



BETTER WORK, BETTER LIFE

HCQX-D4 Series Centralized Extension Module

HCNXXE Series Distributed Extension Module



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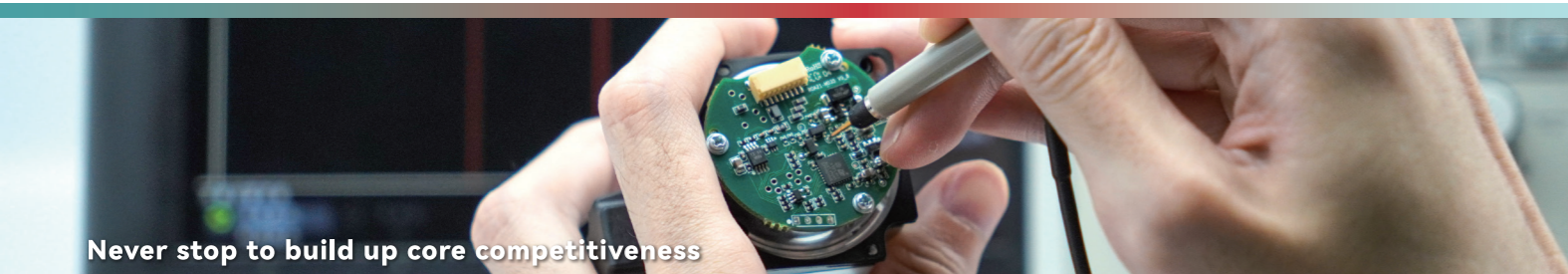
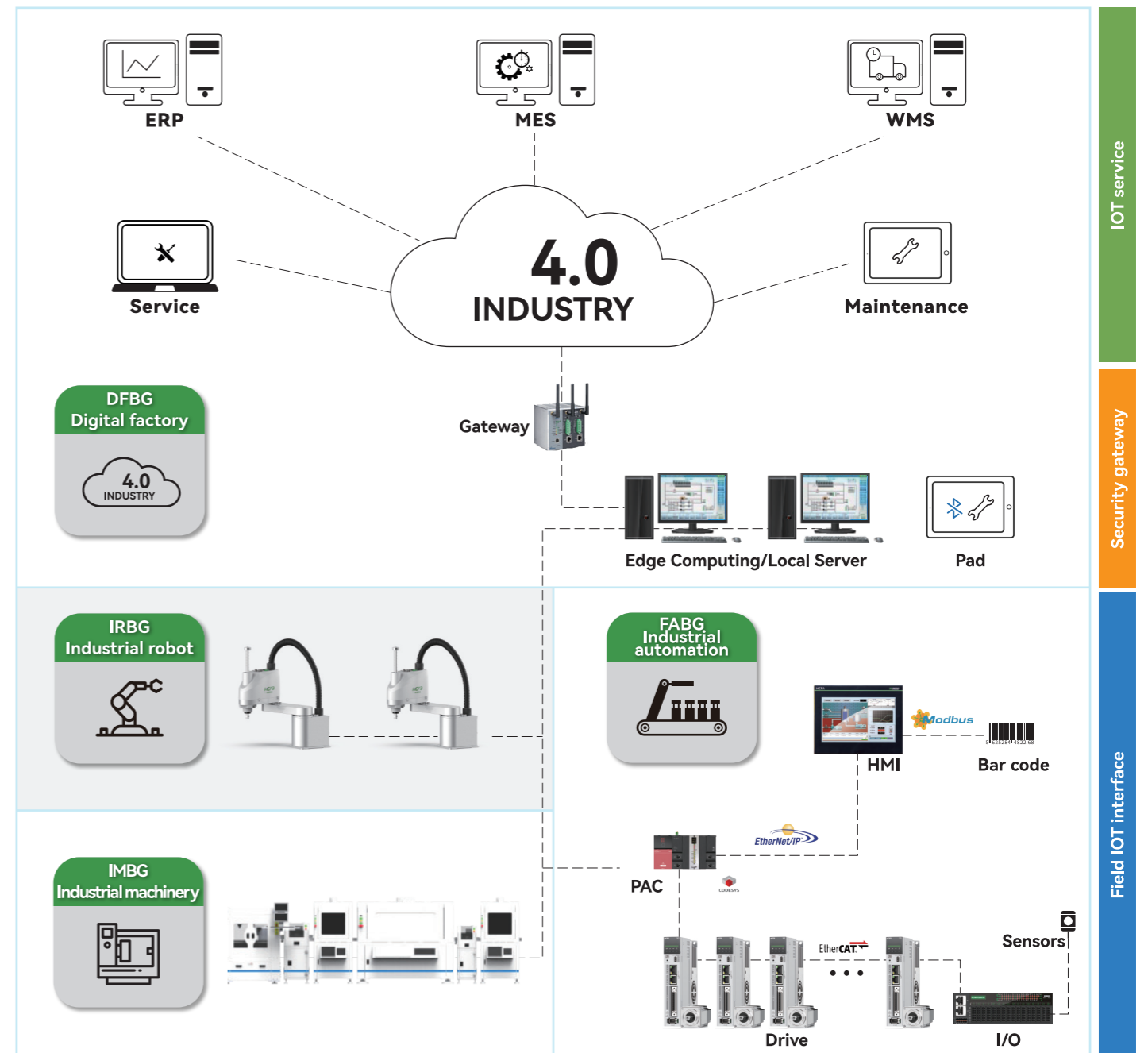
Due to the delay in updating the paper version, please refer to the official website for the latest product information



Founded in 2011, Zhejiang Hechuan Technology Co., Ltd. is an enterprise focusing on the R&D, manufacturing, sales and application integration of industrial automation products, and is committed to providing core components and system integration solutions for smart factories. The main products include PLCs, servo systems, vision systems, encoders, inverters, touch screens, electric drums, etc., covering the entire field of industrial automation



We not only provide the core components of industrial automation, but also engage in the industrial process, industrial robots, industrial machines, and digital factories, and can provide enterprises with comprehensive solutions of **automation + intelligent equipment + digitalization**



R&D Centers
5
Set up nationally

R&D investment
10%+
Proportion of revenue

R&D personnel
300+
Elite gathering

- Established five R&D centers in Longyou, Hangzhou, Shenzhen, Dalian and Suzhou
- Self-designed ASIC and SOC chips, realize localization replacement
- First-class AMR magnetic technology/high-precision encoder in the industry

3 types of EtherCAT Couplers 6-ch EtherCAT Splitter

Suitable for different application scenarios!

