CONTEC

CONPROSYS

Reference Manual

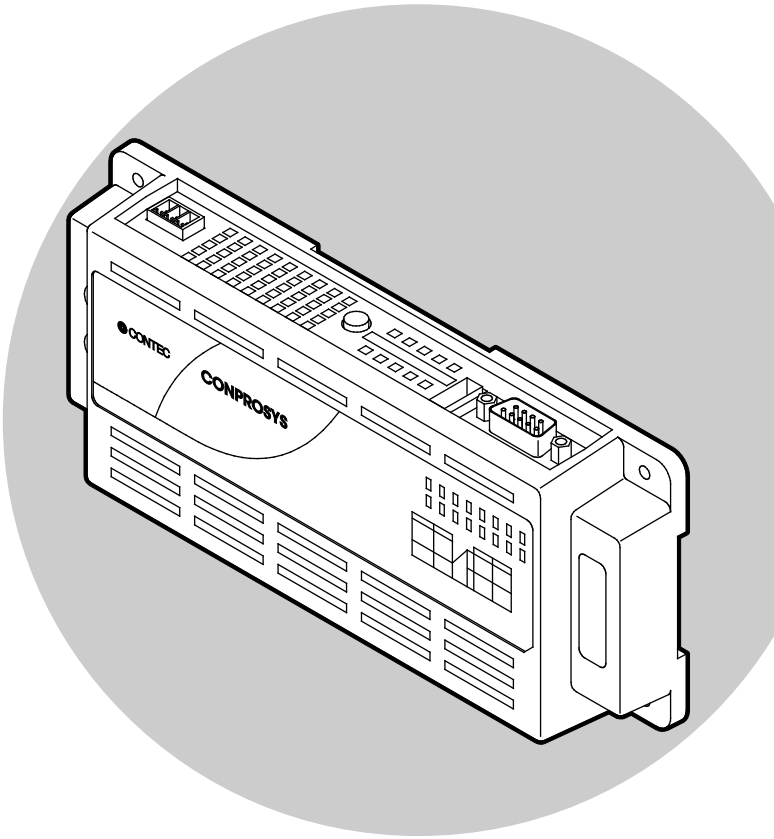
(Hardware)

Multi-Function Module BATT DI12-24V

CPS-MC341-ADSC1-931

M2M Gateway for PLC Multi-Function Module OPC UA

CPS-MG341-ADSC1-931



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CONTEC CO., LTD.

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Introduction

This section provides necessary information of the product such as the outline, bundled items and manuals before actual use.

1.Related Manuals

The manuals related to the product are listed below.
Read them as necessary along with this document.

◆ Must Read the Followings.

Name	Purpose	Contents	How to get
Product Guide	Must read this after opening the package.	This lists the product configuration and describes the precautions.	Included in the package (Printed matter)
Setup Manual	Read this when setting up the product.	This describes the required items for setup and configuration procedure.	Download from the Contec website (PDF)
Reference Manual (Hardware)	Read this when operating the product.	This describes the hardware aspects such as functions and settings.	Download from the Contec website (PDF)
Reference Manual (Software)	Read this when setting up the "CONPROSYS WEB Setting"	This describes how to set each function of "CONPROSYS WEB Setting".	Download from the Contec website (PDF)

◆ Read the Followings as Necessary.

Name	Purpose	Contents	How to get
CONPROSYS Cloud Data Service 2 (CDS2) Manual	Read this to understand the outline of the CONPROSYS Cloud Data Service 2.	This describes the outline and specification of the CONPROSYS Cloud Data Service 2 as well as how to operate the product.	Download from the Contec website (PDF)
CONPROSYS Cloud Data Service 2 Concise Manual	Read this when using the CONPROSYS Cloud Data Service 2.	This describes the procedure to start monitoring measured data in Cloud Data Service 2.	Download from the Contec website (PDF)
CONPROSYS Java Applet Application Guide (For firmware version 2.00 or earlier)	Read this when using the system setting function of Java Applet application version.	This describes how to create a monitoring page and processing task with the system setting function in Java Applet application version.	Download from the Contec website (PDF)

◆ Download Manuals

Download the manuals accordingly from the following URL.

