Remote Coupler System

IO-Link date transmission/compact type

Remote : RCD55T-422-CP0.3
Base : RCD55E-422-CP0.3

[Function of each Component]

Remote : A unit that is mounted on the moving side. It communicates IO-Link data with a Base and supplies power to connected each device. It is possible to communicate IO-Link signals of up to 2 ch.

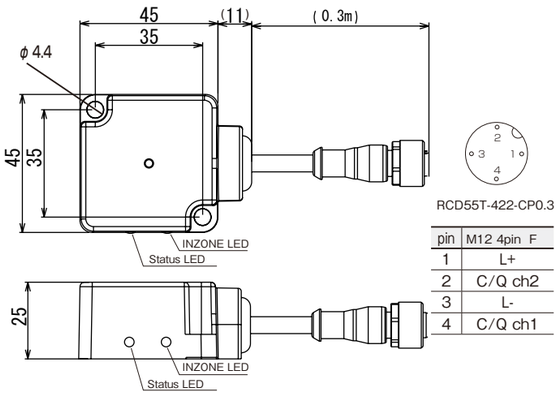
Base : A unit that is mounted on the fixed side. It communicates IO-Link data with a Remote and supplies power by non-contact.

Safety Considerations

Please read carefully before using and full attention to Safety Considerations. (See the attached T318501)

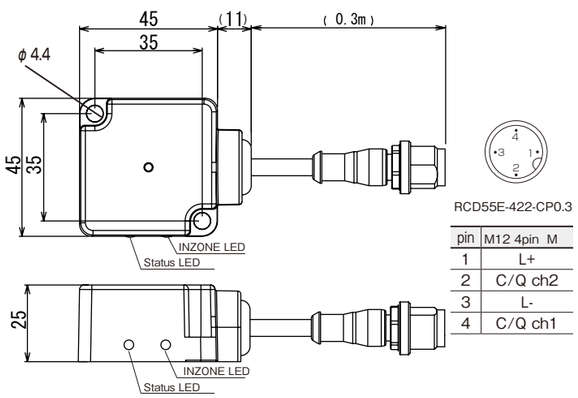
■ Specification

Remote：RCD55T-422-CP0.3



pin	M12 4pin F
1	L+
2	C/Q ch2
3	L-
4	C/Q ch1

Base：RCD55E-422-CP0.3



pin	M12 4pin M
1	L+
2	C/Q ch2
3	L-
4	C/Q ch1

Type	RCD55T-422-CP0.3
Output voltage	24V ± 1.5V DC
Total output current	≦ 1A
Transmitting distance	0...3mm
Center offset	Transmission distance is within 2 mm ± 4 mm Transmission distance 2 mm ... 3 mm ±1.5mm
Operating/Storage temperature	0...+50℃ / -25...+70℃
Operating/Storage humidity	35 ～ 90%RH/35 ～ 90%RH (no condersation)
Protection class	IP67
Material	Housing : PBT
Weight	Body 90g+Cable20g
Body connector cable	M12/4pin Female A coding
Remote splitter【Option】	VA-5YG9 ＊1
Connection cable【Option】 ＊2	XS2W-D421-C81-F (1m, AWG20) CBL-IOL-B-01 (1m, AWG20, for devices with 24V set to PIN2) CBL-IOL-L-01 (1m, AWG20, for devices with signal set to PIN2)

Type	RCD55E-422-CP0.3
Supply voltage	24V DC ± 5 % (include ripple)
Current consumption active	Max 1.4 A (with 1A drive)
Current consumption static	Max 0.1 A (when not facing)
Transmission signal	IO-Link data (not adaptable to SIO mode)
Transmission speed	COM2 (38.4 Kbps)
Start-up time	≤ 1 sec ＊3
Data delay time	≦ 100 μ s
Operating/Storage temperature	0...+50℃ / -25...+70℃
Operating/Storage humidity	35 ～ 90%RH/35 ～ 90%RH (no condersation)
Protection class	IP67
Protection circuit	Reverse connection protection, overtemperature protection, overcurrent protection, overheationg protection when facing metal ＊4
Material	Housing : PBT
Weight	Body 90g+Cable20g
Body connector cable	M12 / 4 pin male A coding
Power connection cable【Option】	XS2F-D421-DC0-F (2m, AWG20) ＊5
Power splitter 【Option】	VA-4YG-5B ＊5
Base splitter 【Option】	VA-5YG-8 ＊1
Cable connector 【Option】	XS2W-D421-D81-F (2m, AWG20)

＊1 For 2-channel connection, options are available.

