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V230923

DECOWELL®

EX Series Card I/O

Compact Structure Simple Wiring

Decowell Reliable partner for intelligent manufacturing

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2016
Company establishment

100+
Intellectual property

1000+
Customers

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CONTENTS

Product introduction ---- 03
Module Combination ---- 04
Product size ---- 05
Product characteristics ---- 05
Interface port description ---- 06
Product parameter ---- 07
Adapter ---- 07
Digital input module ---- 12
Digital output module ---- 16
Analog input module ---- 20
Analog output module ---- 23
Function module ---- 27
Auxiliary module ---- 30
Annex ---- 31
Product model quick reference table ---- 32

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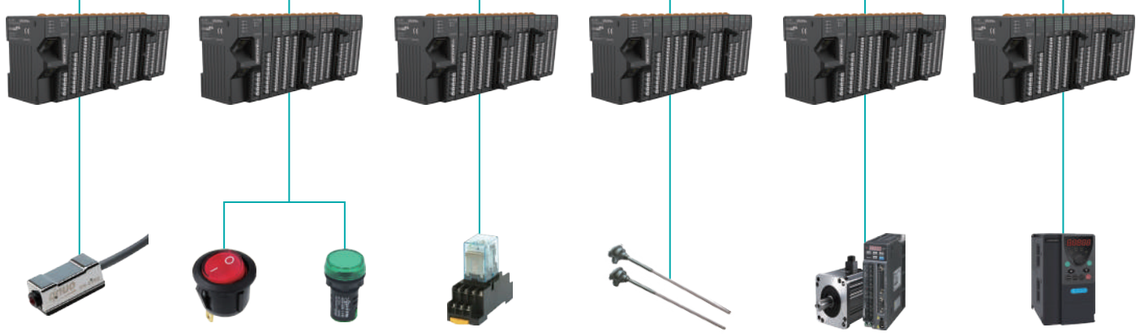
Product introduction

EX series card I/O consists of adapter module, I/O module, power module, and terminal module. Adapter can support a variety of communication buses, such as PROFINET, EtherNet/IP, EtherCAT, DeviceNet, Modbus RTU, PROFIBUS-DP, and so on. Adapter module is used to expand different types and quantities of I/O modules by converting the standard communication bus into the communication bus of the product module. I/O module can be divided into digital input module, digital output module, analog input module, analog output module and function module. The digital input module, I/O module and analog input module have external power supply interfaces designed at the ports, which can provide power for on-site sensors without adding additional terminal blocks, and can support two-wire and three-wire sensors. A single module has a maximum of 32 I/O points, and a single Adapter can expand a maximum of 32 I/O modules. The module is designed with abundant diagnostic functions and status indicators, and users can easily identify the current running status of the module.

EtherCAT Technology Group



Sensor | Button | Indicator | Relay | Thermal resistors and thermocouples | Servo | Frequency converter

Module composition

Bus protocol

- EtherCAT
- PROFINET
- EtherNet/IP
- CC-Link IEFB
- Modbus-TCP
- PROFIBUS-DP
- CC-Link
- DeviceNet
- Modbus-RTU

Digital module

- DI:NPN/PNP
- DO:NPN/PNP/ Relay

Analog module

- AI:Voltage/current
- AO:Voltage/current

Terminal module

More solutions are available here
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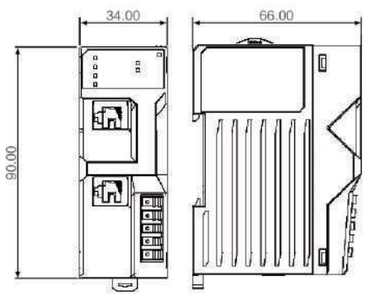
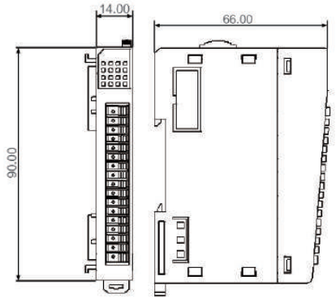
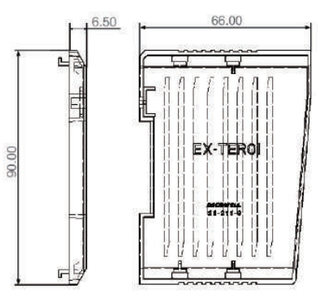
Product size



Adapter

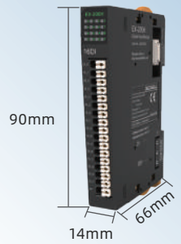


I/O module



Terminal module

Product characteristics



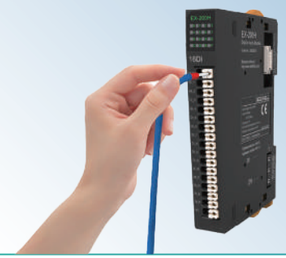
Small size and compact structure

EtherCAT Technology Group
PROFINET
DeviceNet
CANopen
CC-Link
CC-Link IE Field Basic
Modbus
EtherNet/IP

