

CONPROSYS Series
M2M Gateway for PLC
Multi-Function Module
CPS-MG341-ADSC1-111



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

Features

Promoting a multi-vendor system supporting a varied lineup of PLCs and Modbus devices

The product connects and supports every PLC and each Modbus device simultaneously.

*please visit our website regarding the details of supportive information.

Connect up to 10 links and data collection from 100 group registers

Up to 10 Ethernet/calculating links can be connected. Data collection from 30 PLCs and 100 group registers can be carried out. Up to 1000 data mapping for Modbus is possible.

Measurement and Upload

The product CPS-MC341-ADSC1-111 measures data with an external sensor and uploads them to the Cloud server. CPS-MG341-ADSC1-111 uploads measured data of the sensor and collected data from PLC 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 RS-232C 1 port, the RS-422/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.

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.

The product is an IoT/M2M controller with isolated RS-422/485, 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-MG341-ADSC1-111 is the data collector M2M Gateway for PLC that supports respective PLCs as well as various Modbus devices. For equipment with PLC control, data will be collected by "M2M Gateway for PLC". For the one without PLC control, data can be collected by "M2M controller" that supports sensor input.

"M2M Gateway for PLC" can connect up to 10 Ethernet/calculating links with differing makers PLCs simultaneously. 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.

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.

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.

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.

Specifications

Function Specifications (1/2)

Item		CPS-MG341-ADSC1-111	
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	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(8/20μsec, 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)	
	LED	Transmission (Yellow), Reception (Yellow)	
Digital Input Counter Input	Input type	Optocoupler Isolation Input (Compatible with current sink output) (negative logic) *1	
	Isolation	Bus Isolation/500VDC, Photocoupler Isolation/1000V	
	Built-in power supply	12 VDC	
	Input Resistance	3.6kΩ	
	Response time	Within 200μsec*2	
	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: 50% (max)	
	Interrupt (Counter Input)	One interrupt caused upon channel count match	
	Timer	None	
	LED	DI0-DB (Yellow)	
	Surge protection element Each Signal - BCOM	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 200μsec	
	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)		
Digital Input Counter Input	Applicable Connector	2-piece 3.5mm pitch 10-pin terminal (DI1,ACOM,DI0,DI1,DI2,DB3,DI1,BCOM,DO0+,DO0-,DO1+,DO1-)	
Digital Output	Applicable wire	AWG28-16	

*1 Data 0 corresponds to High level and Data 1 corresponds to Low level
 *2 Response time of optocoupler.

Function Specifications (2/2)

Item		CPS-MG341-ADSC1-111
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)*3
	Conversion rate	The sampling interval differs by the software programmed by the user.
	Data buffer	None
	Resolution	12bit
	Non-Linearity error*4	±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	AI0-AI1(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 not equipped)	
Power supply *5	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	AWG28-16
	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*6	
OS	Linux kernel 3.2	

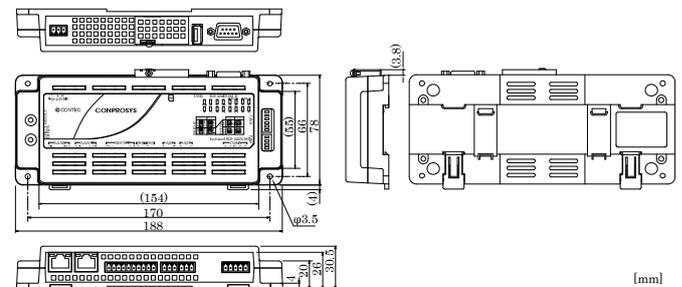
*3 Switching time of Inter Channel
 *4 The non-linearity error means an error of approximately 0.07% occurs over the maximum range at -20 °C and 60 °C ambient temperature.
 *5 Use power cable within 3meters.
 *6 Commercial screws are required (fit into φ3.5 hole).

Installation Environment Requirements

Item		CPS-MG341-ADSC1-111
Operating / non-operating ambient temperature		-20 to +60°C *7
Operating / 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 *8 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 *9/ 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 C60068-2-27-compliant, IEC60068-2-27-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

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

Physical Dimensions



Packing List

- Product [CPS-MG341-ADSC1-111] ...1
- Product Guide ... 1
- Warranty Certificate ...1
- Serial number Label ...1
- I/O 3pin Connector (Power/Analog) ...3
- I/O 5pin Connector (RS-422A /485)...1
- I/O 10pin Connector (Digital)...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"

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)

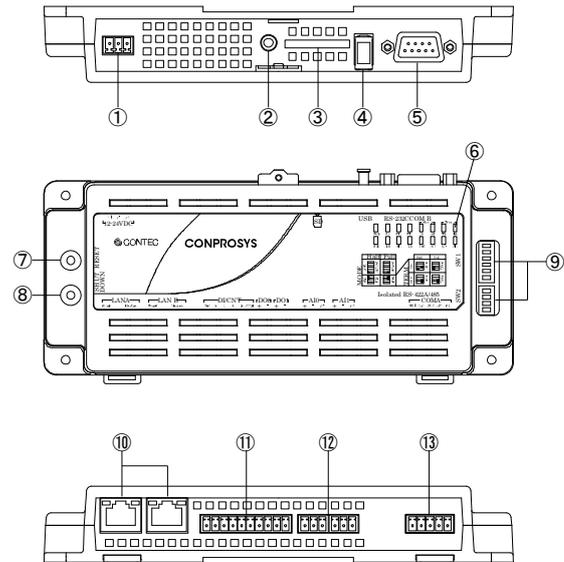
SD card

SD-2GB-B: SD card 2GB

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

Component Name

Component name of the product is shown in Figure.



1. Power Connector : It uses the attached power connector.
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 RS-232C serial ports (male).
6. LED : It indicate status of this product.
7. Reset Switch : It reset this product.
8. Shut Down Switch : It shut down this product.
9. DIP Switch : It is used for System setup.RS-422A/485 setup
10. LAN : It is a Connector for LAN.
11. Digital I/O, Counter Input : It uses the attached 10pin connector.
12. Analog Input : It uses the attached 3pin connector.
13. RS-422A/485 : It uses the attached 5pin connector.