Download https://www.contec.com/download/

2.Check the Firmware Version

Before start using the product, visit our website to check the firmware version and update to the latest one if necessary.

Updating firmware to the latest version will resolve troubles and stabilize the operation.

Download https://www.contec.com/download/

Refer to the **"Reference Manual (Software)"** for the details of the firmware updating.

3.About the Product

This product is a M2M controller with isolated RS-422A/485, isolated digital input/output, isolated counter input, inter-channel isolated analog input, RS-232C, 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 and CPS-MG341-ADSC1-931 contain OPC UA server function within. The product can communicate directly with HMI and SCADA software that support OPC UA clients from various makers. CPS-MG341-ADSC1-931 is the data collector [M2M Gateway for PLC] controller that supports respective PLCs as well as various Modbus devices. In the facilities with PLC controlling, data can be collected by M2M Gateway for PLC controller, and the facilities without PLC controlling, data can be collected by M2M controller.

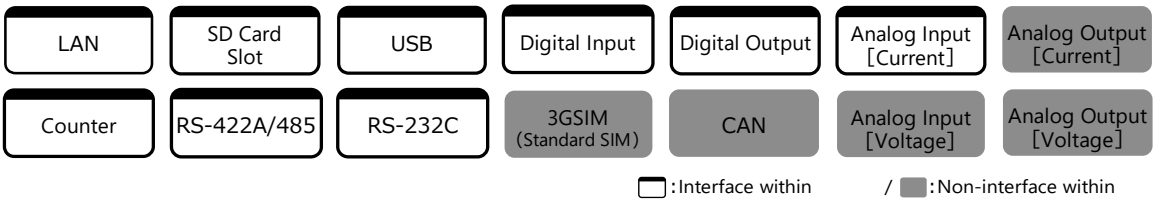
"M2M Gateway for PLC" can connect up to 10 Ethernet/calculating links with differing makers' PLCs simultaneously.

With the CONPROSYS series, data can be collected from various types of facilities and managed them all centrally.

All the processes from development to operation can be performed 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.

4.Interface Within

This product is a M2M controller with the following interfaces.



With the CONPROSYS series, data collected from various types of facilities can be managed centrally.

5.Features

1. 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, opto-coupler 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.

■ 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.

■ Compact design

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

■ A powerful running platform without a 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 (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 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)

Electric isolation is provided between analog input and channel as well as between analog input and CPU. This allows signals with different ground levels to be input to the channels. 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.

■ 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.

■ Choice of a battery with a longer life

With a choice of a long-life battery, the Contec is creating longer lasting products.

■ Ethernet Hub function within (CPS-MC341-ADSC1-931)

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

2. 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. This product can be operated with HMI and SCADA software that support OPC UA clients from various makers.

■ Promoting a multi-vendor system supporting a varied lineup of PLCs and Modbus devices (CPS-MG341-ADSC1-931)

The product connects and supports every PLC and each Modbus device simultaneously. *Visit our website regarding the details of supportive information.

■ Connect up to 10 links and collect data from 100 group registers (CPS-MG341-ADSC1-931)

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

CPS-MC341-ADSC1-931measures data with an external sensor and uploads them to the Cloud server.
CPS-MG341-ADSC1-931uploads measured data of the sensor and collected data from PLC 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

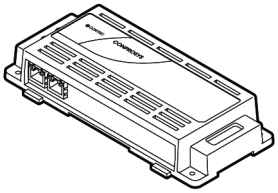
By combining icons such as arithmetic operations, conditional branching, data outputting, you can set up the executions or its processes like drawing them in the flowchart. All operations can be completed through a Web browser.

■ Support a communication protocol MTConnect for machine tools

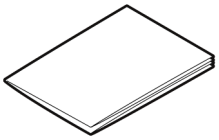
MTConnect is a communication protocol for machine tools and standardized by MTConnect Institution. CONPROSYS has MTConnect Adapter and Agent built-in and can be operated with client software that supports MTConnect.

6.Product Configuration List

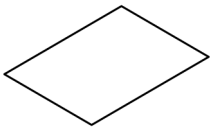
The product consists of the items listed below.
Check, with the following list, that your package is complete.
If you discover damaged or missing items, contact your retailer.



