

CONPROSYS nano Series

Digital Input Module

CPSN-DI-08L

Digital Input Module Built-in power supply

CPSN-DI-08BL

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

Features

Opto-coupler isolated input (supporting current sink output)
CPSN-DI-08L has the opto-coupler isolated input 8 channels (supporting current sink/source output) whose response speed is 200μsec or less.

CPSN-DI-08BL has the opto-coupler isolated input 8 channels (supporting current sink output) whose response speed is 200μsec 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.

Equipped with an input pulse filter function to prevent false recognition of input signals due to noise and chattering

This product is equipped with an input pulse filter that can prevent input signal noise and chattering. The input pulse filter can be applied to all input terminals, and configuration can be performed using the software.

Easy installation and removal

This product can be installed in and removed from the CPU unit or USB I/O Unit - Module Type without any tools.

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

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.

Packing List

Product [CPSN-DI-08L, CPSN-DI-08BL] ...1

10-pin power connector...1

Please read the following ...1

This product is an expansion I/O module that adds an opto-coupler isolated input interface with a response speed of 200 μs or less to the CPU unit or USB I/O Unit - Module Type of the CONPROSYS nano series.

The CPSN-DI-08L is equipped with 8 inputs and 1 common that support current sink/source output. This product can also be used with an external circuit power supply of 12 to 24 V.

The CPSN-DI-08BL is equipped with 8 inputs and 1 common that support current sink output. This product's internal circuit also has a built-in power supply, so no external circuit power supply is necessary.

- * The contents in this document are subject to change without notice.
- * Visit the CONTEC website to check the latest details in the document.
- * The information in the data sheets is as of August 2024.

Specifications

Function specifications

Item	CPSN-DI-08L	CPSN-DI-08BL
Input		
Input type	Opto-coupler isolated input (supports current sink [negative logic] output*1/current source [positive logic] output*2)	Opto-coupler isolated input (supports current sink [negative logic] output *1)
Isolation	Opto-coupler Isolation	
Voltage Resistance	AC1000Vrms	AC500Vrms
Input Resistance	4.7kΩ	
Input ON current	2.0mA or more	
Input OFF current	0.16mA or less	
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 200μsec	
Number of input signal channels	8 (shared common)	
LED	DI0 - DI7 (Green)	
Common		
Connector	2 pieces 3.81mm pitch 10-pin terminal	
Applicable	AWG28 - 16	
External circuit power supply *2	12 - 24VDC (±10%)	-
Internal circuit power supply	-	12VDC 42mA (Max.)
Electricity consumption	- 3.3V 0.05A (Max.)	5V 0.11A (Max.) 3.3V 0.05A (Max.)
Allowable distance of signal extension	Approx. 50m (depending on wiring environment)	
Physical dimensions (mm)	15.6 (W) x 52.6(D) x 84(H) (not include projection)	
Weight	50g	

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

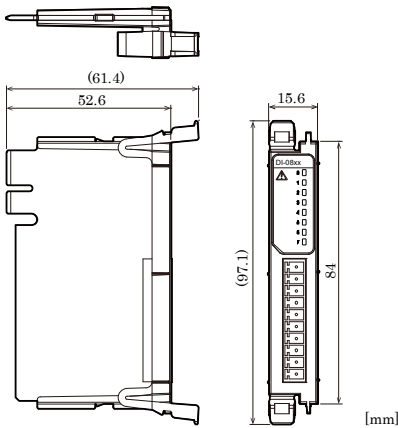
*2 Data "0" and "1" correspond to the Low and High levels, respectively.

Installation Environment Requirements

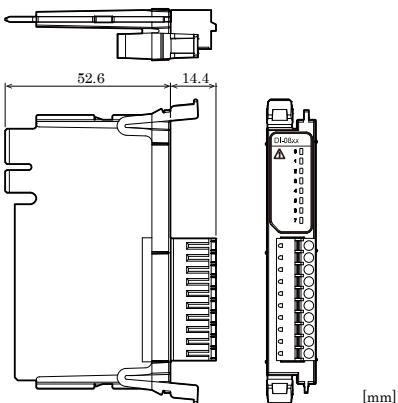
Item	CPS-DI-16L	CPS-DI-16RL
Operating ambient temperature	-20 - +60°C (Vertical installation) -20°C to +55°C with a vertical installation at an angle of 90° to the left/right or with a horizontal installation.	
Operating ambient humidity	10 - 90%RH (No condensation)	
Non-operating ambient temperature	-20 - +60°C	
Non-operating ambient humidity	10 - 90%RH (No condensation)	
Floating dust particles	Not to be excessive	
Corrosive gases	None	
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	10 - 57Hz *1/ 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), UKCA	

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

Physical Dimensions



With the connector attached



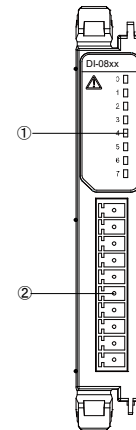
List of Options

Product Name	Model type	Description
CPU unit	CPSN-MCB271-S1-041	Remote I/O CPU unit *1
	CPSN-MCB271-1-041	Remote I/O CPU unit LAN 2-channel model *1
	CPSN-PCB271-S1-041	CODESYS Modbus Master CPU unit
USB I/O Unit - Module Type	CC-USB271-CPSN4	USB I/O Unit - Module Type (4 slot) *1
DIN rail fitting power supply	CPS-PWD-30AW24-01	Fitting power supply 30W (Input: 100 - 240VAC, Output: 24VDC 1.3 A)
	CPS-PWD-90AW24-01	Fitting power supply 90W (Input: 100 - 240VAC, Output: 24VDC 3.8 A)

*1 Available with our device driver API-TOOL.

* Visit the Contec website regarding information on the optional products

Name of each parts



- (1) LED Indicator : Displays the digital input status.
- (2) Interface Connector : This is a connector for digital input. Use the 10-pin connector, included in this package.

Isolation Digital Input Connector

This product has 8 channels of digital input. Use the 10-pin connector, included in this package.

Connector type : DEGSON 15EDGKC-3.81-10P-13 (or equivalent)

CPSN-DI-08L

Pin No.	Signal Name	Meaning
1	COM	When connecting to sink output, connect this pin to the positive side of the external circuit power supply. When connecting to source output, connect this pin to the negative side of the external circuit power supply. There is one common for DI0 to DI7.
2	N.C.	This pin is not connected.
3 - 10	DI0 - DI7	This indicates the input signals. It connects the output signals from the other devices.

CPSN-DI-08BL

Pin No.	Signal Name	Meaning
1	PCOM	This pin outputs the positive side of the internal power supply. It can be used in operations such as lighting LEDs on other devices.
2	MCOM	This connects the negative-side of the external power. It shares with 8 channels of input signal (DI0 - DI7).
3	DI0 - DI7	This indicates the input signals. It connects the output signals from the other devices.