

CONPROSYS nano Series
CODESYS Modbus Master CPU Unit
CPSN-PCB271-S1-041



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

Hardware Features

I/O module expansion

With this product, you can freely add I/O modules to match the necessary functions from among the varied collection of CONPROSYS nano series I/O modules.

Max. 921,600bps RS-232C Serial Communication

The Product has one RS-232C-standard serial port. Baud rates from 110 to 921,600 bps can be set.

Compact Design

Compact design, 110 (W) × 74.8 (D) × 95 (H) mm, features flexibility in installation.

Easy installation and removal of I/O modules

Expansion modules can be installed and removed 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.

Installation easy with a two-piece terminal on DIN or with screws

Regarding the power connector, the terminal connector can be removed without a screwdriver. Even when a malfunction occurs, this product can be replaced in a short length of time. Furthermore, as the product is mounted on the DIN rail, removing and replacing are easy as well. This product can also be installed with screws, so it supports a wide range of installation situations.

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.

Software Features

Collaborate with the CODESYS

This product features the CODESYS Soft PLC. CODESYS is a device-independent-PLC-programming system that is complied with the IEC 61131-3 standard and supports all standard programming languages such as ST and LD.

Along with Modbus TCP Master and Modbus RTU Master

Modbus is a communication protocol widely applied in the industrial field. Data collecting from devices that contain Modbus Slave function or controlling can be carried out.

This product is a CPU unit containing RS-232C, LAN interface, and with four expansion slots to support CODESYS programming and Modbus Master.

The CONPROSYS nano series configurable I/O modules can be arranged and combined along with the product to satisfy the user's needs.

- * 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 June 2026.

Specifications

Function specifications

Item		CPSN-PCB271-S1-041
CPU		ARM Cortex-M3 180MHz
Memory		On Board 16MB SDRAM
ROM		On-Board 4MB NOR Flash for OS
FeRAM		On-Board 32kB
LAN	Transmission standard	10BASE-T/100BASE-TX
	The number of ports	1
	Connector	RJ-45 Connector
	LED	Speed(Orange), Link / Act(Green)
USB	Transmission standard	USB2.0 standard follow
	The number of ports	1
microSD Card slot	Connector	TYPE-A
	Standard	SD standard follow
RS-232C	Connector	microSD memory card slot
	Baud Rate	110 - 921.6kbps
	Isolation	Non-isolated
	Data length	5, 6, 7, 8 bit 1, 1.5, 2 stopbit
	Parity check	Even, Odd, Non-parity
	The number of channels	1ch
	Isolation	Non-isolated
Expansion slot	Connector	9-pin D-SUB Connector (Male)
	Number of slots	4
	Maximum power supply	12 - 24V 200mA, 5V 250mA, 3.3V 200mA (per slot)
	Number of insertions/removals	50 times (min)
LED	PWR(Green) / RUN(Green) / STS(Green) / ERR(Red)	
Switch	Push switch	
RTC	Monthly error	± 15 seconds or less (25°C)
	Backup time	10 years or more (25°C) Lithium primary battery
Power supply *1	Rated input voltage	12 - 24VDC
	Input voltage range	10.8 - 30VDC
	Power consumption	<CPU Unit alone *2> 24V 0.08A (Typ), 0.1A (Max), 12V 0.15A (Typ), 0.2A (Max) <With I/O module and USB> 24V 1.5A (Max), 12V 2.0A (Max)
	Connector	2 pieces 3.5mm pitch 3-pin Terminal (V+, V-, FG)
	Applicable wire	AWG24- 16
	Surge protection element	Interactive TVS Diode Stand off voltage : ±30V, Peak pulse power: 400W (1ms) V+ -V-, V- - FG
Physical dimensions (mm)	110(W)×74.8(D)×95(H)mm (not include projection)	
Weight	250g	
Installation method	Quick installation on a 35 mm DIN rail Vertical installation with screws *3	

*1 Use power cable within 3meters.

*2 With no USB load and no expansion slot load

*3 Commercially available screws are required.

Installation Environment Requirements

Item		CPSN-PCB271-S1-041
Operating ambient temperature		Vertical installation -20 - +60°C Vertical installation with an angle of 90° to the right/left, Horizontal installation : -20 - +55°C
Operating ambient humidity		10 to 90%RH (No condensation)
Non-operating ambient temperature		-20 to +60°C
Non-operating ambient humidity		10 to 90%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-noise resistance	Line noise	AC Line/±2kV *1 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 40 minutes 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 C60068-2-27-compliant, IEC60068-2-27-compliant)
Grounding		Class D grounding (previous class 3 grounding), SG-FG/ non-conduction
Standard		VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA, ISED

*1 When an optional power product is used.

