## CONPROSYS Series
## Digital Input Module
# CPS-DI-16L (16ch Sink Type)
# CPS-DI-16RL (16ch Source Type)

This product is an extension module with isolated digital input interface and operates along with the stack type controller of our CONPROSYS series.

CPS-DI-16L have the optocoupler isolated input 16 channels (supporting current sink output) whose response speed is 200 sec or less. All of the input signals are usable as interrupt events.

CPS-DI-16RL have the optocoupler isolated input 16 channels (supporting current source output) whose response speed is 200 sec or less All of the input signals are usable as interrupt events.

*The photograph is a CPS-DI-16L

* Specifications, color and design of the products are subject to change without notice.

## Features

**Optocoupler isolated input (supporting current sink output)**
CPS-DI-16L have the optocoupler isolated input 16 channels (supporting current sink output) whose response speed is 200 sec or less.

CPS-DI-16RL have the optocoupler isolated input 16 channels (supporting current source output) whose response speed is 200 sec or less.

**All of the input signals are usable as interrupt events.**
You can use all of the input signals as interrupt events and also disable or enable the interrupt in bit units and select the interrupt edge.

**Digital filter to prevent input signals from carrying noise or a chattering.**
This product has a digital filter to prevent input signals from carrying noise or a chattering. All input terminals can be added a digital filter, and the setting can be performed by software.

**Output circuits include zener diodes for surge voltage protection.**
Zener diodes are connected to the output circuits to protect against surge voltages.
The rated output is 35VDC, 100mA to the maximum per channel.

**Compact Design**
Compact design, 25.2 (W) x 94.7(D) x 124.8(H) mm, features flexibility in installation.

**Adaptable to a wide range of temperature between -20 and +60℃**
The product is capable of operating in the temperature between -20 and + 60℃.   It can be installed in the various environments.

**Installation easy with two pieces of terminal support and DIN rail**
You can remove a terminal connector without a screwdriver so that it can shorten the time of the replacement. As the product can be not only mounted on DIN rail, but also is removable along the side rails, replacing is simple and easy as well.

**Equipped with the LED for an operation check**
The product has the LED for an operation check, which helps you visually confirm the communication status of each interface.

**No electrolytic capacitor**
Without an electrolytic capacitor, which has a limited life, we are creating the product with a longer life.

## Specifications

### Function specifications

| Item | | CPS-DI-16L | CPS-DI-16RL |
|---|---|---|---|
| Input | | | |
| | Input type | Optocoupler Isolation Input (Compatible with current sink output) (negative logic) *1 | Opto-isolated input (Compatible with current source output)(Positive logic) *2 |
| | Isolation | Optocoupler Isolation | |
| | Voltage Resistance | 1000V | |
| | Input Resistance | 4.7kΩ | |
| | Input ON current | 2.0mA | |
| | Input OFF current | 0.16mA | |
| | Interrupt | 8 interrupt input signals are arranged into a single output of interrupt signal. An interrupt is generated at the rising edge (HIGH-to-LOW transition) or falling edge (LOW-to-HIGH transition). (setting can be done by software) | |
| | Response time | Within 200μs | |
| | Number of input signal channels | 16    *There is one common for every 8 input signals | |
| | LED | DI00 – DI07 (Green), DI10 – DI17 (Green) | |
| Common | | | |
| | Connector | 2 pieces 3.81mm pitch 10-pin terminal | |
| | Applicable | AWG28 - 16 | |
| | LED | Status (Green, Red) | |
| | External circuit power supply | 12 - 24VDC (±10%) | |
| | Electricity consumption | 0.1A (Max.) | |
| | Physical dimensions (mm) | 25.2 (W)×94.7(D)×124.8(H) (not include projection) | |
| | Weight | 200g | |
| | Installation method | Quick mounting onto 35mm DIN rail | |

*1 Data "0" and "1"correspond to the High and Low levels, respectively.
*2 Data "0" and "1" correspond to the Low and High levels, respectively.

⚠ CAUTION
The maximum number of stacking modules operating along with the stack type controller is 16 and the total current consumption of the modules should be less than 3.3A.
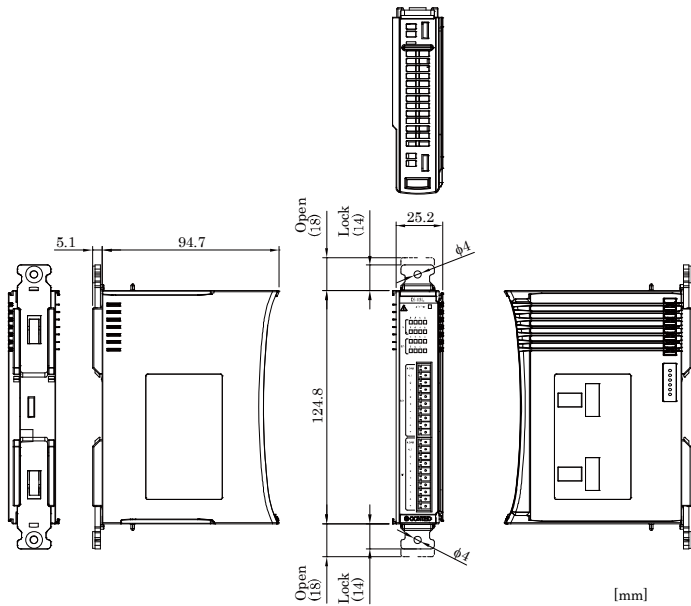
## Installation Environment Requirements

