CONPROSYS Series
CPU Module
CPS-MCS341-DS1-111
CPU Module OPC UA
CPS-MCS341-DS1-131

*The photograph is a CPS-MCS.
* Specifications, color and design of the products are subject to change without notice.

CPS-MCS341-DS1-111 and CPS-MCS341-DS1-131 are M2M controllers with isolated digital input and output (Input : 4ch, Output : 4ch), RS-232C, LAN interface, and Ethernet Hub.

As you desire, add the configurable type modules of our CONPROSYS series.

All the processes from development to operation can be performed on a web browser. The functions such as Web monitoring of I/O information, alarm processing by I/O information, task divergence enable you to create a Cloud System at low cost and in a short time.

In addition, the CPS-MCS341-DS1-131 contains OPC UA server function within. It can communicate directly with HMI and SCADA software that support OPC UA clients from various makers.

* 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 November 2018.

Hardware Features

Add configurable modules (Common to all models)
This product allows you to install modules from a wide variety of types to suit the needs of the user.

* Up to 16 modules can be set and the total current consumption should be less than 3.3A.

No base board required (Common to all models)
As the product requires no base board for installation, it helps add modules easily and smoothly.
Installed modules can be removed from any set positions on DIN rail.

Compact design (Common to all models)
Compact design, 44.7(W)×94.7(D)×124.8 (H), features flexibility in installation.

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

Ethernet Hub function within (Common to all models)
Use the product as Ethernet Hub so that you can connect devices in the daisy-chain.

A powerful running platform without fan (Common to all models)
The product contains the ARM® Cortex®-A8 processor (600MHz) and the DDR3 512MB system memory.

Decrease damages by bus isolation and surge protection. (digital input/output) (Common to all models)
Electrical isolation between the digital input/output and CPU can block electrical noise flow. Moreover, the surge protection elements are adopted

Opto-coupler Isolation Input and semiconductor relay output (Common to all models)
The product has the switchable four channels of opto-coupler isolation input (compatible with current sink output) and semiconductor relay output. It is usable for external switch inputting or LED lighting.

Max. 115,200bps RS-232C Serial Communication (Common to all models)
The Product has one RS-232C-standard serial port. Baud rates from 300 to 115,200 bps can be set.

Installation easy with two pieces of terminal support and DIN rail (Common to all models)
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 mounted on a DIN rail, removing and replacing are easy as well.

Equipped with LED for an operation check (Common to all models)
The product has LED for an operation check, which helps you visually confirm the communication status of each interface.

No electrolytic capacitor battery (Common to all models)
No electrolytic capacitor is used. The Contec is creating the product with a longer life.

Hardware Features

Together with OPC UA Server (CPS-MCS341-DS1-131)
OPC UA (Unified Architecture) is an advanced model of OPC specifications, which presents refined capability of transmitting and receiving semantic description data. The product can communicate directly with HMI and SCADA software that support OPC UA clients from various makers.

Measurement and upload (Common to all models)
This product measures data with an external sensor and uploads them to the Cloud server.

Web monitoring (Common to all models)
The product contains a Web server (Java applet). Even with the PC located remotely, I/O information can be monitored and updated through a Web browser
On the monitoring screen, the standard GUI parts (graphic, slider, button, etc.) can be freely arranged.
All operations including monitoring layout, making relations with I/O information, can be achieved through a Web browser.

Web task script (Common to all models)
By combining icons such as arithmetic operations, conditional branching, data outputting, you can set up the executions or its processes like drawing them in the flowchart. All operations can be completed through a Web browser.

Message communication function (Common to all models)
With the RS-232C or the Ethernet device (TCP/UDP), up to 10 links can be set to send or receive messages.
Message communication can be accomplished from Web task script.

Support a communication protocol MTConnect for machine tools (CPS-MCS341-DS1-131)

MTConnect is a communication protocol for machine tools and standardized by MTConnect Institution. CONPROSYS has MTConnect Adapter and Agent built-in and can be operated with client software that supports MTConnect.