*2 When an optional power product is used : 10 - 55Hz (See the manual of optional power product for details)

About current consumption of expansion slots and USB connector

Current consumption of this product vary depending on the current consumption of the installed I/O modules or connected USB devices. The maximum current consumption of the product alone (without any I/O modules or USB devices) is 2.4[W]. Current consumption of individual I/O module or USB slot is listed below. If you use the power supplies different from our optional power products, use the power that satisfies the total consumption of the combined CPU unit and modules.

I/O module	Current Consumption [W] *
CPSN-DI-08L	0.3
CPSN-DI-08BL	0.9
CPSN-DI-08FCL	0.4
CPSN-DI-08FCRL	0.4
CPSN-DI-16BCL	1.3
CPSN-DIO-08SL	0.3
CPSN-DO-08L	0.4
CPSN-DO-08BL	1.2
CPSN-DO-08RL	0.3
CPSN-DO-08BRL	1.2
CPSN-DO-08FPW	0.7
CPSN-DO-16L	0.7
CPSN-DO-16BL	1.2
CPSN-RRY-4PCA	1.2
CPSN-AI-1208U	1.4
CPSN-AI-1604U	1.7
CPSN-AI-2408U	1.0
CPSN-AO-1204U	1.5
CPSN-AO-1602LC	2.1
CPSN-AO-1602LC2	2.1
CPSN-CNT-32011	0.4
CPSN-CNT-32012	0.4
CPSN-COM-1PD	1.7
CPSN-COM-1PD2	1.7
CPSN-COM-1GM1	1.1
CPSN-SS-4C	1.1
USB slot	

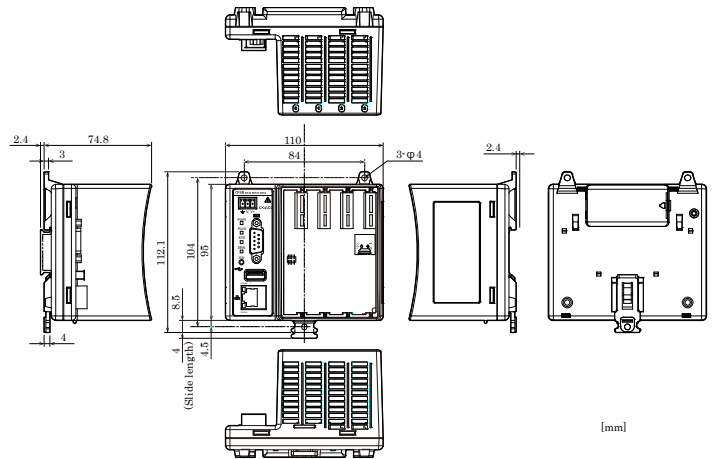
- Includes conversion loss upon converting voltage on the CPU unit.

An example)

With four of the CPSN-COM-1PDs and a USB device (0.5A used) is connected, the maximum power is as follows:
 $2.4[W] + 1.7[W] \times 4 + 3.1[W] = 12.3[W]$

The required power consumption can be satisfied when the optional power product [CPS-PWD-30AW24-01 (24V 30W)] is used.

Physical Dimensions



Packing List

- Product [CPSN-PCB271-S1-041] ...1
- Product Guide...1
- Warranty Certificate...1
- Serial Number Label...1
- Power Connector ...1
- Blank panel...3