HCQX-D4 Series


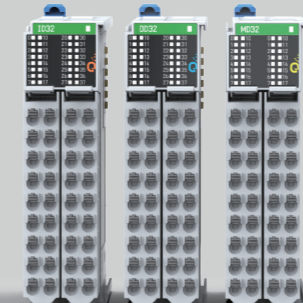


EtherCAT centralized ultra-thin I/O module



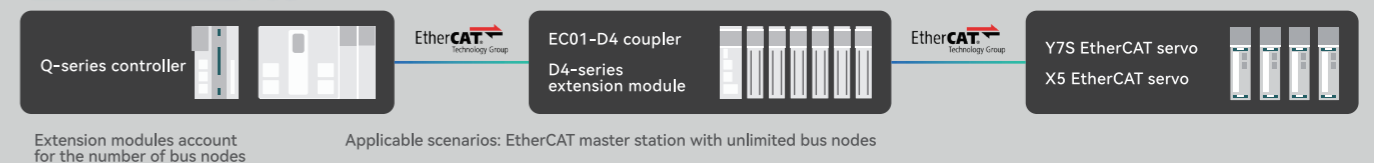
More than 10 kinds of extension I/O modules

13mm ultra-thin module, 50% space saved;

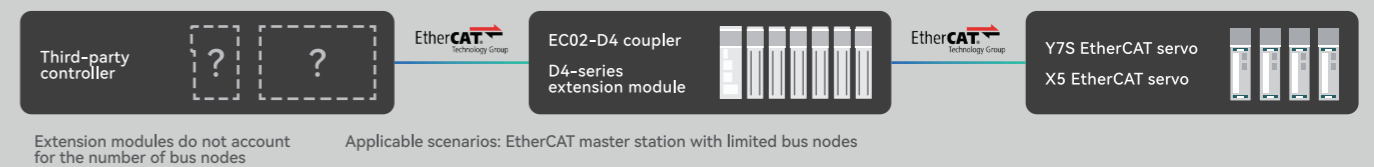
Removable terminals, no wiring when replacing modules ; PUSH IN, direct plug-in wiring.

 <p>16-point digital module</p> <ul style="list-style-type: none"> • HCQX-ID16-D4 • HCQX-OD16-D4 • HCQX-OD16-D4-PNP • HCQX-MD16-D4 • HCQX-MD16-D4-PNP (will be launched) 	 <p>32-point digital module</p> <ul style="list-style-type: none"> • HCQX-ID32-D4 • HCQX-OD32-D4 • HCQX-OD32-D4-PNP (will be launched) • HCQX-MD32-D4 • HCQX-MD32-D4-PNP (will be launched) 	 <p>4-ch analog module</p> <ul style="list-style-type: none"> • HCQX-AD04-D4 • HCQX-DA04-D4 	 <p>Special function module (Temperature measurement, serial communication)</p> <ul style="list-style-type: none"> • HCQX-TS04-D4 • HCQX-RS02-D4 • HCQX-RS02-D4-M
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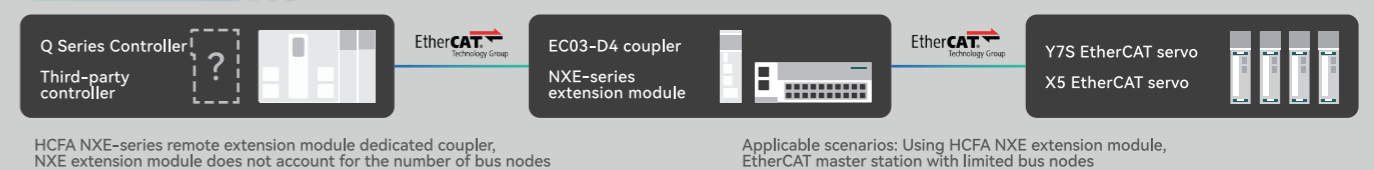
HCQX-EC01-D4



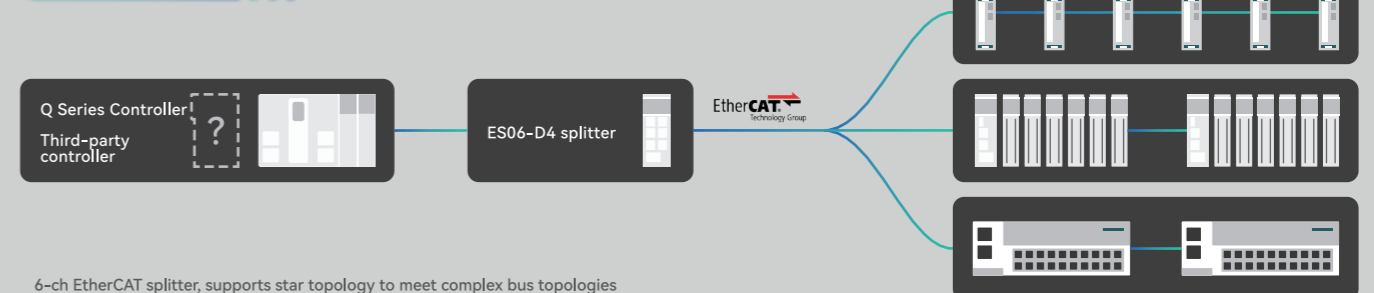
HCQX-EC02-D4



HCQX-EC03-D4



HCQX-ES06-D4



Rich specifications

① 19 kinds of extension modules; ② 3 types of EtherCAT couplers; ③ 6-ch EtherCAT splitter.

Flexible and easy-to-use

① Ultra-thin module: 13mm; ② PUSH IN terminal.

Safe and reliable

① Multiple hardware protection; ② Detailed fault diagnosis.

Naming rule for Q-series coupler

HC QX - EC 01 - D 4 - * * * *

1 2 3 4 5 6 7

1. Product name

HC HC: HCFA

2. Product series

QX QX: Q-Series general extension

3. Function module

EC EC: EtherCAT coupler

4. Function code

01 01: Standard version^{*1}
02: Function code 2^{*2}
03: Function code 3^{*3}

5. Power type

D D: DC power

6. Iterative version

4

7. Non-standard specifications

***** None: Standard version

Naming rule for Q-series extension module

HC QX - AD 04 - D 4 - * * * *

1 2 3 4 5 6 7

1. Product name

HC HC: HCFA

2. Product series

QX QX: Q-Series general extension

3. Function module

AD AD: Analog input MD: Digital I/O
DA: Analog output TS: Temperature measurement
ID: Digital input RS: Serial communication
OD: Digital output ES: Splitter

4. Number of channels

04

5. Power type

D D: DC power

6. Iterative version

4

7. Non-standard specifications

***** None: Standard version
PNP: PNP output
M : Modbus protocol

*1 Standard EtherCAT coupler, extension module accounts for the number of bus nodes;

*2 Standard EtherCAT coupler, extension module does not account for the number of bus nodes;




*3 NXE-series module EtherCAT coupler, extension modules do not account for the number of bus nodes.