Product...1

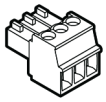


Product Guide...1

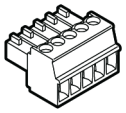


Warranty Certificate...1

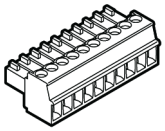
Serial Number Label...1



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



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



10-pin Connector...1
(Digital)

*This product is verified in conformity with our recommended power supply. In case you use other power supplies, thus, it may not be able to fulfil certification requirements. Please see the Contec website regarding power supply recommendation (https://www.contec.com/).

*The type of connectors in the package differs depending on the period of manufacturing.
To check the supplied connector type, refer to “Appendix – Connector Check”.

Safety Precautions

Understand the following definitions and precautions to use the product safely.
Never fail to read them before using the product.

1. Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources.

Understand the meanings of these labels to operate the equipment safely.

⚠DANGER	Signal word used to indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠WARNING	Signal word used to indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	Signal word used to indicate a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

Informations de sécurité

Ce document contient des informations relatives à la sécurité, sous utilisation des symboles suivant, afin d'éviter tout accident risquant d'entraîner des blessures ou la mort et la destruction de l'équipement et des ressources. Veillez à comprendre les significations de ces mots signalétiques pour utiliser l'équipement en toute sécurité.

⚠ DANGER	Indique une situation de danger imminent qui, si elle n'est pas évitée, entraînera la mort ou des blessures graves.
⚠ AVERTISSEMENT	Indique une situation potentiellement dangereuse qui, si elle n'est pas évitée, pourrait entraîner la mort ou des blessures graves.
⚠ ATTENTION	Indique une situation potentiellement dangereuse qui, si elle n'est pas évitée, pourrait entraîner des blessures ou des dommages matériels.

2.Handling Precautions

⚠ DANGER

- Do not use the product in locations exposed to a flammable or corrosive gas. It may cause explosion, fire, electrical shock, or malfunction.
- Do not allow the device to come into contact with foreign substances (metal particles, flammable substances, liquids, etc.) Otherwise, it can cause fire or electrical shock.
- Do not place the product in an unstable location or use incomplete mountings. Otherwise, it may cause the device to fall.
- Be sure to connect the product to the stipulated power supply voltage. Connecting to a different voltage might cause a fire or electrical shock.
- If the product is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- The product is not intended for use in aerospace, space, nuclear power, medical equipment, or other applications that require a very high level of reliability. Do not use the product in such applications.
- If using the product in applications where safety is critical such as in railways, automotive, or disaster prevention or security systems, please contact your retailer.

⚠ CAUTION

- Be certain the following requirements are satisfied when using the product.
  - Indoor use
  - Altitude up to 5000m
  - Applicable POLLUTION DEGREE 2

  When using the product at high altitudes, refer to the relational expression below to find an appropriate ambient temperature. The heat dissipation decreases due to air pressure drop and could lead to damages or a shorter product life.
  - Ambient temperature = 60[°C] - 0.005 x altitude [m]

  An Example)
  The product is used at 3000 meters
  60°C - (0.005 x 3000m) = 45°C (Ambient temperature)
- Do not use or store the product in a location exposed to extremely high or low temperature that exceeds range of specification or susceptible to rapid temperature changes.

