

CONPROSYS Series
Counter Module
CPS-CNT-3202I



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

Features

Count two-phase signals

This product can count two-phase and single-phase signals including encoders, and linear scales. It is equipped with two channels of 32-bit up/down counters.

Opto-coupler isolated input

Opto-coupler isolated input of 500 kHz response frequency within.

Interrupt, Output signal

Generate an interrupt or output one-pulse signal when the count data of each channel match a specified value.

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, 50mA to the maximum per channel.

Compact design

Compact design, 25.2 (W)×94.7(D)×124.8 (H), features flexibility in installation.

Adaptable to a temperature range 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 two pieces of terminal support and DIN rail

You can install and 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 LED for an operation check

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

No electrolytic capacitor battery

No electrolytic capacitor is used. The Contec is creating the product with a longer life.

This product is a configurable module that adds the interface, which counts input pulse signals from external devices, to the configurable controller of our CONPROSYS series.

It has two channels of 32-bit up/down counters, allowing external devices such as a rotary encoder and a linear scale to be connected.

Examples are given for “detecting a position of the table of a machine tool” and “detecting a change in weight”.

- * 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 July, 2022.

Specifications

Function specifications

Item		CPS- CNT-3202I
Counter Input	Number of Channels	2
	Count system	Up/down counting
	Max. count	FFFFFFFF (binary data, 32bit)
	Counter input type	Opto-coupler isolated input (Compatible with current sink output) (Positive logic)
	Isolation	Opto-coupler Isolation
	Voltage Resistance	1000V
	Counter input signal	Phase-A/UP 1 x 2 channels Phase-B/DOWN 1 x 2 channels Phase-Z/CLR 1 x 2 channels
	Input register	When external power is set as 5V: 220Ω When it is set as 12V: 690Ω
	Input maximum voltage/current	Upon setting 5V external power: 5.5V 25mA Upon setting 12V external power: 13.2V 25mA
	Input ON current	12mA or more
	Input OFF current	0.8mA or less
	Response frequency	500kHz duty 50% (Max.)
	Interrupt level	One interrupt caused upon channel count match or timer time-out
	External power*1	5V ±5% or 12VDC ±10% Min. 200mA
	General-Purpose Input	Opto-coupler input current
Digital filter		0.1μsec - 1056.1μsec (can be independently set for each channel)
Programmable Timer		1msec - 200sec
LED		A, B, Z, (Green) x 2ch
Input type		Opto-coupler Isolation Input (Compatible with current sink output) (Negative logic)
Isolation		Opto-coupler Isolation
Voltage Resistance		1000V
Number of input signal channels		1 x 2 channels
Input Resistance		When external power is set as 5V: 220Ω When it is set as 12V: 690Ω
Input ON current		8mA or more
Match Signal Output	Input OFF current	0.16mA or less
	Response time	Within 200μs
	External power*1	5V ±5% or 12VDC ±10% Min. 200mA
	LED	DI (Green) x 2ch
	Output point	1 x 2 channels
	Output type	Opto-coupler isolated open collector output
	Output rating	35VDC (Max), 50mA (per 1 point)
	Residual Voltage with Output ON	0.5V or less
	Output signal width	0 - 10445msec (All channels)
	Output protection circuit	Zener diode CMZB47 (Toshiba) or equivalence

Item	CPS-CNT-3202I
External power	5V - 12VDC±10%
Connector	2 pieces 3.81mm pitch 10-pin terminal
Applicable wire	AWG28 - 16
LED	Status (Green, Red)
Current consumption	0.1A (Max.)
Physical dimensions (mm)	25.2(W)×94.7(D)×124.8(H) (No projection included)
Weight	200g
Installation method	Quick mounting on the 35mm DIN rail

*1 Use 5V or 12V power appropriately as an input resistance can be switched by DIP switch.

Caution

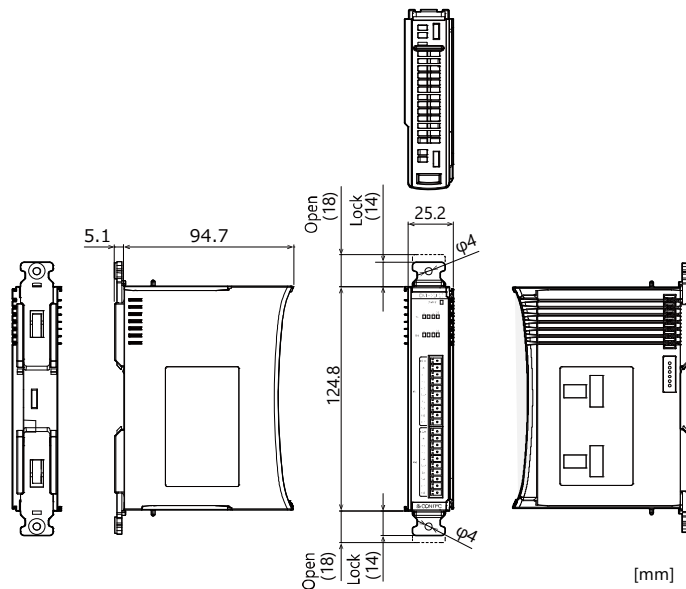
You can set the modules as you desire to the configurable controller up to 16 modules.
The total current consumption of the modules should be less than 3.3A.

Installation Environment Requirements

Item	CPS-CNT-3202I	
Operating ambient temperature	-20 - +60°C	
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, UL/c-UL	

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

Physical Dimensions



List of Option

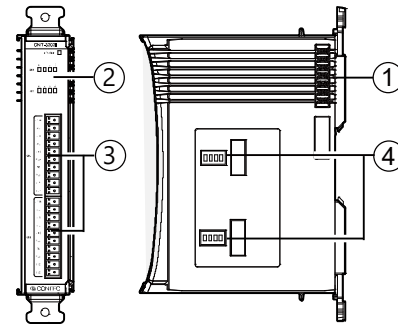
Configurable Type Controller

- CPS-MCS341-DS1-111 Configurable Type CPU module
- CPS-MCS341-DS1-131 Configurable Type CPU module + OPC UA server + MTConnect
- CPS-MCS341G5-DS1-130 Configurable Type CPU module +4G LTE WAN
- CPS-MCS341Q-DS1-131 Configurable Type CPU module +920MHz LAN
- CPS-ECS341-1-011 Ether CAT Slave Module

DIN rail mounting power supply

- CPS-PWD-90AW24-01 DIN rail mounting power supply 90[w]
(Input: 100 - 240VAC, output: 24VDC 3.8 A)
- CPS-PWD-30AW24-01 DIN rail mounting power supply 30[w]
Input: 100 - 240VAC, output: 24VDC 1.3 A)

Component Name



No.	Name	Function
1	Stack Bus	Used for power supply and communication with the configurable type module.
2	LED Indicator	This indicates status of the product.
3	Counter Input Connector	This is a connector for counter input. (Use the 10-pin connector, included in the package)
4	DIP Switch	Used for voltage setting of external power supply.

Packing List

- Product [CPS-CNT-3202I] ...1
- Product Guide ... 1
- Warranty Certificate ...1
- Serial number Label ...1
- 10-pin Connector ...2