General specifications of Q-series extension module

General specifications

Items	Specifications	
Ambient environment	Working temperature	0~55°C
	Storage temperature	-25~70°C
	Relative humidity	10~95%RH,(no condensation)
	Altitude	2,000m MAX.
	Random drop	1m. twice with outer packaging
	Vibration resistance	5~8.4Hz, amplitude 3.5mm, 8.4~150Hz, acceleration 9.8m/s ² (100 minutes each in X, Y, Z directions) 5-150Hz
	Impact resistance	147m/s ² , 3 times each in X, Y and Z directions
EMC requirements	Protection level	IP20
	Pollution level	Pollution degree II
	Insulation method	Please refer to the instructions
EMC requirements	Electrostatic discharge	Contact ±4kV, air ±8kV
	EFT	±2kV
	Surge	DC power: 0.5 CM 0.5kV DM
Withstand voltage	500VDC for 1 minute (leakage current 5mA or less)	
Heat dissipation method	Passive heat dissipation, natural air cooling	
Installation location	Inside control cabinet	
Main material	Standard PPE, UL94, fire protection grade V0	


Coupler module

Models	HCQX-EC01-D4	HCQX-EC02-D4	HCQX-EC03-D4
Appearance			
Transfer protocol	EtherCAT		
Extension module type *1	Applicable to all types of Q-series modules	Applicable to Q-series ID/OD/MD/AD/DA/TS/RS modules	Applicable to all NXE series extension modules
Max. number of extension modules	16**		31
Data transmission medium	Category 5e shielded twisted pair		
Transmission rate	100Mbps		
Max. communication distance between stations	100m		
Communication physical layer	10/100BASE-TX (IEEE 802.3)		
QBUS communication cycle	Mini. scan period 125μs; The scan cycle time is same as master station scan cycle	Mini. scan period 500μs; The scan cycle time is same as the master station scan cycle	-
QBUS fault tolerance	-	The number of frame loss tolerances for QBUS communication: 0~255 times, 12 times by default, this can be set.	-
NXE OUT communication cycle	-	-	Mini. scan cycle 500μs; The scan cycle time is same as master station scan cycle.
NXE OUT fault tolerance	-	-	The number of frame loss tolerances for QBUS communication: 0~255 times, 12 times by default, this can be set.
Addressing mode	Sequential addressing, setting addressing		
COE		✓	
FOE		✓	
Refresh method	Free-run		✓
	SM-Synchron		✓
	DC	Support DC with master station	Supported(The module itself supports DC)
Rated voltage	DC 24V (-15%~+20%)		
Rated current	79mA		50mA
QBUS rated output voltage	DC12V		-
QBUS output power	16W MAX.		-
Power protection features	Undervoltage protection		18V
	Overvoltage protection		33V
	Overcurrent protection		3.5A
	Anti-reverse connection function		✓
	Abnormal voltage alarm	-	Supports overvoltage and undervoltage detection (error: ±0.5V)
Weight(g)	About 90	About 95	About 90



*1Please refer to the selection guide.

**Users should ensure that the power of all modules on QBUS is not greater than 16W when selecting modules.





Splitter module

Items	HCQX-ES06-D4	
Appearance		
Transfer protocol	EtherCAT	
Number of channels	1-ch EtherCAT signal input, 5-ch EtherCAT signal output	
Splitter cascade	Support up to 2 ES06 splitter cascade	
Port data priority	PORT2>PORT3>PORT4>PORT5>PORT6	
Transmission mode	Full duplex	
Topology	Star topology	
Data transmission medium	Category 5e shielded twisted pair	
Transmission rate	100Mbps	
Max. communication distance between stations	100m	
Communication physical layer	10/100BASE-TX (IEEE 802.3)	
Mini. scan cycle of the master station	500μs	
Addressing mode	Sequential addressing, setting addressing	
Refresh method	DC	
Rated voltage	DC 24V (-15%~+20%)	
Rated current	106mA	
Power consumption	2.4W	
Power protection features	Undervoltage protection	18V
	Overvoltage protection	33V
	Overcurrent protection	3.5A
	Anti-reverse connection function	✓
Weight (g)	About 130	

Digital input module





Models	HCQX-ID16-D4	HCQX-ID32-D4
Appearance		
Input points	16	32
Operating temperature based on different input points and channels	Full load working	45°C
	Inputs conduction 75%	50°C
	Inputs conduction 50%	55°C
Input format	NPN/PNP	
Rated input voltage	DC 24V (-15%~+20%)	
Rated input current	4.1mA/DC24V (Typ.)	
Input impedance	6.35kΩ	
Input OFF voltage	<DC5V	
Input OFF current	<0.65mA	
Input ON voltage	>DC15V	
Input ON current	>2.4mA	
ON/OFF response time	125μs	
Hardware filtering time	1ms	
QBUS power consumption	1.0W	
Weight (g)	About 70	About 120

Digital output module

Models	HCQX-OD16-D4	HCQX-OD16-D4-PNP	HCQX-OD32-D4	HCQX-OD32-D4-PNP*
Appearance				
Output points	16		32	
Output form	NPN	PNP	NPN	PNP
Rated load voltage	DC 24V (-15%~+20%)		DC 24V (-15%~+20%)	
Rated load current	0.5A/ch 4A/module		0.5A/ch 8A/module	
Inductive load	12W/ch 96W/module		12W/ch 216W/module	
Lamp load	1.5W/ch 12W/ module		1.5W/ch 24W/ module	
Leakage current at OFF	0.1mA or less		0.1mA or less	
Residual voltage at ON	0.3V or less		0.3V or less	
ON/OFF response time	125μs		125μs	
Overcurrent protection	✓		✓	
Overvoltage protection	✓		✓	
QBUS power consumption	1.2W		1.2W	
Weight (g)	About 70		About 120	


*This model will be launched later.

Digital I/O module



Models	HCQX-MD16-D4	HCQX-MD16-D4-PNP*	HCQX-MD32-D4	HCQX-MD32-D4-PNP*	
Appearance					
Input specifications	Input points	8		16	
	Operating temperature based on different input points and channels	Full load working	45°C		-
		Inputs conduction 75%	50°C		-
		Inputs conduction 50%	55°C		-
	Input format	NPN/PNP		NPN/PNP	
	Rated input voltage	DC 24V (-15%~+20%)		DC 24V (-15%~+20%)	
	Rated input current	4.1mA/DC24V (Typ.)		4.1mA/DC24V (Typ.)	
	Input impedance	6.35kΩ		6.35kΩ	
	Input OFF voltage	<DC5V		<DC5V	
	Input OFF current	<0.65mA		<0.65mA	
	Input ON voltage	>DC15V		>DC15V	
	Input ON current	>2.4mA		>2.4mA	
	ON/OFF response time	125μs		125μs	
	Hardware filtering time	1ms		1ms	
Output specifications	Output points	8		16	
	Output form	NPN	PNP	NPN	PNP
	Rated load voltage	DC 24V (-15%~+20%)		DC 24V (-15%~+20%)	
	Rated load current	0.5A/ch 4A/module		0.5A/ch 4A/module	
	Inductive load	12W/ch 96W/ module		12W/ch 96W/ module	
	Lamp load	1.5W/ch 12W/ module		1.5W/ch 12W/ module	
	Leakage current at OFF	0.1mA or less		0.1mA or less	
	Residual voltage at ON	0.3V or less		0.3V or less	
	ON/OFF response time	125μs		125μs	
	Overcurrent protection	✓		✓	
Overvoltage protection	✓		✓		
QBUS power consumption	1.0W		1.0W		
Weight (g)	About 70		About 120		

*This model will be launched later.