Supports multiple communication protocols

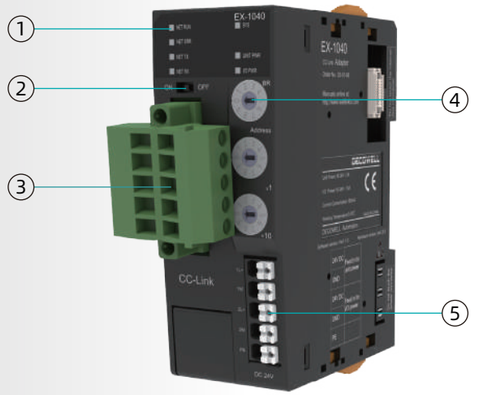
Gateway adapter	Digital module
Analog module	Temperature module
Communication function module	Auxiliary module

Abundant product types



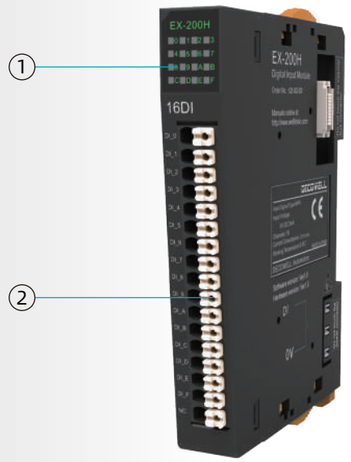
Straight plug terminals, quick installation

Interface port description

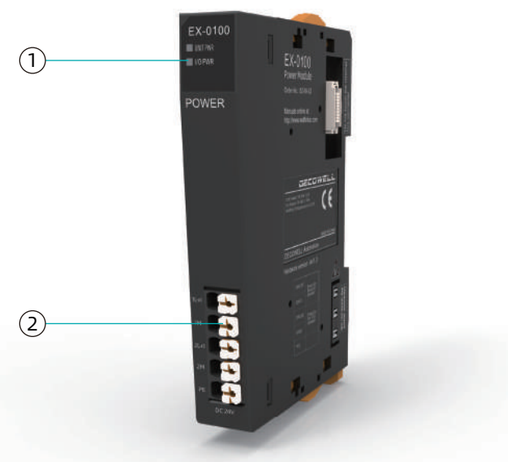


① Status indicator ② Terminal resistance Dial switch
③ Communication interface port
④ Adapter Dial setting ⑤ Power supply port

① Status indicator ② Communication interface port
③ Power supply port



① Status indicator ② Wiring terminal



① Power indicator ② Wiring terminal

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Product parameter

Adapter

Product model	EX-1010	EX-1030
Product name	DeviceNET Adapter	MODBUS-RTU Adapter
Address setting	0~63	0~99
Cable	DeviceNet special cable	MODBUS-RTU special cable
Transmission distance	500m(max)	1200m(max)
Bus rate	125kpbs、250kpbs、500kpbs	RS485 Baud rate optional 1200、24004800、9600、19.2K、28.8K、38.4K、57.6K、115.2K
EX System power input	24V(18 ~ 36V)	24V(18 ~ 36V)
EX System provides current	2A(Max)	2A(Max)
IO port power supply input	24V(±20%)	24V(±20%)
IO port current output	10A (Max)	10A (Max)
Expand the number of I/ O	32	32
Input/output maximum bytes	512 bytes /512 bytes	512 bytes /512 bytes
Dimensions	Length, width and height: 90mm*67mm*34mm	Length, width and height: 90mm*67mm*34mm
Temperature range	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃
Relative humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-01-01**	**02-01-03**

Product model	EX-1040	EX-1050
Product name	CC-Link Adapter	CANopenAdapter
Address setting	1~64	1~99 (Dial setting)
Cable	CC-Linkspecial cable	CANopen special cable
Transmission distance	1200m(max)	1000m (Depends on the cable and communication rate)
Bus rate	156kpbs、625kpbs、2.5Mbps、5Mbps、10Mbps	10kbps,20kbps,50kbps,100kbps,125kbps,250kbps,500kbps,1000kbps (Dial setting)
EX System power input	24V(18 ~ 36V)	24VDC(18~36V)
EX System provides current	2A(Max)	2A(Max)
IO port power supply input	24V(±20%)	DC24V (± 20%)
IO port current output	10A (Max)	10A (Max)
Expand the number of I/ O	32	32
Input/output maximum bytes	48 bytes /48 bytes	512 bytes/512 bytes
Dimensions	Length, width and height: 90mm*67mm*34mm	Length, width and height: 90mm*67mm*34mm
Temperature range	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃
Relative humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-01-06**	**02-01-11**

