CONPROSYS Series
CPU Module

# CPS-MCS341-DS1-111

This product is an IoT/M2M controller with isolated digital input and output (Input : 4ch, Output : 4ch), RS232C, LAN interface, and Ethernet Hub. * usable as digital input or digital output

You can affix the stacking devices of our CONPROSYS series as you desire.

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.

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

## Features

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

**No base board required.**
This product does not require a base board to install or connect. It helps set and remove the module(s) easily and smoothly.

**Optocoupler isolated input and semiconductor relay output**
The product have the optocoupler isolated input 4channels, and semiconductor relay output 4channels.

*usable as digital input or digital output

**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**
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 on the Web browser.

**Message Communication Function**
By working with the RS232C 1 port or the Ethernet device (TCP/UDP), you can establish up to 10 links and transmit messages. Message communication can be accomplished from Web task script.

**Optocoupler Isolation Input (Compatible with current sink output) and semiconductor relay output**
The product has the switchable four channels of Optocoupler 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**
The Product has one RS-232C-standard serial port. Baud rates from 300 to 115,200 bps can be set.

**Compact Design**
Compact design, 44.7 (W) ×94.7 (D) ×124.8 (H) mm, features flexibility in installation.

**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.

**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. (digital input/output)**
Electrical isolation between the digital input/output and CPU can block up the electrical noise flow.

**Installation easy with two pieces of terminal support and the DIN rail**
You can remove a terminal connector without a screwdriver so that it can shorten the time of the replacement. As the product is mounted on the DIN rail, removing and replacing are easy as well.

**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.

# Specification

## Function specification

| Item | | CPS-MCS341-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) |
| 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 | 300 - 115.2kbps |
| | Data length | 5, 6, 7, 8 bits 1, 1.5, 2 stop bits |
| | Parity check | Even, Odd, Non-parity |
| | Isolation | 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 | Optocoupler Isolation Input (Compatible with current sink output) (negative logic) *1 |
| | Input Isolation | Optocoupler Isolation |
| | Input Voltage Resistance | 1000V |
| | Number of input signal channels | 4ch |
| | 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.<br>An interrupt is generated at the rising edge (HIGH-to-LOW transition)<br>or falling edge (LOW-to-HIGH transition). (setting can be done by software) |
| | Output type | Semiconductor relay output |
| | Output Isolation | Photo MOS isolation |
| | Output Voltage Resistance | 1000V |
| | Number of output signal channels | 4ch *usable as digital input or digital output |
| | Maximum Output Voltage | 13.2V/100mA |
| | Response time (Digital Output) | Within 2msec |
| | ON resistance | 8Ω or less (at 25 ℃) |
| | OFF leakage current | 4μA or less (at 25 ℃) |
| | Surge protection element | Interactive TVS Diode<br>Stand off voltage : ±30V, Peak pulse power : 400W(1ms) |
| | Residual Voltage with Output ON | 0.5V or less (Output current□ 50mA), 1.0V or less (Output current≦100mA) |
| | LED | DIO0 - DIO3 (Green) |
| | Connector | 2 pieces 3.81mm pitch 6-pin Terminal<br>(N.C, DIO3, DIO2, DIO1, DIO0, MCOM) |
| | Applicable wire | AWG28 - 16 |
| Stacking Bus | Maximum numbers of stacking | 16 *2 |
| LED | | Power (Green) /Status 1(Green) /Status 2(Red) /Error(Red) |
| Switch | | Reset SW, Rotary SW, DIP SW |
| RTC | | RTC equipped (battery within) |
| Power supply *3 | Rated input voltage | 24VDC |
| | input voltage range | 21.6 - 26.4VDC |
| | power consumption | 24V 0.3A (Max.), with stacking module(s): 24V 3.6A (Max.) |
| | Connector | 2 pieces 3.5mm pitch 3-pin Terminal (V+, V-, FG) |
| | Applicable wire | AWG20 - 16 |
| | Surge protection element V+ - V-, V- - FG | Interactive TVS Diode<br>Stand off voltage : ±30V, Peak pulse power : 400W (1ms) |
| Physical dimensions (mm) | | 44.7(W)×94.7(D)×124.8(H)mm (not include projection) |
| Weight | | 300g |
| Installation method | | One-touch connection to 35mm the DIN rail |
| OS | | Linux kernel 3.2 |

