



UN 1200 PLC



Shenzhen UniMAT Automation Technology Co.,Ltd

总部地址：深圳市南山区高新南六道航盛科技大厦19F
总机：+86-755-26509199 业务咨询：+86-755-26504053
网址：www.unimat.com.cn E-mail: market@unimat.com.cn

4000-300-890

UniMAT 亿维 技术支持热线



V1.0版本


UniMAT
亿维自动化

Product summary

UN 1200 series small PLC is a widely used control equipment in the field of industrial automation. This series of products is simple to use, flexible and comprehensive, and is especially suitable for small and medium-sized projects and OEM markets. It can be used in various industries such as municipal facilities, equipment manufacturing, new energy, energy storage, logistics and transportation.

Product picture



Product feature



Compatible and alternative

Perfectly compatible with 1200PLC plug and play



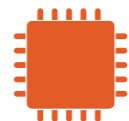
High-speed backplane bus communication

Stable and reliable electrical isolation 40Mbps communication rate



13-16Bit analog collection accuracy

Support voltage /current signal Perfect alarm mechanism



24Bit sampling chip

Industrial grade 24-bit analog acquisition chip Higher accuracy and better consistency



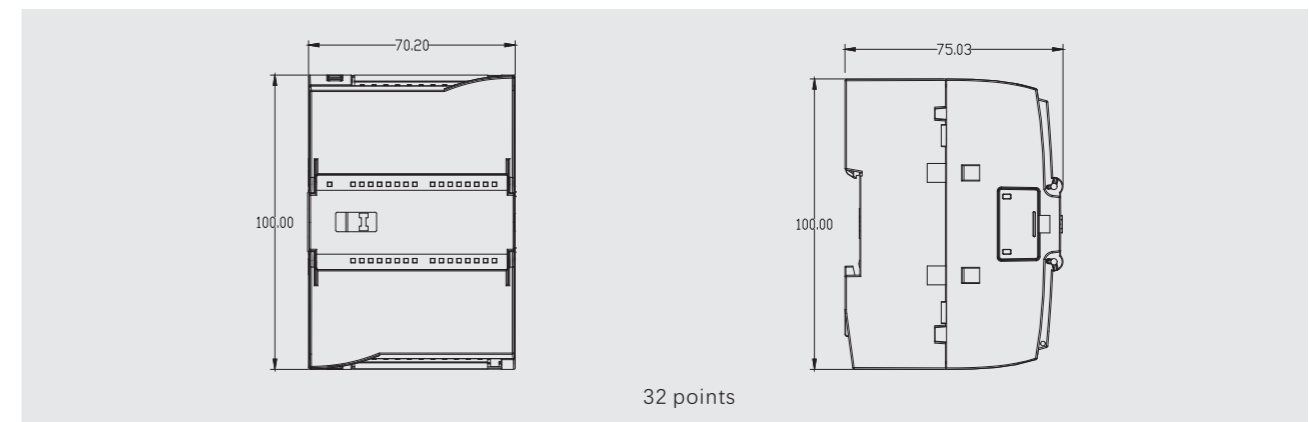
Fool-proof pluggable terminals

Easy to disassemble and assemble, saving time Foolproof buckle, safe and reliable

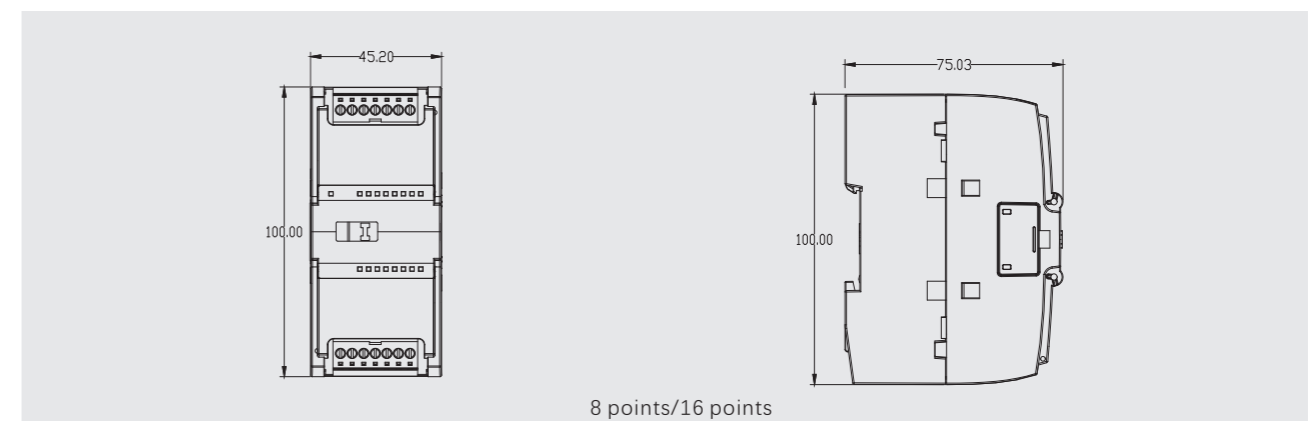
Specifications

Environmental parameters	Content
Working temperature	-20°C ~ 60°C (horizontal installation), -10°C ~ 40°C (vertical installation)
Transport ambient temp	-40°C ~ 70°C
Ambient humidity	5 ~ 95%, No condensation (RH level 2, Comply with IEC60068-2)
Protection level	IP20
Mechanical rating	Comply with IEC61131-2
Ground	Type D grounding (ground resistance: below 100Ω), joint grounding with strong current systems is not allowed
Usage environment	A location with no corrosive or flammable gases and no serious conductive dust (dust)
Use height	Below 2000M (cannot be used in an environment pressurized above atmospheric pressure, otherwise malfunction may occur)