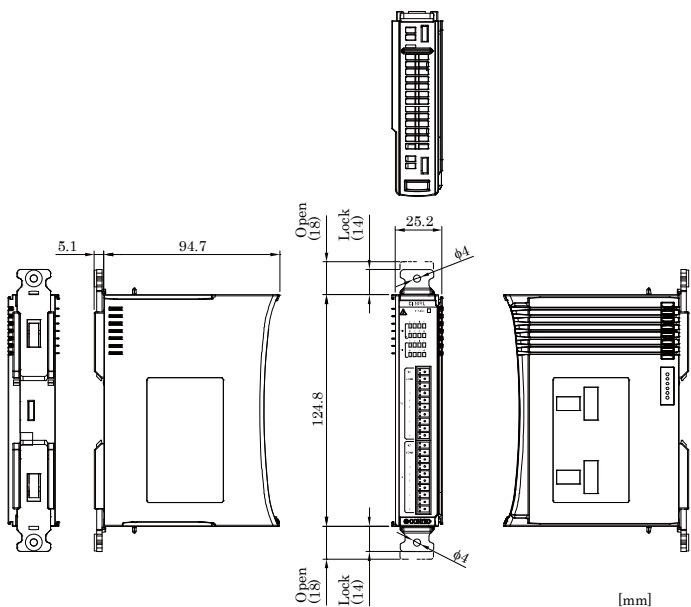| Item | | CPS-DI-16L | CPS-DI-16RL |
|---|---|---|---|
| Operating ambient temperature | | -20 - +60℃ | |
| Operating ambient humidity | | 10 - 90%RH (No condensation) | |
| Non-operating ambient temperature | | -20 - +60℃ | |
| Non-operating ambient humidity | | 10 - 90%RH (No condensation) | |
| Floating dust particles | | Not to be excessive | |
| Corrosive gases | | None | |
| Line-noise resistance | Line noise | Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3) | |
| | Static electricity resistance | Touch /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3) | |
| Vibration resistance | Sweep resistance | 10 - 57Hz*3/ semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40 minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant) | |
| Impact resistance | | 15G half-sine shock for 11ms in X, Y, and Z directions (JIS C60068-2-27-compliant, IEC60068-2-27-compliant) | |
| Standard | | VCCI Class A FCC Class A CE Marking (EMC Directive Class A, RoHS Directive) | |

*3 With the optional DIN rail fitting power supply : 10-55Hz (for details, see the specification of the optional power supply)

## Physical Dimensions

### CPS-DI-16L



[mm]

### CPS-DI-16RL



[mm]

## Packing List

Product (One of the followings) ...1
 [CPS-DI-16L, CPS-DI-16RL]
Product Guide ... 1
Warranty Certificate ...1
Serial number Label ...1
10pin Connector ...2

## List of Option

### Stack Type Controller

CPS-MCS-341DS1-111 :     Stack Type CPU module

CPS-MCS341G-DS1-130 :    Stack Type CPU module + 3G WAN

CPS-MCS341Q-DS1-131 :    Stack Type CPU module + 920MHz LAN
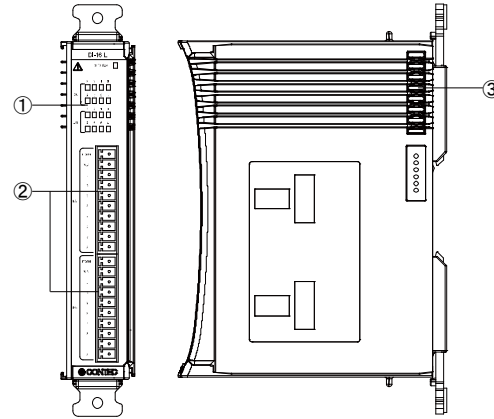
CPS-ECS341-1-011 :     Ether CAT Slave Module

### DIN rail mounting power supply

CPS-PWD-90AW24-01 :    DIN rail fitting power supply 90[W] (Input: 100 - 240VAC, Output: 24VDC 3.8 A)

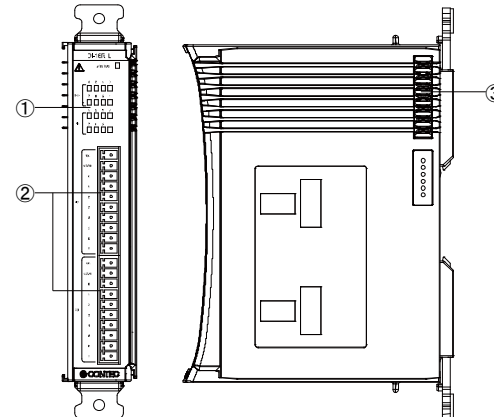CPS-PWD-30AW24-01 :    DIN rail fitting power supply 30[W] (Input: 100 - 240VAC, Output: 24VDC 1.3 A)

* Visit the Contec website regarding information on the optional products

## Component Name

### CPS-DI-16L



### CPS-DI-16RL



1.   LED : Indicates the status of the product.
2.   Digital Input : Use the 10-pin connector, included in this package.
3.   Stack Bus : Used for the stacking module power supply and communication.