Adapter

Product model	EX-1100	EX-1102	EX-1110
Product name	EtherCATAdapter	EtherCATAdapter	PROFINET Adapter
Address setting	Per main station	Per main station	Per main station
Cable	Five types of twisted pair	Five types of twisted pair	Five types of twisted pair
Transmission distance	100m (Interstation Distance)	100m (Interstation Distance)	100m (Interstation Distance)
Bus rate	100Mbps	100Mbps	100Mbps
EX System power input	24V(18 ~36V)	24VDC(18~36V)	24V(18 ~ 36V)
EX System provides current	2A(Max)	2A(Max)	2A(Max)
IO port power supply input	24V(±20%)	24V(±20%)	24V(±20%)
IO port current output	10A (Max)	10A (Max)	10A (Max)
Expand the number of I/ O	32	32	32
Input/output maximum bytes	1024bytes/1024bytes	1024bytes/1024bytes	1015bytes/1015bytes
Dimensions	Length, width and height: 90mm*67mm*34mm	Length, width and height: 90mm*67mm*34mm	Length, width and height: 90mm*67mm*34mm
Temperature range	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃
Relative humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-01-04**	**02-01-04-2**	**02-01-05**

Product model	EX-1120	EX-1121
Product name	EtherNet/IPAdapter	EtherNet/IPAdapter
Address setting	Dial switch settings	Dial switch settings
Cable	Five types of twisted pair	Five types of twisted pair
Transmission distance	100m (Interstation Distance)	100m (Interstation Distance)
Bus rate	100Mbps	100Mbps
EX System power input	24V(18 ~ 36V)	24V(18 ~ 36V)
EX System provides current	2A(Max)	2A(Max)
IO port power supply input	24V(±20%)	24V(±20%)
IO port current output	10A (Max)	10A (Max)
Expand the number of I/ O	32	32
Input/output maximum bytes	504bytes/504bytes	504bytes/504bytes
Dimensions	Length, width and height: 90mm*67mm*34mm	Length, width and height: 90mm*67mm*34mm
Temperature range	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃
Relative humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-01-08**	**02-01-08-1**

Adapter

Product model	EX-1130	EX-1140
Product name	Modbus- TCPAdapter	CC-Link IEFBAdapter
Address setting	Per main station	Per main station
Cable	Five types of twisted pair	Five types of twisted pair
Transmission distance	100m (Interstation Distance)	100m (Interstation Distance)
Bus rate	100Mbps	100Mbps
EX System power input	24V(18 ~ 30V)	24V(18 ~ 30V)
EX System provides current	2A(Max)	2A(Max)
IO port power supply input	24V(18 ~ 30V)	24V(18 ~ 30V)
IO port current output	10A (Max)	10A (Max)
Expand the number of I/ O	32	32
Input/output maximum bytes	—	RX/RY 128 points and RWr/RWw 256 points
Dimensions	Length, width and height: 90mm*67mm*34mm	Length, width and height: 90mm*67mm*34mm
Temperature range	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃	Working temperature: 0 ~ 55℃ Storing temperature: -20 ~ +85℃
Relative humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-01-07**	**02-01-09**

Digital input module

Product model	EX-2008	EX-2108	EX-200H
Product name	8 channel input module NPN	8 channel input module NPN	16 channel input module NPN
Current Consumption	24mA	24mA	25mA
Number of Input Channel	8	8	16
Input Signal Type	NPN	PNP	NPN
Rated Input Voltage	NPN:0V DC(±3%)	PNP:24V DC(±25%)	NPN:0V DC(±3%)
Input logic 1 signal	-3 ~ 5V	15 ~ 30V	-3 ~ 5V
Input logic 0 signal	15 ~ 30V	-3 ~ 5V	15 ~ 30V
Sensor power supply	—	—	—
Debounce time	Configurable :1 ~ 10ms, Default :3ms	Configurable :1 ~ 10ms, Default :3ms	Configurable :1 ~ 10ms, Default :3ms
Isolated withstand voltage	500V	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation	Optocoupler isolation
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-02-01**	**02-02-02**	**02-02-03**

Digital input module

Product model	EX-210H	EX-202H	EX-212H
Product name	16 channel input module PNP	16 channel input module NPN	16 channel input module PNP
Current Consumption	25mA	27mA	33mA
Number of Input Channel	16	16	16
Input Signal Type	PNP	NPN	PNP
Rated Input Voltage	PNP:24V DC(±25%)	NPN:0V DC(±3%)	PNP:24V DC(±25%)
Input logic 1 signal	15 ~ 30V	-3 ~ 5V	15 ~ 30V
Input logic 0 signal	-3 ~ 5V	15 ~ 30V	-3 ~ 5V
Sensor power supply	—	—	—
Debounce time	Configurable :1 ~ 10ms, Default :3ms	Configurable :1 ~ 10ms, Default :3ms	Configurable :1 ~ 10ms, Default :3ms
Isolated withstand voltage	500V	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation	Optocoupler isolation
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-02-04**	**02-02-08**	**02-02-09**

