

Communication And Connection

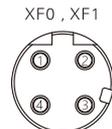


- ◎ Rich communication interfaces,plug-and-play capability, rapid configuration.
- ◎ Data visualization, proactive maintenance.

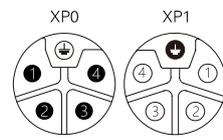


NEW!

Basic parameters	Shell material	Aluminum alloy	
	Shell color	Metallic silver	
	Protect degree	IP67 , Epoxy encapsulation	
	External dimensions	205mm × 60mm × 34.4mm	
	Weight	515g	
	Operating temperature	-25°C~70°C	
	Storage/transport temperature	-40°C~85°C	
	Operating humidity	5%~95%	
	Storage/transport humidity	5%~95%	
	Operating atmospheric pressure	80KPa~106KPa	
	Storage/transport atmospheric pressure	80KPa~106KPa	
	I/O port fastening torque	M12:0.5Nm	
	Application environment	Compliant with EN-61131	
	Vibration testing	Compliant with IEC60068-2	
	Shock testing	Compliant with IEC60068-27	
	Free fall testing	Compliant with IEC60068-32	
	Electromagnetic compatibility (EMC)	Compliant with IEC61000-4-2,-3,-4	
	Certification	CE,RoHS	
	Installation hole specifications	Φ4.5mm × 1 ; Φ5.5mm × 1	
Pinout definition for data port	M12 D-code Female end	Connection method	2 × M12 D-code; 4-pin socket
		Physical layer	Ethernet
		Transmission speed	10/100 Mbps, Full duplex
		Characteristics	Compliant with protocol specifications
		Alarm function	Diagnosis alarm, process alarm
		Minimum cycle time	1ms
		Communication port fastening torque	M12:0.5Nm
Pinout definition for auxiliary power supply port	Auxiliary power supply port	Power supply connection method	M12, 5-pin, L-code, male/female
		System power supply voltage us	18~30 VDC(type.24VDC)
	Auxiliary power supply voltage ua	18~30 VDC(type.24VDC)	
	M12 L-code Female end & Male end	Total current Is	12A
		Total current Ia	12A
	Pinout definition	Static operating current Ic	≤150mA
		Reverse power protection	Have
		Power port fastening torque	M12:0.5Nm



- 1. TX+
- 2. RX+
- 3. TX-
- 4. RX-



- 1. +24V_Us
- 2. GND_Ua
- 3. GND_Us
- 4. +24V_Ua
- 5. FE

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
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- Contact
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- Pressure Switch
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- Accessories
- IO Bus
- Module main station
- Module Slave
- Controller & Communicator
- Controller
- Communicator

Module main station

CIO 200 Series

IO-Link Master station parameters	The number of ports on the master station	Maximum configurable 8 ports				
	Master station connection method	M12, 5-pin, A-code, female				
	IO-link Version	V1.1.2				
	Communication rate	COM1:4.8KBps;COM2:38.4KBps;COM3:230.4KBps				
	Port voltage L+	type.24VDC (via US)				
	Port current L+	2A(via US)				
	Class A	8 ports, X1~X8				
	Master-slave communication distance	≤20m				
	Master-master communication distance	≤100m				
Digital input Output parameters	Number of inputs	8-channel, adaptive				
	Input port location	X1~X8				
	Input polarity	PNP				
	Signal "0" voltage	-0.3~5VDC				
	Signal "1" voltage	12~30VDC				
	Input current	type.5mA(via US)				
	Number of outputs	8-channel, adaptive				
	Output port location	X1~X8				
	Input polarity	PNP				
	Output current	Single channel 2A (via UA)				
	Port protection	Power supply short-circuit protection, overload protection for power supply port				
	Module indicator lights	PWR	Module power normal			
Red: Module power reverse connection						
I/O		Green: Channel signal normal				
		Red: Port power short-circuit				
LINK		Green: Connection normal				
		Yellow flashing: Connection normal, data communication normal				
RUN		SF	Green: OP status		MS	Green: Module status is normal
			Green slow flashing: SAFEOP status			Green flash: module is not configured
			Green fast flashing: Pre-OP status			Red: module failure
		BF	Off: Init status		NS	Red: internal error
			Red flashing: Communication error			Flashing red: Device name/IP address/module group status error
			Off: module status is normal			Green: The network status is normal
ERR		Red flashing: Communication error		NS	Green flash: communication not established	
		Off: module status is normal			Flashing red: communication interrupted	
IO-LINK	Green: Port operation (running) status					
	Flashing green quickly: port connection process or wrong device					
	Flashing green slowly: The port is in pre-operation state					
	Green off: port is closed					
Protocol	EtherCat Protocol	ProfiNet Protocol	EtherNet/IP Protocol			
Model	CIO200-ECIO-8A	CIO200-PNIO-8A	CIO200-EIIO-8A			

