



# XF Series Blade I/O System

Ultra-thin | Large capacity | High real-time performance | Stable and reliable

Trust your partners for automated solutions



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# XF series

Supports multiple system configurations    Enable rich module types to expand with large capacity

Simple to install and convenient to maintain    Blade-style design, visibly thin at a glance

## A New Generation Distributed I/O System

High-reliability design, stable connection, and high real-time performance



### Multisystem configuration

Supports communication with master devices using EtherCAT, PROFINET, Modbus-TCP, and EtherNet/IP bus protocols.

### Rich IO model

Supports digital, analog, temperature, communication, process, pulse, and power units



### Low maintenance cost

The module can be self-updated through the CPU unit or communication coupler, reducing the cost of on-site debugging and maintenance.

### Large-capacity expansion

32 expansion units can support



### Easy to Maintain

Detachable terminal block, replace modules of the same model without disconnecting wires, saving maintenance time.



### Tool-free installation

It adopts PUSHIN terminals, with simple and direct wiring, and tool-free installation.



### High reliability and high real-time performance

Clip-type backplane communication connector for more stable connection, enhancing overall reliability; High-speed backplane to ensure real-time communication.

The XF series IO saves half of the installation space compared to the XL series IO.



### Ultra-thin body

Blade-type structural design, with the thickness of the 1U module as thin as 12mm, saving more installation space, suitable for application scenarios with strict volume requirements.

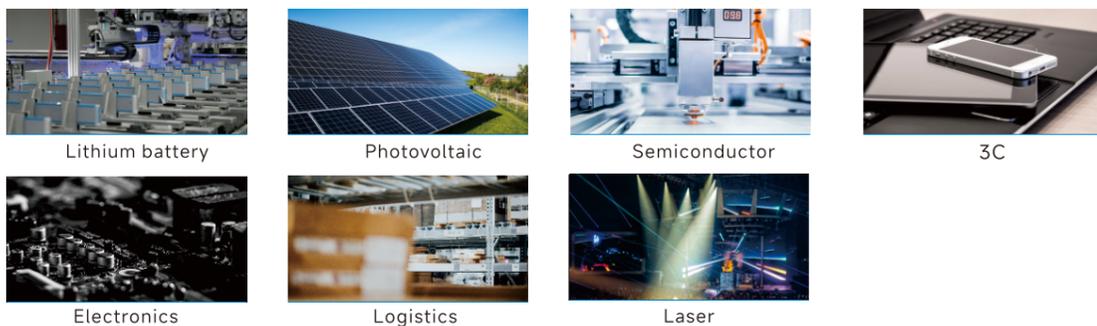


### Module Category Classification

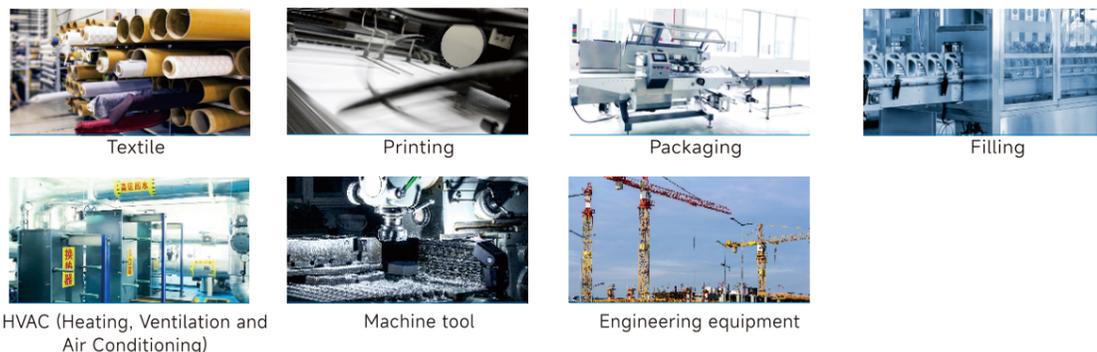
- Digital Input    ■ Digital Output    ■ Digital Input and output    ■ Analog input    ■ Analog output    ■ Serial communication
- High-speed pulse output    ■ Relay power supply    ■ Temperature collection    ■ High-speed counting

## Comprehensive industry applications

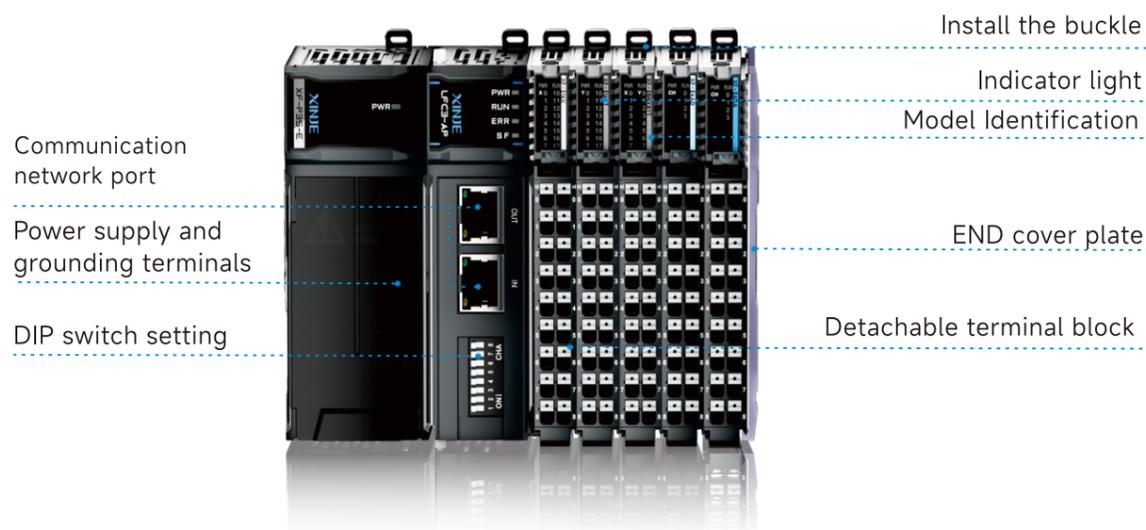
### ▶ Advanced manufacturing field



### ▶ Traditional industries



## Product composition



## I/O System Model Naming

### ▶ I/O Unit-Coupler Model Naming

LF - ○ 3 - AP  
 ① ② ③ ④ ⑤

#### ① Series Name

symbol	Name
L	Remote I/O Series

#### ② Refer to the extension module

symbol	Extension module
F	Indicates compatibility with XF and LF series Right expansion module

