# Ezi-IO®

## Network Input/Output

# CC-Link IE TSN

# CNT

- CC-Link IE TSN-compatible High Speed Counter Module
- Line Receiver and DC Input Type Provided
- Comparison Output Function
- Simple and Easy Wiring
- DIN Rail Mounting




FASTECH

Fast Accurate Smooth Motion

# Ezi-IO®

Network Input/Output

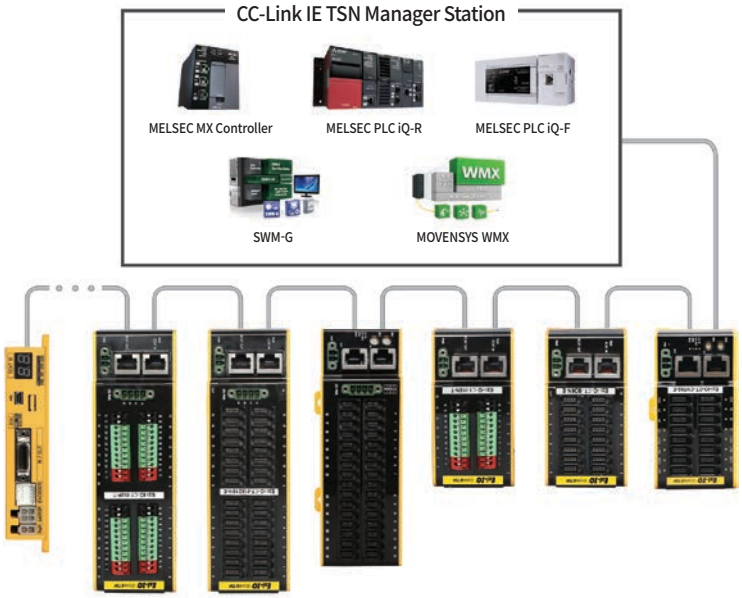
## CC-Link IE TSN

## CNT



## CC-Link IE TSN-compatible High Speed Counter Module

Ezi-IO CC-Link IE TSN CNT is high speed counter module whipoints supports CC-Link IE TSN, an industrial network based on high speed Ethernet(1 Gbps, Full-Duplex). Ezi-IO CC-Link IE TSN CNT is a remote device station connected to the CC-Link IE TSN system. It supports various topologies to configure the system flexibly.




## Simple and Easy Wiring

Ezi-IO CC-Link IE TSN CNT uses 4-pin e-CON connectors. The e-CON connector is widely used in the sensor connector industry, and making the wiring mupoints simpler and easier.

## Network Synpointsronous Communication

Ezi-IO CC-Link IE TSN CNT supports asynpointsronous & synpointsronous modes.

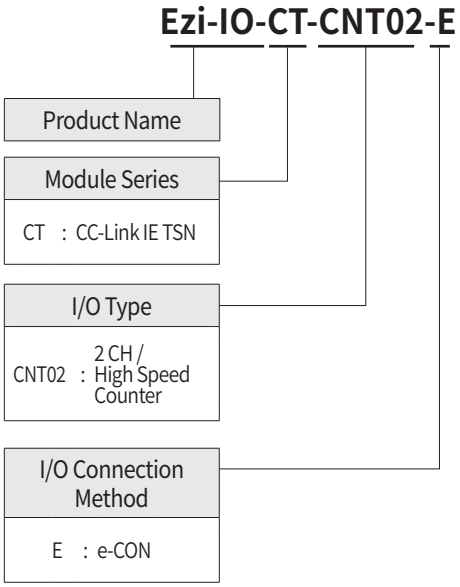
## Various Input Types Supported

Ezi-IO CC-Link IE TSN CNT can be connected to various external devices without special input setting because the counter input circuit of Ezi-IO CC-Link IE TSN CNT supports both open collector output and line driver output.

## Comparison Output Available

Comparison output function outputs ON/OFF signals by comparing the reference value and the current value of the counter. Up to 60 comparison position values can be set for Each point. Comparison output function supports TTL output and open collector output.

