

CONPROSYS nano Series
Digital Output Module
CPSN-DO-08FPW



Features

Digital isolator, isolated outputs

This product is equipped with eight digital isolator, isolated push-pull outputs (current sink/source types) with a fast response speed of 1 μsec or less.

Synchronization function support *1

The synchronization control function provided by the installed CPU unit is supported. You can control the timing of input and output according to the synchronization signal from the CPU unit, allowing for control and measurement that are aligned with the timing of the entire system.

PWM supported *1

This product is equipped with a function that can output pulses of any period. It is also possible to set the phase of the PWM output of each channel

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, 500mA to the maximum per channel.

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.

*1 F For details on whether functions can be used, refer to the CPU Unit Software Manual.

Packing List

Product ...1

10-pin Connector (attached to the product)...1

Please read the following... 1

This product is an expansion module that adds a digital output interface to the or USB I/O Unit - Module Type of the CONPROSYS nano series.

This product is equipped with eight digital isolator, isolated push-pull outputs (current source/sink types) with a fast response speed of 1 μsec or less. This product can also be used with an external circuit power supply of 5 to 24 V.

- * Specifications, color and design of the products are subject to change without notice.
- * 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 March, 2026.

Specifications

Function specification

Item	CPSN-DO-08FPW	
Output		
Output type	Digital isolator, isolated push-pull output (current sink/source type)*1	
Isolation	Digital isolator	
Voltage Resistance	AC1000Vrms	
Output rating	Output Voltage	35VDC (Max)
	Output Current	500mA (Max)
Residual Voltage with Output ON	0.5V or less (Output current ≤ 500mA)	
Surge protector	Zener diode CMZ36A (TOSHIBA) or equivalent	
Response time	Within 1μsec	
Number of output signal channels	8 (shared common) (4 of these 8 can be used as PWM)	
LED	DO0 - DO7 (Green)	
PWM output		
Output type	Digital isolator, isolated push-pull output (current sink/source type)*1	
Isolation	Digital isolator	
Voltage Resistance	AC1000Vrms	
Output rating	Output Voltage	35VDC (Max)
	Output Current	500mA (Max)
Residual Voltage with Output ON	0.5V or less (Output current ≤ 500mA)	
Surge protector	Zener diode CMZ36A (TOSHIBA) or equivalent	
Response time	Within 1μsec	
Number of output signal channels	4 (shared common)	
PWM period	5 - 1000000μs (The duty ratio can be set from 0% to 100%)	
PWM phase setting	0°, 90°, 180°	
LED	DO0 - DO3 (Green)	
Common		
Connector	2 pieces 3.81mm pitch 10-pin terminal	
Applicable wire	AWG28 - 16	
External circuit power supply *2	5 - 24VDC (±10%)	
Internal circuit power supply	-	
Electricity consumption	3.3V 0.16A (Max)	
Physical dimensions (mm)	15.6(W)×52.6(D)×84(H) (No projection included)	
Weight	50g	

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

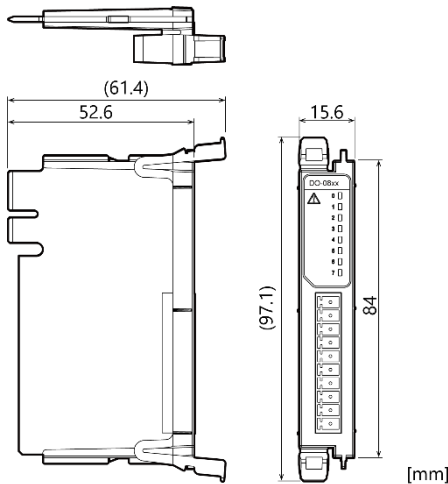
*2 The digital output circuit is equipped with a fuse for preventing overcurrent. Use a power supply that has overcurrent protection or a 300 W or lower power supply.