#### ③ Bus type

symbol	Name
C	EtherCAT bus
P	Profinet bus
I	EtherNet/IP bus
M	ModbusTCP bus

#### ④ Ethernet bandwidth

symbol	Ethernet bandwidth
3	100M

#### ⑤ Unit type

symbol	Unit type
AP	Coupler unit

### ▶ I/O Unit-DIO Module Model Naming

XF - E ○ □ X □ ○ Y □  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

#### ① Series Name

symbol	Name
XF	XF series expansion modules
LF	Special module for LF series couplers

#### ② Refers to the extension module

symbol	Extension module
E	Indicates the right expansion module

#### ③ Input channel

symbol	Input channel
4	4 channels
8	8 channels
16	16 channels
32	32 channels
64	64 channels

#### ④ Enter point type

symbol	Input point type
Empty	Digital input compatible with PNP and NPN
N	Digital input NPN type
P	Digital input PNP type

#### ⑤ Type

symbol	Type
X	Digital input

#### ⑥ Output channel

symbol	Output channel
4	4 channels
8	8 channels
16	16 channels
32	32 channels
64	64 channels

#### ⑦ Output point type

symbol	Output channel
Empty	Digital output NPN type
P	Digital output PNP type

#### ⑧ Type

symbol	Type
Y	Digital output

#### ⑨ Output point type

symbol	Output point type
T	Digital output transistor type
R	Digital output relay type

### ▶ I/O Unit-AIO Module Model Naming

XF - E ○ AD □ DA - ○ - □  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

#### ① Series Name

symbol	Name
XF	XF series expansion modules

#### ② Refer to the extension module

symbol	Expansion module
E	Indicates the right expansion module

#### ③ Input channel

symbol	Input channel
1	1 channels
2	2 channels
4	4 channels
6	6 channels
8	8 channels

#### ④ Type

symbol	Input point type
AD	Indicates analog voltage,current input

#### ⑤ Output channel

symbol	Output channel
1	1 channels
2	2 channels
4	4 channels
6	6 channels
8	8 channels

#### ⑥ type

symbol	Output point type
DA	Indicates analog voltage and current output

#### ⑦ Analog type

symbol	Type
Empty	Indicates current & voltage types
A	Indicates current mode
V	Indicates a voltage type

#### ⑧ Module type

symbol	Output point type
Empty	Ordinary type
H	Isolation between channels
S	high precision
U	high speed

# IO System Model Naming

## I/O unit-communication module model naming



### ① Series name

symbol	name
XF	XF Series Expansion Module

### ③ number of channels

symbol	number of channels
1	1 channel
2	2 channel
4	4 channel

### ④ Communication type

symbol	Communication type
COM	Serial communication
CAN	CAN communication

### ⑤ Physical interface type

Symbol	Physical interface type
24	232&485
2	232
4	485

### ② referential extension module

symbol	Extension Module
E	denotes the right extension module

## I/O unit-process module model



### ① Series name

symbol	name
XF	XF Series Expansion Module

### ② referential extension module

symbol	Extension Module
E	Indicates for the right extension module

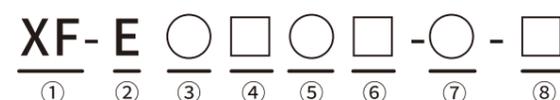
### ③ Input/Output Channel

symbol	Input/Output Channel
1	1 channel
2	2 channel
4	4 channel

### ④ Input/Output type

symbol	Input/output type
HSC	High speed counting
HSP	Pulse output

## I/O Unit-Temperature Module Model Naming



### ① Series name

symbol	name
XF	XF series expansion module

### ② referential extension module

symbol	Extension Module
E	Indicates for the right extension module

### ③ incoming channel

symbol	number of channels
4	4 channel
8	8 channel

### ④ Input type

symbol	Input type
RTD	Resistance Temperature Detector
TC	Thermocouple

### ⑤ outgoing channel

symbol	output channel
Empty	No-output
4	4 channel
8	8 channel

### ⑥ Output type

symbol	Output type
Empty	No-output
Y	Digital output
DA	Analog output

### ⑦ PID control function

symbol	PID control function
Empty	PID control is not supported
P	PID control support

### ⑧ Module type

symbol	Module type
Empty	Conventional type
H	Channel spacing

# LFC3-AP

## High Performance EtherCAT Communication Coupler

### Product Features

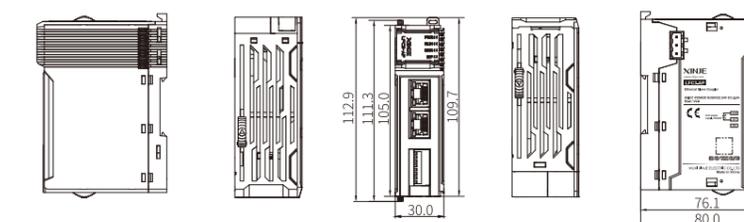
- 1 Blade expansion and diversified combination
- 2 Compact structure, saves installation space
- 3 Direct-insertion terminals for convenient and reliable wiring
- 4 Support network port firmware upgrade
- 5 Supports static station number settings for hardware
- 6 Microsecond response of high speed bus
- 7 Supports up to 32 expansion IO modules



### Product Specifications

Project	Specifications
Model	LFC3-AP
Rated voltage	DC24V
Voltage permissible range	DC21.6V~26.4V
Input current	120mA DC24V
Allow instantaneous power outage time	10ms DC24V
Inrush Current	10A DC26.4V
Power protection	Anti-inversion protection, overcurrent protection, surge absorption
Networking protocol	EtherCAT
Single AP process data	Input and output are limited to 1024 bytes.
Network interface	2 RJ45 Ports
Physical layer	100BASE-TX
Synchronizing cycle	Supports 250μs, 500μs, 1000μs, 2000μs, and 4000μs
Connection speed	100Mbps, full-duplex
Transmission distance	The distance between the two nodes is less than or equal to 100m
Topology structure	Alphabet of lines
Transmission medium	Class 5 or higher
No configuration required when changing devices	Supports (same type of EtherCAT module)
Number of extension modules	Supports 32 modules
Firmware upgrade	Support
Address settings	Configured via a digital switch (1-255) or assigned by the master station
Module dissipation	1.5W