## Ezi-IO CC-Link IE TSN CNT Part Numbering




## Ezi-IO CC-Link IE TSN CNT Part Number

| Part Number |
| --- |
| Ezi-IO-CT-CNT02-E |

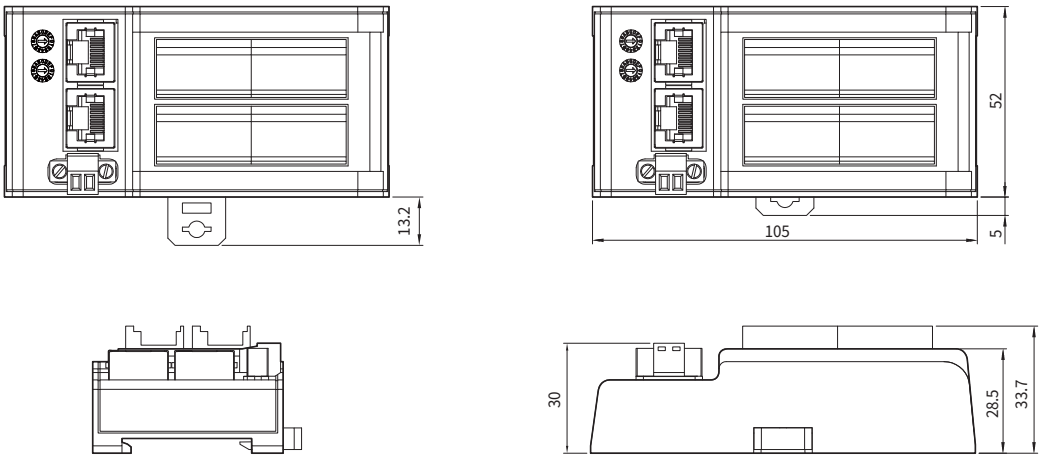
# Specifications of Module

| Model | | | Ezi-IO-CT-CNT02-E | |
|---|---|---|---|---|
| Input Voltage | | | 24 V DC ± 10 % | |
| Current Consumption | | | Max. 160 mA (Except 5 V DC Encoder supply current and load current) | |
| Operating Condition | Ambient Temperature | | · In Use: 0 ~ 50 °C<br>· In Storage: -20 ~ 70 °C | |
| | Humidity | | · In Use: 35 ~ 85 % RH (Non-Condensing)<br>· In Storage: 10 ~ 90 % RH (Non-Condensing) | |
| | Vib. Resist. | | 0.5 g | |
| Function | Number of Input Channels | | 2 CH | |
| | Count Range | | 0 ~ 4,294,967,295 (32 bit) | |
| | Counter Function | | · Counter Value LatCH<br>· Counter Value Reset<br>· Counter Value Preset | · Pulse Rate Measurement<br>· Comparison Output |
| | Pulse Input | Input Signal | 3 dedicated Inputs (A phase, B phase, Z phase) for Each point | |
| | | Input Type | Line Receiver Input (Line Driver Output Support) | DC Input (NPN/PNP Open Collector Output) |
| | | Rated Input Voltage | 5 V DC | 24 V DC, 5 V DC |
| | | Rated Input Current | 6.3 mA | |
| | | Pulse Input Method | · Phase Differential Pulse Input (Multiplication X2, X4)<br>· 1 Pulse Input (Pulse/Direction Input)<br>· 2 Pulse (CW/CCW Input) | |
| | | Max. Response Frequency | · A Phase, B Phase:<br>- Phase Differential Pulse Input: 1MHz (When multiplied by 4, 4MHz)<br>- 1 Pulse / 2 Pulse Input: 4MHz<br>· Z Phase: 100 kHz | |
| | | Isolation Method | Photocoupler Isolation | |
| | Control Input | Input Signal | 3 dedicated Inputs (LatCH A, LatCH B, Reset) for Each point | |
| | | Input Type | DC Input (NPN/PNP Open Collector Output Supported) | |
| | | Rated Input Voltage | 24 V DC | 5 V DC |
| | | Rated Input Current | 4.4 mA | 4.6 mA |
| | | Off→On Response Time | 3 µs or lower | |
| | | On→Off Response Time | 3 µs or lower | |
| | | Isolation Method | Photocoupler Isolation | |
| | Com-parison Output | Output Signal | 1 dedicated Input (Comparison Output) for Each point | |
| | | Output Type | TTL Output | Open Collector Output (Transistor Output) |
| | | Rated Output Voltage | 5 V DC | 30 V DC or lower |
| | | Rated Output Current | Max. 20 mA | Max. 20 mA |
| | | Off→On Response Time | 150 ns or lower | About 20 µs* |
| | | On→Off Response Time | 150 ns or lower | About 20 µs* |
| | | Isolation Method | None | Photocoupler Isolation |
| LED Display | | | · Power Status (PWR)<br>· CC-Link IE TSN Status (RUN)<br>· Operation Error (ERR)<br>· CC-Link IE TSN Connection (P1, P2)<br>· Counter Operation Status (CH 1, CH 2)<br>· I/O Status (A1, B1, Z1, LTA1, LTB1, RST1, CP1, A2, B2, Z2, LTA2, LTB2, RST2, CP2) | |
| CC-Link IE TSN | | Communication Protocol | CC-Link IE TSN Class B | |
| | | Synpointsronization | Asynpointsronous, Synpointsronous Mode | |

※ This is the value when 24 V DC power and a load ersistance of 2 kΩ are connected, and the value may pointsange depending on the cicruit configuration.

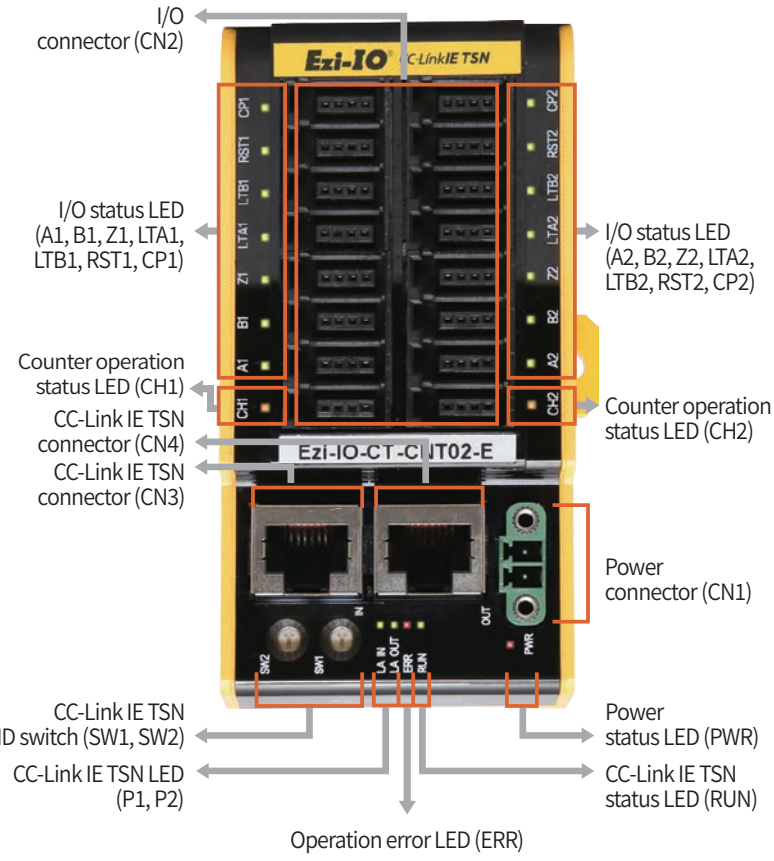
## Dimensions of Module [mm]