Installation Environment Requirements

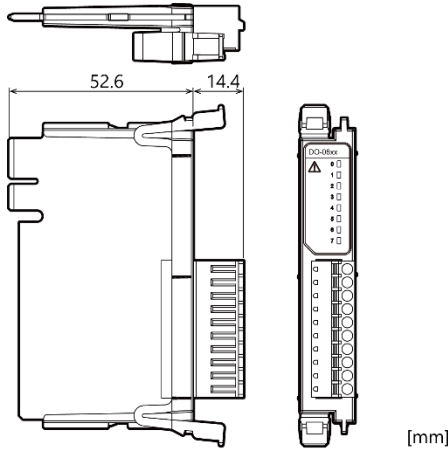
Item	Description	
Operating ambient temperature *1	-20 - +60°C (Wall installation at an angle of 0°) -20°C to +55°C with a vertical installation at an angle of 90° to the left/right or with a plane installation	
Operating ambient humidity	10 - 90%RH (No condensation)	
Non-operating ambient temperature	-20 - +60°C	
Non-operating ambient humidity	10 - 90%RH (No condensation)	
Floating dust particles	Not to be excessive	
Corrosive gases	None	
Line-noise 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 *2 /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
	Shock resistance	15G half-sine shock for 11ms in X, Y, and Z directions (JIS C 60068-2-27-compliant, IEC 60068-2-27-compliant)
Standard	VCCI Class A, FCC Class A CE Marking (EMC Directive Class A, RoHS Directive), UKCA	

- *1 Output current derating is required.
- *2 With the optional DIN rail fitting power supply; 10 - 55Hz (for details, see the user's guide of the optional power supply).

Physical Dimensions



With the connector attached

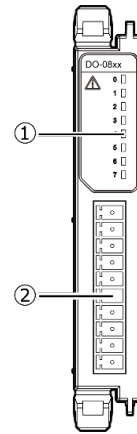


List of Options

Product Name	Model type	Description
CPU unit *2	CPSN-MCB271-S1-041	Remote I/O CPU Unit *1
	CPSN-MCB271-1-041	Remote I/O CPU Unit LAN 2-channel model (4 slot) *1
	CPSN-MCB271-1-081	Remote I/O CPU Unit LAN 2-channel model (8 slot) *1
	CPSN-PCB271-S1-041	CODESYS Modbus Master CPU unit
	CPSN-EOB471EC-41	Remote I/O CPU Unit (EtherCAT, 4slot)
	CPSN-EOB471EC-81	Remote I/O CPU Unit (EtherCAT, 8slot)
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.
- *2 For the latest supported CPU units, see the Contec website.
- * Visit the Contec website regarding information on the optional products.

Name of each parts



No.	Name	Function
1	LED	Displays the digital output status.
2	Interface Connector	This is a connector for digital output. Use the 10-pin connector included in the package.

Interface Connector

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

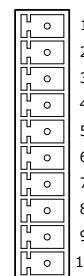
- Mounted Connector

10-pin European style terminal block (3.81mm pitch, 10 x 1 row)
MC 1.5/10-G-3,81 P26 THR [Phoenix Contact] or equivalent

- Compatible Connector

10-pin European style terminal block (3.81mm pitch, 10 x 1 row)
FK-MCP 1.5/10-ST-3,81 [Phoenix Contact] or equivalent

Digital output Connector



Pin No.	Signal Name	Description
1	PCOM	This connects the positive-side of the external power. It shares with 8 channels of output signal (DO0 - DO7).
2	MCOM	This connects the negative-side of the external power. It shares with 8 channels of output signal (DO0 - DO7).
3	DO0 - DO7	This indicates the output signals. It connects the input signals from the other devices.

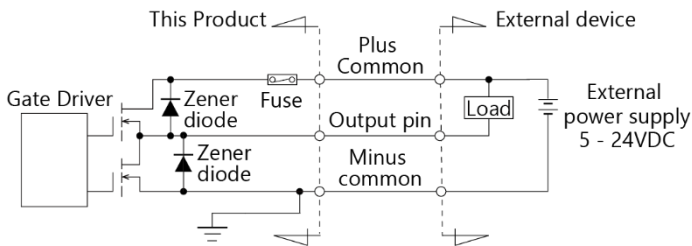
Digital Output

The equivalent circuit of the digital output interface part is shown in the following figure.