Dimensions



32 points



8 points/16 points

Specifications

SM 1221 Digital output module technical specifications

Model	SM 1221 DI 8x24 V DC	SM 1221 DI 16x24 V DC	Model	SM 1221 DI 8x24 V DC	SM 1221 DI 16x24 V DC
Order number	UN 221-1BF32-0XB0	UN 221-1BH32-0XB0	Allowed continuous voltage	Maximum 30 V DC	
Conventional			Surge voltage	35 V DC, Lasts 0.5 s	
Size W x H x D (mm)	45 x 100 x 75		Logic 0 signal (minimum)	2.5 mA at 15 V DC	
Weight	170 g	210 g	Logic 1 signal (maximum)	1 mA at 5 V DC	
Power consumption	1.5 W	2.5 W	Isolation (field side vs. logic side)	707 V DC (Type test)	
Current consumption	105 mA (SM bus)	130 mA (SM bus)	Isolation group	2	4
Current consumption	4 mA per point input used (24 V DC)		Filter time	0.2, 0.4, 0.8, 1.6, 3.2, 6.4 and 12.8 ms (Optional, 4 pieces in a set)	
Digital input			Number of inputs connected simultaneously	8	16
Enter points	8	16	Cable length (meter)	500 (shielded) ; 300 (Unshielded)	
Type	Sink/Source (IEC Class 1 Sink)				
Rated voltage	24 V DC at 4 mA, nominal				

SM 1222 Digital output module technical specifications

Model	SM 1222 DQ 8x RLY	SM 1222 DQ 16x RLY	SM 1222 DQ 8x 24 V DC	SM 1222 DQ 16x 24 V DC
Order number	UN 222-1HF32-0XB0	UN 222-1HH32-0XB0	UN 222-1BF32-0XB0	UN 222-1BH32-0XB0
Conventional				
Size W x H x D (mm)	45 x 100 x 75	45 x 100 x 75	45 x 100 x 75	45 x 100 x 75
Weight	190 g	260 g	180 g	220 g
Power consumption	4.5 W	8.5 W	1.5 W	2.5 W
Current consumption	120 mA (SM BUS)	135 mA (SM BUS)	120 mA (SM BUS)	140 mA (SM BUS)
Current consumption (24 V DC)	Each relay coil used 11 mA	Each relay coil used 11 mA	50 mA	100 mA
Digital output				
Output points	8	16	8	16
Type	Relay, dry contact	Relay, dry contact	Solid state - MOSFET (Source type)	
Voltage range	5 - 30 V DC or 5 - 250 V AC		20.4 - 28.8 V DC	
Logic 1 signal at maximum current	-		Min 20 V DC	
Logic 0 signal with 10 KΩ load	-		Max 0.1 V DC	
Current (maximum)	2.0 A		0.5 A	
Lamp load	30 W DC/200 W AC		5 W	
On-state contact resistance	0.2 Ω maximum for new devices		Max 0.6 Ω	
Leakage current per point	-		Max 10μA	
Inrush current	7 A with contacts closed		8 A, maximum duration 100 ms	
Overload protection	无			
Isolation (field side vs. logic side)	1500 V AC (coil and contacts) None (coil and logic side)	1500 V AC (coil and contacts) None (coil and logic side)	707 V DC (Type test)	
Isolation group	2	4	1	1
Current at each common terminal (max)	10 A	10 A	4 A	8 A
Inductor clamping voltage	-		L+ - 48 V, 1 W loss	
Switching delay	up to 10 ms		The longest time from on to off is 50μs The longest time from on to off is 200μs	
Mechanical life (no load)	10,000,000 open/close cycles		-	
Contact life under rated load	100,000 open/close cycles		-	
Behavior during RUN-STOP	Previous value or replacement value (default is 0)			
Number of outputs switched on simultaneously	8	• 8 (no adjacent points) at 60°C (horizontal) or 50°C (vertical) • At 16.55°C (horizontal) or 45°C (vertical)	8	16
Cable length (meter)	500 (shielded) ; 150 (Unshielded)			

