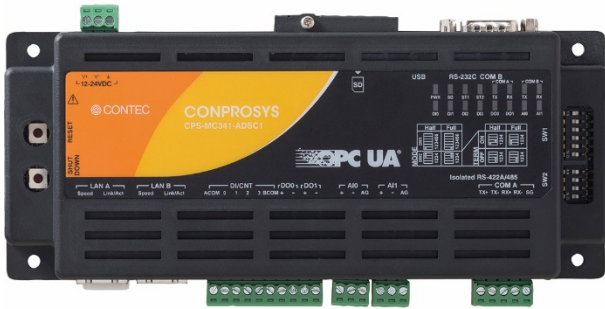


CONPROSYS Series
Multi-Function Module BATT DI12-24V
CPS-MC341-ADSC1-931



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

Hardware Features

The product contains I/O interface such as digital I/O, analog input, counter, and serial communication

RS-232C: 1-channel, RS-422A/485: 1-channel, Photocoupler isolation input (compatible with current sink output): 4-channel, Semiconductor relay output: 2-channel, Bus isolation analog input (current input): 2-channel. Counter input performs up-counting: equipped with two channels of up counters. * Two of four digital-input can be used as the counter-input.

Compact Design

Compact design, 188.0(W) × 78.0(D) × 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 malfunctions or damages by bus isolation and surge protection. (the RS-422A/485, digital/counter input)

Electrical isolation between the RS-422A/485 and the CPU, as well as between the digital/counter input and CPU can block up the 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 ±70 V input voltage, which reduces malfunctions or damages by surge.

Decrease malfunctions or damages by bus isolation, inter-channel isolation and surge protection. (Analog input)

As analog inputs and channel, along with analog inputs and CPU, are electrically isolated, connecting an input signal with electric potential difference is possible. In addition, the surge protection elements are used for signal lines, 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.

The product is an IoT/M2M controller with isolated RS-422A/485, isolated digital input/output, isolated input counter, inter-channel isolated analog input, RS232C, LAN interface, and Ethernet Hub.

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.

CPS-MC341-ADSC1-931 contains OPC UA server function within. This product can communicate directly with HMI and SCADA software that support OPC UA clients from various makers.

The CONPROSYS series enables you to collect and consolidate data from a wide range of equipment. 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.

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 mounted on the 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.

Software Features

Together with OPC UA Server

OPC UA (Unified Architecture) is an advanced model of OPC specifications, which presents refined capability of transmitting and receiving semantic description data. OPC UA is a platform independent standard based on TCP.

Measurement and Upload

The product CPS-MC341-ADSC1-931 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, the RS-422A/RS-485 1 port or the Ethernet device (TCP/UDP), you can establish up to 10 links and transmit or receive messages. Message communication can be accomplished from Web task script.