  e.g. - Exposure to direct sun
  - In the vicinity of a heat source

- Do not use the product in extremely humid or dusty locations. It is extremely dangerous to use the product with its interior penetrated by water or any other fluid or conductive dust. If the product must be used in such an environment, install it on a dust-proof control panel, for example.
- Avoid using or storing the product in locations subject to shock or vibration that exceeds range of specification.
- When transporting the product, take suitable measures to avoid applying shock or vibration directly to the product.
  Impact resistance: 15G (11ms) below.
- Use the product in the specified operating condition (temperature, humidity, vibration and shock).
- The product should always be grounded (earth).
- Avoid installing in the place where ventilation of the product may compromise. Insufficient aeration could heat up the product and lead to malfunctions or damages.
- Do not use the product in the vicinity of devices that generate strong magnetic force or noise. Such products will cause the product to malfunction (stop, reboot).
- Do not use or store the product in the presence of chemicals.
- When removing connectors or cables, always unplug the power cables and confirm the LEDs are turned off.
- Do not modify the product. CONTEC will bear no responsibility for any problems, etc., resulting from modifying the product.
- In the event of failure or abnormality (foul smells or excessive heat generation), unplug the power cables immediately and contact your retailer.
- To connect with peripherals, use a grounded, shielded cable.
- To clean the product, wipe it gently with a soft cloth dampened with either water or mild detergent. Do not use chemicals or a volatile solvent, such as benzene or thinner, to prevent the paint to be scraped or discolored.
- When connecting cables, first check the shapes of connectors, and then insert them in the correct orientation. After they are connected, do not put too much load on the connected part. Doing so may result in poor contact or damage to the product and the connected part.
- Do not touch metal parts or terminals with your hands when the product is in operation. Otherwise, the product may malfunction, or cause failure.
- Do not touch the product or connectors with a wet hand to avoid electric shock.
- The specifications of the product are subject to change without notice for enhancement and quality improvement. Even when using the product continuously, be sure to read the manual in the CONTEC's website and understand the contents.
- When the product is used in a place that is affected by overcurrent or overvoltage (lightning surge), select appropriate surge protection device for all of the route (Power line, LAN, RS-232C, RS-422A/485, AI, DIO, earth, etc.). Consult with the specialist regarding selecting, purchasing, and setting the surge protection device.
- When disposing of the product, follow the disposal procedures stipulated under the relevant laws and municipal ordinances.

- Regarding the power supply of the product and digital I/O. For UL-certified, connecting to both SELV and Limited Energy Circuit is required. Note that Class 2 power supply can also be used in the U.S.
- In ambient temperature above 45 °C, never touch the metal parts (card cover, top panel, and connector) of the product with your hand as they may cause a burn during the operation since they become extremely hot.
- Regardless of the foregoing statements, CONTEC is not liable for any damages whatsoever (Including damages for loss of business profits) arising out of the use or inability to use this CONTEC product or the information contained herein.

Précautions d'emploi

⚠ DANGER

- Ne pas utiliser le produit dans des endroits exposés à des gaz inflammables ou corrosifs. L'exposition peut provoquer une explosion, un choc électrique ou une défaillance.
- Ne pas mettre le dispositif en contact avec des substances étrangères (particules métalliques, substances inflammables, liquides, etc.) Faute de quoi, le contact peut provoquer un incendie ou un choc électrique.
- Ne pas installer le produit à un endroit instable ou sans un montage complet. Faute de quoi, le dispositif risque de tomber.
- S'assurer de raccorder le produit à la tension d'alimentation électrique indiquée. Une tension différente peut provoquer un incendie ou un choc électrique.
- Veuillez utiliser le produit selon les spécifications du fabricants, sinon la protection offerte par l'équipement pourrait être compromise.
- Le produit n'est pas conçu pour une utilisation dans équipement à usage aérospatial, spatial, nucléaire ou médical ou toute autre application qui exige un niveau de fiabilité très élevé. Ne pas utiliser le produit pour de telles applications.
- Veuillez communiquer avec le détaillant si le produit est utilisé pour des applications où la sécurité est critique notamment dans les secteurs ferroviaire ou automobile, pour la prévention des catastrophes ou les systèmes de sécurité.

⚠ ATTENTION

- S'assurer de respecter les exigences qui suivent pour le produit utilisé :
  - à l'extérieur ;
  - à une altitude d'au plus 5 000 m ;
  - dans un environnement de POLLUTION DE TYPE 2.