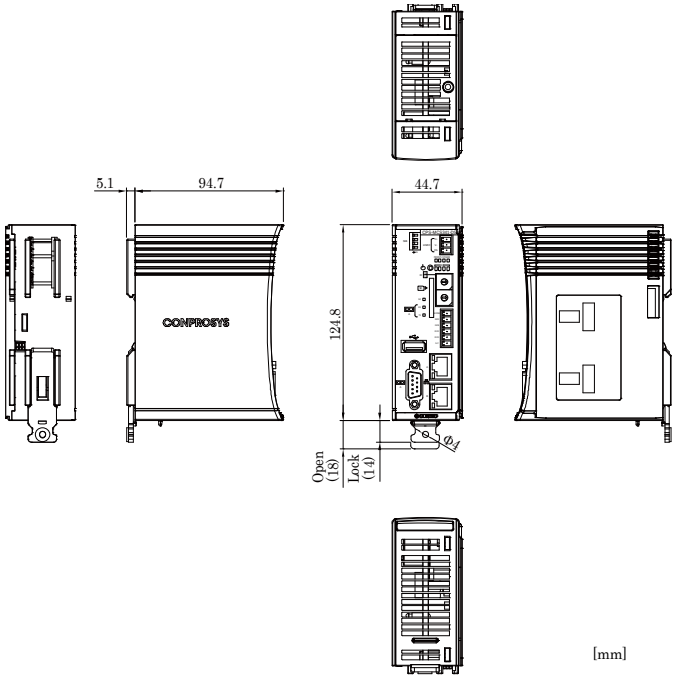
*1 Data "0" corresponds to High level and Data "1" corresponds to Low level.
*2 The total current consumption of the devices should be less than 3.3A.
*3 Use power cable within 3meters

## Installation Environment Requirements

| Item | | CPS-MCS341-DS1-111 |
|---|---|---|
| Operating ambient temperature | | -20 to +60°C *4 |
| 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 *5<br>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)<br>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<br>40 minutes each in X, Y, and Z directions<br>(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) |
| Impact resistance | | Class D grounding (previous class 3 grounding),<br>SG-FG/ non-conduction |
| Corrosive gases | | None |
| Standard | | VCCI Class A, FCC Class A,<br>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




# Packing List

Product [CPS-MCS341-DS1-111] ...1
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

## 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”

High-performance HMI software “ACTIVE TOUCH”

## 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

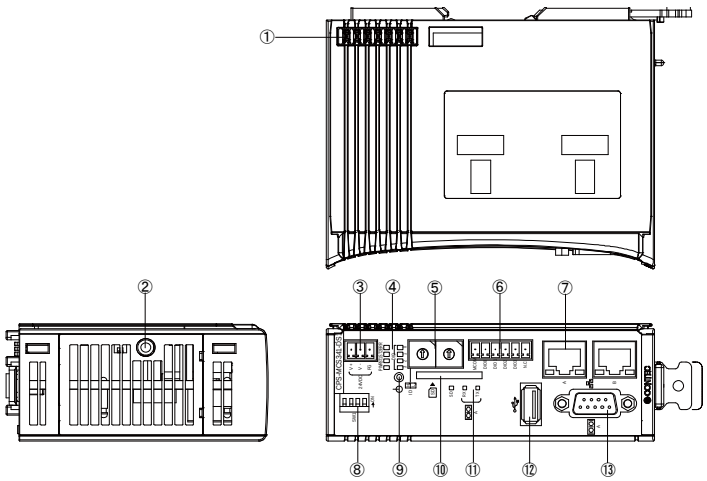
| | |
|---|---|
| SD-2GB-B | : SD Card 2GB |
| -SD-4GB-A | : SD Card 4GB |

### Stacking Device

| | |
|---|---|
| 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-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 |
| CPS-AI-1608ALI | : with analog input (current input 8 channels) |
| CPS-AO-1804LI | : with analog output |
| CPS-AO-1604VLI | : 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.
* The language of the Setup Guide varies depending on the product.

## Component Name




1. Stack Bus : Used for the stacking device power supply and communication.
2. Maintenance Connector : Please do not use it.
3. Power Connector : Use the 3-pin connector, included in this package.
4. LED 1: Indicates the status of the product.
5. Rotary Switch : Used for user setup.
6. Digital I/O : Use the 6-pin connector, included in this package.
7. LAN : It is a connector for LAN.
8. DIP Switch : Used for user setup.
9. Power Switch : Used for controlling of the power supply.
10. SD Card Slot : It is for data storage.
11. LED 2 : Indicates the status of the product.
12. USB : It is a USB port.
13. RS-232C : It is a RS-232C serial ports (male).