### Ezi-IO-CT-CNT02-E



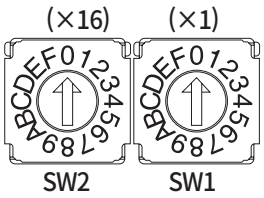

※ Install the product on a din rail with a width of 35 mm.

## Names and Functions of Each Part [Ezi-IO-CT-CNT02-E]



## 1. Network ID Switch (SW1, SW2)

They are Switches to set the CC-Link IE TSN ID(Remote Station ID) node address, and they represent a hexadecimal number.
SW1 indicates the units digit (×1), and SW2 indicates the tens digit (×16).




## 2. Status LED

### Power Status LED

| Indicator | Color | Status | Description |
|---|---|---|---|
| PWR | Red | OFF | Power is not supplied |
| | | ON | Power is supplied |

### Module Status LED

| Indicator | Color | Status | Description |
|---|---|---|---|
| RUN | Green | OFF | INIT state or power off |
| | | ON | OPERATIONAL state |

### Operation Error LED

| Indicator | Color | Status | Description |
|---|---|---|---|
| ERR | Red | OFF | No error or power off |
| | | ON | Error occurred |

### CC-Link IE TSN LED

| Indicator | Color | Status | Description |
|---|---|---|---|
| P1 / P2 | Green | OFF | Link inactive |
| | | ON | Link active |

### Counter Operation Status LED

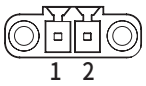
| Indicator | Color | Status | Description |
|---|---|---|---|
| CH 1 / CH 2 | Yellow | OFF | CH 1 / CH 2 is not ready to count |
| | | ON | CH 1 / CH 2 is ready to count |

I/O Status LED

| Indicator | Color | Status | Description |
|---|---|---|---|
| A1 / A2 | Green | OFF | A signal is OFF |
| | | ON | A signal is ON |
| B1 / B2 | Green | OFF | B signal is OFF |
| | | ON | B signal is ON |
| Z1 / Z2 | Green | OFF | Z signal is OFF |
| | | ON | Z signal is ON |
| LTA1 /LTA2 | Green | OFF | LTA(Latpoints A) signal is OFF |
| | | ON | LTA(Latpoints A) signal is ON |
| LTB1 / LTB2 | Green | OFF | LTB(Latpoints B) signal is OFF |
| | | ON | LTB(Latpoints B) signal is ON |
| RST1 / RST2 | Green | OFF | RST(Reset) signal is OFF |
| | | ON | RST(Reset) signal is ON |
| CP1 / CP2 | Green | OFF | CP(Comparison Out) signal is OFF |
| | | ON | CP(Comparison Out) signal is ON |

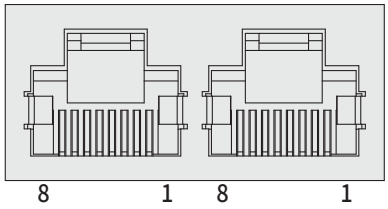
## 3. Power Connector (CN1)

| No. | Function | I/O |
|---|---|---|
| 1 | 24 V DC | Input |
| 2 | GND | Input |

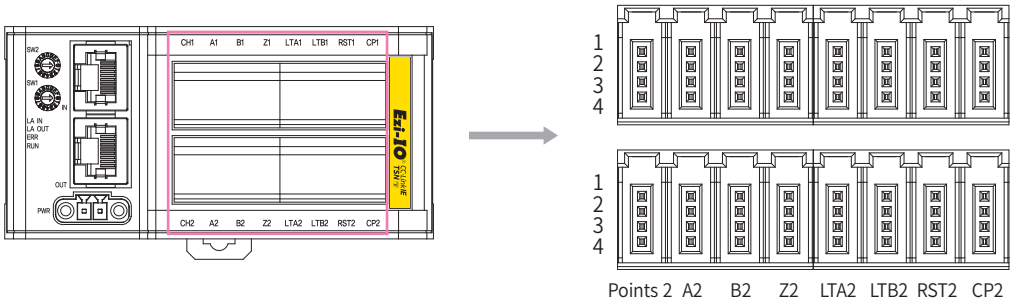



## 4. CC-Link IE TSN Connector (CN3, CN4)

| No. | Function | No. | Function |
|---|---|---|---|
| 1 | TD+ | 6 | RD- |
| 2 | TD- | 7 | ---- |
| 3 | RD+ | 8 | ---- |
| 4 | ---- | Connector hood | F.GND |
| 5 | ---- | | |