### Product size diagram (unit: mm)



# LFP3-AP

## High Performance PROFINET Communication Coupler

### Product Features

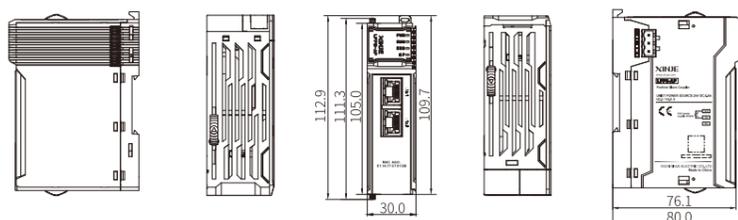
- 1 Blade expansion and diversified combination
- 2 Compact structure, saves installation space
- 3 Direct-insertion terminals for convenient and reliable wiring
- 4 Supports RT and IRT transmission modes
- 5 Support MRP, MRPD redundancy
- 6 Compatible with Siemens and TIA Portal
- 7 Supports up to 32 expansion IO modules



### Product Specifications

Project	Specifications
Model	LFP3-AP
Rated voltage	DC24V
Voltage permissible range	DC21.6V-26.4V
Input current	120mA DC24V
Allow instantaneous power outage time	10ms DC24V
Inrush Current	10A DC26.4V
Power protection	Anti-inversion protection, overcurrent protection, surge absorption
Networking protocol	PROFINET
Single AP process data	Input and output are limited to 1440 bytes
Communication mode	RT mode, IRT mode
Media Redundancy Protocol (MRP)	Support
Medium Route Pathing Redundancy (MRPD)	Support
Network interface	2 RJ45 Ports
Connection speed	10/100Mbps, adaptive, full-duplex
Transmission distance	The distance between the two nodes is less than or equal to 100m
Topology structure	Supports line, star, and tree shapes
Transmission medium	Class 5 or higher
Number of extension modules	Supports 32 modules
Alarm/Debug/Status	Supports uploading ontology error codes to PLC
Profinet switch functions	Supports networking
Firmware upgrade	Support
Module dissipation	1.5W

### Product size diagram (unit: mm)



# LFM3-AP

## High Performance Modbus TCP Communication Coupler

### Product Features

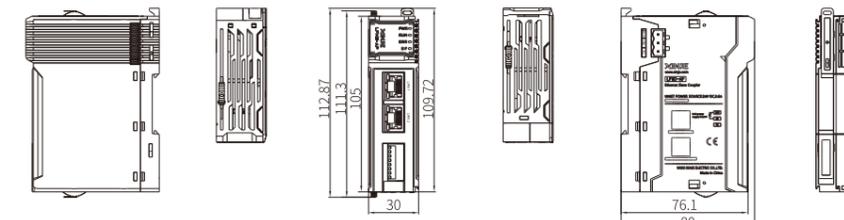
- 1 Blade expansion and diversified combination
- 2 Compact structure, saves installation space
- 3 Support network port firmware upgrade
- 4 Supports hardware IP address configuration
- 5 Microsecond response of high speed bus
- 6 Supports up to 32 expansion IO modules



### Product Specifications

Project	Specifications
Model	LFM3-AP
Rated voltage	DC24V
Voltage permissible range	DC21.6V-26.4V
Input current	120mA DC24V
Allow instantaneous power outage time	10ms DC24V
Inrush Current	10A DC26.4V
Power protection	Anti-inversion protection, overcurrent protection, surge absorption
Networking protocol	Modbus-TCP
Network interface	2 RJ45 ports (switch mode)
Physical layer	100BASE-TX
Connection speed	10/100Mbps, adaptive, full-duplex
Transmission distance	The distance between the two nodes is less than or equal to 100m
Topology structure	Alphabet of lines
Transmission medium	Class 5 or higher
Client connections	8
Number of extension modules	Supports 32 modules
Firmware upgrade	Support
IP address settings	Configure via a digital switch (1-254) or software
Module dissipation	1.5W

### Product size diagram (unit: mm)



# LFI3-AP

## High Performance EtherNet/IP Communication Coupler

### Product Features

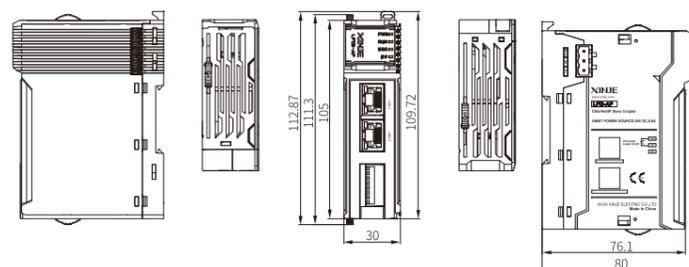
- 1 Blade expansion and diversified combination
- 2 Compact structure, saves installation space
- 3 Direct-insertion terminals for convenient and reliable wiring
- 4 Support network port firmware upgrade
- 5 Supports EtherNet/IP communication protocol
- 6 Supports up to 32 expansion IO modules
- 7 Channel and backplane fault diagnosis, quickly obtain fault diagnosis information