＊2 The signal of ch 2 is assigned to pin 2 of this system. For chosing the applicable cable, please refer to "connection" on the next page if you connect only 1ch connecting an IO-Link device with power or signal assigned to pin 2.

＊3 This means the time since the timing when a Remote part and a Base part are energized within the transmission area until the timing when the wireless signal transmission starts. It doesn't mean the time until the system as IO-Link established.

＊4 Metal protection is a function of metal heat prevention when metal opposed. Since it is not guaranteed to operate with all metals, please do not deliberately confront the metal against the communication surface.

＊5 According to the current consumption of the selected IO-Link device, options are available.

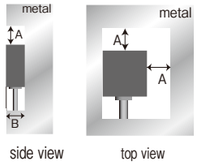
2023.09.15 T318A01He

■ Mutual Interference

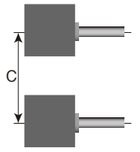
In order to avoid influence of surrounding metal and mutual interference, keep the minimum distance as described below.
Keep the distance between the product and the human body at least 20 cm to minimize the effect of electromagnetic waves on the human body.

・Tightening torque at installation → 1.5 N・m

Surrounding Metal



Mutual interference



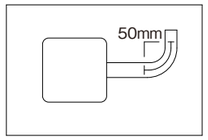
＊Besides the back side, only one side can be in contact with the metal.

Type number	A(mm)	B(mm)	C(mm)
RCD55T-422-CP0.3	30	25	250
RCD55E-422-CP0.3			

■ Bending radius of Cable

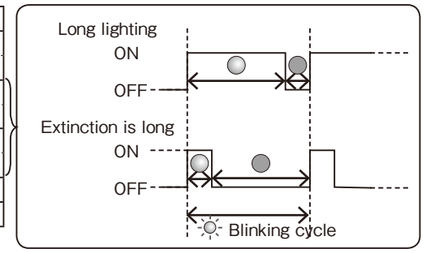
The minimum bending radius for thesensors are 50mm.

＊Never pull the cable strongin installing



■ LED indication

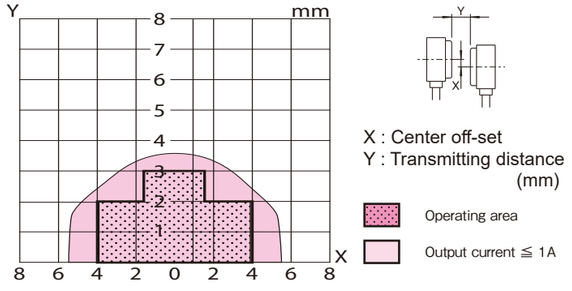
LED	Color	LED state	Blinking cycle	pattern	State
Status LED	Green	ON	—	—	The power supply is correctly supplied.
Remote&Base part	Green	OFF	—	—	Power is not supplied.
Status LED Base part	Green	Blink	1.4sec/0.1sec	Extinction is long	Temperature abnormality.
	Green	Blink		Long lighting	Over current in oscillator circuit.
	Green	Blink	0.55 sec/0.05sec	Extinction is long	The operating voltage is high.
	Green	Blink		Long lighting	Low operating voltage.
INZONE LED	Orange	ON	—	—	Establish communication.
Remote&Base part	Orange	Blink	1sec/1sec	—	There is no communication from the connected device (2 devices / master).



■ Transmitting Area Diagram (Non-flush mounted)

[Example : Supply voltage at 24V DC]

RCD55T-422-CP0.3
RCD55E-422-CP0.3

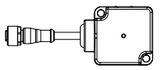


Rated operating distance
distance Within 2 mm Shift axis [±4mm]
distance 2mm...3mm Shift axis [±1.5mm]

Wireless Power Supply by
B&PLUS K.K.
https://www.b-plus-kk.jp/ E-mail sales@b-plus-kk.jp