SM 1223 Digital output/input module technical specifications

Model	SM 1223 DI 8x24 V DC DQ 8xRLY	SM 1223 DI 16x24 V DC, DQ 16xRLY	SM 1223 DI 8x24 V DC, DQ 8x24V DC	SM 1223 DI 16x24 V DC, DQ 16x24V DC
Order number	UN 223-1PH32-0XB0	UN 223-1PL32-0XB0	UN 223-1BH32-0XB0	UN 223-1BL32-0XB0
Size W x H x D (mm)	45 x 100 x 75	70 x 100 x 75	45 x 100 x 75	70 x 100 x 75
Weight	230 g	350 g	210 g	310 g
Power consumption	5.5 W	10 W	2.5 W	4.5 W
Current consumption(SM bus)	145 mA	180 mA	145 mA	185 mA
Current consumption(24 V DC)	4 mA per point input used 11 mA per relay coil used		150 mA	200 mA
Digital input				
Enter points	8	16	8	16
Type	Sink/Source (IEC Class 1 Sink)			
Rated voltage	24 V DC at 4 mA, nominal			
Allowed continuous voltage	Max 30 V DC			
Surge voltage	35 V DC for 0.5 s			
Logic 1 signal (min)	15 V DC at 2.5 mA			
Logic 0 signal (maximum)	5 V DC at 1 mA			
Isolation (field side vs. logic side)	707 V DC(Type test)			
Isolation group	2	2	2	2
Filter time	0.2, 0.4, 0.8, 1.6, 3.2, 6.4 and 12.8 ms(optional, 4 in a set)			
Number of inputs connected simultaneously	8	• 8 (no adjacent points) at 60°C (horizontal) or 50°C (vertical) • at 16.55°C (horizontal) or 45°C (vertical)	8	16
Cable length (meter)	500 (Shielded) ; 300 (Unshielded)			
Digital output				
Output points	8	16	8	16
Type	Relay, dry contact		Solid State - MOSFET (source)	
Voltage range	5 - 30 V DC or 5 - 250 V AC		20.4 - 28.8 V DC	
Logic 1 signal at maximum current	-		Min 20 V DC	
Logic 0 signal with 10 KΩ load	-		Max 0.1 V DC	
Current (maximum)	2.0 A		0.5 A	
Lamp load	30 W DC/200 W AC		5 W	
On-state contact resistance	0.2 Ω maximum for new devices		Maximum 0.6Ω	
Leakage current per point	-		10μA max	
Inrush current	7 A with contacts closed		8 A, maximum duration 100 ms	
Overload protection	no			
Isolation (field side vs. logic side)	1500 V AC (Coils and contacts) None (coil and logic side)		707 V DC (type test)	
Isolation group	2	4	1	1
Current at each common terminal	10 A	8 A	4 A	8 A
Inductor clamping voltage	-		L+ - 48 V, 1 W loss	
switching delay	up to 10 ms		Maximum time from disconnection to connection is 50μs	
Mechanical life (no load)	10,000,000 open/close cycles		Maximum time from on to off is 200μs	
Contact life under rated load	100,000 open/close cycles			
Behavior during RUN - STOP	Previous value or replacement value (default is 0)			
Number of outputs switched on simultaneously	8	• 8 (no adjacent points), 60°C (horizontal) or 50°C (vertical) • 16.55°C (horizontal) or 45°C (vertical)	8	16
Cable length (meter)	500 (shielded); 150 (unshielded)			

SM 1231 Analog Input Module Technical Specifications

Model	SM 1231 AI 4x13 bits	SM 1231 AI 8x13bits	SM 1231 AI 4 x 16bits
Order number	UN 231-4HD32-0XB0	UN 231-4HF32-0XB0	UN 231-5ND32-0XB0
Conventional			
Size W x H x D (mm)	45 x 100 x 75	45 x 100 x 75	45 x 100 x 75
Weight	180 g	180 g	180 g
Power consumption	2.2 W	2.3 W	2.0 W
Current consumption (SM BUS)	80 mA	90 mA	80 mA
Current consumption (24 V DC)	45 mA	45 mA	65 mA
Analog input			
Number of input channels	4	8	4
Type	Voltage or current (differential): can be selected as a set of 2		Voltage or current (differential)
Range	$\pm 10\text{ V}$, $\pm 5\text{ V}$, $\pm 2.5\text{ V}$, $0 - 20\text{ mA}$ or $4 - 20\text{ mA}$		$\pm 10\text{ V}$, $\pm 5\text{ V}$, $\pm 2.5\text{ V}$, $\pm 1.25\text{ V}$ $0 - 20\text{ mA}$ or $4\text{ mA} - 20\text{ mA}$
Full-scale range (data word)	-27648 - 27648, Voltage; 0-27648, current		
Overshoot/undershoot range (data word)	Voltage: 32,511 - 27,649/-27,649 - -32,512 Current: 32,511 - 27,649/0 - -4,864		
Overflow/underflow range (data word)	Voltage: 32,767 - 32,512/-32,513 - -32,768 Current0 - 20 mA: 32,767 - 32,512/-4,865 - -32,768 Current4 - 20 mA: 32,767 - 32,512/value less than -4,864 indicates an open circuit		
Accuracy	12 bits + sign bit		15 bits + sign bit
Maximum voltage/current	$\pm 35\text{ V}/\pm 40\text{ mA}$		
Smooth	None, weak, medium or strong		
Noise suppression	400, 60, 50 or 10 Hz		
Impedance	$\geq 9\text{ M}\Omega$ (Voltage) / $\geq 270\ \Omega$, $< 290\ \Omega$ (current)		$\geq 1\text{ M}\Omega$ (Voltage) / $< 315\ \Omega$, $> 280\ \Omega$ (current)
Isolation	Field side and logic side Logic side with 24 V DC Field side with 24 V DC Passages and passages		707 V DC (Type test) 707 V DC (Type test) 500 V DC (Type test) no
Accuracy (25°C/0 - 55°C)	$\pm 0.1\%/ \pm 0.2\%$ of full scale		$\pm 0.1\%/ \pm 0.3\%$ of full scale
Common mode rejection	40 dB, DC - 60 Hz		
Working signal range	Signal plus common mode voltage must be less than +12 V and greater than -12 V		
Cable length (meter)	100 meters, shielded twisted pair		
Diagnosis			
Overflow/underflow	√	√	√
Short circuit to ground (voltage)	not applicable	not applicable	not applicable
Break circuit (current)	4 to 20 mA range only (if input below -4,864; 1.185 mA)		
24 V DC low pressure	√	√	√