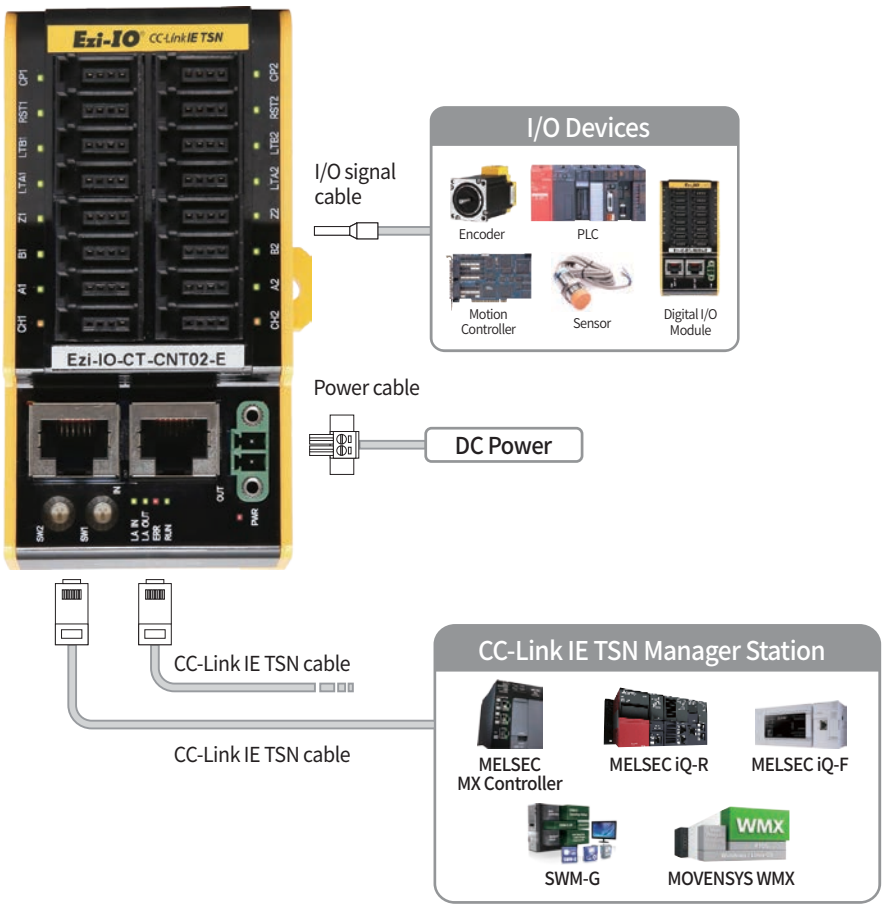


## 5. I/O Signal Connector (CN2)




| CN 1 | | | | | CN 2 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Indicator | No. | Name | Function | I/O | Indicator | No. | Name | Function | I/O |
| Ch 1 | 1 | NC | ---- | ---- | Ch 2 | 1 | NC | ---- | ---- |
| | 2 | 5 V | 5 V DC | Output | | 2 | 5 V | 5 V DC | Output |
| | 3 | GND | GND | Output | | 3 | GND | GND | Output |
| | 4 | NC | ---- | ---- | | 4 | NC | ---- | ---- |
| A1 | 1 | AV1 | A Pulse Input Power (24 V) | Input | A2 | 1 | AV2 | A Pulse Input Power (24 V) | Input |
| | 2 | A1+ | A+ | Input | | 2 | A2+ | A+ | Input |
| | 3 | A1- | A- | Input | | 3 | A2- | A- | Input |
| | 4 | AG1 | A Pulse Input GND | Input | | 4 | AG2 | A Pulse Input GND | Input |
| B1 | 1 | BV1 | B Pulse Input Power (24 V) | Input | B2 | 1 | BV2 | B Pulse Input Power (24 V) | Input |
| | 2 | B1+ | B+ | Input | | 2 | B2+ | B+ | Input |
| | 3 | B1- | B- | Input | | 3 | B2- | B- | Input |
| | 4 | BG1 | B Pulse Input GND | Input | | 4 | BG2 | B Pulse Input GND | Input |
| Z1 | 1 | ZV1 | Z Pulse Input Power (24 V) | Input | Z2 | 1 | ZV2 | Z Pulse Input Power (24 V) | Input |
| | 2 | Z1+ | Z+ | Input | | 2 | Z2+ | Z+ | Input |
| | 3 | Z1- | Z- | Input | | 3 | Z2- | Z- | Input |
| | 4 | ZG1 | Z Pulse Input GND | Input | | 4 | ZG2 | Z Pulse Input GND | Input |
| LTA1 | 1 | LAV1 | Latch A Input Power (24 V) | Input | LTA2 | 1 | LAV2 | Latch A Input Power (24 V) | Input |
| | 2 | LTA1+ | Latch A(+) | Input | | 2 | LTA2+ | Latch A(+) | Input |
| | 3 | LTA1- | Latch A(-) | Input | | 3 | LTA2- | Latch A(-) | Input |
| | 4 | LAG1 | Latch A Input GND | Input | | 4 | LAG2 | Latch A Input GND | Input |
| LTB1 | 1 | LBV1 | Latch B Input Power (24 V) | Input | LTB2 | 1 | LBV2 | Latch B Input Power (24 V) | Input |
| | 2 | LTB1+ | Latch B(+) | Input | | 2 | LTB2+ | Latch B(+) | Input |
| | 3 | LTB1- | Latch B(-) | Input | | 3 | LTB2- | Latch B(-) | Input |
| | 4 | LBG1 | Latch B Input GND | Input | | 4 | LBG2 | Latch B Input GND | Input |
| RST1 | 1 | RV1 | Reset Input Power (24 V) | Input | RST2 | 1 | RV2 | Reset Input Power (24 V) | Input |
| | 2 | RST1+ | Reset(+) | Input | | 2 | RST2+ | Reset(+) | Input |
| | 3 | RST1- | Reset(-) | Input | | 3 | RST2- | Reset(-) | Input |
| | 4 | RG1 | Reset Input GND | Input | | 4 | RG2 | Reset Input GND | Input |
| CP1 | 1 | UCP1+ | User Comparison Output(+) | Output | CP2 | 1 | UCP2+ | User Comparison Output(+) | Output |
| | 2 | 5CP1 | 5 V Comparison Output | Output | | 2 | 5CP2 | 5 V Comparison Output | Output |
| | 3 | GND | GND | Output | | 3 | GND | GND | Output |
| | 4 | UCP1- | User Comparison Output(-) | Output | | 4 | UCP2- | User Comparison Output(-) | Output |