Analog module

Models		HCQX-AD04-D4	Models	HCQX-DA04-D4	
Appearance			Appearance		
Number of input channels		4-ch	Number of output channels		
Voltage input	Voltage input range	-10~+10V, 0~10V, -5V~+5V, 0~5V, 1~5V	Voltage output	Voltage output range	-10~+10V, 0~10V, -5V~+5V, 0~5V, 1~5V
	Voltage input impedance	1MΩ or more		Voltage load	>5kΩ
	Voltage input type	Differential input		Voltage output type	Single-ended output
Current input	Current input range	0~20mA, 4~20mA	Current output	Current output range	0~20mA, 4~20mA
	Current input impedance	240Ω		Current load	<350Ω
	Current input type	Differential input		Current output type	Single-ended output
Software filtering		Supports average filtering, 0~4096	-		
Max. common-mode voltage		35V	-		
Conversion time		1ms/4 ch	Conversion time		1ms/4 ch
Resolution		16bit	Resolution		16bit
Accuracy		<=±0.3%FSR	Accuracy		<=±0.3%FSR
Over-limit detection		✓	Preset input/output values		✓
Range detection		✓	-		-
Rapid change detection		✓	-		-
User calibration		✓	User calibration		✓
Power protection characteristic	Under-voltage protection	18V	Power protection characteristic	Under-voltage protection	18V
	Overvoltage protection	30V		Overvoltage protection	30V
	Reverse phase protection	✓(max. voltage 60V for reverse connection)		Reverse phase protection	✓(max. voltage 60V for reverse connection)
	Input overvoltage protection	-50~+50V		Voltage output short-circuit protection	Not supported
	Input overcurrent protection	-50~+50mA		Voltage output open-circuit detection	Not supported
Addressing mode		Sequential addressing, setting addressing	Addressing mode		Sequential addressing, setting addressing
COE		✓	COE		✓
FOE		✓	FOE		✓
Refresh mode		SM- Synchron supported	Refresh mode		SM- Synchron supported
QBUS power consumption		1.0W	QBUS power consumption		1.0W
Weight (g)		About 70	Weight (g)		About 70


Serial communication module

Models		HCQX-RS02-D4	HCQX-RS02-D4-M
Appearance			
Hardware specifications	Number of channels	2-ch	
	Supported serial ports	RS232, RS485, RS422	
	Supported Protocol	Free protocol master	Modbus RTU master
	Number of slave	32 (16 for each channel)	16 (8 for each channel)
Wiring mode		2-wire, 3-wire, 4-wire	
Software specifications	MODBUS function code	-	01, 02, 03, 04, 05, 06, 15, 16
	Parity bit	odd parity, even parity, no parity	
	Start bit	Only bit1	
	Stop bit	bit1, bit2	
	Data length	7, 8bytes	8bytes
	Termination resistor configuration	Software control whether the terminal resistor is configured (only RS485/RS422)	
	Data overflow detection	Detect whether the data received from the slave station overflows, indicating that data has been lost	-
	Check error detection	Detect whether there are check errors during data transmission	-
	Frame format error detection	Detect whether there are frame format errors during data transmission	-
	Data communication control	Control data communication between the master station and slave stations through control words and status words	
Bus specification	PDO maximum number of bytes	Output 32 bytes and input 32 bytes for each channel	Input 64 bytes and output 64 bytes for each channel
	Receive buffer	1024 bytes for sending and receiving	-
	Addressing mode	Sequential addressing, setting addressing	
	COE	✓	
	FOE	✓	
Refresh mode		SM- Synchron supported	
QBUS power consumption		1.2W	
Weight (g)		About 70	

RS232/RS485/RS422 serial port specifications

Items	Specifications		
	RS232	RS485	RS422
Wiring method	3-wire	2-wire	4-wire
Communication method	Full duplex	Half duplex	Full duplex
Termination resistor	-	120Ω (By software configuration or external wiring)	
Baud rate (bps)	1200, 2400, 4800, 9600(default), 19.2k, 38.4K, 57.6k, 115.2k, 230.4k		
Communication distance	10m(related to communication rate)	500m(using terminal resistor, and related to communication rate)	

