

## CONPROSYS Series Digital Input/Output Module CPS-MC341-DS1-111



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

### Hardware Features

#### Compact design

Compact design, 188.0(W) x 78.0(D) x 30.5(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.

#### 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 damages by bus isolation and surge protection. (RS-422A/485, digital input/output)

Electrical isolation between RS-422A/485 and the CPU, as well as between the digital input/output and CPU can block electrical noise flow. Moreover, the surge protection elements are used for signal line and on top of that, the RS-422A/485 is protected with the communication IC that can withstand  $\pm 70$  V input voltage, 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.

#### Easy installation with screws or on DIN rail

This product can be installed on the wall with screws or on DIN rail with simple mounting.

#### Installation with two pieces of terminal support

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.

#### 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 or primary battery

Neither an electrolytic capacitor, which has a limited life, nor a primary battery is used. The Contec is creating the product with a longer life.

This product is a M2M controller with isolated RS-422A/485, isolated digital input/output, and LAN interface.

It is equipped with the ARM® Cortex® -A8 processor (600MHz) and the 512MB DDR3-SDRAM system memory. On-board NOR-FLASH is utilized for a booting device.

You can perform all processes on a web browser from the development to the operation. 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.

- \* 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.

### Hardware Features

#### Measurement and upload

This product measures data with an external sensor and uploads them to the Cloud server.

#### Web monitoring

The product contains a Web server. 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

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

With the RS-422A/RS-485 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.

### Packing List

Product [CPS-MC341-DS1-111] ...1  
Product Guide ... 1  
Warranty Certificate ...1  
Serial Number Label ...1  
3-pin Connector (Power) ...1  
5-pin Connector (RS-422A/485) ...1  
10-pin Connector (Digital) ...2

### 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-4GB-A: SD card 4GB

#### Magnet

CPS-MAG01-4: Magnets for installation (Four Piece Set)

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

## Specifications

### Function specifications

Item		CPS-MC341-DS1-111
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)
RS-422A/485	Transmission scheme	Asynchronous Serial Transmission (Full Duplex/Half Duplex)
	The number of channels	1
	Isolation/voltage resistance	Bus Isolation/500VDC (Not mounted surge protective parts between SG and FG)
	Baud Rate	300bps - 115.2kbps
	Data length	5, 6, 7, 8 bits 1, 1.5, 2 stop bits
	Parity check	Even, Odd, Non-parity
	Connector	2 piece 3.5mm pitch 5pin Terminal (TX+, TX-, RX+, RX-, SG)
	Applicable wire	AWG28 - 16
	LED	Transmission (Yellow), Reception (Yellow)
	Switch	DIP Switch (Full Duplex/Half Duplex, Terminator(ON/OFF))
	Surge protection element each signal - SG	Interactive TVS Diode Stand off voltage : $\pm 13V$ , Peak pulse power : 400W(1ms)
	Surge protection element SG - FG	Gas discharge tube arrester Discharge voltage : $\pm 300V$ , Impulse current tolerance : 2000A(8/20 $\mu s$ , 10 times)
SD card slot	Standard	SD standard follow
	Connector	SD memory card slot
	LED	Read/Write (Yellow)
Digital input	Input type	Opto-coupler isolation input (Compatible with current sink output) (negative logic) *1
	Isolation/voltage resistance	Opto-coupler /1000V
	Open-circuit Impedance	10k $\Omega$ or more
	Short-circuit Impedance	500 $\Omega$ or less
	Input resistance	3.3k $\Omega$
	Response time	Within 200msec
	Interrupt (Digital input)	8 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)
	The number of channels	8
	LED	DIO - DI7 (Yellow)
	Connector	2-piece 3.5mm pitch 10-pin terminal (MCOM, DIO, DI1, DI2, DI3, DI4, DI5, DI6, DI7, N.C.)
	Applicable wire	AWG28 - 16
Digital output	Output type	Open collector output (Current sink type) (negative logic) *1
	Isolation/voltage resistance	Opto-coupler isolation/1000V
	Maximum output voltage resistance/current	24V/100mA
	Residual voltage with output ON	0.5V or less (Output current $\leq 50mA$ ), 1.0V or less (Output current $\leq 100mA$ )
	The number of channels	8
	LED	DO0 - DO7 (Yellow)
	Connector	2 pieces 3.5mm pitch 3-pin terminal (MCOM, DO0, DO1, DO2, DO3 DO4, DO5, DO6, DO7, N.C.)
	Applicable wire	AWG28 - 16
LED		Power (Green)/Status 1 (Green)/Status 2 (Red)
Switch		Reset SW, Shut Down SW, Full Duplex/Half Duplex Switching SW
RTC		RTC built-in (battery not equipped)
Power supply *2	Rated input voltage	12 - 24VDC
	Input voltage range	10.8 - 30VDC
	Power consumption	12V 0.7A (Max), 24V 0.4A (Max)
	Connector	2-piece 3.5mm pitch 3-pin terminal (V+, V-, FG)
	Applicable wire	AWG24 - 16
	Surge protection element V+ - V-, V- - FG	Interactive TVS diode Stand off voltage : $\pm 30V$ , Peak pulse power : 400W(1msec)
Physical dimensions (mm)		188.0(W) $\times$ 78.0(D) $\times$ 30.5(H) ( No projection included)
Weight		250g