Specification

Function specification <1/2>

Item		CPS-MC341-ADSC1-931	
CPU		ARM Cortex-A8 600MHz	
Memory		On Board 512MB DDR3 SDRAM	
ROM		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)	
RS-422A/485	Transmission scheme	Asynchronous Serial Transmission (Full Duplex/Half Duplex)	
	The number of channels	1	
	Isolation	Bus Isolation/500VDC (when surge protected parts between SG-FG is unimplemented)	
	Baud Rate	300-115.2kbps	
	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 5-pin 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 : ±13V, Peak pulse power : 400W(1ms)	
	Surge protection element SG - FG	gas discharge tube arrester Discharge voltage : ±300V, impulse current tolerance : 2000A (8/20µs, 10 times)	
	USB	Transmission standard	USB2.0
The number of Channels		1	
Connector		TYPE-A	
SD Card slot	Standard	SD standard follow	
	Connector	SD Memory Card slot	
	LED	Read/Write (Yellow)	
RS-232C	Baud Rate	300 - 115.2kbps	
	Isolation	Non-isolated	
	Data length	5, 6, 7, 8 bits 1, 1.5, 2 stop bits	
	Parity check	Even, Odd, Non-parity	
	The number of channels	1	
	Connector	9-pin D-SUB Connector (Male)	
Digital Input Counter Input	LED	Transmission (Yellow), Reception (Yellow)	
	Input type	Optocoupler Isolation Input (Compatible with current sink output and current source output) (negative logic) *1	
	Isolation	Bus Isolation/500VDC, Photocoupler Isolation/1000V	
	External circuit power supply	12-24 VDC (±10%)	
	Built-in power supply	12 VDC (compatible with current sink output) *2	
	Input Resistance	5.6kΩ	
	Input ON current	1.6mA or more	
	Input OFF current	0.16mA or less	
	Response time	Within 200µs *3	
	Interrupt (Digital Input)	4 interrupt input signals are arranged into a single output of interrupt signal. An interrupt is generated at the rising edge (HIGH-to-LOW transition) or falling edge (LOW-to-HIGH transition). (setting can be done by software)	
	The number of channels	4 *It is possible to allocate 2channels to counter input	
	Count Type	Up count	
	Max. count	FFFFFFH(binary data)	
	Counter response speed	1kHz (Max), Duty : at 50%	
	Interrupt (Counter Input)	One interrupt caused upon channel count match	
	Timer	None	
	LED	DIO-DIB (Yellow)	
	Surge protection element Each Signal - B_COM	Interactive TVS Diode Stand off voltage : ±30V, Peak pulse power : 400W(1ms)	
	Digital Output	Output type	Semiconductor relay output
		Isolation	Semiconductor relay isolation/1000V
Maximum Output Voltage / Current		26.4VAC/VDC / 100mA	
Response time		Within 200µs	
ON resistance		8Ω or less (at 25 °C)	
OFF leakage current		4µA or less (at 25 °C)	
The number of channels		2	
LED		DO0-DO1 (Yellow)	
Surge protection element DO+ - DO-	Interactive TVS Diode Stand off voltage : ±30V, Peak pulse power : 400W(1ms)		

Function specification <2/2>

Item		CPS-MC341-ADSC1-931
Digital Input Counter Input	Applicable Connector	2-piece 3.5mm pitch 10-pin terminal (DL_ACOM, DIO, DI1, DI2, DI3, DL_BCOM, DO0+, DO0-, DO1+, DO1-)
Digital Output	Applicable wire	AWG28 - 16
Analog Input	Input type	Current Input
	Input range	0 - 20mA
	Maximum input rating	30mA
	Input impedance	250Ω
	The number of channels	Differential input 2ch
	Channel switching rate	3msec/ch (Max) *4
	Conversion rate	The sampling interval differs by the software programmed by the user.
	Data buffer	None
	Resolution	12bit
	Non-Linearity error *5	±10LSB
Isolation	Bus isolation/500VDC, Inter Channel Isolation/200V	
Connector	2-piece 3.5mm pitch 3pin Terminal (AI+, AI-, SG)	
Applicable wire	AWG28 - 16	
LED	AIO - AII (Yellow)	
LED	Power (Green)/Status 1 (Green)/Status2 (Red)	
Switch	Reset SW, Shut Down SW, Full Duplex/Half Duplex Switching SW	
RTC	RTC built-in (battery life :10 years or more at 25°C) lunar inequality ±15sec (at 25°C)	
Power supply *6	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 : ±30V, Peak pulse power : 400W(1ms)	
External dimensions (mm)	188.0(W) × 78.0(D) × 30.5(H) (not include projection)	
Weight	250g	
Installation method	Quick mounting to the 35mm DIN rails Mounting to the wall using the screws*7	
OS	Linux kernel 3.2	