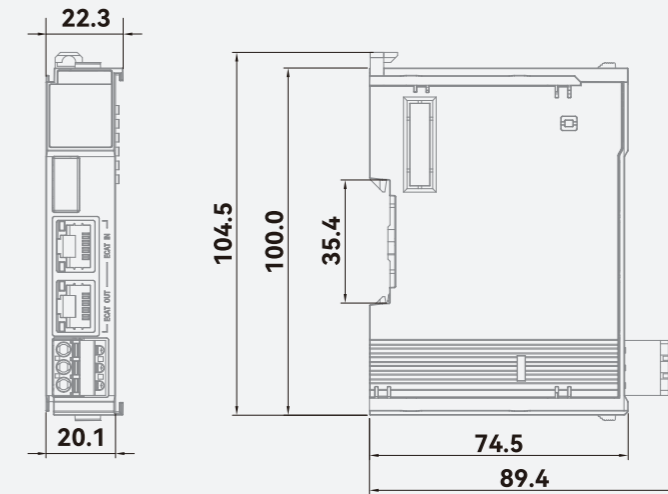
Temperature measurement module

HCQX-TS04-D4																															
Appearance																															
Hardware specifications	Number of channels	4-ch	Software specifications																												
	Wiring mode	2-wire, 3-wire																													
	Thermal resistance sensors	PT100, PT1000, Ni100, Ni1000																													
	Thermocouple sensors	K, J, E, T, N, B, R, S																													
	Display sensitivity	0.1°C, 0.1°F																													
	Digital resolution	24bit																													
	Accuracy	TC: Full temperature 0~55°C: Full range* ($\pm 0.1\%$) $\pm 4^\circ\text{C}$ (Max. cold-junction error 4°C) PT: Full temperature 0~55°C: $\pm 0.5^\circ\text{C}$																													
	Sampling time (Disconnection disabled)	TC: 100ms*Number of starting channels*Number of filtering times for this channel PT: 200ms*Number of starting channels*Number of filtering times for this channel																													
	Sampling time (Disconnection disabled)	TC: 140ms*Number of starting channels*Number of filtering times for this channel PT: 240ms*Number of starting channels*Number of filtering times for this channel																													
	Preheat time	No preheating required																													
Cold-junction resistor	10kΩ (The external cold-end resistor is built-in by default)																														
Addressing mode		Sequential addressing, setting addressing																													
COE		✓																													
FOE		✓																													
Refresh mode		SM- Synchron supported																													
QBUS power consumption		1.2W																													
Weight (g)		About 70																													
		<table border="1"> <tr> <td colspan="2">Sensor type setting</td> <td>Can be set by software</td> </tr> <tr> <td colspan="2">Over-limit detection</td> <td>Supported</td> </tr> <tr> <td colspan="2">Disconnection detection</td> <td>Supported, user chooses to turn it on, and it's turned off by default. (After turning on, the sampling time of each channel increases by about 40ms)</td> </tr> <tr> <td colspan="2">External cold junction compensation</td> <td>Supported, enabled by default</td> </tr> <tr> <td colspan="2">Software filtering</td> <td>Supports average filtering, 0~4096</td> </tr> <tr> <td colspan="2">Temperature unit</td> <td>°C or °F</td> </tr> <tr> <td colspan="2">User calibration</td> <td>✓</td> </tr> <tr> <td rowspan="3">Troubleshooting</td> <td>Power not connected</td> <td>Global error: Automatic recovery</td> </tr> <tr> <td>Input over-limit</td> <td>Channel error: Automatic recovery</td> </tr> <tr> <td>Disconnection detection</td> <td>Channel error: Automatic recovery</td> </tr> </table>		Sensor type setting		Can be set by software	Over-limit detection		Supported	Disconnection detection		Supported, user chooses to turn it on, and it's turned off by default. (After turning on, the sampling time of each channel increases by about 40ms)	External cold junction compensation		Supported, enabled by default	Software filtering		Supports average filtering, 0~4096	Temperature unit		°C or °F	User calibration		✓	Troubleshooting	Power not connected	Global error: Automatic recovery	Input over-limit	Channel error: Automatic recovery	Disconnection detection	Channel error: Automatic recovery
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Over-limit detection		Supported																													
Disconnection detection		Supported, user chooses to turn it on, and it's turned off by default. (After turning on, the sampling time of each channel increases by about 40ms)																													
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Q-SERIES UNIT DIMENSION DRAWING

Coupler module

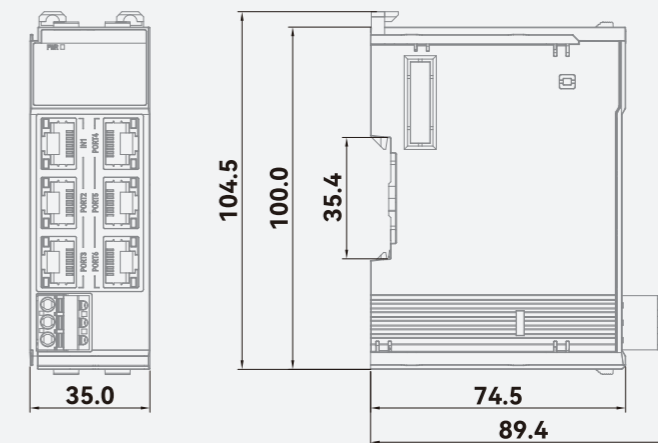
Unit: mm



Models		
HCQX-EC01-D4	HCQX-EC02-D4	HCQX-EC03-D4

Splitter module

Unit: mm



Models
HCQX-ES06-D4

7 I/O combination modules Meet various application scenarios !



HCNXE Series

EtherCAT distributed I/O module

Rich specifications

① 7 I/O combinations available; ② Supports 16 points and 32 points; ③ Supports I/O.

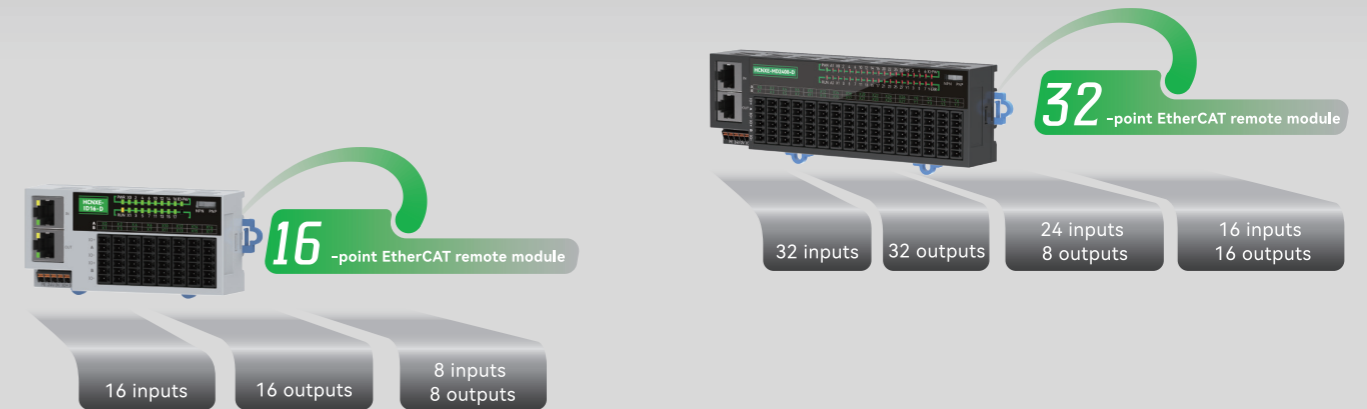
Convenient and easy-to-use

① Standard DIN35 rail; ② Supports NPN/PNP input switching;
③ Supports 2-wire/3-wire sensors; ④ Provide external 24VDC sensor power supply.

Safe and reliable

① Multiple hardware protection.

► Rich Specifications



Easy-to-use ◀

- Significantly reduces wiring time
- Standard DIN35 rail mounting
- M4 screw for installation

- Quickly respond to various sensor signals
- NPN/PNP input can be switchable

- Installation time and costs are greatly reduced
- Compatible with 2/3 wire sensors
- Provide 24VDC power supply for sensors

► High protection

- The fuse will not break if the current exceeds 5A, and max. 20A (the fuse can be replaceable)
- I/O board external sensor protection 1.1A (recoverable fuse)

- EtherCAT bus to avoid electromagnetic interference caused by too long I/O signal cables
- Multiple I/O signals are connected through EtherCAT

Naming rule for NXE series extension module

H C N X E - I D 3 2 - D

① ② ③ ④ ⑤

Product name

HC HC: HCFA

Distributed module

NXE NXE: EtherCAT protocol module

Function modules

ID ID: Digital input
OD: Digital output
MD: Digital I/O

Number of channels

32 16: 16-ch
32: 32-ch
Note: For I/O module, use a 4-digit number to indicate input and output. For example: 2408, representing 24 inputs and 8 outputs.