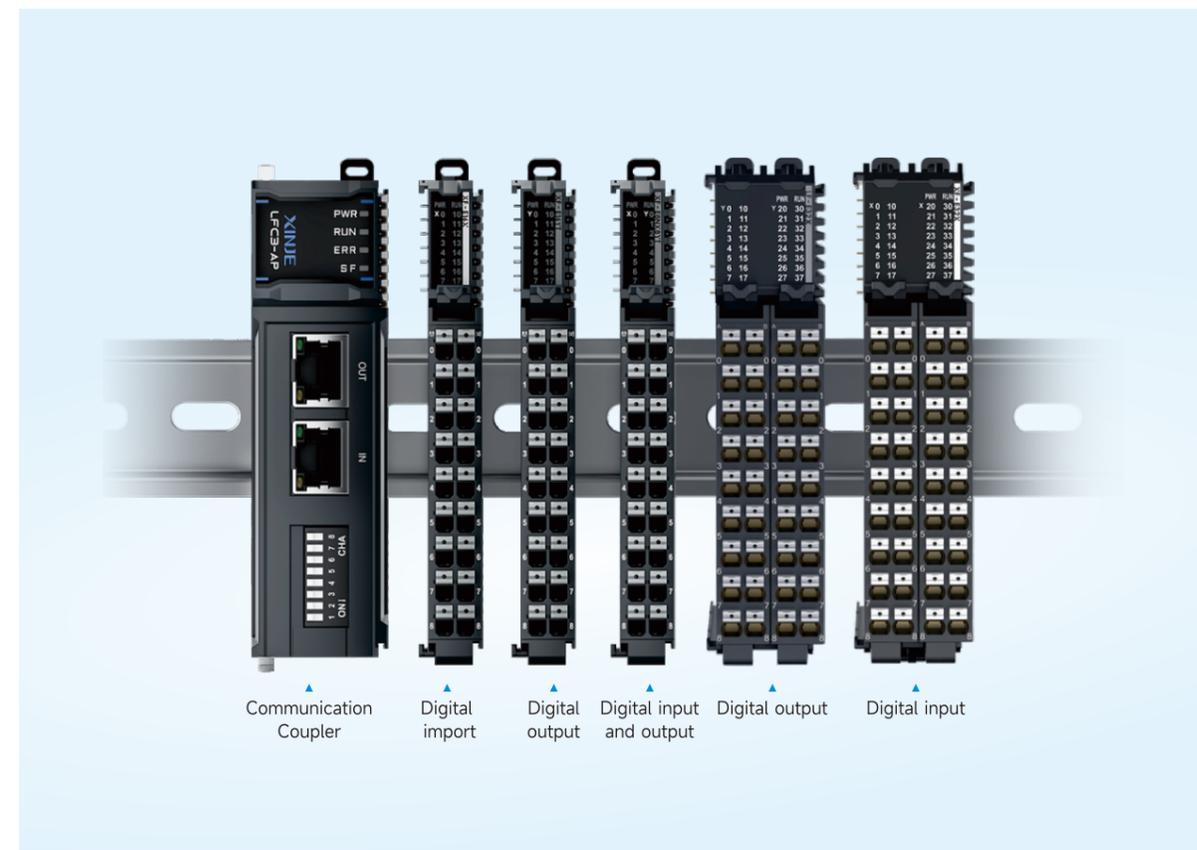
### Product Specifications

Project	Specifications
Model	LFI3-AP
Rated voltage	DC24V
Voltage permissible range	DC21.6V-26.4V
Input current	120mA DC24V
Allow instantaneous power outage time	10ms DC24V
Inrush Current	10A DC26.4V
Networking protocol	EtherNet/IP
Input/output byte	0 to 1448 bytes
Network interface	2 RJ45 ports (switch mode)
Physical layer	100 BASE-TX
PLC communication cycle	1-65535ms
Connection speed	10/100 Mbps, adaptive, full-duplex
Transmission distance	The distance between the two nodes is less than or equal to 100m
Topology structure	Linear
Transmission medium	Class 5 or higher
Number of extension modules	Supports 32 modules
Firmware upgrade	Support
IP address	Configure via the software toolbar or dial code (1-254)

### Product size diagram (unit: mm)



## LF Series Coupler Dedicated Extension Module



Model		Function declaration
NPN type	PNP type	
LF-E16X		16-channel digital bipolar input
LF-E8YR		8-channel digital dry contact type relay output
LF-E16YT	-	16-channel transistor NPN output
-	LF-E16PYT	16-channel transistor PNP output
LF-E8NX8YT	-	8-channel digital NPN transistor input; 8-channel digital NPN transistor output
LF-E32X		32-channel digital bipolar input
LF-E32YT	-	32-channel digital NPN output
LF-E16X16YT	-	16-channel digital bipolar input; 16-channel digital NPN transistor output

\*Note: The LF series module, designed exclusively for LF series couplers, does not support direct connection with XSF series PLCs. Its performance and functional parameters are configured to match those of the corresponding XF series modules when paired with LF series couplers.

# XF-EP24

## Repeater Power Module

### Product Features

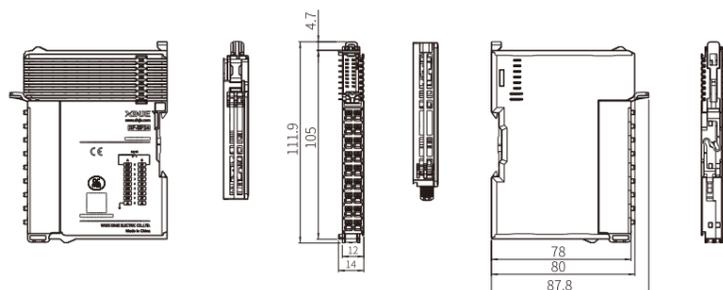
- ① 7-channel DC 24V power supply
- ② 12mm width design



### Product Specifications

Project	Specifications
Model	XF-EP24
Output channel	7
Rated input voltage	DC 24V(DC21.6V-26.4V)
Bus Current Supplied	1A
Power protection	Reverse protection
Output protection	Short circuit protection, overload protection
Occupying slot	Occupies one slot
Module Dissipation	0.8W

### Product size diagram (unit: mm)



# XF-E16X

## Standard Digital Input Module

### Product Features

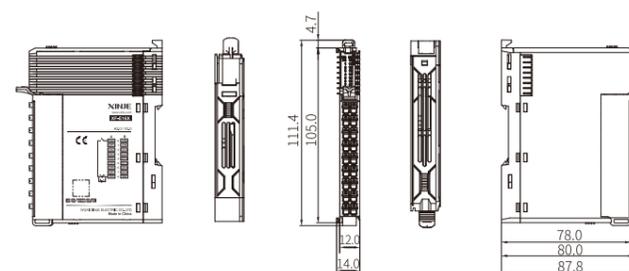
- ① 16-channel digital input
- ② NPN and PNP Bipolar Input
- ③ with 12mm Width Design



### Product Specifications

Project	Specifications
Model	XF-E16X(LF-E16X)
Input points	16
Rated input voltage	DC24V
Rated input current	4mA
Rated Impedance	5.5K $\Omega$
ON voltage input	15V
ON current input	2.5mA
Input OFF voltage	5V
Input OFF current	1mA
Response time of input resistor from ON to OFF (hardware)	0.1ms
Response time of input resistor from OFF to ON (hardware)	0.1ms
Input derating	The system operates at 55°C with a 75% power reduction (when no more than 12 input points are ON simultaneously), or a 10°C reduction when all input points are ON.
Common Terminal Mode	16 channels share one common terminal
Module Dissipation	0.5W (internal backplane) +1.4W (external input)