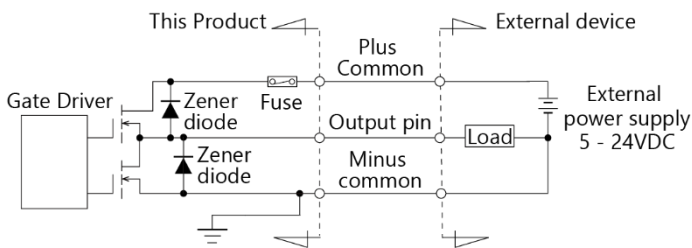
Connect this interface to a device that is driven by current such as a relay or an LED. For the connection to this product, an external power supply is required in order to supply the current. The turning ON/OFF of the device that is driven by current is controlled with a digital value.

The maximum rated output current is 500 mA per channel. This product supports source output and sink output.

Digital Output circuit (Current sink type)



Digital Output circuit (Current source type)

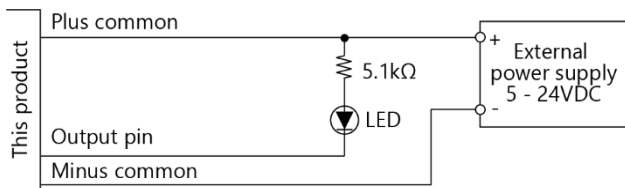


CAUTION

- When supplying power, all output will be OFF.

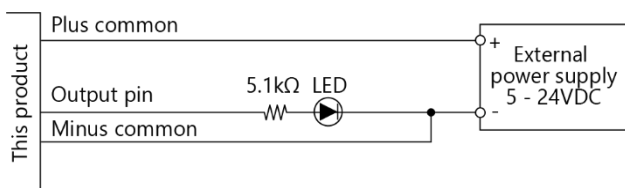
Example of connecting the product to LED

Example of connecting the product to LED (Current sink type)



When "0" is output to the corresponding bit, current flows into the output pin, and the corresponding LED lights up. Conversely, when "1" is output to the corresponding bit, current does not flow into the output pin, and the corresponding LED turns off.

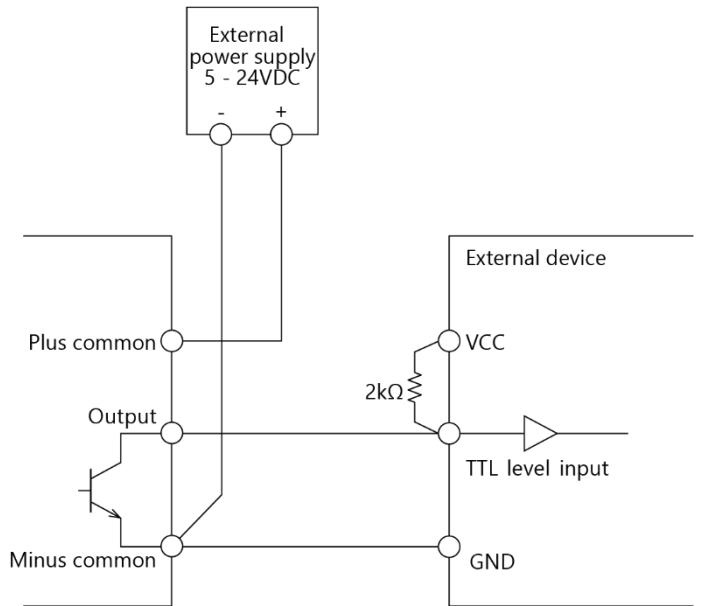
Example of connecting the product to LED (Current source type)



When "1" is output to the corresponding bit, current flows from the output pin, and the corresponding LED lights up. Conversely, when "0" is output to the corresponding bit, current does not flow from the output pin, and the corresponding LED turns off.

Example of connecting the product to TTL level input

Example connection of Output and TTL level input (Current sink type)



Derating

The characteristic of derating by way of the output current is shown in the following figure.

Use this product within the derating range. Failing to do so may lead to malfunctions.

Characteristic of derating by way of the output current