# System Configuration [Ezi-IO-CT-CNT02-E]




## 1. Accessories

### Connectors

| Purpose | Item | Part Number | Manufacturer |
|---|---|---|---|
| Power(CN1) | Terminal Block | MC421-38102 | DECA |
| I/O Connection(CN2) | e-CON Plug Connector | CNE-P04-YW | Autonics |

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications

## 2. Options

### CC-Link IE TSN Cable

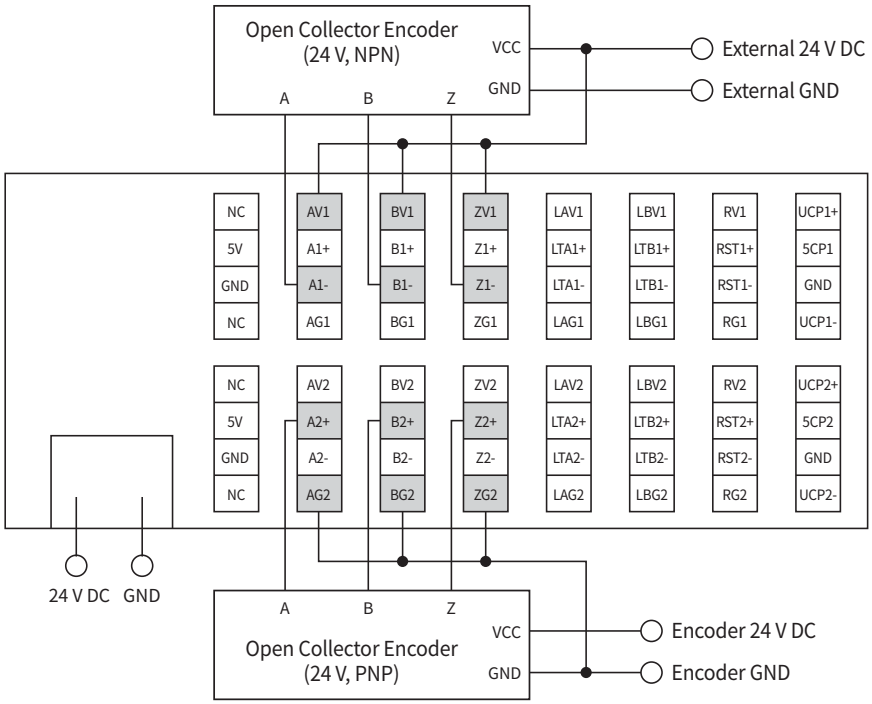
| Purpose | Part Number | Length [m] | Remarks |
|---|---|---|---|
| CC-Link IE TSN Connection (CN3, CN4) | CGNR-EC-001F | 1 | • STP(Shielded Twisted Pair) Cable<br>• Category 5e or higher<br>• Max. Cable Length: 100 m<br>• Fixed Cable |
| | CGNR-EC-002F | 2 | |
| | CGNR-EC-003F | 3 | |
| | CGNR-EC-005F | 5 | |

※ If you need cables with length(in units of 1 m) not listed on the table or robot cables, please contact FASTECH Points for more information.