Product model	EX-2018	EX-2118
Product name	Supports 3-wire and 2-wire sensors	Supports 3-wire and 2-wire sensors
Current Consumption	17mA	12mA
Number of Input Channel	8	8
Input Signal Type	NPN	PNP
Rated Input Voltage	NPN:0V DC(±3%)	PNP:24V DC(±25%)
Input logic 1 signal	-3 ~ 5V	15 ~ 30V
Input logic 0 signal	15 ~ 30V	-3 ~ 5V
Sensor power supply	24V/150mA(max)	24V/150mA(max)
Debounce time	Configurable :1 ~ 10ms,Default :3ms	Configurable :1 ~ 10ms,Default :3ms
Isolated withstand voltage	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-02-06**	**02-02-07**

Digital input module

Product model	EX-203S	EX-213S
Product name	32 digital input, input signal NPN	32 digital input, input signal PNP
Current Consumption	13mA	14mA
Number of Input Channel	32	32
Input Signal Type	NPN	PNP
Rated Input Voltage	0	24V
Input logic 1 signal	-3 ~ 5V	15 ~ 30V
Input logic 0 signal	15 ~ 30V	-3 ~ 5V
Sensor power supply	—	—
Debounce time	Configurable :1 ~ 10ms, Default :3ms	Configurable :1 ~ 10ms, Default :3ms
Isolated withstand voltage	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation
Dimensions	Length, width and height: 90mm*67mm*29mm	Length, width and height: 90mm*67mm*29mm
Working temperature	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-02-17**	**02-02-18**

Digital output module

Product model	EX-3008	EX-3108	EX-300H
Product name	8DO(NPN)	8DO (PNP)	16DO (NPN, European terminal)
Current Consumption	50mA	50mA	72mA
Number of Output Channel	8	8	16
Output type	NPN	PNP	NPN
Rated Output Voltage	NPN:0V DC(±3%)	PNP:24V DC(±25%)	NPN:0V DC(±3%)
Single-channel Rated Current	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)
Load type	Resistive load, inductive load, lamp load	Resistive load, inductive load, lamp load	Resistive load, inductive load, lamp load
Isolated withstand voltage	500V	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation	Optocoupler isolation
Debounce time	Configurable:1 ~ 10ms, Default:3ms	Configurable:1 ~ 10ms, Default:3ms	Configurable:1 ~ 10ms, Default:3ms
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-03-01**	**02-03-02**	**02-03-03**

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Digital output module

Product model	EX-310H	EX-3018	EX-3118
Product name	16DO (PNP, European terminal)	8DO (NPN,Support 2-wire system)	8DO (PNP, Support 2-wire system)
Current Consumption	72mA	18mA	15mA
Number of Output Channel	16	8	8
Output type	PNP	NPN 型	PNP 型
Rated Output Voltage	PNP:24V DC(±25%)	NPN:0V DC(±3%)	PNP:24V DC(±25%)
Single-channel Rated Current	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)
Load type	Resistive load, inductive load, lamp load	Resistive load, inductive load, lamp load	Resistive load, inductive load, lamp load
Isolated withstand voltage	500V	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation	Optocoupler isolation
Debounce time	Configurable:1 ~ 10ms, Default:3ms	Configurable:1 ~ 10ms, Default:3ms	Configurable:1 ~ 10ms, Default:3ms
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-03-04**	**02-03-08**	**02-03-09**

Product model	EX-3208	EX-303S	EX-313S
Product name	8DO (Relay (Remain ON))	32 digital output, output signal NPN	32 digital output, output signal PNP
Current Consumption	45mA	18mA	19mA
Number of Output Channel	8	32	32
Output type	—	NPN	PNP
Rated Output Voltage	—	0V	24V
Single-channel Rated Current	2A30VDC/0.5A 125VAC/220v	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)	Max: 0.5A (Total Output Current of 8 Channels at the same time:2A)
Load type	Resistive load, inductive load, lamp load	Resistive load, inductive load, lamp load	Resistive load, inductive load, lamp load
Isolated withstand voltage	500V	500V	500V
Isolation mode	Optocoupler isolation	Optocoupler isolation	Optocoupler isolation
Debounce time	Configurable:1 ~ 10ms, Default:3ms	Configurable:1 ~ 10ms, Default:3ms	Configurable:1 ~ 10ms, Default:3ms
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*29mm	Length, width and height: 90mm*67mm*29mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-03-07**	**02-03-18**	**02-03-19**