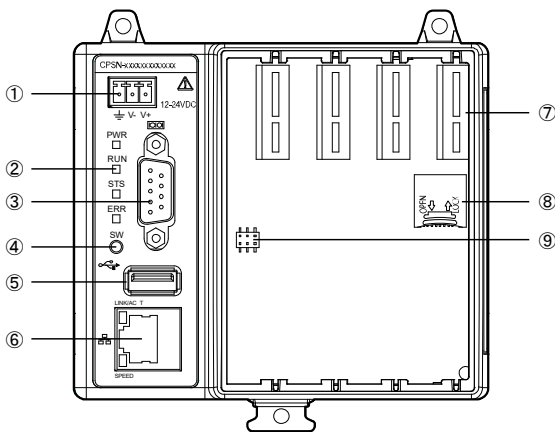
List of Options

Product Name	Model type	Description
DIN rail fitting power supply	CPS-PWD-30AW24-01	30W (Input: 100-240VDC, Output: 12VDC 1.3A)
	CPS-PWD-90AW24-01	90W (Input: 100-240VDC, Output: 12VDC 3.8A)
I/O module	CPSN-DI-08L	with isolated digital input (input 8 channels, sink input / source input)
	CPSN-DI-08BL	with isolated digital input (input 8 channels, sink input, built-in power supply)
	CPSN-DI-08FCL	with isolated digital input (input 8 channels, sink input, Synchronization function *3)
	CPSN-DI-08FCRL	with isolated digital input (input 8 channels, source input, Synchronization function *3)
	CPSN-DI-16BCL	with isolated digital input (input 16 channels, sink input / source input, built-in power supply)
	CPSN-DIO-08SL	with isolated digital input/output (input 8 channels, output 8 channels, sink)
	CPSN-DO-08L	with isolated digital output (output 8 channels, sink output)
	CPSN-DO-08BL	with isolated digital output (output 8 channels, sink output, built-in power supply)
	CPSN-DO-08RL	with isolated digital output (output 8 channels, sink output)
	CPSN-DO-08BRL	with isolated digital output (output 8 channels, source output, built-in power supply)
	CPSN-DO-08FPW	with isolated digital output (output 8 channels, sink output / source output, Synchronization function *3)
	CPSN-DO-16L	with isolated digital output (output 16 channels, sink output)
	CPSN-DO-16BL	with isolated digital output (output 16 channels, sink output, built-in power supply)
	CPSN-RRY-4PCA	with relay contact output (4channels)
	CPSN-AI-1208U	with isolated analog input (12-bit voltage input / current input, SE Input 8 channels / Differential Input 4 channels)
	CPSN-AI-1604U	with isolated analog input (16-bit voltage input / current input, Differential Input 4 channels)
CPSN-AI-2408U	with isolated analog input (24-bit voltage input / current input, SE Input 8 channels / Differential Input 4channels)	
CPSN-AO-1204U	with isolated analog output (12-bit voltage output / current output, 4 channels, Synchronization function *3)	
CPSN-AO-1602LC	with isolated analog output (16-bit voltage output / current output, 2 channels)	
CPSN-AO-1602LC2	with isolated analog output (16-bit voltage output / current output, 2 channels, Synchronization function *3)	

Product Name	Model type	Description
	CPSN-CNT-32011	with isolated counter input (32-bit, 1channel)
	CPSN-CNT-32012	with isolated counter input (32-bit, 1channel, Synchronization function *3)
	CPSN-COM-1PD	with isolated RS-422A/485 serial communication (1channel)
	CPSN-COM-1PD2	with isolated RS-422A/485 serial communication (1channel)
	CPSN-COM-1GM1	with serial I/O module 4G LTE CAT.M1 *1*2 (Japanese only)
	CPSN-SSI-4C	with isolated thermocouple input (4channels)

- *1 SIM card is required individually. Use a standard size SIM card.
- *2 Only slot 0 can be installed. For expansion slot numbers, please refer to "Product Nomenclature and Function".
- *3 For details on the synchronization function, refer to the Reference Manual (Hardware) for each module.
- * Visit the Contec website regarding information on the optional products.

Name of each parts

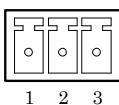


- (1) Power Connector : Use the power connector (3 pin connector), included in this package.
- (2) LED : Indicates the status of the product.
- (3) RS-232C : It is a RS-232C serial ports (male).
- (4) Switch : This is used with the software setup.
- (5) USB : It is a USB port.
- (6) LAN : It is a connector for LAN.
- (7) Expansion slot : These are used to supply power to and communicate with expansion modules.
- (8) microSD Card Slot : It is for data storage.
- (9) Jumper : Please do not use it.

Power Connector (12 - 24VDC)

Use the 3-pin connector, included in this package.

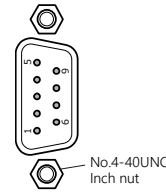
- Mounted Connector
3-pin European style terminal block (3.5mm pitch, 3 x 1 row)
MCV 1,5/3-G-3,5 P26 THR [Phoenix Contact] or equivalent
- Compatible Connector
3-pin European style terminal block (3.5mm pitch, 3 x 1 row)
FK-MCP 1,5/3-ST-3,5 [Phoenix Contact] or equivalent



Pin No	Signal name	Meaning
1	FG	Frame ground
2	V-	Power supply (GND)
3	V+	Power supply (12 - 24VDC)

RS-232C Interface (COM)

This product has 1port of RS-232C compliant serial ports of a baud rate 921,600bps (Maximum).



Pin No.	Signal name	Direction	Meaning
1	CD	Input	Carrier detection
2	RD	Input	Received data
3	TD	Output	Transmitted data
4	DTR	Output	Data terminal ready
5	GND	----	Signal ground
6	DSR	Input	Data set ready
7	RTS	Output	Request to send
8	CTS	Input	Clear to send
9	RI	Input	Ring indicate