SM 1232 Analog Output Module Technical Specifications

Model	SM 1232 AQ 2x14 bits	SM 1232 AQ 4x14bits
Order number	UN 232-4HB32-0XB0	UN 232-4HD32-0XB0
Conventional		
Size W x H x D (mm)	45 x 100 x 75	45 x 100 x 75
Weight	180 g	180 g
Power consumption	1.8 W	2.0 W
Current consumption (SM bus)	80 mA	80 mA
Current consumption (24 V DC)	45 mA (no load)	45 mA (no load)
Analog output		
Number of output channels	2	4
Type	Voltage or Current	
Range	$\pm 10\text{ V}$, $0 - 20\text{ mA}$ or $4 - 20\text{ mA}$	
Resolution	Voltage: 14 bits; current: 13 bits	
Full-scale range (data word)	Voltage: -27,648 - 27,648; current: 0 - 27,648	
Accuracy (25°C/0 - 55°C)	$\pm 0.3\%/ \pm 0.6\%$ of full scale	
Stabilization time (95% of new value)	Voltage: 300 μs (R) , 750 μs (1 uF) ; current: 600 μs (1 mH) , 2 ms (10 mH)	
Load impedance	Voltage: $\geq 1000\ \Omega$; current: $\leq 600\ \Omega$	
Behavior during RUN-STOP	Previous value or replacement value (default is 0)	
Isolation (field side vs. logic side)	none	
Cable length (meter)	100 meters, shielded twisted pair	
Diagnosis		
Overflow/underflow	√	√
Short circuit to ground (voltage mode only)	√	√
Open circuit (current mode only)	√	√
24 V DC low voltage	√	√