Analog input module

Product model	EX-4014	EX-4114	EX-4054
Product name	4-channel 12-bit voltage analog inputs (0-10V/0-5V)	4-channel 12-bit voltage analog inputs (±10V/±5V)	4-channel 16-bit voltage analog inputs (0-10V/0-5V)
Current Consumption	82mA	82mA	82mA
Number of Input Channel	4	4	4
Analog range	0-10V/0-5V	±10V/±5V	0-10V/0-5V
Filtering grade	Configurable:0-3, Default: 1	Configurable:0-3, Default: 1	Configurable:0-3, Default: 1
Input resistance	> 500KΩ	> 500KΩ	> 500KΩ
Resolution	12 bit	12bit	16bit
Precision	0.10%	0.10%	0.05%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Corresponding code value	0-4095	-2048~+2047	0-65535
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-04-01/02-04-02**	**02-04-03/02-04-04**	**02-04-05/02-04-06**

Product model	EX-4154	EX-4414	EX-4454
Product name	4-channel 16-bit voltage analog input (±10V/±5V)	4-channel 12-bit current analog input (4-20mA/0-20mA)	4-channel 16-bit current analog input (4-20mA/0-20mA)
Current Consumption	82mA	53mA	82mA
Number of Input Channel	4	4	4
Analog range	±10V/±5V	0-20mA/4-20mA	0-20mA/4-20mA
Filtering grade	Configurable:0-3, Default: 1	Configurable:0-3, Default: 1	Configurable:0-3, Default: 1
Input resistance	> 500KΩ	100KΩ	100KΩ
Resolution	16bit	12bit	16bit
Precision	0.05%	0.10%	0.05%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Corresponding code value	-32768-32767	0-4095	0-65535
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-04-07/02-04-08**	**02-04-09/02-04-10**	**02-04-11/02-04-12**

Analog input module

Product model	EX-4018	EX-4118	EX-4418
Product name	8-channel 12-bit voltage analog input (0-10V/0-5V)	8-channel 12-bit voltage analog input (±10V/±5V)	8-channel 12-bit current analog input (4-20mA/0-20mA)
Current Consumption	182mA	182mA	182mA
Number of Input Channel	8	8	8
Analog range	0-10V/0-5V	±10V/±5V	0-20mA/4-20mA
Filtering grade	Configurable:0-3, Default: 1	Configurable:0-3, Default: 1	Configurable:0-3, Default: 1
Input resistance	> 500KΩ	> 500KΩ	100KΩ
Resolution	12bit	12bit	12bit
Precision	0.10%	0.10%	0.10%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Corresponding code value	0-4095	-2048~+2047	0-4095
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-04-29/02-04-30**	**02-04-31/02-04-32**	**02-04-33/02-04-34**

Analog output module

Product model	EX-5014	EX-5114	EX-5054
Product name	4-channel 12-bit voltage analog output (0~10V/0~5V)	4-channel 12-bit voltage analog output (±10V/±5V)	4-channel 16-bit voltage analog output (0~10V/0~5V)
Current Consumption	24mA	24mA	24mA
Number of Output Channel	4	4	4
Analog range	0-10V/0-5V	±10V/±5V	0-10V/0-5V
Load type	Resistive load	Resistive load	Resistive load
Load capacity	> 10KΩ	> 10KΩ	> 10KΩ
Resolution	12bit	12bit	16bit
Precision	0.10%	0.10%	0.05%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Corresponding code value	0-4095	-2048~+2047	0-65535
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-05-01/02-05-02**	**02-05-03/02-05-04**	**02-05-05/02-05-06**

Analog output module

Product model	EX-5154	EX-5414	EX-5454
Product name	4-channel 16-bit voltage analog output (±10V/±5V)	4-channel 12-bit current analog output (4-20mA/0-20mA)	4-channel 16-bit current analog output (4-20mA/0-20mA)
Current Consumption	82mA	21mA	21mA
Number of Output Channel	4	4	4
Analog range	±10V/±5V	0-20mA/4-20mA	0-20mA/4-20mA
Load type	Resistive load	Resistive load	Resistive load
Load capacity	> 10KΩ	< 500Ω	< 500Ω
Resolution	16bit	12bit	16bit
Precision	0.05%	0.10%	0.05%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Corresponding code value	-32768~+32767	0-4095	0-65535
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-05-07/02-05-08**	**02-05-09/02-05-10**	**02-05-11/02-05-12**