Item	CPS-MC341-DS1-111
Installation method	Quick mounting on the 35mm DIN rail, Mounting on the wall using the screws *3
OS	Linux kernel 3.2

\*1 Data 0 corresponds to High level and Data 1 corresponds to Low level.

\*2 Use power cable within 3meters.

\*3 Commercial screws are required (fit into  $\phi 3.5$  hole).

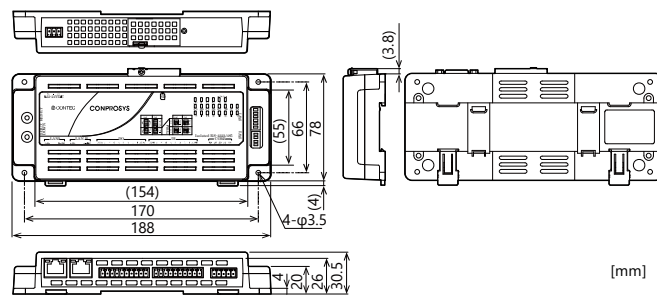
### Installation Environment Requirements

Item		CPS-MC341-DS1-111
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	AC Line/ $\pm 2kV$ *4 Signal Line / $\pm 1kV$ (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Touch / $\pm 4kV$ (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air / $\pm 8kV$ (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance	10 - 57Hz *5 /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), UKCA, UL/c-UL

\*4 When you use the CPS-PWD15AW12-01 (optional product)

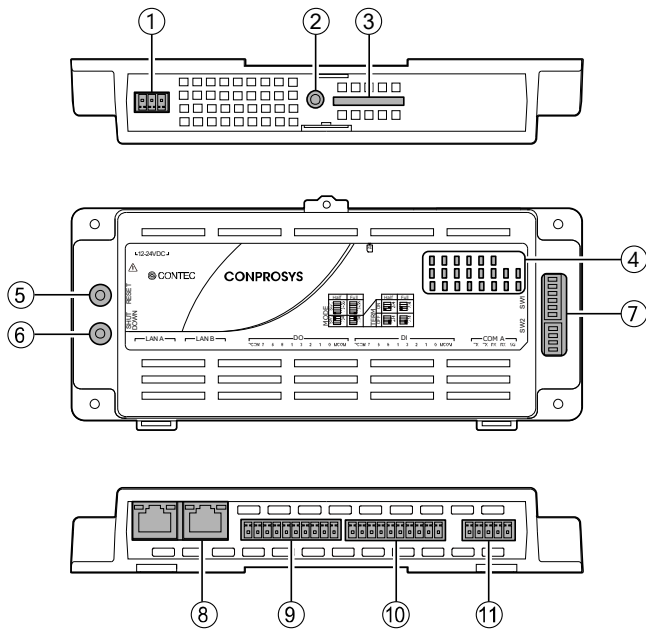
\*5 When you use an optional power product: 10-55Hz (See the manual of optional power product for details)

### Physical Dimensions



[mm]

## Component Name



No.	Name	Function
1	Power Connector	This is a connector for power. (Use the 3-pin connector included in the package)
2	Debug Connector	Do not use this.
3	SD Card Slot	This is a slot for inserting SD card to store data.
4	LED Indicator	This indicates status of the product.
5	Reset Switch	This resets the product.
6	Shutdown Switch	This shuts down the product.
7	DIP Switch	This is used for system setup and RS-422A/485 setup.
8	LAN Port	This is a connector for LAN.
9	Digital Output	This is a connector for digital output. (Use the 10-pin connector included in the package)
10	Digital Input	This is a connector for digital input. (Use the 10-pin connector included in the package)
11	RS-422A/485 Port	This is a connector for RS-422A/485 communication. (Use the 5-pin connector included in the package)