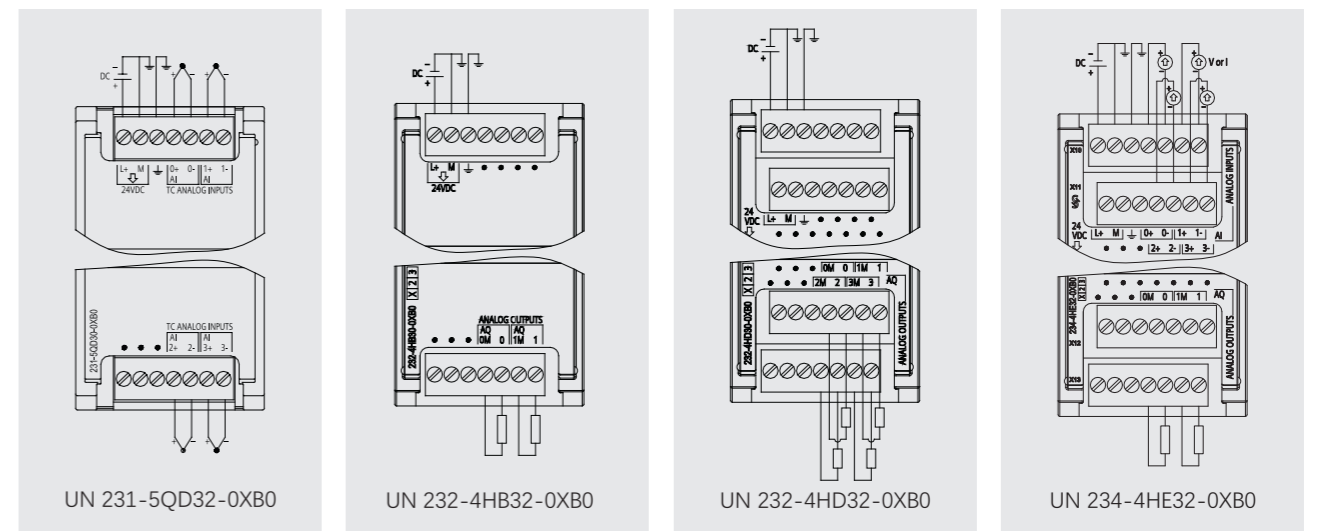
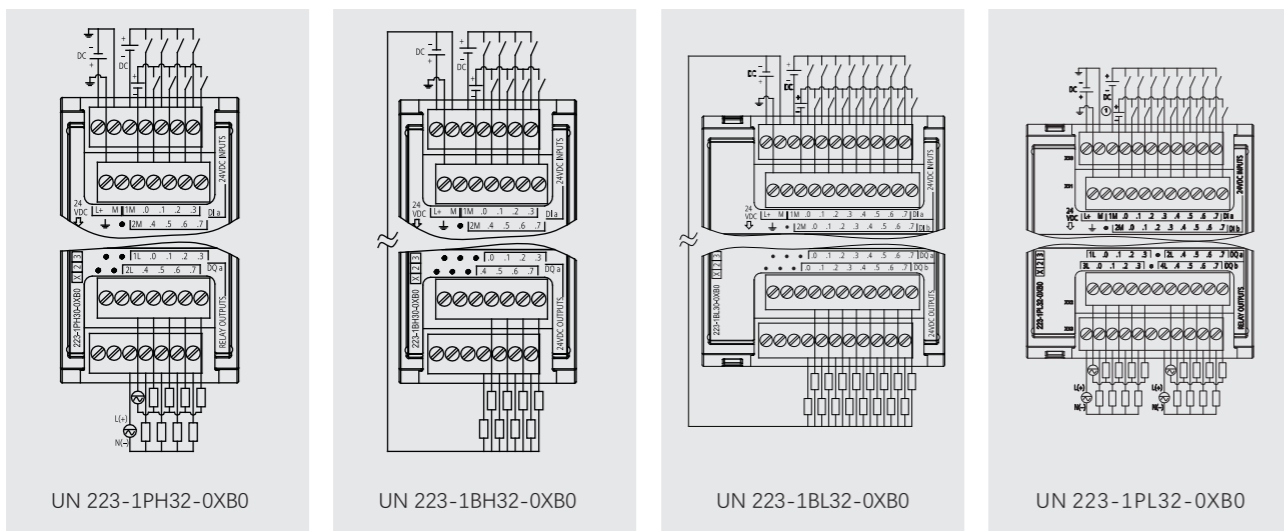
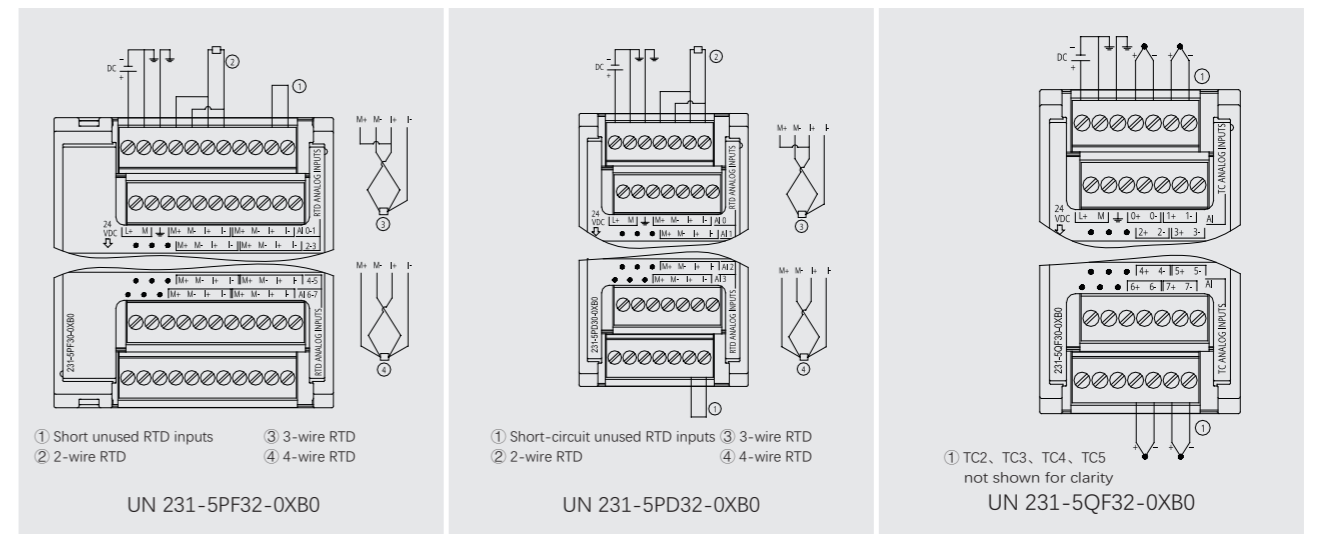
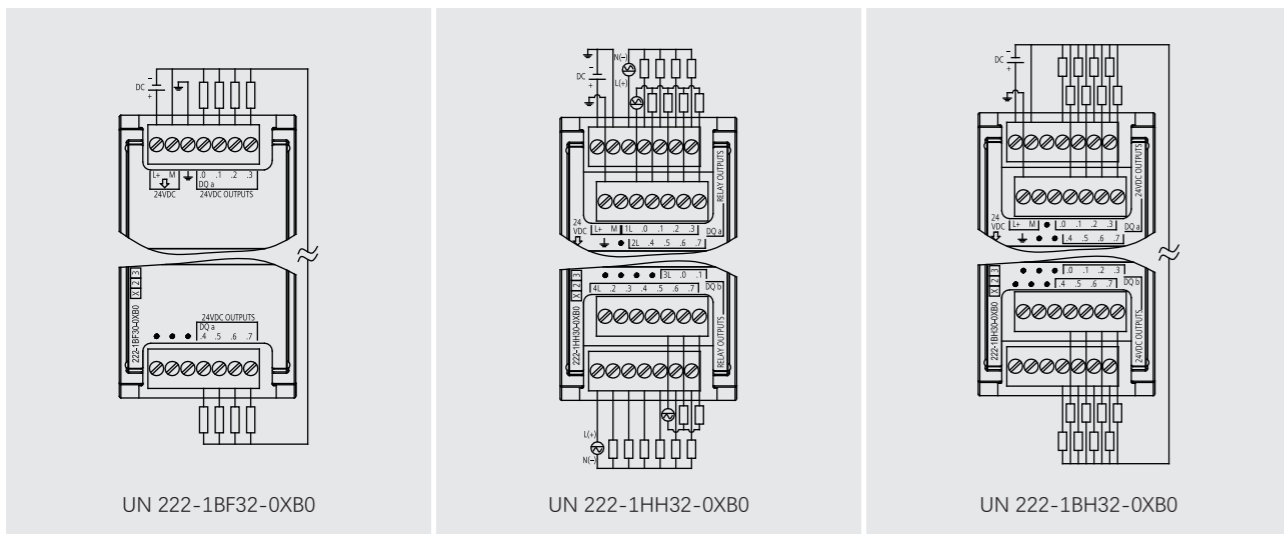