Product model	EX-5018	EX-5118	EX-5418
Product name	8-channel 12-bit voltage analog output (0-10V/0-5V)	8-channel 12-bit voltage analog output (±10V/±5V)	8-channel 12-bit current analog output (4-20mA/0-20mA)
Current Consumption	21mA	21mA	21mA
Number of Output Channel	8	8	8
Analog range	0-10V/0-5V	±10V/±5V	0-20mA/4-20mA
Load type	Resistive load	Resistive load	Resistive load
Load capacity	> 10KΩ	> 10KΩ	< 500Ω
Resolution	12bit	12bit	12bit
Precision	0.10%	0.10%	0.1%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Corresponding code value	0-4095	-2048~+2047	0-4095
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature	0 ~ 55℃	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-05-13/02-05-14**	**02-05-15/02-05-16**	**02-05-17/02-05-18**

Temperature module

Product model	EX-4754	EX-4654
Product name	Thermal resistance (RTD) Input module	Thermocouple (TC) Input module
Current Consumption	38mA	41mA
Number of Output Channel	4	4
Input filtering	Configurable: 1~40,Default:10	Configurable: 1~40,Default:10
Connection mode	2-wire or 3-wire system (default 3-wire)	2-wire
Sensor type	PT100,PT200,PT500,PT1000,Nl120	K,J,T,E,N,S,R,B,C,
Temperature range	Resistance measurement/-200~+ 800 degrees (PT sensor) -79~+ 309 degrees (NI sensor)	Mv Voltage measurement/ Depending on the measurement range of each sensor Default Settings: Type K: -100 to +1370
Resolution	0.1℃/ digit	0.1℃/ digit
Precision	±1℃	0.5%
Isolated withstand voltage	The 500V channels on the field side and the digital side are not isolated	The 500V channels on the field side and the digital side are not isolated
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature/Storing Temperature	0 ~ 55℃/-20 ~ 85℃	0 ~ 55℃/-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**PT100 02-04-23 / PT200 02-04-24** **PT500 02-04-25 / PT1000 02-04-26** **Nl120 02-04-27 / Resistance measurement 02-04-28** **KTY83-122 02-04-50 / KTY84-130 02-04-51**	**K型02-04-13 / S型02-04-18 / J型02-04-14** **R型02-04-19 / T型02-04-15 / B型02-04-20** **E型02-04-16 / C型02-04-21 / N型02-04-17** **Voltage measurement02-04-22**

Function module

Product model	EX-6001	EX-6011	EX-6021
Product name	Single channel NPN encoder module	Single channel PNP encoder module	Single channel differential encoder module
Current Consumption	38mA	38mA	75mA
System power supply voltage	5V DC(±10%)	5V DC(±10%)	5V DC(±10%)
I/O power supply input voltage	24VDC(±20%)	24VDC(±20%)	24VDC(±20%)
Input Signal Type	Single-ended (NPN)	Single-ended (PNP)	differential
Counting mode	Linear counter form, Ring counter form	Linear counter form, Ring counter form	Linear counter form, Ring counter form
Counting range	0 ~ 4294967295or -2147483648 ~ 2147483648	0 ~ 4294967295or -2147483648 ~ 2147483648	0 ~ 4294967295or -2147483648 ~ 2147483648
Count function selection	Count disable, Latch counter, Sample counter, Cycle pulse counter	Count disable, Latch counter, Sample counter, Cycle pulse counter	Count disable, Latch counter, Sample counter, Cycle pulse counter
	Frequency, Rotation speed, Period measurement	Frequency, Rotation speed, Period measurement	Frequency, Rotation speed, Period measurement
	4294967295	4294967295	4294967295
Orthogonal encoder magnification	X1、X2、X4(Default X4)	X1、X2、X4(Default X4)	X1、X2、X4(Default X4)
Power supply input	5VDC(±10%)/150mA 24VDC(±10%)/400mA	5VDC(±10%)/150mA 24VDC(±10%)/400mA	5VDC(±10%)/150mA 24VDC(±10%)/400mA
Maximum input frequency	1MHz	1MHz	1MHz
Maximum connection distance of a signal cable	10M/2M	10M/2M	10M/2M
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature/Storing Temperature	0 ~ 55℃/-20 ~ 85℃	0 ~ 55℃/-20 ~ 85℃	0 ~ 55℃/-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-06-01**	**02-06-02**	**02-06-03**