# External Wiring Diagram [Ezi-IO-CT-CNT02-E]

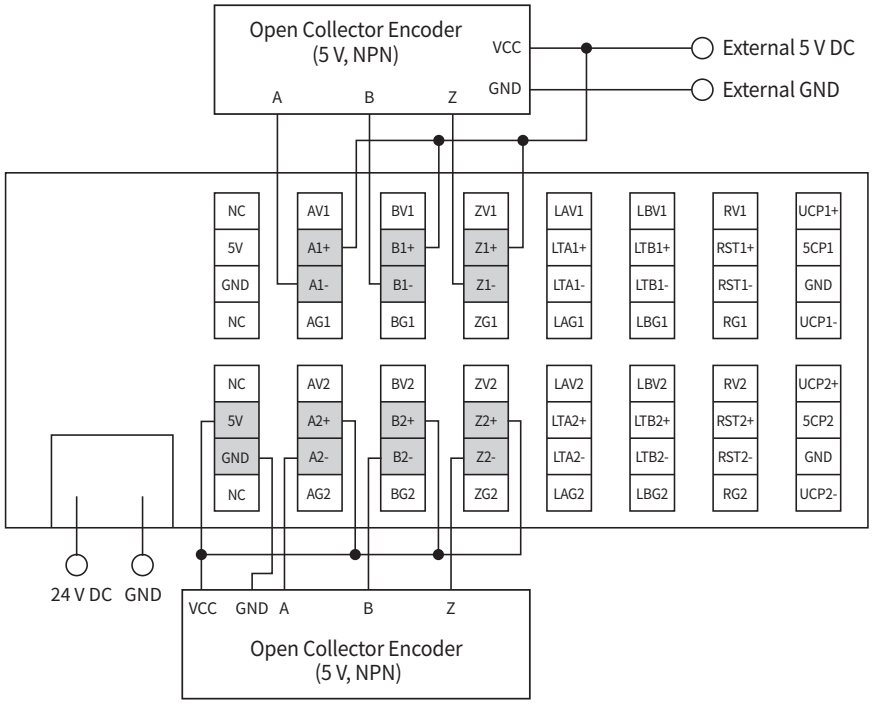
## Pulse Input Part

1. When connecting with 24 V DC open collector output type encoder




※ If the module and the encoder use the same power supply, the photocoupler isolation is not possible.

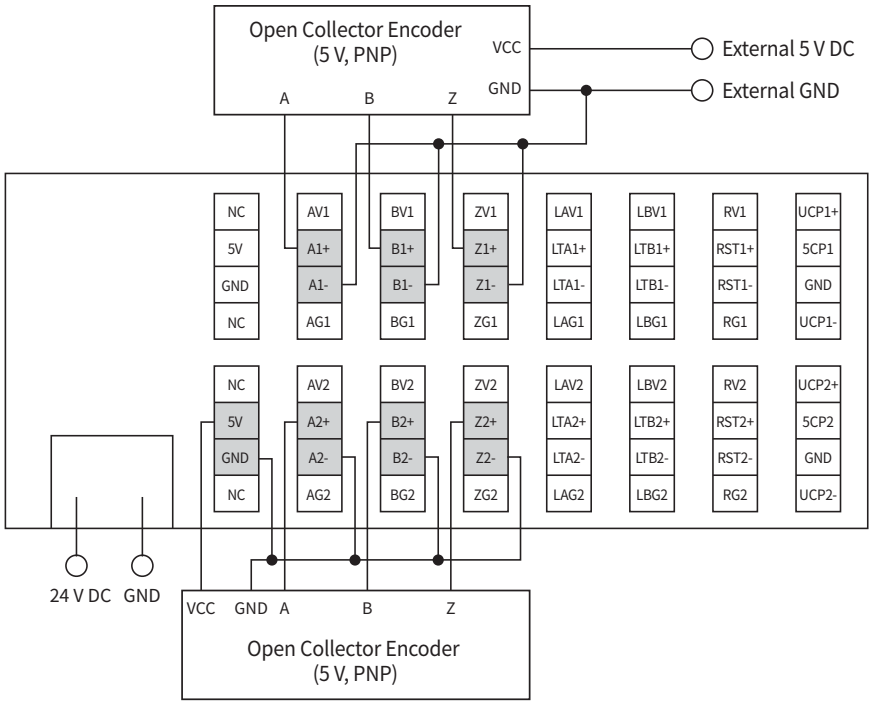
2. When connecting with 5 V DC NPN open collector output type encoder




※ If the 5 V DC output inside the product is used as the encoder power, photocoupler isolation is not possible.

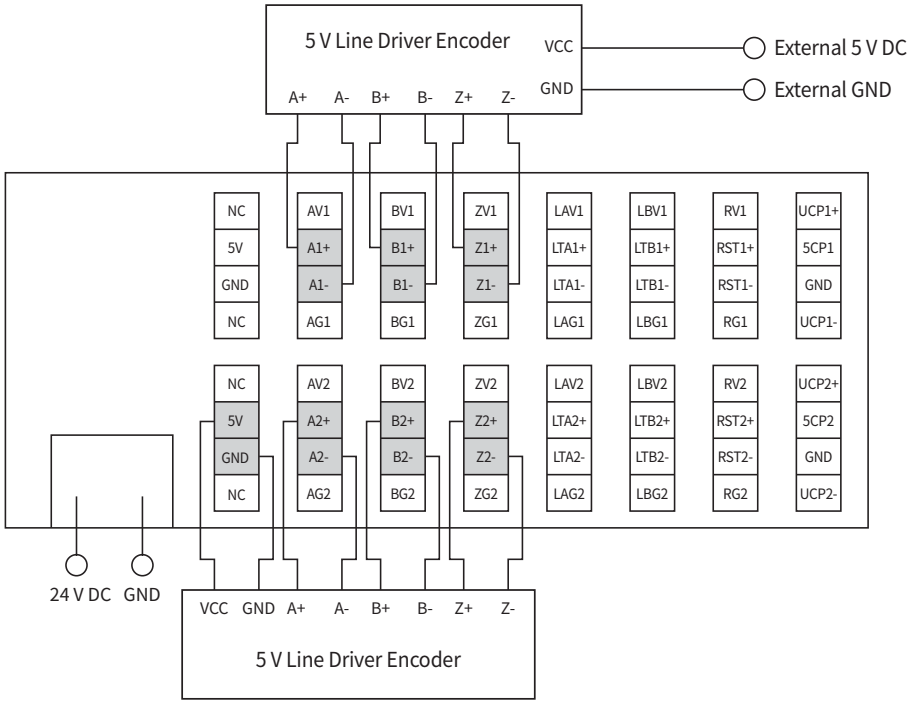
# External Wiring Diagram [Ezi-IO-CT-CNT02-E]

3. When connecting with 5 V DC PNP open collector output type encoder




※ If the 5 V DC output inside the product is used as the encoder power, photocoupler isolation is not possible.