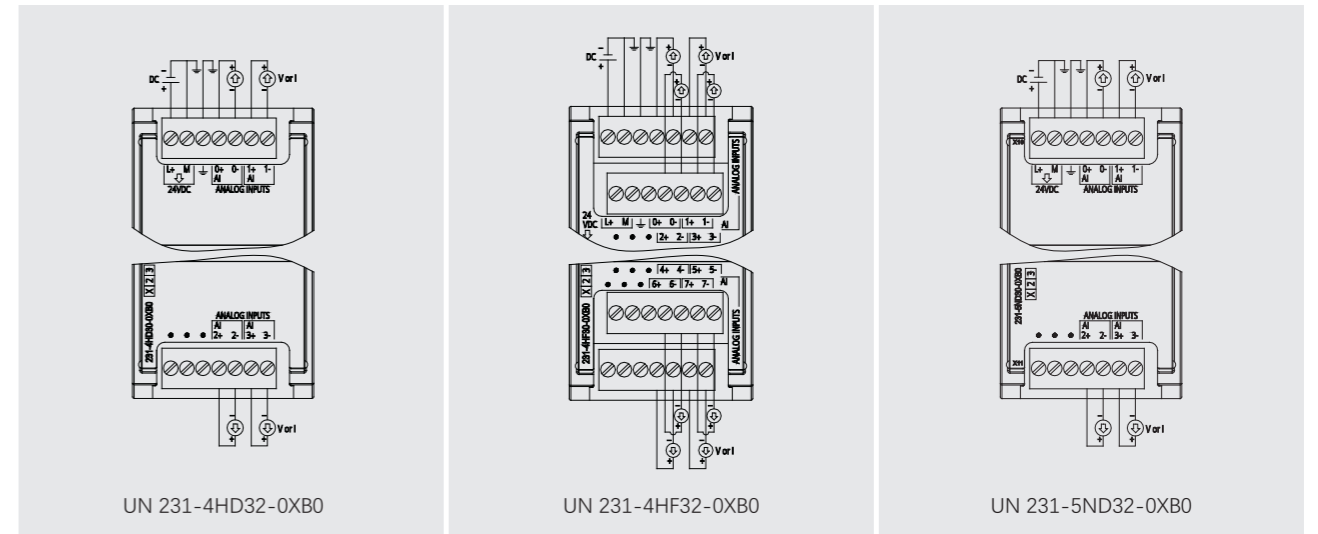
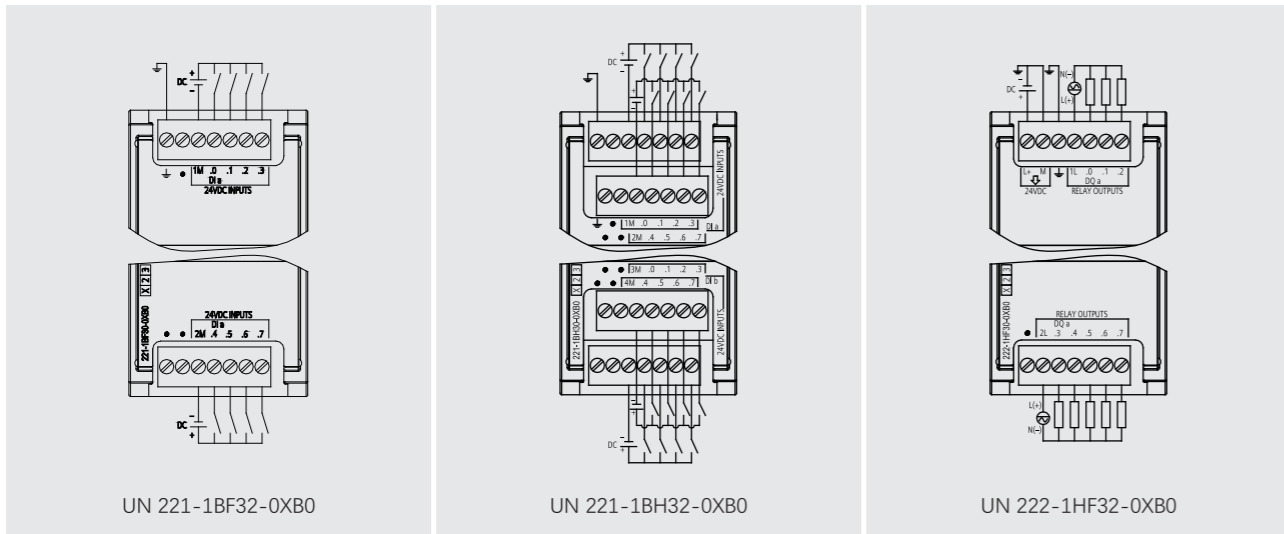
SM 1231 Thermocouple and RTD Analog Input Module