Function module

Product model	EX-6301	EX-6311	EX-6321
Product name	RS485 Communication module	RS232 free port communication module	Modbus-RTU
Current Consumption	26mA	26mA	74mA
Input channel	1	1	1
Baud rate	optional: 1200, 2400, 4800, 9600 (Default), 19200, 38400, 57600, 115200kbps	optional: 1200, 2400, 4800, 9600 (Default), 19200, 38400, 57600, 115200kbps	optional: 1200, 2400, 4800, 9600 (Default), 19200, 38400, 57600, 115200kbps
Data bit	5,6,7,8 bit (Default)	5,6,7,8 bit (Default)	8 bit
Check bit	None (Default) ,Odd,Even	None (Default) ,Odd,Even	None (Default) ,Odd,Even
Stop bit	1 (Default) ,2 stop bits	1 (Default) ,2 stop bits	1 (Default) ,2 stop bits
Automatic timed sending function	Time interval optional: 50ms, 100ms,200ms, 400ms,500ms,600ms,800ms,1s (Default) , 1.5s, 2s, 3s, 4s, 5s,6s,8s, 10s	Time interval optional: 50ms, 100ms,200ms, 400ms,500ms,600ms,800ms,1s (Default) , 1.5s, 2s, 3s, 4s, 5s, 6s, 8s, 10s	nonsupport
Main-sub mode	Supported, Default main station mode	Supported, Default main station mode	Only the main station is supported
Response timeout	—	—	After the primary station sends a command, wait for the response time of the secondary station. The value ranges from 1 to 65535. The default value is 1000, in ms
Character spacing	—	—	Frame character interval detection time when receiving a message (the time of transmission of a single character depends on the baud rate) (Default is 5 characters)
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*14mm
Working temperature/ Storing Temperature	0 ~ 55℃/-20 ~ 85℃	0 ~ 55℃/-20 ~ 85℃	0 ~ 55℃/-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20	IP20
Order number	**02-06-12**	**02-06-13**	**02-06-14**

Product model	EX-6031
Product name	Single-channel SSI communication protocol module
Current Consumption	20mA
Interface port protocol	SSI
Number of channels	1 channel SSI interface port encoder
Input signal type	SSI(Differential signal RS422)
Communication rate	≤2MHz(Can be set to 2 MHz or less (125 KHZ, 250 KHZ, 500 KHZ, 1 MHz and 1.5 MHz, 2 MHz)
Communication distance	Within 400m (depending on set communication frequency and encoder characteristics)
Communication cycle	Can be set to 1-65535 (unit 100us)
Encoder signal type	Differentiald signal, 5v
Data frame length	10-32 bits (configurable)
Positional value format	Supports gray code conversion to binary
Location value LSB/MSB	Configurable
DI function setting	Normal DI function and pulse capture function
DI capture mode	Rising edge capture, falling edge capture, bilateral edge capture
Dimensions	Length, width and height: 90mm*67mm*14mm
Working temperature/ Storing Temperature	0 ~ 55℃/-20 ~ 85℃
Relative Humidity	95% No Condensation
Protection grade	IP20
Order number	**02-06-17**

Auxiliary module

Product model	EX-0100	EX-TER01
Product name	System power supply and I/O power supply	Terminal module
EX System power supply voltage	24VDC(18 ~ 36V)	
Output system voltage	5V±5%	
Output system current	max:2A	
I /O port power supply voltage	24VDC(18 ~ 36V)	
I /O port output current	max:10A	
Dimensions	Length, width and height: 90mm*67mm*14mm	Length, width and height: 90mm*67mm*9mm
Working temperature	0 ~ 55℃	0 ~ 55℃
Storing Temperature	-20 ~ 85℃	-20 ~ 85℃
Relative Humidity	95% No Condensation	95% No Condensation
Protection grade	IP20	IP20
Order number	**02-00-01**	**02-00-00**

Product model quick reference table

Gateway Adapter

Product model	Product description	Order number
EX-1010	DeviceNET Adapter	02-01-01
EX-1030	MODBUS-RTUAdapter	02-01-03
EX-1040	CC-LinkAdapter	02-01-06
EX-1050	CANopenAdapter	02-01-11
EX-1100	EtherCAT Adapter	02-01-04
EX-1102	EtherCATAdapter	02-01-04-2
EX-1110	PROFINETAdapter	02-01-05
EX-1120	EtherNet/IPAdapter	02-01-08
EX-1121	EtherNet/IPAdapter	02-01-08-1
EX-1130	Modbus-TCPAdapter	02-01-07
EX-1140	CC-Link IEFBAdapter	02-01-09

Digital input module

Product model	Product description	Order number
EX-2008	8DI(NPN)	02-02-01
EX-2108	8DI(PNP)	02-02-02
EX-200H	16DI(NPN,European terminal)	02-02-03
EX-210H	16DI(PNP,European terminal)	02-02-04
EX-202H	16DI(NPN)	02-02-08
EX-212H	16DI(PNP)	02-02-09

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Digital input module

Product model	Product description	Order number
EX-2018	8DI(NPN supports 3-wire system and 2-wire system sensor)	02-02-06
EX-2118	8DI(PNP supports 3-wire system and 2-wire system sensor)	02-02-07
EX-203S	32 digital input, input signal NPN	02-02-17
EX-213S	32 digital input, input signal PNP	02-02-18