  Lors d'une utilisation du produit à altitude élevée, consulter les données relationnelles ci-dessous pour déterminer la température ambiante adéquate. La capacité de dissipation de

chaleur s'amenuise en raison de la chute de pression atmosphérique et pourrait endommager le produit ou réduire sa durée de vie.
- Température ambiante : 60 [°C] - (0,005 x altitude [m])
Par exemple) Le produit est utilisé à 3 000 m.
60 °C - (0,005 x 3 000 m) = 45 °C (température ambiante)

- Ne pas utiliser ou ranger le produit à un endroit exposé à des températures très élevées ou très froides hors de la plage de températures spécifiées ou susceptibles à des variations très rapides de température.
par ex. : - Exposition directe au soleil
- À proximité d'une source de chaleur
- Ne pas utiliser le produit dans des endroits extrêmement humides ou poussiéreux. Il est extrêmement dangereux d'utiliser le produit lorsque de l'eau, ou un autre liquide, ou de la poussière conductrice a pénétré le produit. Pour une utilisation dans un tel environnement, installer par exemple un panneau de contrôle à l'épreuve de la poussière.
- Éviter d'utiliser le produit dans des endroits susceptibles aux chocs ou aux vibrations hors de la plage précisée ou de le ranger dans ces endroits.
- Lors du transport du produit, prendre les mesures qui s'imposent pour éviter tout choc ou toute vibration directement sur le produit.
Résistance aux impacts : 15 G (11 ms) ci-dessous.
- Utiliser le produit dans les conditions de fonctionnement spécifiées (température, humidité, vibration et impact).
- Le produit doit toujours être mis à la terre.
- Éviter d'installer le produit dans des endroits où la ventilation du produit pourrait être compromise. Une aération insuffisante peut faire chauffer le produit et risque de l'endommager ou d'entraîner une défaillance.
- Ne pas utiliser le produit à proximité de dispositifs qui génèrent une intense force magnétique ou beaucoup d'interférences. De tels produits pourront provoquer une défaillance (arrêt, réinitialisation).
- Ne pas utiliser le produit en présence de produits chimiques ni le ranger dans ces conditions.
- Lors du dépôt de connecteurs ou de câbles, toujours débrancher les câbles d'alimentation de l'unité centrale et confirmer la mise hors tension des DEL.
- Ne pas modifier le produit. CONTEC ne pourra être tenue responsable de tout problème, etc., issu de la modification du produit.
- En cas de défaillance ou d'anomalie (odeur nauséabonde ou génération excessive de chaleur), débrancher immédiatement les câbles d'alimentation et communiquer avec le détaillant.
- Pour un raccordement à des périphériques, utiliser un câble blindé mis à la terre.
- Pour nettoyer le produit, l'essuyer délicatement avec un chiffon doux humecté d'eau ou d'un détergent doux. Pour préserver la peinture et la couleur, ne pas utiliser un produit chimique ou un solvant volatil comme du benzène ou un diluant.
- En raccordant les câbles, vérifier d'abord la forme du connecteur puis insérer suivant l'orientation nécessaire. Une fois raccordé, ne pas mettre trop de poids sur la partie raccordée.

Cela risque de provoquer un piètre contact ou d'endommager le produit et la section raccordée.

- Lorsque le produit fonctionne, ne pas toucher les pièces ou les bornes métalliques avec les mains. Faute de quoi, le produit risque de mal fonctionner ou de présenter une défaillance.
- Ne pas toucher le produit ou ses connecteurs avec les mains mouillées pour éviter un choc électrique.
- Les caractéristiques du produit sont sous réserve de modification sans préavis pour bonification et amélioration de la qualité. Lors d'un fonctionnement du produit sans interruption, s'assurer de lire le manuel du site Web CONTEC et d'assimiler le contenu.
- Lorsque le produit est utilisé à un endroit influencé par une surintensité ou une surtension (coup de foudre), sélectionner le bon dispositif de protection contre les surtensions pour tous les voies d'accès (ligne de transport électrique, réseau local, RS-232C, RS-422A/485, AI, DIO, module d'entrée/sortie numérique, mise à la terre, etc.). Consulter un spécialiste pour la sélection, l'achat et l'installation d'un dispositif contre les surtensions.
- Respecter les procédures d'élimination précisées dans les lois et les ordonnances municipales pertinentes lors de l'élimination du produit.
- Alimentation électrique du produit et E/S numérique. Pour une certification UL, il est obligatoire de raccorder les circuits de basse tension de sécurité et d'énergie limitée. Remarquez que l'alimentation électrique de classe 2 peut également être utilisée aux États-Unis.
- Dans une température ambiante de plus de 45 °Celsius, ne touchez jamais les pièces métalliques avec les mains (couvercle de la carte, panneau supérieur et connecteurs), car ces pièces risquent de vous brûler puisqu'elles sont devenus extrêmement chaudes.
- Sans égard aux déclarations aux présentes, CONTEC ne peut être tenue responsable de dommages, peu importe la nature, (comprend les dommages comme la perte de profits d'entreprise) découlant de l'utilisation de ce produit CONTEC, ou de l'incapacité à utiliser le produit ou des informations aux présentes.