Model	SM 1231 AI 4 x 16-bits TC	SM 1231 AI 8 x 16-bits TC	SM 1231 AI 4 x 16 bits RTD	SM 1231 AI 8 x 16 bits RTD
Order number	UN 231-5QD32-0XB0	UN 231-5QF32-0XB0	UN 231-5PD32-0XB0	UN 231-5PF32-0XB0
Conventional				
Size W x H x D (mm)	45 x 100 x 75			70 x 100 x 75
Weight	180 g	190 g	220 g	270 g
Power consumption	1.5 W			
Current consumption	80 mA (SM BUS)			90 mA (SM BUS)
Current consumption	40 mA (24 V DC)			
Analog input				
Number of input channels	4	8	4	8
Type	Thermocouple		RTD and resistance	
Range	J, K, T, E, R, S, B, N, C, TXK/XX (L) , Voltage range: +/-80 mv		Platinum (Pt) , Copper (Cu) , nickel (Ni) , LG-Ni or resistance	
Resolution	0.1°C/0.1°F			
Temperature resistance	15 bits + sign bit			
Max withstand voltage	$\pm 35\text{ V}$			
Noise suppression	85 dB, 10 Hz/50 Hz/60 Hz/400 Hz			
Common mode rejection	$> 120\text{ dB}$ at 120 V AC		$> 120\text{ dB}$	
Impedance	$\geq 10\text{ M}\Omega$			
Isolation	Field side and logic side Field side and 24 V DC side 24 V DC side and logic side			
Channel-to-channel isolation	120 V AC		none	
Repeatability	$\pm 0.05\%$ FS			
Measurement principle	integral			
Cold junction error	$\pm 1.5\text{ }^\circ\text{C}$			
Cable length (m)	Maximum length to sensor 100 m			
Cable resistance	Max 100 Ω		20 Ω , 2.7 Ω for 10 Ω RTD	
Diagnosis				
Overflow/underflow	√			
Break circuit	√			
24 V DC low pressure	√			