Digital output module

Product model	Product description	Order number
EX-3008	8DO(NPN)	02-03-01
EX-3108	8DO (PNP)	02-03-02
EX-300H	16DO(NPN,European terminal)	02-03-03
EX-310H	16DO(PNP,European terminal)	02-03-04
EX-3108	8DO (NPN, Support 2-wire system)	02-03-08
EX-3118	8DO (PNP, Support 2-wire system)	02-03-09
EX-3208	8DO (Relay (Remain ON))	02-03-05
EX-303S	32 digital output, output signal NPN	02-03-18
EX-313S	32 digital output, output signal PNP	02-03-19

Analog input module

Product model	Product description	Order number
EX-4014	4-channel 12-bit voltage analog input (0-10V/0-5V)	02-04-01 02-04-02
EX-4114	4-channel 12-bit voltage analog input (±10V/±5V)	02-04-03 02-04-04

Analog input module

Product model	Product description	Order number
EX-4054	4- channel 16-bit voltage analog input (0-10V/0-5V)	02-04-05 02-04-06
EX-4154	4- channel 16-bit voltage analog input (±10V/±5V)	02-04-07 02-04-08
EX-4414	4-channel 12-bit current analog input (4-20mA/0-20mA)	02-04-09 02-04-10
EX-4454	4- channel 16-bit current analog input (4-20mA/0-20mA)	02-04-11 02-04-12
EX-4018	8-channel 12-bit voltage analog input (0-10V/0-5V)	02-04-29 02-04-30
EX-4118	8-channel 12-bit voltage analog input (±10V/±5V)	02-04-31 02-04-32
EX-4418	8-channel 12-bit current analog input (4-20mA/0-20mA)	02-04-33 02-04-34

模拟量输出模块

Product model	Product description	Order number
EX-5014	4- channel 12-bit voltage analog output (0-10V/0-5V)	02-05-01 02-05-02
EX-5114	4- channel 12-bit voltage analog output (±10V/±5V)	02-05-03 02-05-04
EX-5054	4- channel 16-bit voltage analog output (0-10V/0-5V)	02-05-05 02-05-06
EX-5154	4- channel 16-bit voltage analog output (±10V/±5V)	02-05-07 02-05-08
EX-5414	4- channel 12-bit current analog output (4-20mA/0-20mA)	02-05-09 02-05-10
EX-5454	4- channel 16-bit current analog input (4-20mA/0-20mA)	02-05-11 02-05-12
EX-5018	8-channel 12-bit voltage analog output (0-10V/0-5V)	02-05-13 02-05-14

Analog output module

Product model	Product description	Order number
EX-5118	8-channel 12-bit voltage analog output (±10V/±5V)	02-05-15 02-05-16
EX-5418	8-channel 12-bit current analog output (4-20mA/0-20mA)	02-05-17 02-05-18

Temperature module

Product model	Product description	Order number
EX-4754	Thermal resistance (RTD) input module(PT100)	02-04-23
	Thermal resistance (RTD) input module(PT200)	02-04-24
	Thermal resistance (RTD) input module(PT500)	02-04-25
	Thermal resistance (RTD) input module(PT1000)	02-04-26
	Thermal resistance (RTD) input module(NI120)	02-04-27
	Thermal resistance (RTD) input module(Resistance measurement)	02-04-28
	4-channel thermal resistance (KTY) input module 2-wire or 3-wire system(Default 3-wire) KTY83-122, -55~175℃	02-04-50
	4-channel thermal resistance (KTY) input module 2-wire or 3-wire system (Default 3-wire) KTY84-130, -40-250℃	02-04-51
EX-4654	Thermocouple (TC) input module (Type K)	02-04-13
	Thermocouple (TC) input module (Type S)	02-04-18
	Thermocouple (TC) input module (Type J)	02-04-14
	Thermocouple (TC) input module (Type R)	02-04-19
	Thermocouple (TC) input module (Type T)	02-04-15
	Thermocouple (TC) input module (Type B)	02-04-20
	Thermocouple (TC) input module (Type E)	02-04-16
	Thermocouple (TC) input module (Type C)	02-04-21
	Thermocouple (TC) input module (Type N)	02-04-17
	Thermocouple (TC) input module (Voltage measurement)	02-04-22

Function module

Product model	Product description	Order number
EX-6001	Single channel NPN encoder module	02-06-01
EX-6011	Single channel PNP encoder module	02-06-02
EX-6021	Single channel differential encoder module	02-06-03
EX-6301	RS485 communication module	02-06-12
EX-6311	RS232 free port communication module	02-06-13
EX-6321	Modbus-RTU master communication module	02-06-14
EX-6031	Single-channel SSI communication protocol module	02-06-17

Auxiliary module

Product model	Product description	Order number
EX-0100	System power supply and I/O module	02-00-01
EX-TER01	Terminal module	02-00-00

Selection examples :

Bus PROFINET+ Extended digital input 16DI (NPN) + extended digital output 16DO (PNP) + Terminal cover plate EX-1110+EX200H+ EX300H+EX-TER01