CONPROSYS Series
Analog Input / Output Module
CPS-MC341-A1-111

This product is M2M controller with analog input and output.It contains 8 channels of high precision analog input and 2 channels of output with 16-bit solution each.

You can perform all processes from the development to the operation 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.

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

Features

Measurement and Upload
The product measures data with an external sensor and uploads them to the Cloud server.

Web Monitoring
The product contains a Web server (Java applet).   Even with your PC located remotely, you can monitor and update I/O information through a Web browser. On the monitoring screen, you can freely lay out the standard GUI parts (graphic, slider, button, etc.). All operations including monitoring layout, making relations with I/O information, can be achieved via the Web browser.

Web Task Script
You can combine and assemble icons such as arithmetic operations, conditional branching, data outputting to perform the executions or its processes like drawing them in the flowchart. All operations can be completed on the Web browser.

Message Communication Function
By working with the Ethernet device (TCP/UDP), you can establish up to 10 connections and transmit or receive messages. Message communication can be accomplished from Web task script.

Bus isolated high precision 8 channels of analog input and 2 channels of output within
Supplied with analog input (16-bit, 8 channels), and analog output (16-bit, 2 channels).

Compact Design
Compact design, 188.0(W) × 78.0(D) × 30.5(H), features flexibility in installation.

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

Ethernet Hub Function within
Use the product as Ethernet Hub so that you can connect devices in the daisy-chain.

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

Decrease malfunctions or damages by bus isolation and surge protection. (analog input/output)
Between the analog input/output and the CPU are electrically isolated so that input signals that are potentially different can be connected.
Plus, the signal lines are protected with surge protection elements, which reduces malfunctions or damages by surge.

Capable of adapting a wide-range power (12- 24VDC)
The product is capable of dealing with a wide range of power in the differing environments. Power connector also has a FG terminal.

Installation easy with two pieces of terminal supports and DIN rail
You can install and remove a terminal connector without a screwdriver, which shortens the time of the replacement. As the product can be mounted on DIN rail, removing and replacing are 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.

With no use of electrolytic capacitor and primary battery
Neither an electrolytic capacitor, which has a limited life, nor a primary battery is used. We are creating the product with a longer life.

Support Software & Service

Cloud-based remote monitoring service "CONPROSYS cloud Data Service"

Monitoring in the on-premises environment "CONPROSYS data collection software"

Driver software that streng thens the collaboration with devices. "OPC Server Software"

Packing List

Product [CPS-MC341-A1-111] ...1	Serial number Label ...1
Product Guide ... 1	3-pin Connector...1
Warranty Certificate ...1	10-pin Connector...2
Serial Number Label ...1	

List of Option

DIN rail mounting power supply
CPS-PWD-15AW12-01:   DIN rail mounting power supply 15[w]
                                    (Input: 100 - 240VAC, output: 12VDC 1.3 A)

SD card
SD-2GB-B: SD card 2GB

*   Information about the option products, see the Contec's website.

Specification

Function specification

Item	CPS-MC341-A1-111
CPU	ARM Cortex-A8 600MHz
Memory	On Board 512MB DDR3 SDRAM
ROM	On-Board 32MB 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)

SD Card slot	Standard	SD standard follow
	Connector	SD Memory Card slot
	LED	Read/Write (Yellow)

Analog Input	Input type	Single end input
	Input range	±10V
	Maximum input rating	±11V
	Input impedance	1MΩ and more
	Number of input channels	8ch
	Channel switching rate *1	250μsec/ch (Max.)*1
	Conversion rate	The sampling interval differs by the software programmed by the user.
	Resolution	16bit
	Non-Linearity error *2*3	±15LSB(at 25℃)
	Isolation	Bus isolation
	Voltage Resistance	500VDC
	Connector	2- piece 3.5mm pitch 10-pin Terminal
	Applicable wire	AWG28 – 16

Analog output	Output type	Voltage output
	Output range	±10V
	Maximum output rating	±1mA
	Output impedance	1Ω or less
	Number of output channels	2ch
	Resolution	16bit
	Non-Linearity error *4	±15LSB (at 25℃)
	Settling time	10μsec or less
	Isolation	Bus isolation
	Voltage Resistance	500VDC
	Connector	2- piece 3.5mm pitch 10-pin Terminal
	Applicable wire	AWG28 - 16

Item	Value
LED	Power (Green)/ Status 1 (Green) / Status2 (Red)
Switch	Reset SW, Shut Down SW
RTC	RTC built-in (battery not equipped)