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I/O Port pin definition

	Pin definition	Address distribution																		
Port	<p>M12(X1~X8)</p>  <p>Class A</p> <ol style="list-style-type: none"> 1. V+ 2. In/Output 3. 0 V 4. C/Q 5. N/C 	<table border="1"> <tr><td>Byte</td><td>0</td></tr> <tr><td>Bit0</td><td>X1P2</td></tr> <tr><td>Bit1</td><td>X2P2</td></tr> <tr><td>Bit2</td><td>X3P2</td></tr> <tr><td>Bit3</td><td>X4P2</td></tr> <tr><td>Bit4</td><td>X5P2</td></tr> <tr><td>Bit5</td><td>X6P2</td></tr> <tr><td>Bit6</td><td>X7P2</td></tr> <tr><td>Bit7</td><td>X8P2</td></tr> </table>	Byte	0	Bit0	X1P2	Bit1	X2P2	Bit2	X3P2	Bit3	X4P2	Bit4	X5P2	Bit5	X6P2	Bit6	X7P2	Bit7	X8P2
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Bit7	X8P2																			
M12 A-code female end																				

CIO 200 Series

IO-Link Master station parameters	The number of ports on the master station	Maximum configurable 8 ports					
	Master station connection method	M12, 5-pin, A-code, female					
	IO-link Version	V1.1.2					
	Communication rate	COM1:4.8KBps;COM2:38.4KBps;COM3:230.4KBps					
	Port voltage L+	type.24VDC (via US)					
	Port current L+	2A(via US)					
	Class B auxiliary voltage	type.24VDC(via UA)					
	Class B auxiliary current	2A(via UA)					
	Class A	4 ports, X1~X4					
	Class B	4 ports, X5~X8					
	Master-slave communication distance	≤20m					
	Master-master communication distance	≤100m					
	Digital Input Output parameters	Number of inputs	4-channel, adaptive				
Input port location		X1~X4					
Input polarity		PNP					
Signal "0" voltage		-0.3~5VDC					
Signal "1" voltage		12~30VDC					
Input current		type.5mA(via US)					
Number of outputs		4-channel, adaptive					
Output port location		X1~X4					
Input polarity		PNP					
Output current		Single channel 2A (via UA)					
Port protection		Power supply short-circuit protection, overload protection for power supply port					
Module Indicator lights	PWR	Module power normal					
		Red: Module power reverse connection					
	I/O	Green: Channel signal normal					
		Red: Port power short-circuit					
	LINK	Green: Connection normal					
		Yellow flashing: Connection normal, data communication normal					
		Off: No connection established					
	RUN	SF	Green: OP status	Red: module failure	MS	Green: Module status is normal	
			Green slow flashing: SAFEOP status			Red: internal error	Green flash: module is not configured
			Green fast flashing: Pre-OP status				Red: module failure
		BF	Off: Init status	Flashing red: Device name/IP address/module group status error	NS	Green: The network status is normal	
Red flashing: Communication error			Green flash: communication not established				
Off: module status is normal			Flashing red: communication interrupted				
ERR	Green: Port operation (running) status						
	Flashing green quickly: port connection process or wrong device						
	Flashing green slowly: The port is in pre-operation state						
	Green off: port is closed						
IO-LINK							
Protocol	EtherCat Protocol	ProfiNet Protocol	EtherNet/IP Protocol				
Model	CIO200-ECIO-4A4B	CIO200-PNIO-4A4B	CIO200-EIIO-4A4B				