Power type

D D: DC power

General specifications of NXE series extension modules



General specifications

Items	Specifications			
Working environment	Working temperature	-5~55°C		
	Storage temperature	-40~70°C		
	Relative humidity	10%~95% (no condensation, temperature 55°C)		
	Altitude	2,000m Max.		
	Random drop	1m. twice with outer packaging		
	Vibration resistance	Frequency	5-150Hz	
		Displacement	3.5mm, constant amplitude	
		Acceleration	1.0g, constant amplitude	
		Direction	X/Y/Z-axis	
	Shock resistance	Random amplitude 15g, 11ms half sine wave, 3 mutually perpendicular axes		
Protection grade	IP40 (with protective cover)			
Pollution level	Pollution degree II			
Insulation method	Between channels	Not isolated		
	Between power supply and interface	Transformer isolation		
	Between interface and bus	Digital isolation		
EMC requirements	Electrostatic discharge	Contact ±4kV, air ±8kV		
	EFT ±2kV	±2kV		
	Surge	DC power: 0.5 CM 0.5kV DM		
Insulation resistance	>1MΩ			
Withstand voltage	500VDC for 1 minute (leakage current 5mA or less)			
Heat dissipation	Passive heat dissipation, natural air cooling			
Installation location	Inside the control cabinet			
Main material	Standard PPE, UL94, fire protection grade V0			



Power Specifications

Items	Specifications
Rated power supply for module	DC 24V
Input voltage range for module	DC 24V (-15%~+20%)
Max. current for module	50mA/DC24V
Rated power supply for I/O terminal	DC 24V
Input voltage range for I/O terminal	DC 24V (-15%~+20%)
Max. current for I/O terminal	5A (The fuse will not blow at overcurrent)
IO power supply protection	20A(Blow at overcurrent, need to remove the shell and replace)
I/O board external sensor protection	1.1A (recoverable fuse, 8-ch share 1 fuse)




Digital input module

Models	HCNXE-ID16-D	HCNXE-ID32-D
Appearance		
Input points	16 points	32 points
Input form	NPN /PNP (can be switched)	
Rated input voltage	DC 24V (-15%~+20%)	DC 24V (-15%~+20%)
Rated input current	4.1mA/DC24V (Typ.)	6mA/DC24V (Typ.)
Input impedance	5.6kΩ	3kΩ
Input ON voltage	>DC15V	
Input ON current	>5mA	
Max. OFF current	2.5mA	
ON/OFF response time	125μs	
Wiring mode	2-wire, 3-wire	
QBUS power consumption	1.0W	
Weight (g)	About 100	About 210

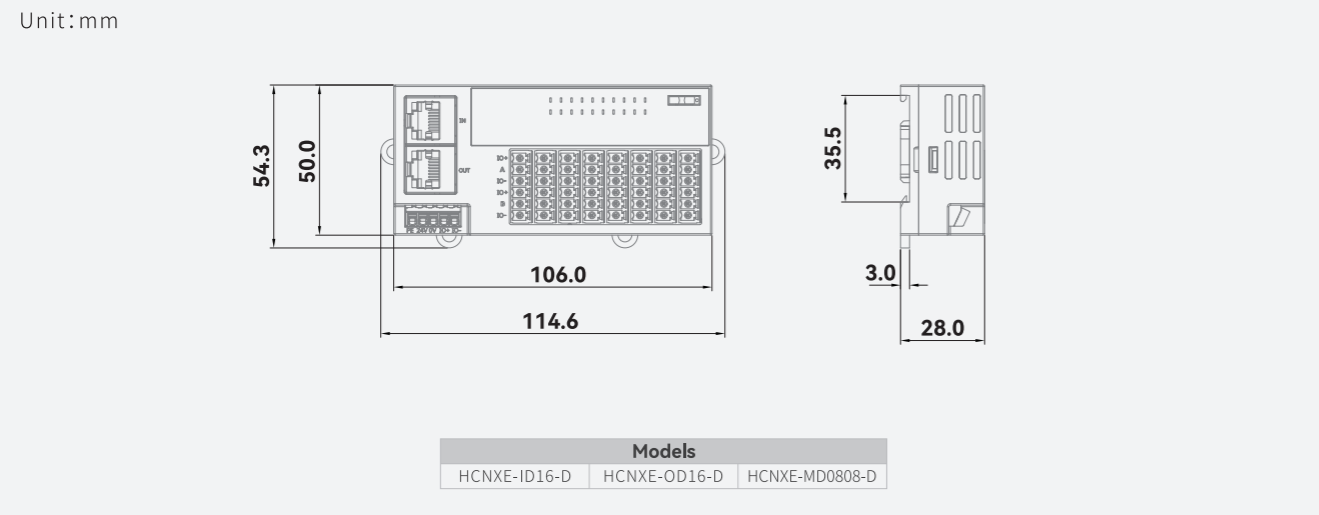
Digital output module

Models	HCNXE-OD16-D	HCNXE-OD32-D
Appearance		
Output points	16 points	32 points
Output form	NPN	
Rated load voltage	DC 24V (-15%~+20%)	
Rated load current	0.5A/ch, 4A/module	0.5A/ch, 2A/module
Leakage current at OFF	0.1mA or less	
ON Residual voltage	0.3V or less	
ON/OFF response time	125μs	
Hardware filtering	1ms	-
Wiring method	2-wire	
Protection items	overcurrent/overvoltage/ overheat protection	
QBUS power consumption	1.0W	
Weight (g)	About 100	About 210