### Product size diagram (unit: mm)



# XF-E32X

## Standard Digital Input Module

### Product Features

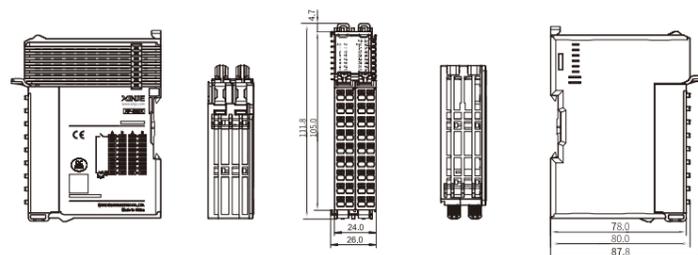
- ① 32-channel digital input
- ② NPN and PNP bipolar inputs
- ③ 24mm width design



### Product Specifications

Project	Specifications
Model	XF-E32X(LF-E32X)
Input channel	32
Rated input voltage	DC24V
Maximum input current	4mA
Input Impedance	5.5KΩ
ON voltage input	15V
ON current input	2.5mA
Input OFF voltage	5V
Input OFF current	1mA
ON → OFF response time of input resistor (hardware)	0.1ms
OFF→ON response time of input resistor (Hardware)	0.1ms
Input derating	The system operates at 55°C with a 50% power reduction (when no more than 16 input points are ON simultaneously), or a 10°C reduction when all input points are ON.
Public mode	16 points, 1 common end
Module dissipation	0.8W (internal backplane) + 3.2W (external input)

### Product size diagram (unit: mm)



# XF-E8YR

## Channel Isolated Digital Output Module

### Product Features

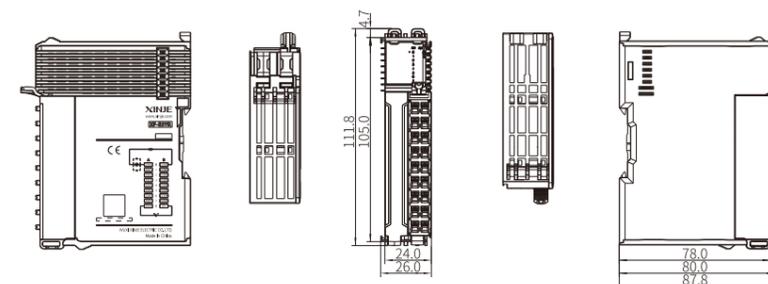
- ① 8-channel digital output
- ② Dry contact type relay output
- ③ 24mm width design



### Product Specifications

Project	Specifications
Model	XF-E8YR(LF-E8YR)
output channel	8
Rated input voltage	DC24V(DC21.6V~26.4V)
Output voltage level	AC 250V/DC30V
Output load (resistive load)	3A/1 point, 16A module
Output load (inductive load)	1A/1 point, 4A module
Output load (light load)	30W per point, 120W per module
Maximum load current	3A/1 point
Minimum DC load	DC5V,2mA
Minimum circulating load	AC250V
ON → OFF response time	Under 15ms
OFF→ ON response time	Under 15ms
Output derating	The rated capacity is reduced by 50% when operating at 55°C (with the output current of ON not exceeding 8A), or by 10°C when all output points are ON.
Public mode	One point, one common terminal, with 8 common terminals (8-channel COM isolated)
Module dissipation	0.6W (internal backplane) + 1.6W (external input)

### Product size diagram (unit: mm)



# XF-E16YT

## Standard Digital Output Module

### Product Features

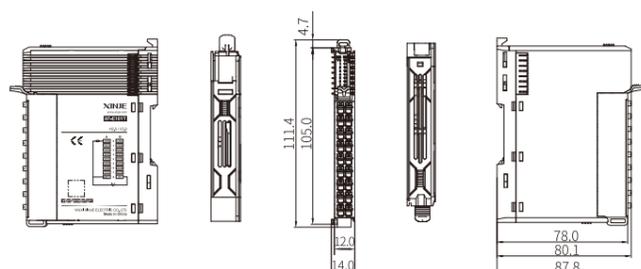
- ① 16-channel digital output
- ② NPN transistor output
- ③ 12mm width design



### Product Specifications

Project	Specifications
Model	XF-E16YT(LF-E16YT)
Output channel	16
Rated load voltage	DC24V(DC21.6V-26.4V)
Maximum load current	0.5A per point, 4A per module (maximum 2A for 4 points)
Surge current protection	Support
Leakage current at OFF	Below 0.1mA
Output ON →OFF response time (hardware)	0.1ms
Output OFF →ON response time (hardware)	0.1ms
Output derating	The rated capacity is reduced by 50% when operating at 55°C (with the ON output current not exceeding 2A), or by 10°C when all output points are ON.
Public mode	Common Terminal Configuration: 1 common terminal for 16 points
Output protection	Supports short-circuit and overload protection
Module dissipation	1W (internal backplane) + 0.8W (external input)

### Product size diagram (unit: mm)



# XF-E16PYT

## Standard Digital Output Module

### Product Features

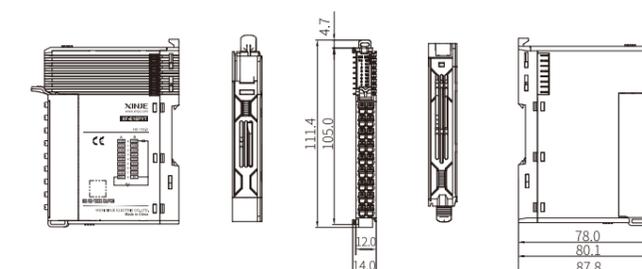
- ① 16-channel digital output
- ② PNP transistor output
- ③ 12mm width design



### Product Specifications

Project	Specifications
Model	XF-E16PYT(LF-E16PYT)
Output channel	16
Rated load voltage	DC24V(DC21.6V-26.4V)
Maximum load current	0.5A per point, 4A per module (maximum 2A for 4 points)
Surge current protection	Support
Leakage current at OFF	Below 0.1mA
output ON → OFF response time (hardware)	0.1ms
Output OFF → ON response time (hardware)	0.1ms
Output derating	The rated output is reduced by 50% at 55°C (with the ON output current not exceeding 2A), or by 10°C when all output points are ON.
Public mode	Common Terminal Configuration: 1 common terminal for 16 points
Output protection	Supports short-circuit and overload protection
Module dissipation	1W(internal backplane)+0.8W (external input)