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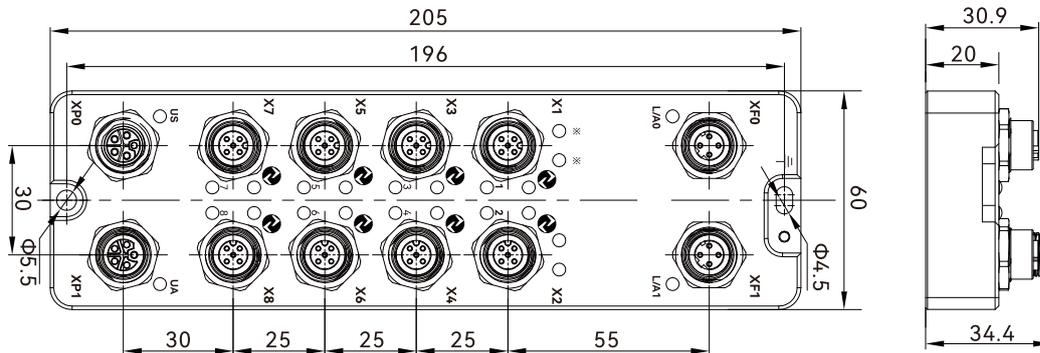
I/O Port pin definition

	Pin definition	Address distribution										
Port	<p>M12(X1~X8)</p>  <p>Class A</p> <ol style="list-style-type: none"> 1. V+ 2. In/Output 3. 0V 4. C/Q 5. N/C <p>Class B</p> <ol style="list-style-type: none"> 1. V+ 2. P24V 3. 0V 4. C/Q 5. N24V 	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Byte</td> <td>0</td> </tr> <tr> <td>Bit0</td> <td>X1P2</td> </tr> <tr> <td>Bit1</td> <td>X2P2</td> </tr> <tr> <td>Bit2</td> <td>X3P2</td> </tr> <tr> <td>Bit3</td> <td>X4P2</td> </tr> </table>	Byte	0	Bit0	X1P2	Bit1	X2P2	Bit2	X3P2	Bit3	X4P2
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Bit1	X2P2											
Bit2	X3P2											
Bit3	X4P2											
M12 A-code female end												

Module main station

Dimensions

Unit: mm



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IO Bus

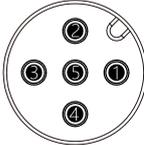
- Module main station
- Module Slave

Controller & Communicator

- Controller
- Communicator



NEW!

Basic parameters	Shell material	PA6 + GF
	Shell color	Black
	Ptotect degree	IP67 , Epoxy full potting
	External dimensions	155mm × 53mm ×28.7mm
	Weight	217g
	Operating temperature	-25°C~70°C
	Storage/transport temperature	-40°C~85°C
	Operating humidity	5%~95%
	Storage/transport humidity	5%~95%
	Operating atmospheric pressure	80KPa~106KPa
	Storage/transport atmospheric pressure	80KPa~106KPa
	I/O port fastening torque	M12:0.5Nm
	Application environment	Compliant with EN-61131
	Vibration testing	Compliant with IEC60068-2
	Shock testing	Compliant with IEC60068-27
	Free fall testing	Compliant with IEC60068-32
	Electromagnetic compatibility (EMC)	Compliant with IEC61000-4-2,-3,-4
Certification	CE,RoHS	
Installation hole specifications	Φ4.3mm × 4	
Pinout definition for data port	IO-Link	IO-Link M12 MALE
	Pinout definition for port	 <ul style="list-style-type: none"> 1. V+ 2. P24V 3. 0V 4. C/Q 5. N/C