1. EN55032 Class A Notice

Warning:

Operation of this equipment in a residential environment could cause radio interference.

2. FCC PART15 Class Subpart B A Notice

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

3. KC Class A Notice

A급 기기(업무용 방송통신기자재)

이 기기는 업무용(A급)전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

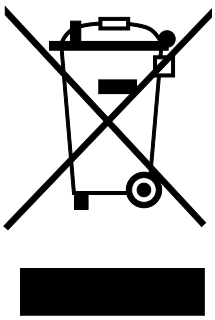
4. Display marking

Display of power (Input Rating Label)	Display of functional earth terminal
	
DC power supply	Functional earth terminal

3. Battery handling and the storage in EU signatory

This symbol mark is for EU countries only.

This symbol mark is according to the directive 2006/66/EC Article 20 Information for end-users and Annex II.



This symbol mark means that batteries and/or accumulators, at their end-of-life, should be disposed separately from the household waste.

If a chemical symbol is printed beneath the symbol mark shown above, it indicates that the battery or accumulator contains a heavy metal at a certain concentration.

The concentration standard is indicated below:

Hg: mercury (0.0005%), Cd: cadmium (0.002%), Pb: lead (0.004%)

These ingredients may cause hazardous conditions for human and the global.

Refer to the appendix for the specification as well as how to remove and dispose of the battery.

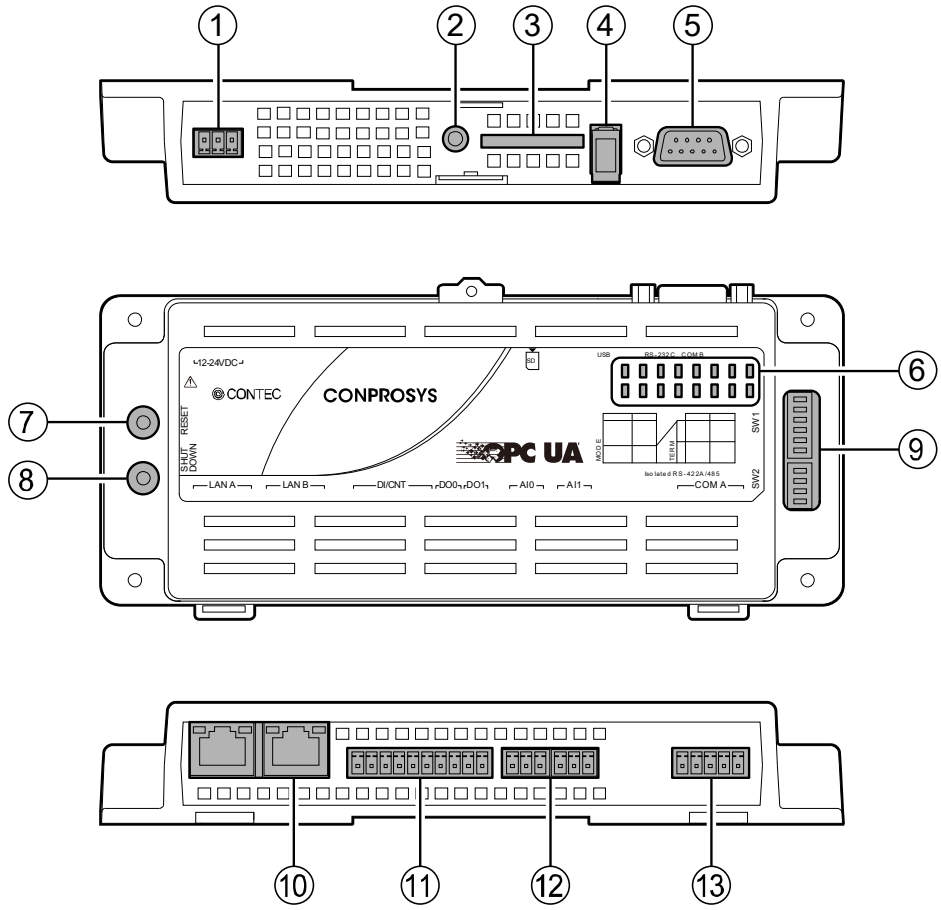
Product Nomenclature and Function

This section describes product component names and their functions, pin assignment of each connector.