Specification

Function specification

Item		CPS-MCS341-DS1-111	CPS-MCS341-DS1-131
CPU		ARM Cortex-A8 600MHz	
Memory		On Board 512MB DDR3 SDRAM	
ROM		On-Board 32MB NOR Flash for OS	On-Board 64MB NOR Flash for OS
LAN	Transmission standard	10BASE-T/100BASE-TX	
	The number of channels	2	
	Connector	RJ-45 Connector	
	LED	Speed (Yellow), Link/Act (Green)	
USB	Transmission standard	USB2.0 standard follow	
	The number of channels	1	
	Connector	TYPE-A	
SD card slot	Standard	SD standard follow	
	Connector	SD memory card slot	
	LED	Read/Write (Green)	
RS-232C	Baud Rate	300bps - 115.2kbps	
	Data length	5, 6, 7, 8 bit 1, 1.5, 2 stopbit	
	Parity check	Even, Odd, Non-parity	
	Isolation/Resistance	Non-isolated	
	The number of channels	1	
	Connector	9-pin D-SUB connector (Male)	
	LED	Transmission (Green), Reception (Green)	
Digital input and Output	Input type	Opto-coupler isolation input (Compatible with current sink output) (negative logic) *1	
	Input isolation	Opto-coupler isolation	
	Input voltage resistance	1000V	
	The number of input signal channels	4	
	Open-circuit impedance	10kΩ or more	
	Short-circuit impedance	500Ω or less	
	Response time (digital input)	Within 200μsec	
	Interrupt (digital input)	4 interrupt input signals are arranged into a single output of interrupt signal. An interrupt is generated at the falling edge (HIGH-to-LOW transition) or rising edge (LOW-to-HIGH transition). (setting can be done by software)	
	Output type	Semiconductor relay output	
	Output isolation	Semiconductor relay isolation	
	Output voltage resistance	1000V	
	The number of output signal channels	4 *usable as digital input or digital output	
	Maximum output voltage/current	13.2V/100mA	
	Response time	Within 2msec	
	ON resistance	8Ω or less (at 25 °C)	
	OFF leakage current	4μA or less (at 25 °C)	
	Surge protection element	Interactive TVS Diode Stand off voltage : ±30V, Peak pulse power : 400W (1ms)	
	LED	DI0-DI3 (Green)	
	Connector	2 pieces 3.81mm pitch 6-pin Terminal (N.C., DIO3, DIO2, DIO1, DIO0, MCOM)	
	Applicable wire	AWG28 - 16	
Stack Bus	The maximum number of stack buses	16 *2	
LED		Power (Green)/Status 1 (Green)/Status 2 (Red) /Error (Red)	
Switch		Power SW, Rotary SW, DIP SW	
RTC		RTC built-in (battery within)	
Power supply *3	Rated input voltage	24VDC	
	Input voltage range	21.6 - 26.4VDC	
	Power consumption	Controller alone: 24V 0.3A (Max.) With module(s): 24V 3.6A (Max.)	
	Connector	2-piece 3.5mm pitch 3-pin terminal (V+, V-, FG)	
	Applicable wire	AWG20 - 16	
	Surge protection element V+ - V-, V- - FG	Interactive TVS diode Stand off voltage : ±30V, Peak pulse power : 400W(1msec)	
Physical dimensions (mm)		44.7(W)×94.7(D)×124.8(H) (No projection included)	
Weight		300g	
Installation method		Quick mounting on the 35mm DIN rail	
OS		Linux kernel 3.2	

*1 Data "0" corresponds to High level and Data "1" corresponds to Low level.
*2 The total current consumption of the devices should be less than 3.3A.
*3 Use power cable within 3meters

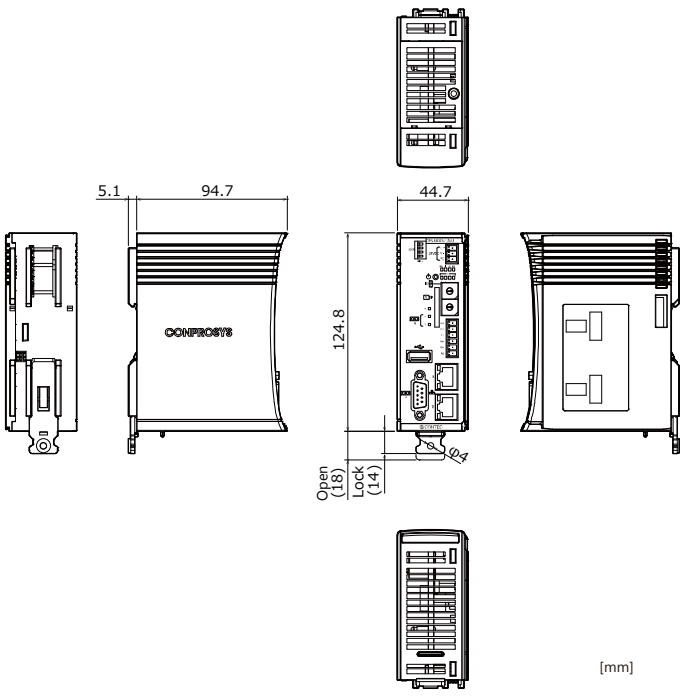
Installation Environment Requirements

Item		CPS-MCS341-DS1-111	CPS-MCS341-DS1-131
Operating ambient temperature		-20 - +60°C *4	
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	AC Line/±2kV *5 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 *6 /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)	
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), UL	

*4 If you use the USB with bus power, operate the product at between -20 and +55°C.
*5 When you use the optional power product.
*6 When you use an optional power product: 10 - 55Hz (See the manual of optional power product for details)