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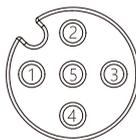
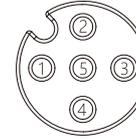
- IO Bus**
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- Controller & Communicator**
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Module slave

CIO 100 Series

IO-Link Master station Parameters	IO-Link Number of ports	1 x device	
	IO-Link Handle data length	2 input bytes	2 Output bytes
	Minimum cycle time	3 ms	
Input/Output parameters	Input and output quantity	16 inputs	16 outputs
	Rated working voltage	18~30V DC	
	Maximum load current (sensor)	200 mA	-
	Maximum load current (actuator)	-	500 mA
	Total current UI	< 1.6A	-
	Total current UO	-	< 2.5A
Module indicator lights	IO-LINK RUN	Green: No communication connection	
		Green flash: communication is normal	
		Red: communication interrupted	
	PWR	Green: module power supply is normal	
		Off: module power is not connected	Yellow: Auxiliary power is not connected
	I/O	Green: Channel signal is normal	
Red: Port failure			
IO-Link	Class A		
Model	PNP	CIO100-M12-DI16P	CIO100-M12-DO16P
	NPN	CIO100-M12-DI16N	CIO100-M12-DO16N

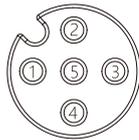
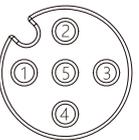
I/O Port pin definition

	Pin definition	Address distribution																																							
Port M12 A-code female end	<p style="text-align: center;">M12(J1~J8)</p>  <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">PNP Input</td> <td style="width: 50%; text-align: center;">NPN Input</td> </tr> <tr> <td>1. 24VDC+</td> <td>1. 24VDC+</td> </tr> <tr> <td>2. Input</td> <td>2. Input</td> </tr> <tr> <td>3. 0V</td> <td>3. 0V</td> </tr> <tr> <td>4. Input</td> <td>4. Input</td> </tr> <tr> <td>5. FE</td> <td>5. FE</td> </tr> </table>	PNP Input	NPN Input	1. 24VDC+	1. 24VDC+	2. Input	2. Input	3. 0V	3. 0V	4. Input	4. Input	5. FE	5. FE	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Byte</th> <th>1</th> <th>0</th> </tr> </thead> <tbody> <tr><td>Bit0</td><td>J1P4</td><td>J5P4</td></tr> <tr><td>Bit1</td><td>J1P2</td><td>J5P2</td></tr> <tr><td>Bit2</td><td>J2P4</td><td>J6P4</td></tr> <tr><td>Bit3</td><td>J2P2</td><td>J6P2</td></tr> <tr><td>Bit4</td><td>J3P4</td><td>J7P4</td></tr> <tr><td>Bit5</td><td>J3P2</td><td>J7P2</td></tr> <tr><td>Bit6</td><td>J4P4</td><td>J8P4</td></tr> <tr><td>Bit7</td><td>J4P2</td><td>J8P2</td></tr> </tbody> </table>	Byte	1	0	Bit0	J1P4	J5P4	Bit1	J1P2	J5P2	Bit2	J2P4	J6P4	Bit3	J2P2	J6P2	Bit4	J3P4	J7P4	Bit5	J3P2	J7P2	Bit6	J4P4	J8P4	Bit7	J4P2	J8P2
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Master station parameters	IO-Link Number of ports	1 × device	
	IO-Link Handle data length	2 input bytes; 2 output bytes	1 input byte; 1 output byte
	Minimum cycle time	3 ms	
Input/Output parameters	Input and output quantity	16-way adaptive	8 inputs 8 outputs
	Rated working voltage	18~30V DC	
	Maximum load current (sensor)	200 mA	
	Maximum load current (actuator)	500 mA	
	Total current UI	< 1.6A	
	Total current UO	< 2.5A	
	Module indicator lights	IO-LINK RUN	Green: No communication connection
Green flash: communication is normal			
Red: communication interrupted			
PWR		Green: module power supply is normal	
		Yellow: Auxiliary power is not connected	
I/O		Green: Channel signal is normal	
	Red: Port failure		
Model	IO-Link	Class A	
	PNP	CIO100-M12-DIO16P	CIO100-M12-DI8DO8P
	NPN	CIO100-M12-DIO16N	CIO100-M12-DI8DO8N