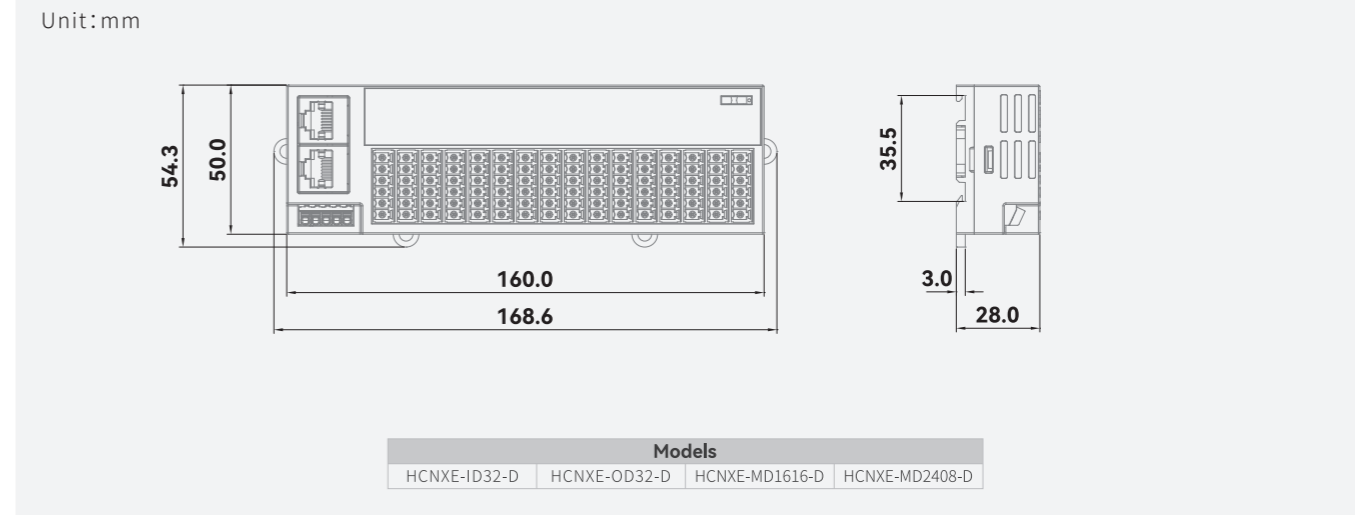
Digital I/O module

Models	HCNXE-MD0808-D	HCNXE-MD1616-D	HCNXE-MD2408-D	
Appearance				
Input specifications	Input points	8 points	16 points	24 points
	Input form	NPN /PNP (can be switched)		
	Rated input voltage	DC 24V (-15%~+20%)		
	Rated input current	4.1mA/DC24V (Typ.)	6mA/DC24V (Typ.)	6mA/DC24V (Typ.)
	Input impedance	5.6kΩ	3kΩ	3kΩ
	Input ON voltage	>DC15V		
	Input ON current	>5mA		
	Max. OFF current	2.5mA		
	ON/OFF response time	125μs		
	Wiring mode	2-wire, 3-wire		
Output specifications	Output points	8 points	16 points	8 points
	Output form	NPN		
	Rated load voltage	DC 24V (-15%~+20%)		
	Rated load current	0.5A/ch, 2A/module	0.5A/ch, 4A/ module	0.5A/ch, 2A/ module
	Leakage current at OFF	0.1mA or less		
	Residual voltage	0.3V or less		
	ON/OFF response time	125μs		
	Hardware filtering	1ms	-	-
	Wiring method	2-wire		
	Protection items	overcurrent/overvoltage/ overheat protection		
QBUS power consumption	1.0W			
Weight (g)	About 100	About 210		