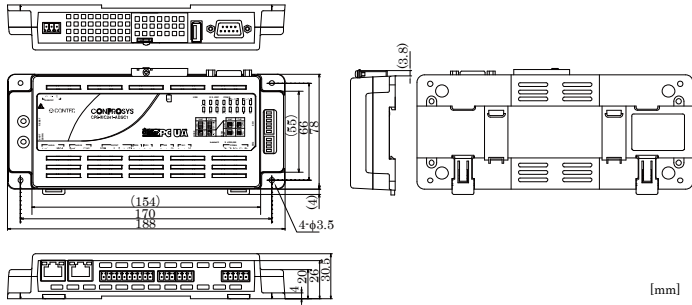
- *1 Data 0 corresponds to High level and Data 1 corresponds to Low level.
- *2 The default setting is for an external circuit power supply. With a software command, it can be switched to the built-in power use.
- *3 Response time of optocoupler
- *4 Switching time of Inter Channel Isolation
- *5 The non-linearity error means an error of approximately 0.07% occurs over the maximum range at -20 °C and 60 °C ambient temperature.
- *6 Use power cable within 3meters.
- *7 Commercial screws are required (fit into φ3.5 hole).

Installation Environment Requirements

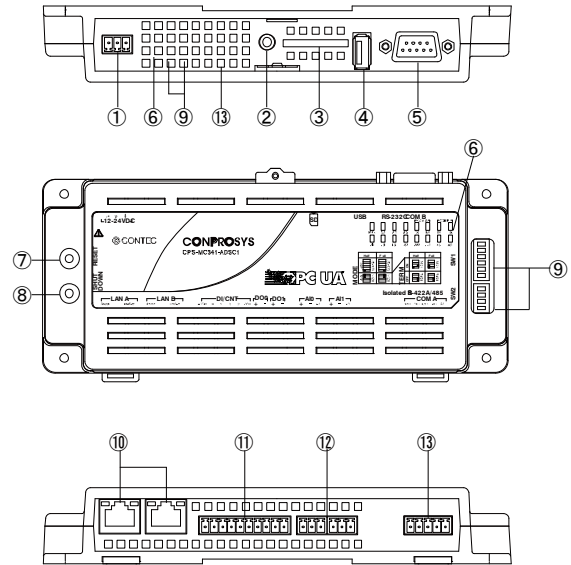
Item		CPS-MC341-ADSC1-931
Operating ambient temperature		-20 to +60°C *8
Operating ambient humidity		10 to 90%RH (No condensation)
Non-operating ambient temperature		-20 to +60°C *8
Non-operating ambient humidity		10 to 90%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-noise resistance	Line noise	AC Line±2kV *9 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±5kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance	10 - 57Hz *10 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
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)

- *8 If you use the USB with bus power, operate the product at between -20 and +55°C.
- *9 When you use the CPS-PWD15AW12-01 (optional product)
- *10 When you use an optional power product: 10-55Hz (See the manual of optional power product for details)

Physical Dimensions



Component Name



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 strengthens the collaboration with devices. “OPC Server Software”

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)

FANUC CNC connection cable

CPS-CAB-S01-1: 1m

CPS-CAB-S01-3: 3m

CPS-CAB-S01-5: 5m

SD card

SD-2GB-B: SD card 2GB

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

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. USB: It is a USB port.
5. RS-232C: It is a RS232C serial ports (male).
6. LED: It indicates status of this product.
7. Reset Switch: This resets the product.
8. Shut down Switch: This shuts down the product.
9. DIP Switch: It is used for system setup and RS422A/485 setup
10. LAN: It is a connector for LAN.
11. Digital I/O, Counter Input: Use the 10-pin Connector, included in this package.
12. Analog Input: Use the 3-pin Connector, included in this package.
13. RS-422A/485: Use the 5-pin Connector, included in this package.

Packing List

Product [CPS-MC341-ADSC1-931]...1

Product Guide...1

Warranty Certificate...1

Serial Number Label...1

3-pin Connector (Power/Analog) ...3

5-pin Connector (RS-422A/485)...1

10-pin Connector (Digital) ...1