SM 1234 Analog Input/Output Module Technical Specifications

Model	SM 1234 AI 4x13 bits AQ 2x14 bits	Model	SM 1234 AI 4x13 bits AQ 2x14 bits
Order number	UN 234-4HE32-0XB0	Accuracy (25°C/0 - 55°C)	$\pm 0.1\%/ \pm 0.2\%$ of full scale
Conventional			
Size W x H x D (mm)	45 x 100 x 75	Common mode rejection	40 dB, DC - 60 Hz
Weight	220 g	Working signal range	Signal plus common mode voltage must be less than +12 V and greater than -12 V
Power consumption	2.4 W	Cable length (meter)	100 meters, shielded twisted pair
Current consumption	80 mA (SM BUS)	Analog output	
Current consumption	60 mA (no load) (24 V DC)	Number of output channels	2
Analog input			
Number of input channels	4	Type	Voltage or current
Type	Voltage or current (differential): can be selected as a set of 2	Scope	$\pm 10\text{ V}$, $0 - 20\text{ mA}$ or $4 - 20\text{ mA}$
Scope	$\pm 10\text{ V}$, $\pm 5\text{ V}$, $\pm 2.5\text{ V}$, $0 - 20\text{ mA}$ or $4 - 20\text{ mA}$	Accuracy	Voltage: 14 bits; current: 13 bits
Full-scale range (data word)	-27,648 - 27,648	Full-scale range (data word)	Voltage: -27,648 - 27,648; current: 0 - 27,648
Overshoot/undershoot range (data word)	Voltage: 32,511 - 27,649/-27,649 - -32,512 Current: 32,511 - 27,649/0 - -4,864	Accuracy (25°C/0 - 55°C)	$\pm 0.3\%/ \pm 0.6\%$ of full scale
Overflow/underflow (data words)	Voltage: 32,767 - 32,512/-32,513 - -32,768 Current: 32,767 - 32,512/-4,865 - -32,768	Stabilization time (95% of new value)	Voltage: 300 μs (R) , 750 μs (1 uF) ; current: 600 μs (1 mH) , 2 ms (10 mH)
resolution	12 bits + sign bit	Load impedance	Voltage: $\geq 1000\ \Omega$; Current: $\leq 600\ \Omega$
Max pressure/current resistance	$\pm 35\text{ V}/\pm 40\text{ mA}$	Behavior during RUN-STOP	Previous value or replacement value (default is 0)
Smooth	None, weak, medium or strong	Isolation (field side vs. logic side)	none
Noise suppression	400, 60, 50 or 10 Hz	Cable length (meter)	100 meters, shielded twisted pair
Impedance	$\geq 9\text{ M}\Omega$ (Voltage) $\geq 270\ \Omega$, $< 290\ \Omega$ (Current)	Diagnosis	
Isolation (field side and logic side)	none	Overflow/underflow	√
		Short circuit to ground	The output terminal has (voltage mode only)
		Break circuit	The output terminal has (current mode only)
		24 V DC low voltage	√

Wiring diagram



Order data

Digital expansion module

SM 1221 Digital input, 8 DI 24V DC	UN221-1BF32-0XB0
SM 1221 Digital input, 16 DI 24V DC	UN221-1BH32-0XB0
SM 1222 Digital output, 8 DO Relay	UN222-1HF32-0XB0
SM 1222 Digital output, 8 DO 24V DC	UN222-1BF32-0XB0
SM 1222 Digital output, 16 DO Relay	UN222-1HH32-0XB0
SM 1222 Digital output, 16 DO 24V DC	UN222-1BH32-0XB0
SM 1223 Digital input/output 8DI 24V DC/ 8DO Relay	UN223-1PH32-0XB0
SM 1223 Digital input/output 8DI 24V DC/ 8 24V DC	UN223-1BH32-0XB0
SM 1223 Digital input/output 16DI 24V DC/ 16 Relay	UN223-1PL32-0XB0
SM 1223 Digital input/output 16DI 24V DC/ 16 24V DC	UN223-1BL32-0XB0

Analog expansion module

SM 1231 Analog input 4AI 13-bit resolution	UN231-4HD32-0XB0
SM 1231 Analog input 8AI 13-bit resolution	UN231-4HF32-0XB0
SM 1231 Analog input 4AI 16-bit resolution	UN231-5ND32-0XB0
SM 1231 4RTD 16-bit resolution	UN231-5PD32-0XB0
SM 1231 4TC 16-bit resolution	UN231-5QD32-0XB0
SM 1231 8RTD 16-bit resolution	UN231-5PF32-0XB0
SM 1231 8TC 16-bit resolution	UN231-5QF32-0XB0
SM 1232 Analog output 2AO 14-bit resolution	UN232-4HB32-0XB0
SM 1232 Analog output 4AO 14-bit resolution	UN232-4HD32-0XB0
SM 1234 Analog input/output 4AI/2AO	UN234-4HE32-0XB0



1
PLC

Strong scalability
Has high-speed processing
Support Ethernet communication
Comes with analog quantity
Own programming software

UN SERIES PLC
Complete product series
Excellent performance
reliable quality

SMART SERIES PLC

2
HMI

- *Industrial grade design standards
- *Using quad-core 1GHz CPU frequency
- *Richer serial interfaces
- *Support ladder diagram and script programming operations
- *Powerful networking function

UH400 SERIES HMI

UH500A SERIES HMI
Industrial grade design standards
Using quad-core 1GHz CPU frequency
Brushed metal strip design, stronger texture
Cables are routed from the bottom to save space.
Easy to install, supports large and small opening modes

3
IOT
All in one

IOT All in one

- *Supports industrial Internet function and can be operated remotely
- *The network port can directly download the HMI program, which is convenient to download.
- *The body supports digital and analog quantities, which can be selected accordingly.
- *Supports 2 BD expansion versions to flexibly adapt to different on-site needs
- *For the PLC part, European and Japanese style programming methods can be selected according to needs.

4
IOT

IOT UH500W

- *Automatically upload historical data
- *MQTT data transfer
- *All Netcom 4G IoT Card
- *Support remote upload and download of device programs
- *Fault information is pushed to multiple platforms in a timely manner

UBOX

- *Cloud configuration monitoring, mobile phone & PC
- *Download PLC program remotely
- *Real-time data monitoring
- *Historical data cloud storage
- *Alarm information push, WeChat phone SMS APP
- *Various transmission methods, MQTT/HTTP/OPC