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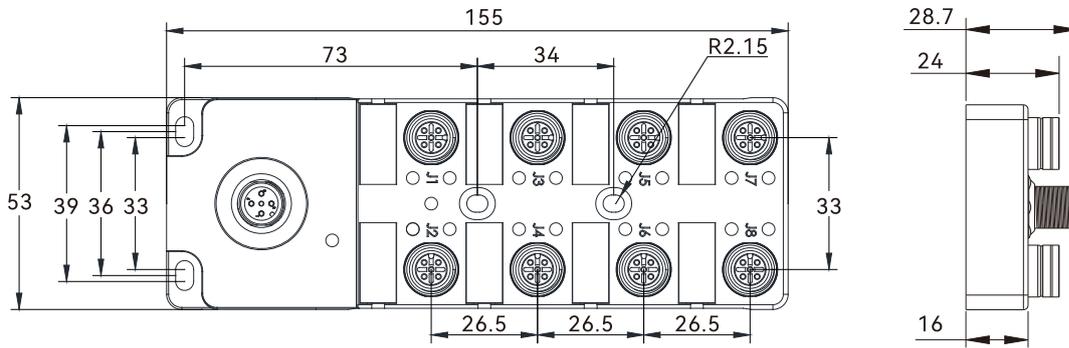
I/O Port pin definition

	Pin definition	Address distribution																																				
Port M12 A-code female end	<p style="text-align: center;">M12(J1~J8)</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>PNP</p> <p>Input/Output</p> <p>1. 24VDC+</p> <p>2. Input/Output</p> <p>3. 0V</p> <p>4. Input/Output</p> <p>5. FE</p> </div> <div style="text-align: center;"> <p>NPN</p> <p>Input/Output</p> <p>1. 24VDC+</p> <p>2. Input/Output</p> <p>3. 0V</p> <p>4. Input/Output</p> <p>5. FE</p> </div> </div>	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Byte</th> <th>1</th> <th>0</th> </tr> </thead> <tbody> <tr><td>Bit0</td><td>J1P4</td><td>J5P4</td></tr> <tr><td>Bit1</td><td>J1P2</td><td>J5P2</td></tr> <tr><td>Bit2</td><td>J2P4</td><td>J6P4</td></tr> <tr><td>Bit3</td><td>J2P2</td><td>J6P2</td></tr> <tr><td>Bit4</td><td>J3P4</td><td>J7P4</td></tr> <tr><td>Bit5</td><td>J3P2</td><td>J7P2</td></tr> <tr><td>Bit6</td><td>J4P4</td><td>J8P4</td></tr> <tr><td>Bit7</td><td>J4P2</td><td>J8P2</td></tr> </tbody> </table>	Byte	1	0	Bit0	J1P4	J5P4	Bit1	J1P2	J5P2	Bit2	J2P4	J6P4	Bit3	J2P2	J6P2	Bit4	J3P4	J7P4	Bit5	J3P2	J7P2	Bit6	J4P4	J8P4	Bit7	J4P2	J8P2									
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Module slave

Dimensions

Unit: mm



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- Accessories

IO Bus

- Module main station
- Module Slave**

Controller & Communicator

- Controller
- Communicator



NEW!