4. When connecting with 5 V DC line driver output type encoder

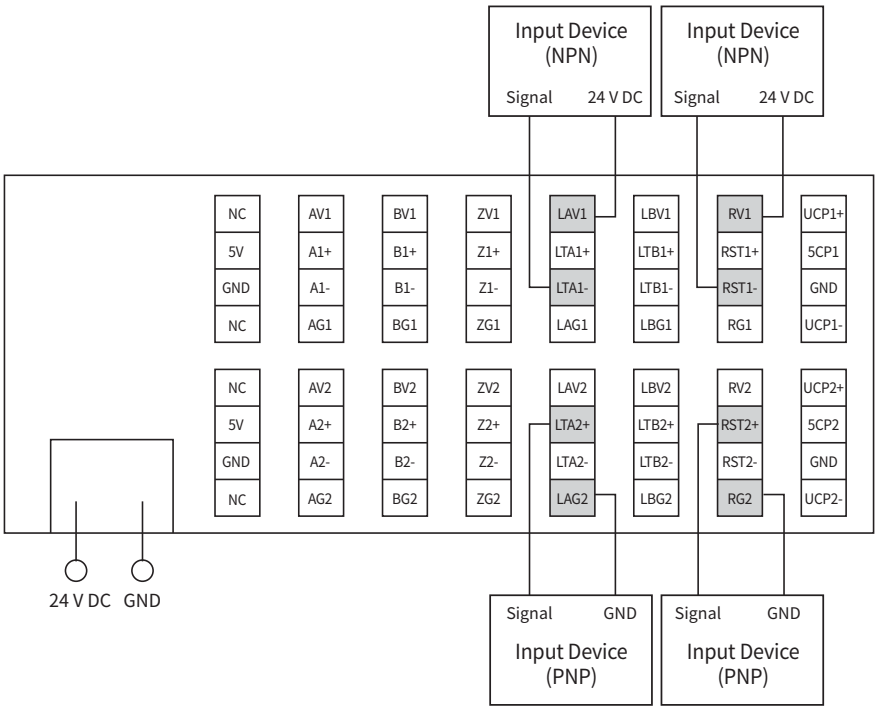



※ If the 5 V DC output inside the product is used as the encoder power, photocoupler isolation is not possible.

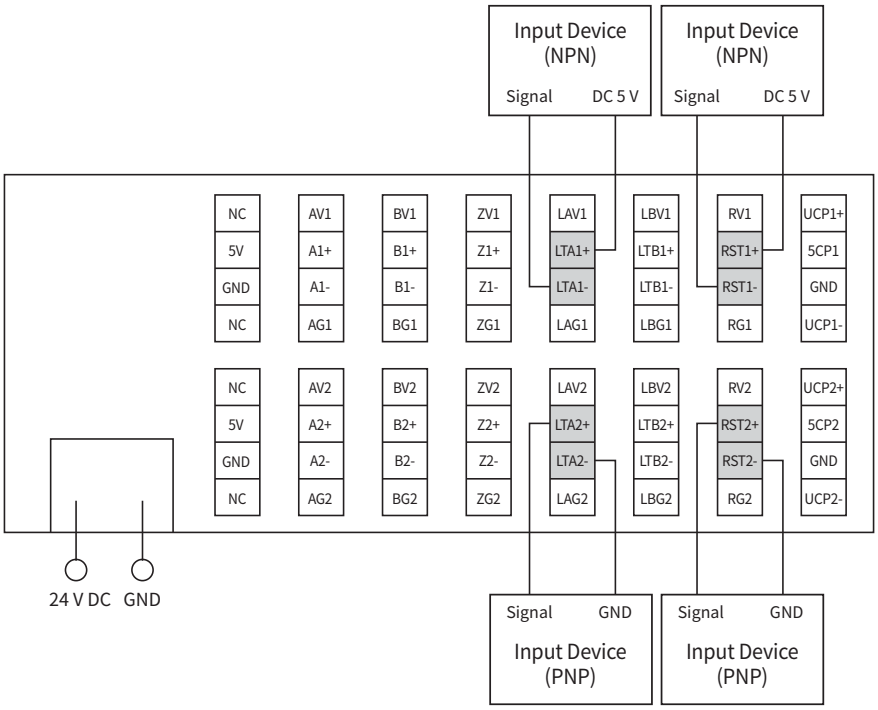
# External Wiring Diagram [Ezi-IO-CT-CNT02-E]