### Product size diagram (unit: mm)



# XF-E32YT

## Standard Digital Output Module

### Product Features

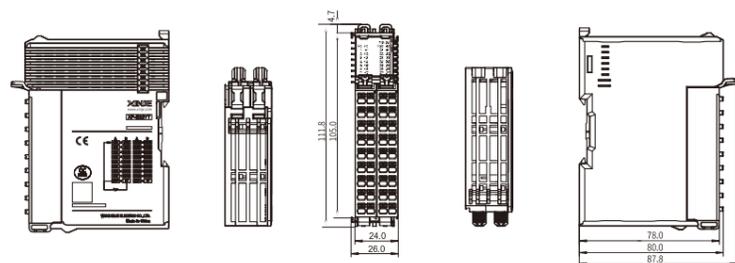
- 1 32-channel digital output
- 2 NPN transistor output
- 3 24mm width design



### Product Specifications

Project	Specifications
Model	XF-E32YT(LF-E32YT)
Output channel	32
Rated load voltage	DC24V(DC21.6V~26.4V)
Maximum load current	0.5A per point, 8A per module (maximum 2A for 4 points)
Surge current protection	Support
Leakage current at OFF	Below 0. 1mA
Output ON →OFF response time (hardware)	0.1ms
Output OFF →ON response time (hardware)	0.1ms
Output derating	The rated output is reduced by 50% when operating at 55°C (with the ON output current not exceeding 4A), or by 10°C when all output points are ON.
Public mode	Common Terminal Configuration: 1 common terminal for 16 points
Output protection	Supports short-circuit and overload protection
Module dissipation	1.2W (internal backplane) + 0.6W (external input)

### Product size diagram (unit: mm)



# XF-E8NX8YT

## Digital Input and Output Module

### Product Features

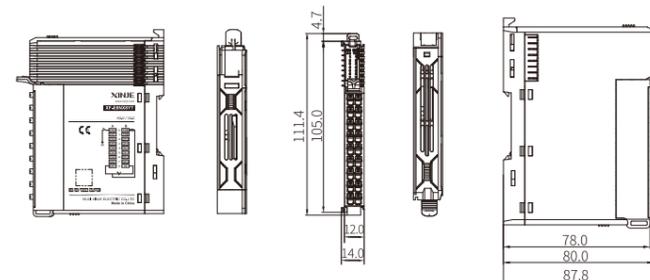
- 1 8-channel digital input
- 2 NPN type input
- 3 8-channel digital output
- 4 NPN transistor output
- 5 12mm width design



### Product Specifications

Project	Specifications	
Model	XF-E8NX8YT(LF-E8NX8YT)	
Input specification	Input channel	8
	Input type	NPN
	Rated input voltage	DC24V
	Rated input current	4mA
	Input Impedance	5.5kQ
	ON voltage Input	15V
	ON current Input	2.5mA
	Input OFF voltage	5V
	Input OFF current	1mA
	Input derating	The system operates at 55°C with a 50% power reduction (when no more than 4 input points are ON simultaneously), or a 10°C reduction when all input points are ON.
Response time of input resistance from ON to OFF (hardware)	0.1ms	
Response time of input resistor from OFF to ON (hardware)	0.1ms	
Output specifications	Output channel	8
	Output type	Transistor(NPN)
	Rated load voltage	DC24V(DC21.6V~DC26.4V)
	Maximum load current	0.5A per point, 2A per module(maximum 2A for 4 points)
	Surge current protection	Support
	Leakage current at OFF	Below 0. 1mA
	Output derating	The rated capacity is reduced by 50% when operating at 55°C (with the ON output current not exceeding 1A), or by 10°C when all output points are ON.
	Output ON → OFF response time (hardware)	0.1ms
Output OFF → ON response time (hardware)	0.1ms	
Module dissipation	1W(internal backplane)+1.2W(external input)	

### Product size diagram (unit: mm)



# XF-E16X16YT

## Digital Input and Output Module

### Product Features

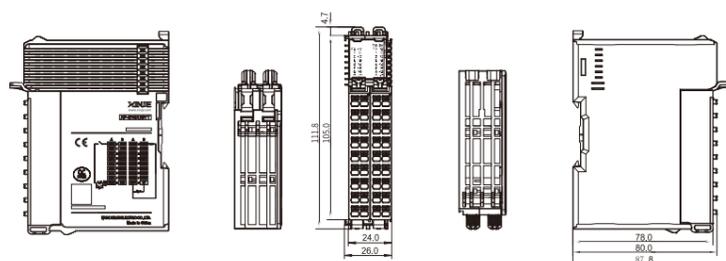
- 1 16-channel digital input
- 2 NPN and PNP type inputs
- 3 16-channel digital output
- 4 NPN transistor output
- 5 24mm width design



### Product Specifications

Project		Specifications
Model		XF-E16X16YT(LF-E16X16YT)
Input specification	Input channel	16
	Input type	NPN, PNP
	Rated input voltage	DC24V
	Rated input current	4mA
	Input Impedance	5.5KΩ
	ON voltage Input	15V
	ON current Input	2.5mA
	Input OFF voltage	5V
	Input OFF current	1mA
	ON → OFF response time of input resistor (hardware)	0.1ms
OFF-ON response time of input resistor (Hardware)	0.1ms	
Output specifications	Output channel	16
	Output type	Transistor(NPN)
	Rated load voltage	DC24V(DC21.6V~26.4V)
	Maximum load current	0.5A per point, 4A per module (maximum 2A for 4 points)
	Surge current protection	Support
	Leakage current at OFF	Below 0.1mA
	output ON →OFF response time (hardware)	0.1ms
	Output OFF →ON response time (hardware)	0.1ms
Output derating	The rated output is reduced by 50% at 55°C (with the output current not exceeding 2A when both outputs are ON), or by 10°C when all outputs are ON.	
Module dissipation		1W (internal backplane) + 2W (external input)

### Product size diagram (unit: mm)



# XF-E4AD

## Analog Input Module

### Product Features

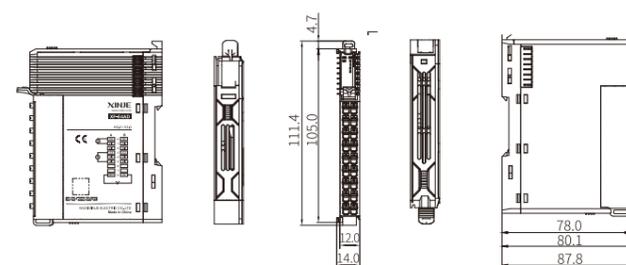
- 1 4-channel analog input
- 2 Channel conversion speed: 60μs per channel
- 3 16-bit resolution
- 4 Maximum 0.2% error
- 5 current and voltage bipolar input
- 6 12mm width design



