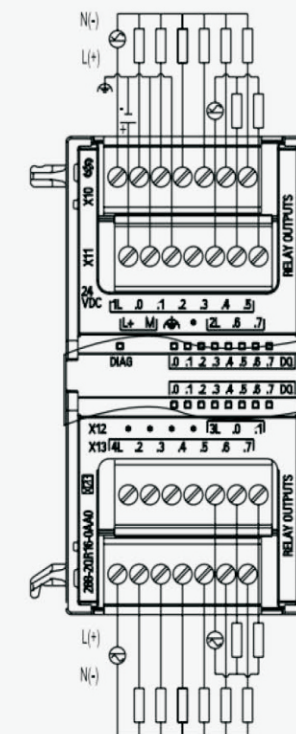
Dimension



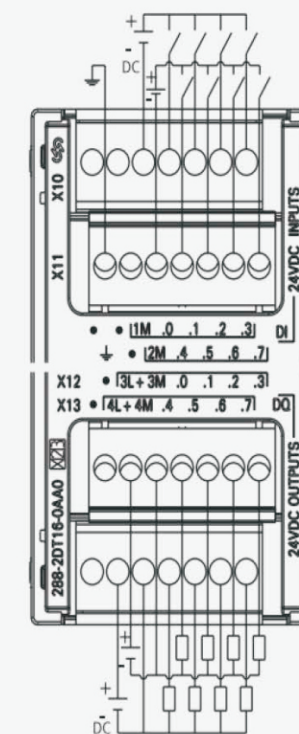
Wiring



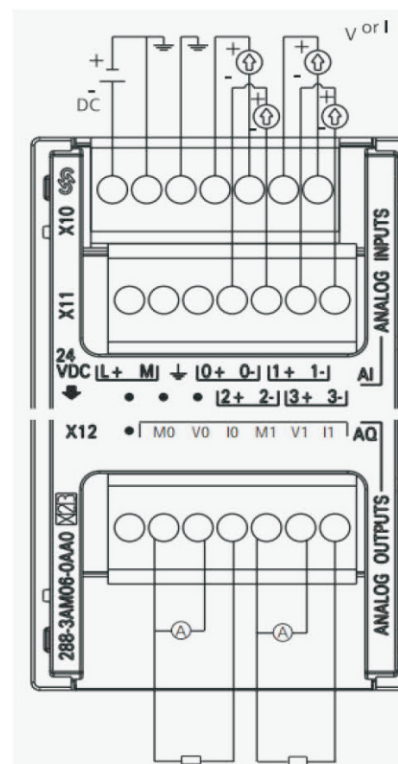
EM QT16



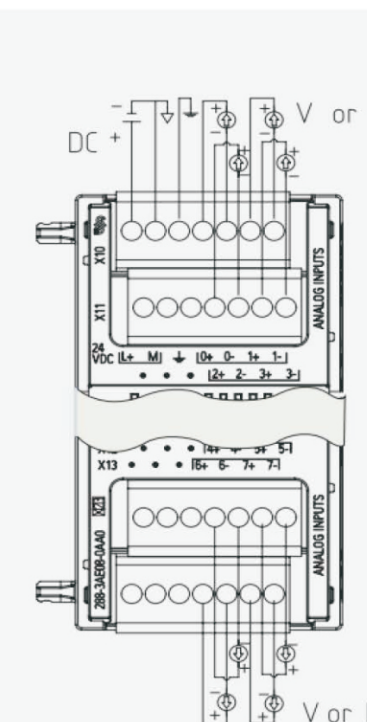
EM QR16



EM DT16



EM AM06



EM AE08

Order Data

CPU	Part No.
CPUSR20, relay output, 220VAC or 110VAC, 12DI/8DO	UN 288-1SR20-0AA0
CPUST20, transistor output, 24VDC, 12DI/8DO	UN 288-1ST20-0AA0
CPUSR30, relay output, 220VAC or 110VAC, 18DI/12DO	UN 288-1SR30-0AA0
CPUST30, transistor output, 24VDC, 18DI/12DO	UN 288-1ST30-0AA0
CPUSR40, relay output, 220VAC or 110VAC, 24DI/16DO	UN 288-1SR40-0AA0
CPUST40, transistor output, 24VDC, 24DI/16DO	UN 288-1ST40-0AA0
CPUSR60, relay output, 220VAC or 110VAC, 36DI/24DO	UN 288-1SR60-0AA0
CPUST60, transistor output, 24VDC, 36DI/24DO	UN 288-1ST60-0AA0
Module	Part No.
Digital input, 8DI 24VDC	UN 288-2DE08-0AA0
Digital input, 16DI 24VDC	UN 288-2DE16-0AA0
Digital output, 8DO relay	UN 288-2DR08-0AA0
Digital output, 8DO 24VDC	UN 288-2DT08-0AA0
Digital output, 16DO 24VDC	UN 288-2QT16-0AA0
Digital output, 16DO relay	UN 288-2QR16-0AA0
Digital input/output, 8DI 24VDC/8DO relay	UN 288-2DR16-0AA0
Digital input/output, 16DI 24VDC/16DO relay	UN 288-2DR32-0AA0
Digital input/output, 8DI 24VDC/8DO 24VDC	UN 288-2DT16-0AA0
Digital input/output, 16DI 24VDC/16DO 24VDC	UN 288-2DT32-0AA0
Analog input, 4AI	UN 288-3AE04-0AA0
Analog input, 8AI	UN 288-3AE08-0AA0
Analog output, 2 AO	UN 288-3AQ02-0AA0
Analog output, 4AO	UN 288-3AQ04-0AA0
Analog input/output, 2AI/1AO	UN 288-3AM03-0AA0
Analog input/output, 4AI/2AO	UN 288-3AM06-0AA0
Expanding Board	Part No.
Signal board RS485/RS232	UN 288-5CM01-0AA0
Battery board, support CR1025	UN 288-5BA01-0AA0