1.Nomenclature of Product Components

Component names of the product are shown in the figure below.

CPS-MC341-ADSC1-931 and CPS-MG341-ADSC1-931



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 a slot for inserting SD card to store data.
4	USB Port	This is a TYPE-A USB port.
5	RS-232C Serial Port	This is a RS-232C serial port. (male)
6	LED Indicator	This indicates status of the product.
7	Reset Switch	This resets the product.
8	Shutdown Switch	This shuts down the product.
9	DIP Switch	This is used for system setup and RS-422A/485 setup.
10	LAN Port	This is a connector for LAN.
11	Digital Input/Counter Input/Digital Output Connector	This is a connector for digital input/counter input/digital output. (Use the 10-pin connector included in the package)

No.	Name	Function
12	Analog Input Connector	This is a connector for analog input. (Use the 3-pin connector included in the package)
13	RS-422A/485 Connector	This is a connector for RS-422A/485 communication. (Use the 5-pin connector included in the package)

2.Description of Product Components

Components such as connectors, switches are described.

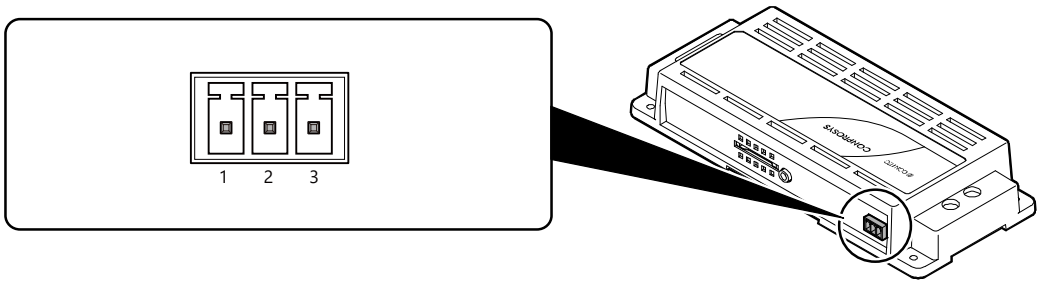
1. Power Connector

Use the 3-pin connector, included in the package, to connect to external power.

Connector type: DEGSON 15EDGK-3.5-03P-14-1000AH (or equivalent)

*The type of connectors in the package differs depending on the period of manufacturing.

To check the supplied connector type, refer to “Appendix – Connector Check”.



Pin Assignment

Pin No.	Signal Name
1	FG
2	V-(GND)
3	V+(12-24VDC)

2. Debug Connector

Do not use this.

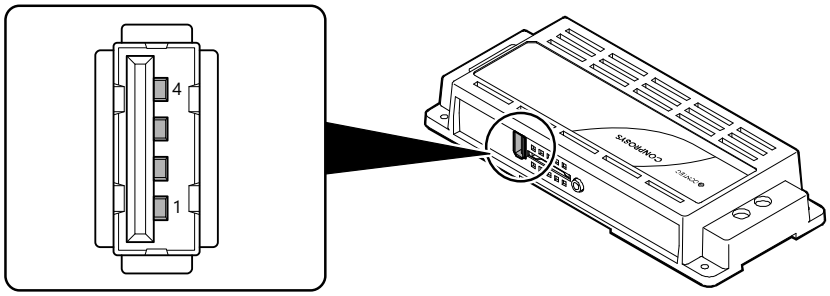
3. SD Card Slot

Insert the SD card to store such as data.

*Use the Contec SD card "SD-4GB-A (4GB)".