### Product Specifications

Project		Specifications
Model		XF-E4AD
Input channel		4
Analog input range (rated)	Voltage	Input range (impedance greater than 1 MΩ)
		0V~5V(0~64000)
		0V~10V(0~64000)
		-5V~5V(-32000 ~ 32000)
	Current	Input range (impedance is about 120Ω)
		-10V~10V(-32000 ~ 32000)
Maximum input range	Input voltage	DC±15V
	Current	-40~40mA
Conversion rate		60μs/CH
Response speed		60μs
Resolution ratio		1/64000(16Bit)
Module power supply	Rated input	DC24V±10%,150mA
	Protect	Reverse protection
Deviation	Room temperature: 25°C ±5°C	±0.1%(25±5°C)
	Full temperature range: -20 to 55°C	±0.2%
Insulation		Channel is not isolated, power is isolated
Module dissipation		0.7W(internal backplane)+0.5W(external input)

### Product size diagram (unit: mm)



# XF-E4DA

## Analog Output Module

### Product Features

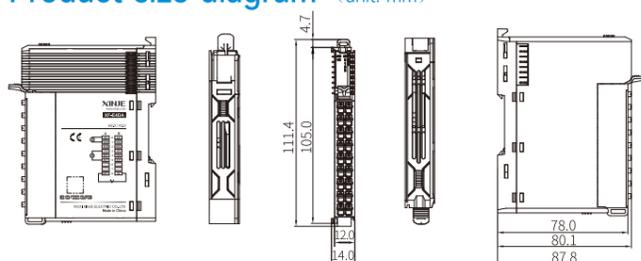
- ① 4-channel analog output
- ② Channel conversion speed: 60μs per channel
- ③ 16-bit resolution
- ④ Maximum 0.2% deviation
- ⑤ current and voltage bipolar output
- ⑥ 12mm width design



### Product Specifications

Project		Specifications	
Model		XF-E4DA	
Input channel		4	
Analog input range (rated)	Voltage	Output range	0V-5V(0-64000)
		(external load resistance: 2KΩ to 1MΩ)	0V-10V(0-64000) -5V-5V(-32000-32000) -10V-10V(-32000 ~ 32000)
	Current	Output range	1V-5V(12800-64000)
		(external load resistance below 500Ω)	0mA-20mA(0-64000) 4mA-20mA(12800-64000)
Maximum input range	Input voltage	DC±15V	
	Current	-40-40mA	
Conversion rate		60μs/CH	
Response speed		60μs	
Resolution ratio		1/64000(16Bit)	
Module power supply	Rated input	DC24V±10%,150mA	
	Protect	Reverse protection	
Deviation	Room temperature: 25°C ± 5°C	±0.1%(25±5°C)	
	Full temperature range: -20 to 55°C	±0.2%	
Insulation		Channel is not isolated, power is isolated	
Module dissipation		0.8W (internal backplane) + 1.2W (external input)	

### Product size diagram (unit: mm)



# XF-E2COM24

## Serial Communication Module

### Product Features

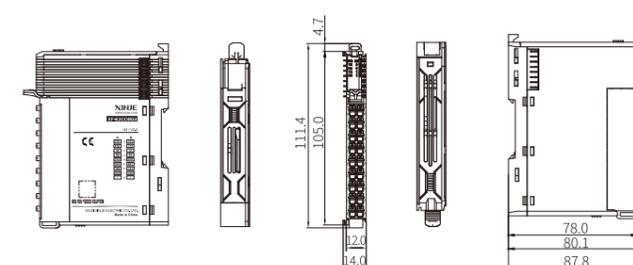
- ① 2 independent 232/485 serial communication lines
- ② Supports Modbus master, slave, and free-form communication
- ③ Channel and Internal Isolation Processing to Improve the Anti-jamming
- ④ 12mm width design



### Product Specifications

Project		Specifications	
Model		XF-E2COM24	
Number of ports		Route 2	
Communication port		RS-232 and RS-485 (RS-232 and RS-485 with single COM port cannot be used simultaneously)	
Communicating protocol		Modbus-RTU/ASCII master-slave/free format	
Communication specification	Communication mode	Half-duplex	
	Channel Isolation	Yes	
	Built-in terminal resistance	Yes	
	Baud rate	2400bps, 4800bps, 9600bps, 19200bps (default), 38400bps, 57600bps, 115200bps	
	Data bit	7 or 8 (default)	
	Stop bit	1 (default) or 2	
Verification	Odd, Even (Default), None		
	Haul up		RS-232:15 meters (19200bps); RS-485:1200 meters (9600bps)
Maximum byte count		256 bytes (Modbus) / 1024 bytes (Free Format)	
Maximum supported module count		8 (Right extension of the body, remote 10)	
Module dissipation		0.8W	

### Product size diagram (unit: mm)



# XF-E1HSC

## High Speed Counting Module

### Product Features

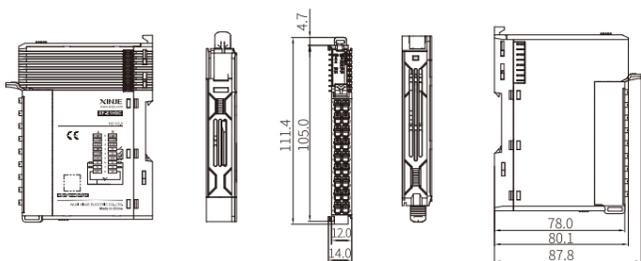
- ① 1-channel encoder with single-ended or differential input
- ② Supports single-phase, pulse + direction, A/B phase, and CW/CCW modes
- ③ Support frequency measurement
- ④ Supports pulse width measurement
- ⑤ 2 high-speed input channels (probe support) and 4 high-speed output channels (flying shot support)
- ⑥ 12mm width design



### Product Specifications

Project		Specifications
Model		XF-E1HSC
Number of ports		Route 1
Input specification	Counter	A、B、Z
	Type	Supports single-ended or differential input
	High speed input channel number	Route 2 (X0X1)
	Input type	NPN&PNP
	Rated input voltage	24VDC
	ON voltage Input	15V
	ON current Input	2.5mA or more
	Input OFF voltage	5V
	Input OFF current	Below 1mA
	Maximum supported frequency for differential input	2MHz (1x frequency)
Maximum supported frequency for single-ended input	200KHz (1x frequency)	
Output specifications	High speed output channel count	4 channel
	Output type	NPN
	Control loop voltage	DC24V(DC21.6V~26.4V)
	Rated load current	0.5A per point, 1A per module
	ON response time	1μs
OFF response time	1μs	
Module Dissipation		0.8W (internal backplane) + 1.2W (external input)