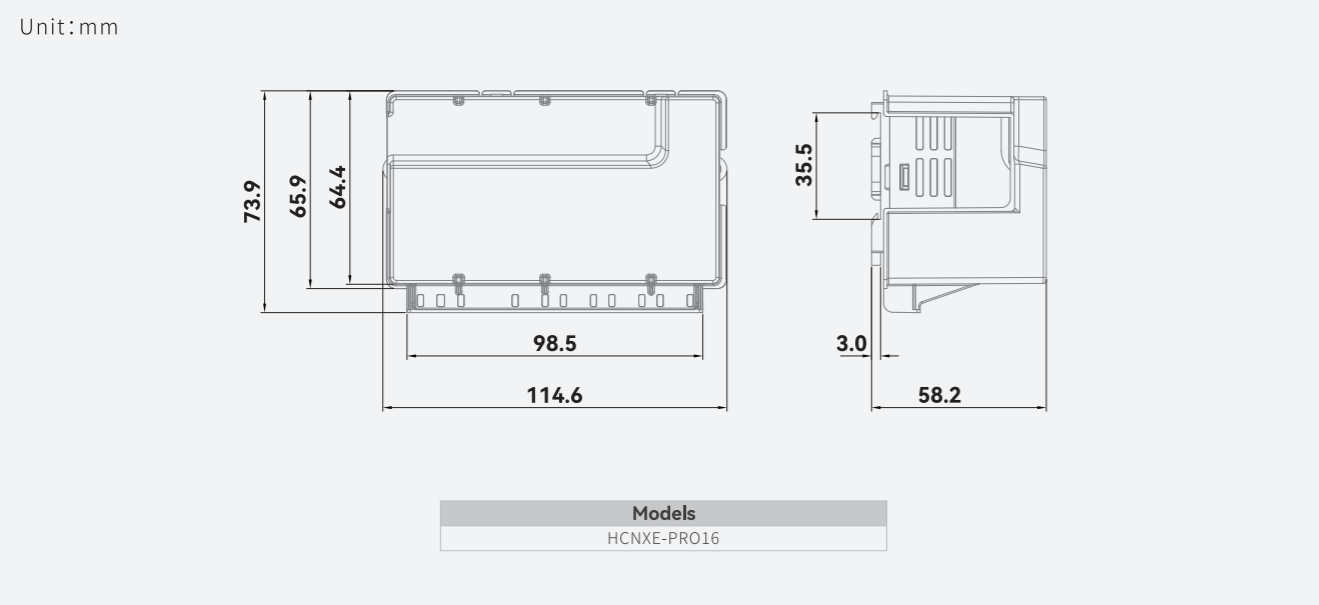
NXE-series 16 points



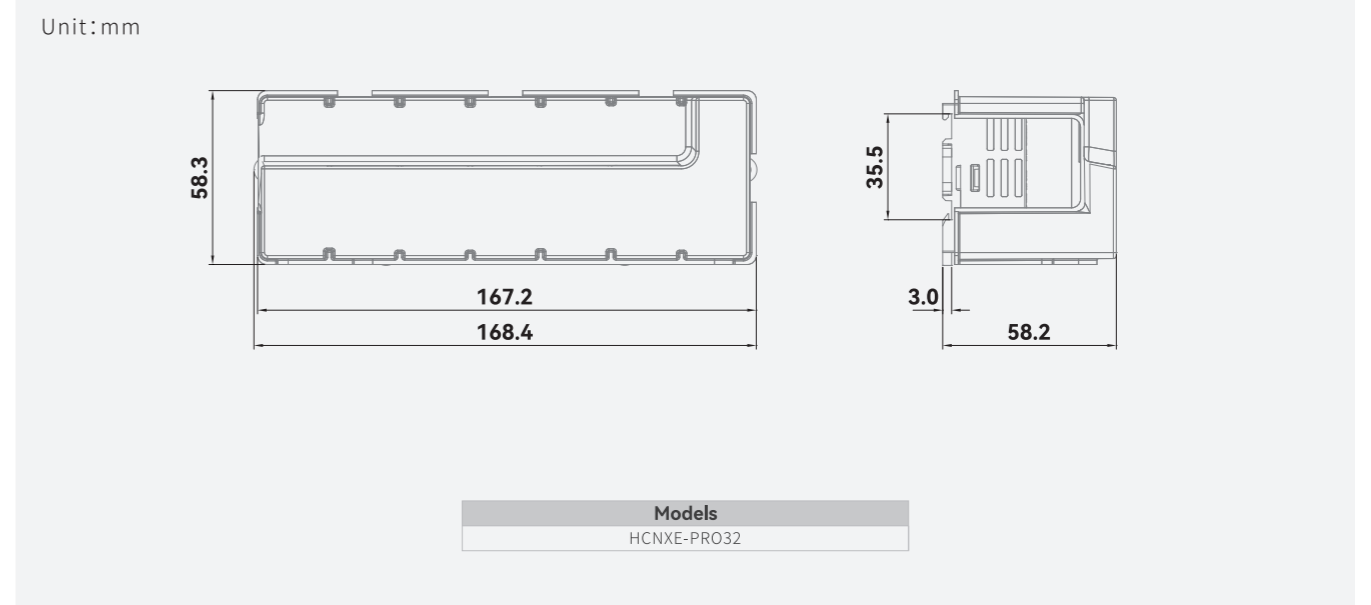
NXE-series 32 points



NXE-series 16 points Protective cover



NXE-series 32 points Protective cover



Selection Guide for Modules

Q-Series EtherCAT Coupler

Model name	Output power	Max. number of extension modules	Specification	Page
HCQX-EC01-D4	16W	16*	Standard EtherCAT coupler, extension module accounts for the number of bus nodes	05
HCQX-EC02-D4	16W	16*	Standard EtherCAT coupler, extension module does not account for the number of bus	05
HCQX-EC03-D4	-	31	EtherCAT coupler for NXE series modules, and extension module does not account for the number of bus nodes	05

*Make sure that the power of all modules on QBUS is not greater than 16W when selecting modules.

Q series splitter module

Model name	Specification	Page
HCQX-ES06-D4	EtherCAT 6-ch splitter (1 input and 5 outputs); support star topology; support splitter cascade	06

Q-series I/O module

Model name		Specification					Page
		Power	Input	Output			
Digital input module	HCQX-ID16-D4	1.0W	16 points	NPN/PNP	-	-	07
	HCQX-ID32-D4		32 points				07
Digital output module	HCQX-OD16-D4	1.2W	-	-	16 points	NPN	07
	HCQX-OD16-D4-PNP					PNP	07
	HCQX-OD32-D4				32 points	NPN	07
	HCQX-OD32-D4-PNP*					PNP	07
Digital I/O module	HCQX-MD16-D4	1.0W	8 points	NPN/PNP	8 points	NPN	08
	HCQX-MD16-D4-PNP*					PNP	08
	HCQX-MD32-D4				16 points	NPN	08
	HCQX-MD32-D4-PNP*					PNP	08

Q-series special function module

Model name	Power	Specification	Page	
Analog input module	HCQX-AD04-D4	1.0W	4-ch analog input; support -10~+10V, 0~10V, -5V~+5V, 0~5V, 1~5V differential input; support 0~20mA, 4~20mA differential input	09
Analog output module	HCQX-DA04-D4	1.0W	4-ch analog output; support -10~+10V, 0~10V, -5V~+5V, 0~5V, 1~5V single-ended output; support 0~20mA, 4~20mA single-ended output	09
Serial communication module	HCQX-RS02-D4	1.2W	2-ch serial communication (free protocol); supports RS232, RS485, RS422 interfaces; supports 32 slave stations; software configured terminal resistor	10
	HCQX-RS02-D4-M	1.2W	2-ch serial communication (Modbus protocol); support RS232, RS485, RS422 interfaces; support 16 slave stations; software configured terminal resistor	10
Temperature measurement module	HCQX-TS04-D4	1.2W	4-ch temperature measurement; support thermal resistors and thermocouples; support 2-wire and 3-wire sensors; 24bit resolution	11

NXE series I/O module

Model name		Specification					Page
		Power	Input	Output			
Digital input module	HCNXX-ID16-D	1.0W	16 points	NPN/PNP	-	-	19
	HCNXX-ID32-D	1.2W	32 points				19
Digital output module	HCNXX-OD16-D	1.0W	-	-	16 points	NPN	19
	HCNXX-OD32-D	1.2W					32 points
Digital I/O module	HCNXX-MD0808-D	1.0W	8 points	NPN/PNP	8 points	NPN	20
	HCNXX-MD1616-D	1.2W	16 points				20
	HCNXX-MD2408-D	1.2W	24 points				8 points

*This model will be launched later.

NXE-series protective cover

Model name	Specification	Page
HCNXX-PRO16	Protective cover for 16-point extension module	-
HCNXX-PRO32	Protective cover for 32-point extension module	-

Accessories

Type	Model name	Specifications	Page
Extension module 18-pin terminal	HCQXT-18P-N	Removable terminal block, suitable for QP controller I/O and extension module.	-
Terminal module	HCQX-END04	Attached to the end of the module.	-
24VDC power terminal	HCQX-3P-N	24VDC power terminal for HCQX-EC01/02/03-D4 coupler and HCQX-ES06-D4 splitter	-

Matching table for EC coupler and module

Module	EC	EC01	EC02	EC03
HCQX-ID16-D4		✓	✓	-
HCQX-ID32-D4		✓	✓	-
HCQX-OD16-D4		✓	✓	-
HCQX-OD16-D4-PNP		✓	✓	-
HCQX-OD32-D4		✓	✓	-
HCQX-OD32-D4-PNP*		✓	✓	-
HCQX-MD16-D4		✓	✓	-
HCQX-MD16-D4-PNP*		✓	✓	-
HCQX-MD32-D4		✓	✓	-
HCQX-MD32-D4-PNP*		✓	✓	-
HCQX-AD04-D4		✓	✓	-
HCQX-DA04-D4		✓	✓	-
HCQX-RS02-D4		✓	✓	-
HCQX-RS02-D4-M		✓	✓	-
HCQX-TS04-D4		✓	✓	-
HCNXX-ID16-D		-	-	✓
HCNXX-ID32-D		-	-	✓
HCNXX-OD16-D		-	-	✓
HCNXX-OD32-D		-	-	✓
HCNXX-MD0808-D		-	-	✓
HCNXX-MD1616-D		-	-	✓
HCNXX-MD2408-D		-	-	✓

*This model will be launched later.