Basic parameters	Shell material	PA6 + GF
	Shell color	Black
	Protect degree	IP67 , Epoxy full potting
	External dimensions	140mm × 30mm × 24.8mm
	Weight	180g
	Operating temperature	-25°C~70°C
	Storage/transport temperature	-40°C~85°C
	Operating humidity	5%~95%
	Storage/transport humidity	5%~95%
	Operating atmospheric pressure	80KPa~106KPa
	Storage/transport atmospheric pressure	80KPa~106KPa
	I/O port fastening torque	M12:0.5Nm
	Application environment	Compliant with EN-61131
	Vibration testing	Compliant with IEC60068-2
	Shock testing	Compliant with IEC60068-27
	Free fall testing	Compliant with IEC60068-32
	Electromagnetic compatibility (EMC)	Compliant with IEC61000-4-2,-3,-4
Certification	CE,RoHS	
Installation hole specifications	Φ4.3mm × 2	
Pinout definition for data port	IO-Link	IO-Link M12 MALE
	Pinout definition for port	 <ul style="list-style-type: none"> 1. V+ 2. P24V 3. 0V 4. C/Q 5. N/C

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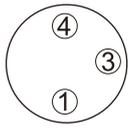
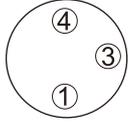
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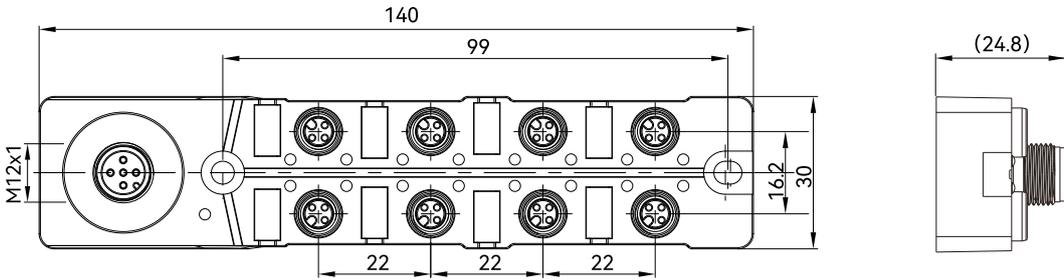
Module slave

CIO 100 Series

IO-Link Master station parameters	IO-Link Number of ports	1 x device	
	IO-Link Handle data length	1 input byte	1 output byte
	Minimum cycle time	3 ms	
Input/Output parameters	Input and output quantity	8 inputs	8 outputs
	Rated working voltage	18~30V DC	
	Maximum load current (sensor)	200 mA	–
	Maximum load current (actuator)	–	500 mA
	Total current UI	< 1.6A	–
	Total current UO	–	< 2.5A
Module indicator lights	IO-LINK RUN	Green: No communication connection	
		Green flash: communication is normal	
		Red: communication interrupted	
	I/O	Green: Channel signal is normal	
		Red: Port failure	
	IO-Link	Class A	
Model	PNP	CIO100-M08-DI8P	CIO100-M08-DO8P
	NPN	CIO100-M08-DI8N	CIO100-M08-DO8N

I/O Port pin definition

	Pin definition	Address distribution																		
Port M12 A-code female end	<p style="text-align: center;">M8(J1~J8)</p>  <p style="text-align: center;">PNP Input 1. 24 VDC+ 4. Input 3. 0 V</p> <p style="text-align: center;">NPN Input 1. 24 VDC+ 4. Input 3. 0 V</p>	<table border="1"> <thead> <tr> <th>Byte</th> <th>1</th> </tr> </thead> <tbody> <tr><td>Bit0</td><td>J1P4</td></tr> <tr><td>Bit1</td><td>J2P4</td></tr> <tr><td>Bit2</td><td>J3P4</td></tr> <tr><td>Bit3</td><td>J4P4</td></tr> <tr><td>Bit4</td><td>J5P4</td></tr> <tr><td>Bit5</td><td>J6P4</td></tr> <tr><td>Bit6</td><td>J7P4</td></tr> <tr><td>Bit7</td><td>J8P4</td></tr> </tbody> </table>	Byte	1	Bit0	J1P4	Bit1	J2P4	Bit2	J3P4	Bit3	J4P4	Bit4	J5P4	Bit5	J6P4	Bit6	J7P4	Bit7	J8P4
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- Controller
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Controller

CR-M02



NEW!