## Control Input Part

1. When connecting with 24 V DC open collector output type input device




2. When connecting with 5 V DC open collector output type input device

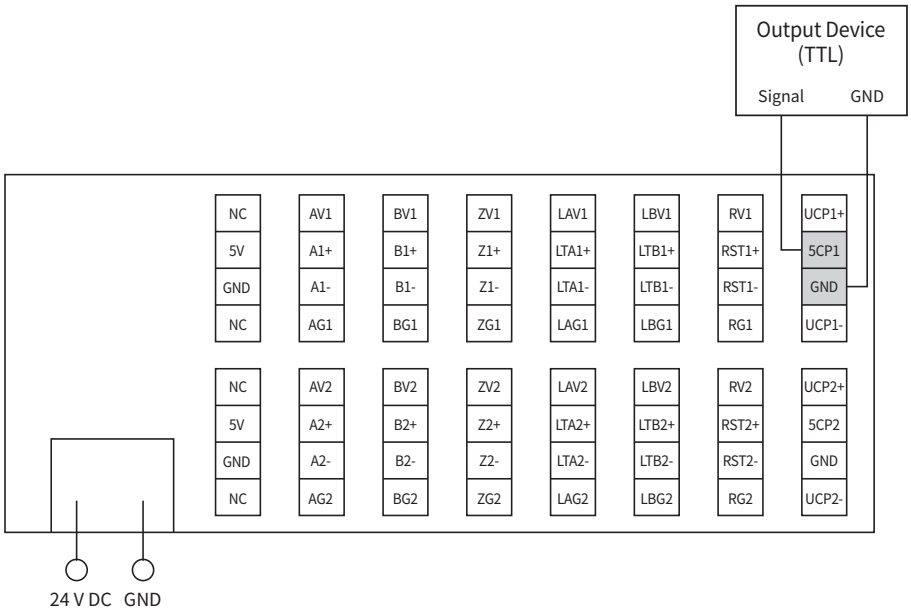



※ e.g. Input Device : PLC, Motion Controller, Digital Output Module, Limit Sensor , Proximity Sensor, etc.

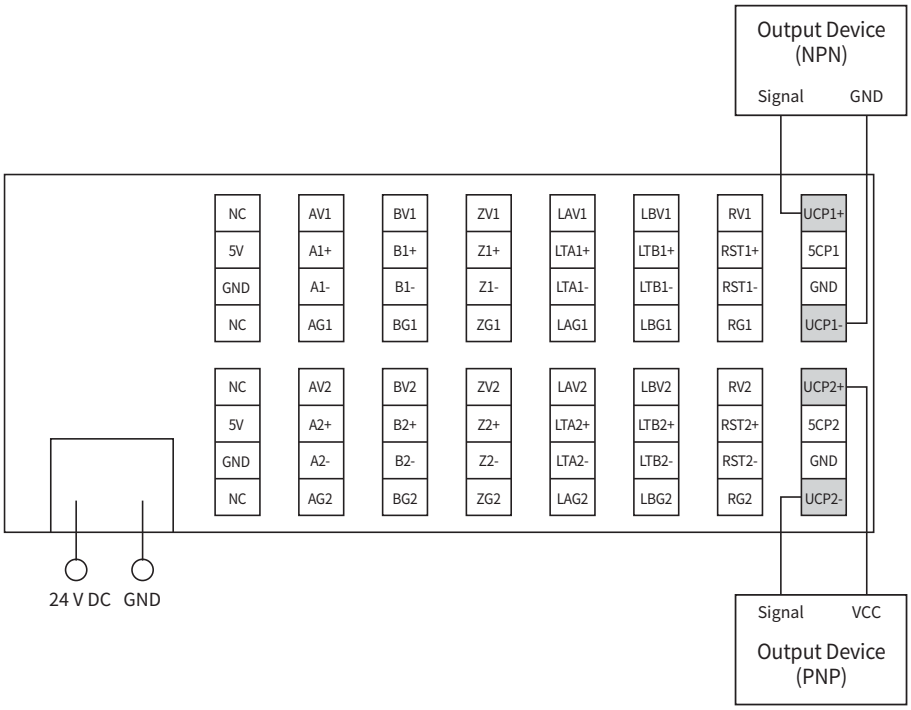
# External Wiring Diagram [Ezi-IO-CT-CNT02-E]

## Comparison Output Part

1. TTL Output




2. Open Collector Output




※ e.g. Output Device: PLC, Motion Controller, Digital Input Module, etc.

## MEMO

FASTECH

Fast Accurate Smooth Motion

## FASTECH Co., Ltd.

**FASTECH Headquarters :** (Postal Code:14502) Rm#1201 ~ 1202, 401-dong, Bucheon Techno-Park, 655 Pyeongcheon-ro, Wonmi-gu, Bucheon-si, Gyeonggi-do, Republic of Korea
TEL : +82-32-234-6317 FAX : +82-32-234-6302 E-mail : sales@fastech-motions.com

**FASTECH JAPAN :** (〒 450-0001 Aichi) Nagoya, Nakamura Ward, Nagono, 1-Chome 47-1 Nagoya International Center Bldg. 18th Floor
TEL : +81-70-6588-5905 E-Mail : sales_japan@fastech-motions.com

Homepage : cltsn.fastech-motions.com/en | www.fastech-motions.com

※ Please note that the color and size of the products in this catalog may differ depending on the measurement method and the specifications can be changed without prior notice for quality improvement.

ⓒ Copyright 2025-2026 FASTECH Co., Ltd.
All Rights Reserved.
2026-10-27 Rev.2.2