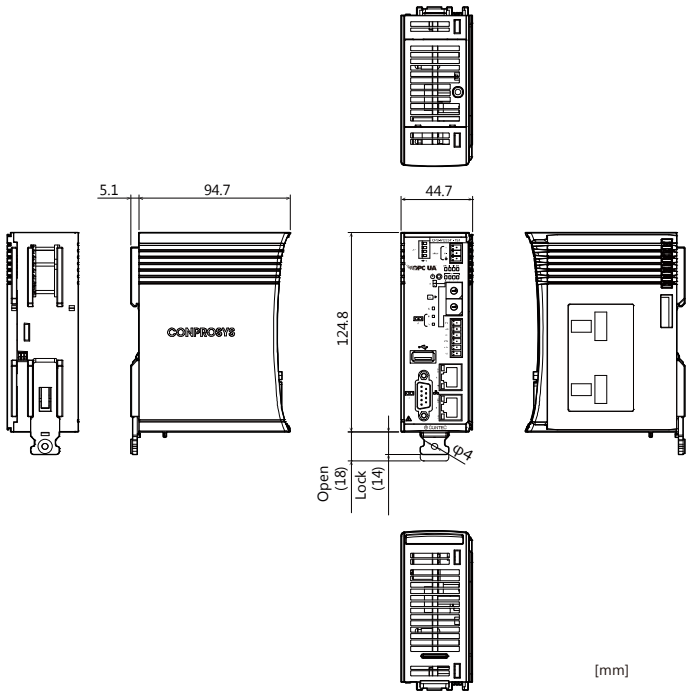
Physical Dimensions

CPS-MCS341-DS1-111



[mm]

CPS-MCS341-DS1-131



Packing List

Product One of the followings ...1
[CPS-MCS341-DS1-111, CPS-MCS341-DS1-131]
End Cover...1 (attached to the product)
Product guide ... 1
Warranty Certificate ...1
Serial Number Label ...1
3-pin Connector...1
6-pin Connector...1

※ Use the supplied plastic DIN rail when connecting this product and a module on a desk top for system development or validation. If you use the supplied plastic DIN rail in the field, it cannot be covered by warranty. Therefore, when you set the product and module in the field, use the commercially available DIN rail.

List of Option

DIN rail fitting 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)

SD Card

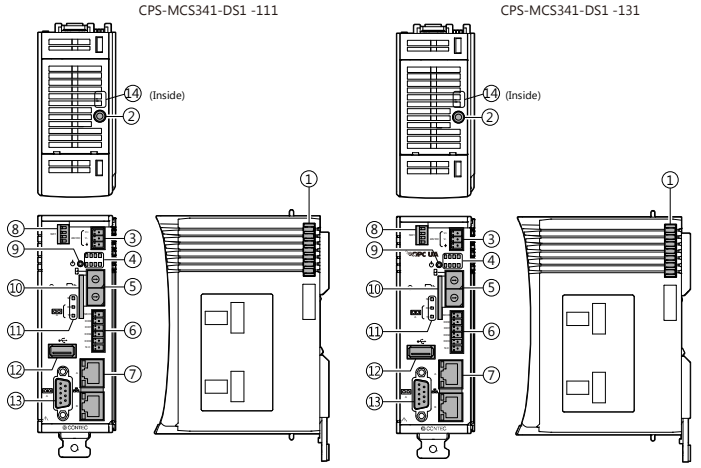
SD-2GB-B : SD Card 2GB
SD-4GB-A : SD Card 4GB

Configurable Type Module

CPS-DIO-0808L : with digital input/output (no built-in power supply)
CPS-DIO-0808BL : with digital input/output (built-in power supply)
CPS-DIO-0808RL : with digital input/output (current source)
CPS-DI-16L : with digital input (16ch, current sink)
CPS-DI-16RL : with digital input (16ch, current source)
CPS-DO-16L : with digital output (16ch, current sink)
CPS-DO-16RL : with digital output (16ch, current source)
CPS-COM-1PC : with RS-232C (contains 1port)
CPS-COM-2PC : with RS-232C (contains 2 ports)
CPS-COM-1PD : with RS-422A/485 (1channel)
CPS-COM-2PD : with RS-422A/485 (2 channels)
CPS-AI-1608LI : with analog input (voltage input 8 channels)
CPS-AI-1608LI : with analog input (current input 8 channels)
CPS-AO-1804LI : with analog output (current output 4 channels)
CPS-AO-1804LI : with analog output (voltage output 4 channels)
CPS-CNT-32021 : with counter input
CPS-RRY-4PCC : with Relay output
CPS-SSI-4P : with temperature sensor input

* Visit the Contec website regarding information on the optional products.

Component Name



No.	Name	Function
1	Stack Bus	Used for power supply and communication with the configurable type module.
2	Maintenance Connector	Do not use it.
3	Power Connector	Use the 3-pin connector, included in the package.
4	LED Indicator 1	This indicates status of the product.
5	Rotary Switch	Used for user setup.
6	Digital I/O Connector	This is a connector for digital I/O. (Use the 6-pin connector, included in the package)
7	LAN Port	This is a connector for LAN.
8	DIP Switch	This is used for user setup.
9	Power Switch	This is used for controlling of the power supply.
10	SD Card Slot	This is for data storage.
11	LED Indicator 2	This indicates the status of the product.
12	USB Port	This is a USB port of type-A.
13	RS-232C Serial Port	This is a RS-232C serial ports (male).
14	DIP Switch 2	This is used to run SDK