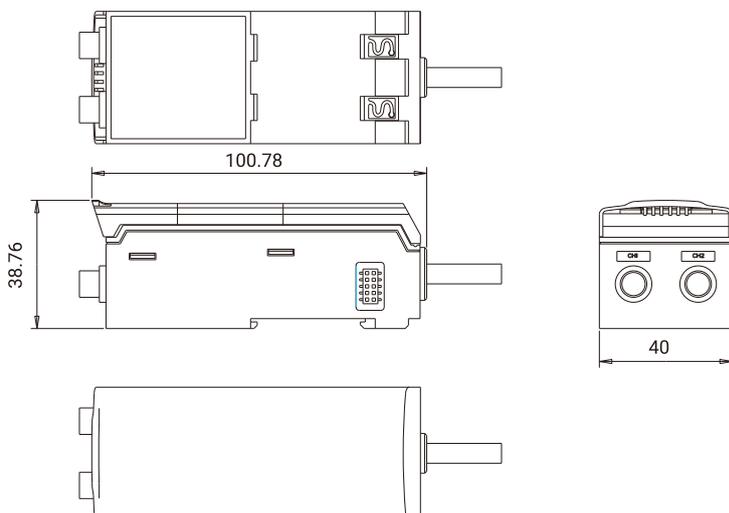
Installation method	DIN rail installation
Operating voltage	+24VDC±10%
Current consumption of a single controller	Under 100mA(When connecting the sensor)
Number of connected sensors	Two pairs of sensors
The communication with sensors	RS485
Number of controllers connected in parallel	Up to 16 controllers can be connected
Display	240*240TFT display
Indicator light	Output 1~3 and function indicator light red
Analog output	Analog output current 4~20mA, voltage 0~5V can be switched
Switching output	3-channel output, NO, NC, PO, PC can be switched
External input	3-channel input, NPN and PNP input optional
Display resolution	1μm
Display range	-99.999mm~99.999mm
Protective structure	IP40
Operating temperature	10°C~+50°C
Working humidity	35%RH~85%RH
Insulation resistance	The resistance of all connecting terminals and shells is above 20MΩ
Withstand voltage	All connection terminals and housing withstand voltage AC 1000V
Vibration resistance	Frequency 10~55HZ, 1.5m double amplitude, two hours each in X, Y and Z directions
Shock proof	98m/s ² (about 10G) 5 times each in X, Y, and Z directions
Model	CR-M02

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Dimensions

Unit: mm



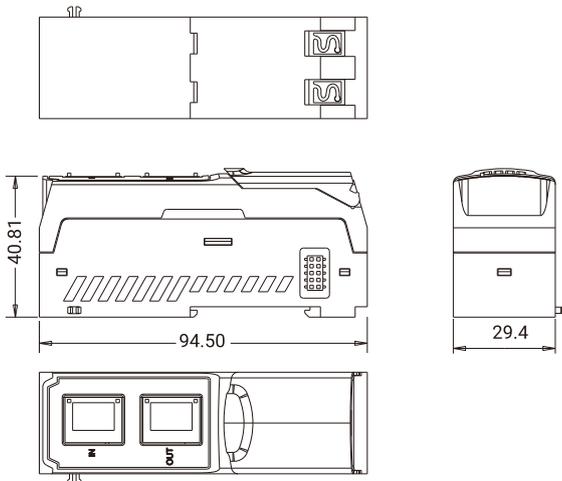


NEW!