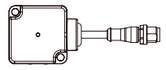
■ pin assign

remote part
RCD55T-422-CP0.3



pin	M12 4pin female
1	L+
2	C/Q ch2
3	L-
4	C/Q ch1

base part
RCD55E-422-CP0.3

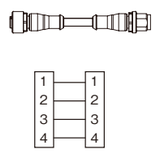


pin	M12 4pin male
1	L+
2	C/Q ch2
3	L-
4	C/Q ch1

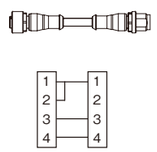
■ Internal wiring for the connected device

remote part M12 connection cable

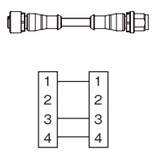
1 XS2W-D421-C81-F



2 CBL-IOL-B-01

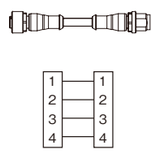


3 CBL-IOL-L-01



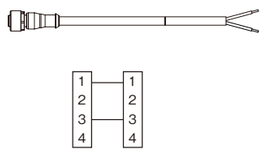
base part M12 connection cable

4 XS2W-D421-D81-F



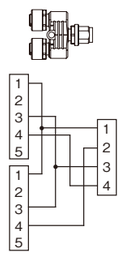
Power connection cable

5 XS2F-D421-DC0-F



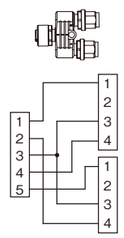
Remote splitter

6 VA-5YG9



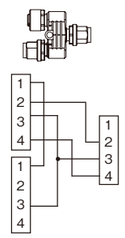
Base splitter

7 VA-5YG8



Power splitter

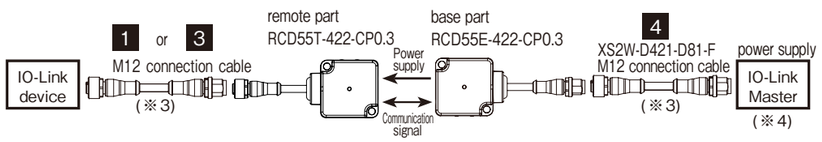
8 VA-4YG-5B



Connection

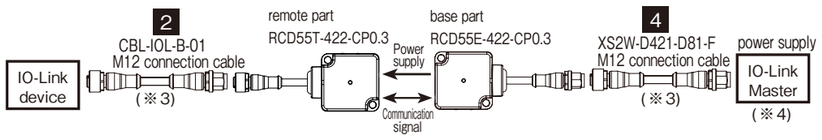
【 IO-Link 1ch : When PIN2 of device to connect is not used 】

pin	
1	L+
2	unused
3	L-
4	C/Q



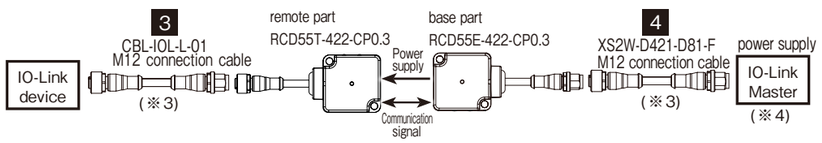
【 IO-Link 1ch: When PIN2 of connected device is +24V input 】

pin	
1	L+
2	+24V
3	L-
4	C/Q



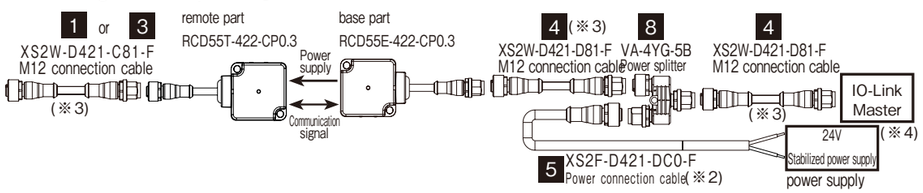
【 IO-Link 1ch : When PIN2 of connected device is signal input 】

pin	
1	L+
2	signal
3	L-
4	C/Q



【 IO-Link 1ch:When using a Power splitter 】

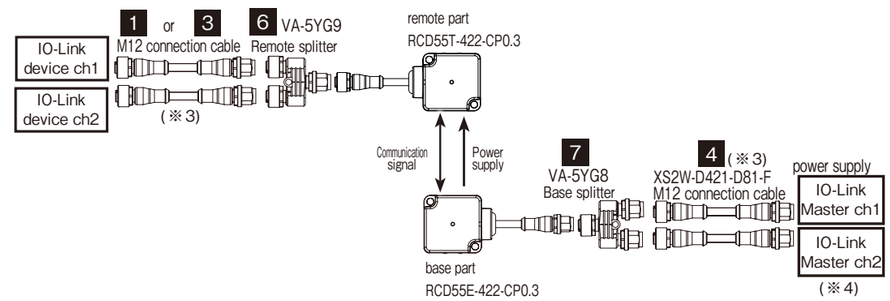
pin	
1	L+
2	unused or signal
3	L-
4	C/Q



When the IO-Link master is under power（※1）, it is possible to supply external power via the splitter