### Product size diagram (unit: mm)



# XF-E2HSP

## High Speed Pulse Output Module

### Product Features

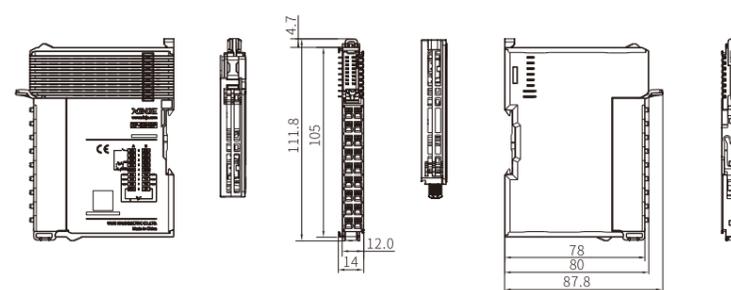
- ① 2-channel pulse output, maximum output frequency 200KHz
- ② 8-channel bipolar input, 6-channel
- ③ NPN output, 12mm width design



### Product Specifications

Project		Specifications
Model		XF-E2HSP
Pulse output channel		2
Input specification	Input channel	8
	Input type	NPN&PNP
	Rated input voltage	DC24V
	Rated input current	4mA
	ON voltage Input	15V
	ON current Input	2.5mA
	Input OFF voltage	5V
	Input OFF current	1mA
	Input derating	The system operates at 55°C with a 50% power reduction (when no more than 4 input points are ON simultaneously), or a 10°C reduction when all input points are ON.
	ON→OFF response time of input resistor (hardware)	1μs
OFF→ON response time of input resistor (Hardware)	1μs	
Output specifications	Output channel	6
	Output type	Transistor (NPN)
	Rated load voltage	DC24V(DC21.6V~26.4V)
	Maximum load current	0.5A/1 point
	Surge current protection	Support
	Leakage current at OFF	Below 0.1mA
	ON response time (hardware)	1μs
OFF response time (hardware)	1μs	
Module Dissipation		1W (internal backplane) + 1W (external input)

### Product size diagram (unit: mm)



# XF-E4RTD

## Common RTD Temperature Acquisition Module

### Product Features

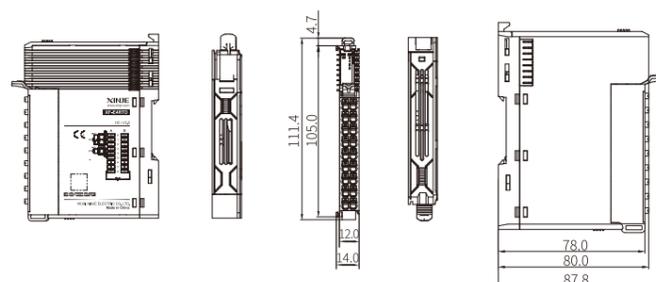
- 1 Temperature Acquisition of 4-channel Thermistor
- 2 Compatibility of Three-wire and Two-wire Resistance Temperature Sensors
- 3 Supports the following sensor types: PT100, PT1000, CU50, CU100, NTC-5K, and NTC-10K.
- 4 0.1°C, 1°C resolution (optional)
- 5 Conversion speed: 250ms/4CH, 500ms/4CH, or 1000ms/4CH (optional)
- 6 12mm width design



### Product Specifications

Project		Specifications	
Model	XF-E4RTD		
Input channel	4 channels		
Temperature input range	Sensor type	Scope	
	PT100	-200.0 °C~850.0°C	
	PT1000	-200.0 °C~850.0°C	
	CU50	-50.0 °C~150.0 °C	
	CU100	-50.0 °C~150.0 °C	
	NTC-5K	Resistance range: 400Ω to 40KΩ; B value: 2000 to 6000 (temperature range calculated based on B value and resistance value)	
	NTC-10K	Resistance range: 400Ω to 40KΩ; B value: 2000 to 6000 (temperature range calculated based on B value and resistance value).	
Conversion rate	Select from 250ms/4CH, 500ms/4CH, or 1000ms/4CH (default: 500ms/4CH)		
Resolution ratio	0.1°C or 1°C (default: 0.1°C)		
Module power supply	Rated input protection	DC24V±10%	
	Reverse protection	Reverse protection	
Acquisition accuracy	Room temperature accuracy (25°C±5°C)	Full temperature range accuracy (-20°C to 55°C)	
	±0.1% (full range)	±0.2% (full range)	
Insulation	Channel is not isolated, power is isolated		
Module dissipation	0.7W (internal backplane) + 0.3W (external input)		

### Product size diagram (unit: mm)



# XF-E4TC

## Common Thermocouple Temperature Acquisition Module

### Product Features

- 1 Temperature Acquisition of 4-channel Thermocouple
- 2 Supports K, S, E, N, B, T, J, and R sensor types
- 3 Supports voltage acquisition from -100mV to 100mV
- 4 0.1°C, 1°C resolution (optional)
- 5 Conversion speed: 250ms/4CH, 500ms/4CH, 1000ms/4CH (optional)
- 6 12mm width design



### Product Specifications

Project		Specifications	
Model	XF-E4TC		
Input channel	4 channels		
Temperature input range	Thermocouple	Sensor type	Scope
		K type	-200.0°C-1300.0°C
		S mould	-50.0°C-1768.0 °C
		E mould	-200.0 °C-1000.0 °C
		N type	-200.0°C-1300.0 °C
		B type	250.0 °C-1820.0 °C
		T mould	-200.0°C-400.0°C
		J type	-210.0°C-1200.0 °C
	R type	-50.0 °C-1768.0 °C	
	Voltage	-100mv-100mv	-32000 to 32000 (digital value)
Conversion rate	Select from 250ms/4CH, 500ms/4CH, or 1000ms/4CH (default: 500ms/4CH)		
Resolution ratio	0.1°C or 1°C (default: 0.1°C)		
Module power supply	Rated input protection	DC24V±10%	
	Reverse protection	Reverse protection	
Acquisition accuracy	Room temperature accuracy (25°C±5°C)	Full temperature range accuracy (-20°C to 55°C)	
	±0.1% (full range)	±0.2% (full range)	
Insulation	Channel is not isolated, power is isolated		
Module dissipation	0.7W (internal backplane) + 0.3W (external input)		

### Product size diagram (unit: mm)