Installation method	DIN rail installation
Operating voltage	24V DC(10~30V DC)
Indicator light	PWR: Power indicator/green RUN: running indicator light/green ERR: Error indicator/red Sensor communication indicator light: red light (RTU communication abnormality) Ethernet port: (green) D-BUS: RTU Communication normal/green light Ethernet port(green): RTU communication abnormality/traffic light alternation of some slave stations No RTU communication activity/off The Ethernet port has established a valid network connection/on. The Ethernet port is in network activity/blinks. The Ethernet port does not establish a network connection or the port is abnormal/off.
100M Ethernet port	10/100Base-T (X) RJ45, automatic flow control, full and half-duplex mode, MDI/MDI-X automatic detection
Burning port	The software programming port uses 8-bit terminal blocks with a pitch of 2.0mm, occupying 2-5 positions from the left
Console port	The CLI command management port uses 8-position terminal blocks with a spacing of 2.0mm, occupying 6-8 positions from the left
RS-485 serial port	Supports 2 RS-485 serial ports, one of which is reserved, using 10-bit terminal blocks with a spacing of 2.0mm, and the serial port occupies 4 bits
Reset button	Reset button
Access terminal, no load power consumption at normal temperature	10-position terminal block with a pitch of 2.0mm, 2 positions for power supply, 0.7w@10VDC 0.7w@20VDC 0.7w@30VDC
Full-load power consumption at normal temperature	0.7w@10VDC 0.7w@20VDC 0.7w@30VDC
High temperature full load power consumption	0.8w@10VDC 0.8w@20VDC 0.8w@30VDC
Operating temperature	-40°C~75°C
Storage temperature	-40°C~85°C
Working humidity	5%~95% (No condensation)
Model	CTM01-EC

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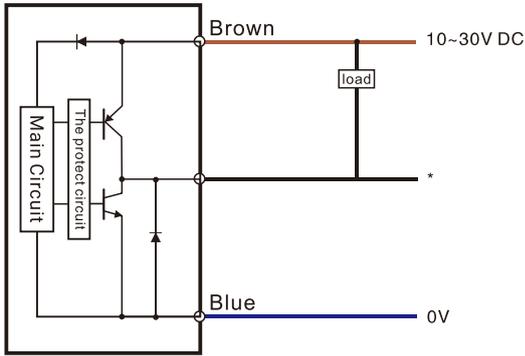


Controller/Communicator

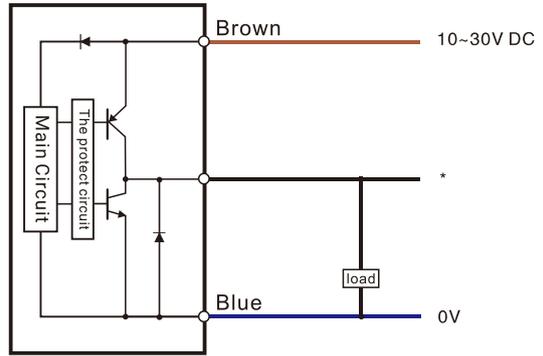
Circuit Diagram

Input circuit diagram

NPN output



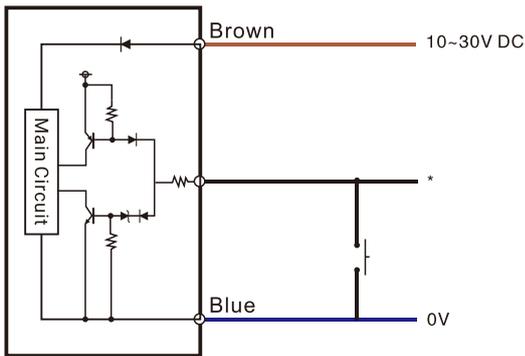
PNP output



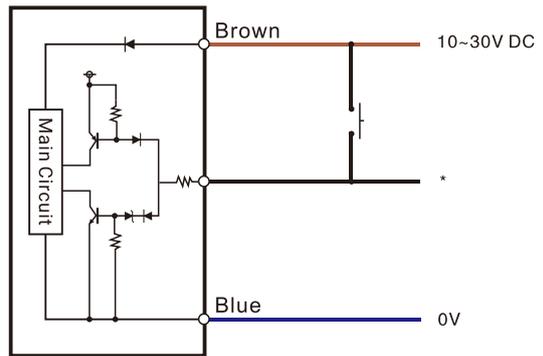
* Black (HIGH judgment output)/white (LOW judgment output)/grey (GO judgment output)/green (verification input)

Output circuit diagram

NPN output



PNP output



* Pink (External input 1)/Yellow (External input 2)/Pink · Purple (External input 3)/Purple (External input 4)

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