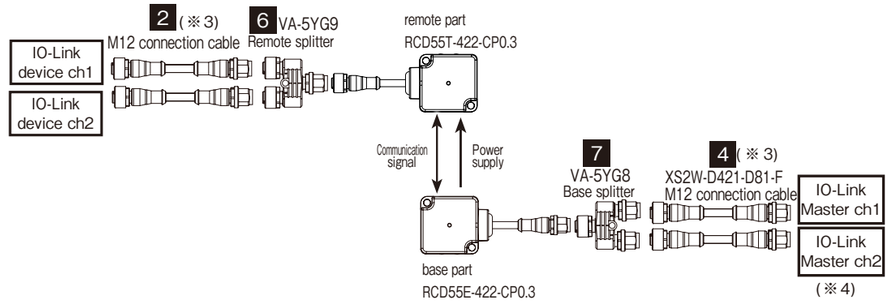
【 IO-Link 2ch : When PIN2 of connected device is signal input or not used 】

pin	
1	L+
2	unused or signal
3	L-
4	C/Q



【 IO-Link 2ch: When PIN2 of connected device is +24V input 】

pin	
1	L+
2	+24V
3	L-
4	C/Q



【 IO-Link 2ch:When using a Power splitter 】

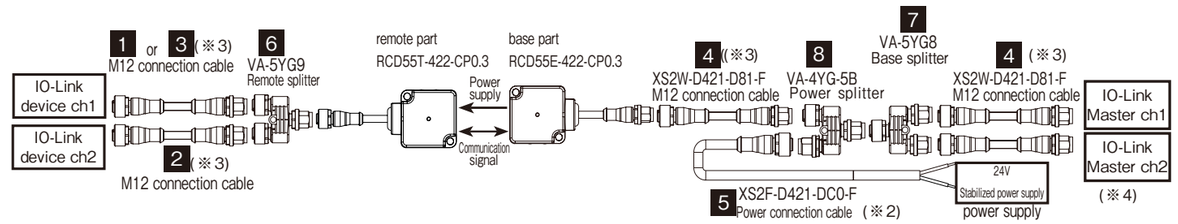
2ch: When PIN2 of connected device is +24V input/ 2ch: When PIN2 of connected device is 24V input

IO-Link device 1ch

pin	
1	L+
2	signal
3	L-
4	C/Q

IO-Link device 2ch

pin	
1	L+
2	+24V
3	L-
4	C/Q



When the IO-Link master is under power（※1）, it is possible to supply external power via the splitter

【Remarks】

＊ 1 Please select IO-Link master or 24 V regulated power supply that can supply current not less than 1.4 times the total current consumption of IO-Link device.
Example: When the total IO-Link device consumes 140 mA, the supply current of the IO-Link master must be 200 mA or more.
Supply current of IO-Link master must be 1.4 A or more when IO-Link device total consumes 1 A

＊ 2 Brown connects to 24V, blue to 0V. Please take measures to unused core wire (black) as customer so as not to have shorts-circuit.

＊ 3 The cable length from the connection part of the remote or base part to the device should be up to 10M.
Please consider the voltage drop due to the current to be used and the size of the cable. ex.1A/10 m AWG22 : 1.0V AWG20 : 0.66V

＊ 4 When using a large current IO-Link master, it is not necessary to connect a 24 V regulated power supply.
Refer to the followings for "Recommended IO-Link master"
[Recommended IO-Link master]
BNI CCL-502-100-Z001 (CC-Link network module IO-Link version)
BNI DNT-502-100-Z001 (DeviceNet network module IO-Link version)
BNI PBS-502-101-Z001 (PROFIBUS network module IO-Link version)
BNI PNT-502-102-Z015 (PROFINET network module IO-Link version)
BNI EIP-502-105-Z015 (Ethernet/IP network module IO-Link version)
BNI ECT-508-105-Z015 (EtherCATnetwork module IO-Link version)

Wireless Power Supply by
B & PLUS K.K.
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