Power supply *5	Rated input voltage	12 - 24VDC
	Input voltage range	10.8 - 30VDC
	Power consumption	12V 0.5A (Max.), 24V 0.3A (Max.)
	Connector	2- piece 3.5mm pitch 3-pin Terminal (V+, V-, FG)
	Applicable wire	AWG28 - 16
	Surge protection element V+ - V-, V- - FG	Interactive TVS Diode Stand off voltage : ±30V, Peak pulse power : 400W (1ms)

Item	Value
Physical dimensions (mm)	188.0(W)×78.0(D)×30.5(H) (not include projection)
Weight	250g
Installation method	Quick mounting onto 35mmDIN, Mounting onto the wall with the screws *6
OS	Linux kernel 3.2

*1　Switching time of Inter Channel.
*2　The non-linearity error means an error of approximately 0.18% occurs over the maximum range at -20℃ and 60℃ ambient temperature.
*3　At the time of the source use of a signal which built in the high-speed operational amplifier.
*4　The non-linearity error means an error of approximately 0.4% occurs over the maximum range at -20℃ and 60℃ ambient temperature.
*5　Use power cable within 3meters.
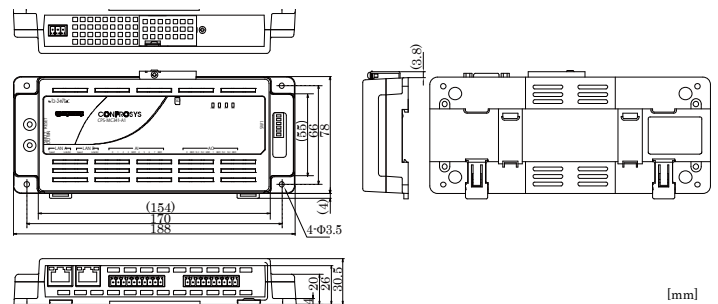*6　Commercial screws are required. (fit into φ3.5 hole)

Installation Environment Requirements

Item	CPS-MC341-A1-111
Operating ambient temperature	-20 - +60℃
Operating ambient humidity	10 - 90%RH (No condensation)
Non-operating ambient temperature	-20 - +60℃
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 *7 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 *8 / 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)

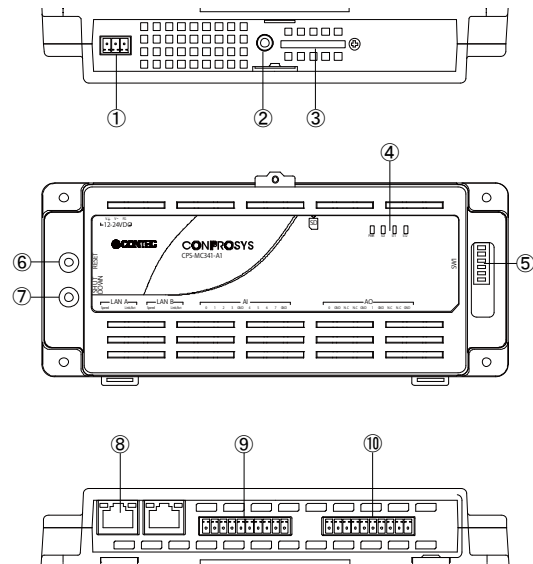| Item	Value
Impact resistance	15G half-sine shock for 11ms in X, Y, and Z directions JIS C60068-2-27-compliant, IEC60068-2-27-compliant)
Grounding	Class D grounding (previous class 3 grounding), SG-FG/ non-conduction
Standard	VCCI Class A, CE Marking (EMC Directive Class A, RoHS Directive), UL

*7　When you use the CPS-PWD-15AW12-01 (optional product)
*8　When you use an optional power product: 10-55Hz (See the manual of optional power product for details)

Physical Dimensions

[mm]

Component Name

1. Power Connector : Use the 3-pin connector, included in this package.
2. Debug Connector : Please do not use it.
3. SD Card Slot : It is for data storage.
4. LED : It indicates the status of this product.
5. DIP Switch : Used for system setup
6. Reset Switch : This resets the product.
7. Shut Down Switch : This shuts down the product.
8. LAN : It is a connector for LAN.
9. Analog Input : Use the 10-pin Connector, included in this package.
10. Analog Output : Use the 10-pin Connector, included in this package.