4. USB Port

The product has 1 port of USB interface of TYPE-A.



Pin Assignment

Pin No.	Signal Name
1	USB_VCC
2	DATA-
3	DATA+
4	USB_GND

⚠ CAUTION

If you use the USB device with bus power, the ambient temperature should be 55 °C or lower.

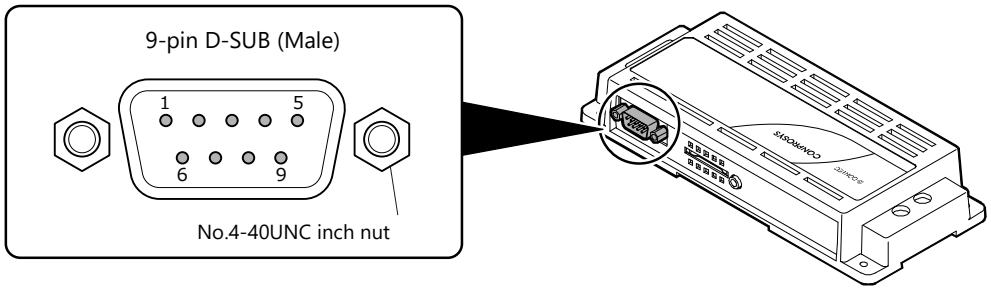
⚠ ATTENTION

Si vous utilisez le dispositif USB avec alimentation par bus, la température ambiante devrait être de 55 °C ou moins.

5. RS-232C Serial Port

This product has 1port of RS-232C compliant serial interface.

The baud rate is 115,200bp (Max)



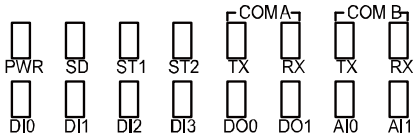
Pin Assignment

Pin No.	Signal Name	Direction	Description
1	CD	Input	Carrier detection
2	RD	Input	Reception data
3	TD	Output	Transmission data
4	DTR	Output	Data terminal ready
5	GND	-	Signal ground
6	DSR	Input	Data set ready
7	RTS	Output	Request to send
8	CTS	Input	Clear to send
9	RI	Input	Ring Indicate

6. LED Indicator

Status of the product is indicated by of LED ON/OFF and flashing.

The meaning of each LED is described below.



Color and Description

LED	Color	Display	Description
PWR	Green	ON	Power has been supplied.
		OFF	Power has not been supplied.
SD	Yellow	Flashing	It flashes at the SD access.
		OFF	It indicates there is no SD access.
ST1	Green	-	Refer to the Reference Manual (Software).
ST2	Red	-	Refer to the Reference Manual (Software).
TX(COM A)	Yellow	Flashing	It flashes upon transmitting data by the RS-422A/485.
		OFF	It indicates there is no data transmission by RS-422A/485.
RX(COM A)	Yellow	Flashing	It flashes upon receiving data by the RS-422A/485.
		OFF	It indicates there is no data reception by RS-422A/485.
TX(COM B)	Yellow	Flashing	It flashes upon transmitting data by the RS-232C.
		OFF	It indicates there is no data transmission by the RS-232C.
RX(COM B)	Yellow	Flashing	It flashes upon transmitting data by the RS-232C.
		OFF	It indicates there is no data transmission by the RS-232C.
DI0 - DI3	Yellow	ON	It lights up when there is inputting.
		OFF	It indicates there is no inputting.
DO0 - DO1	Yellow	ON	It lights up when there is outputting.
		OFF	It indicates there is no outputting.
AI0 - AI1	Yellow	ON	It lights up upon measuring.
		OFF	It indicates there is no measuring.

7. Resets switch

This resets the product.

8. Shutdown switch

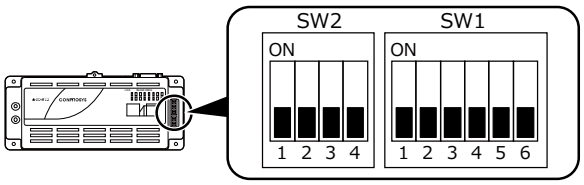
This shuts down OS of the product.

9. DIP switch

SW1, SW2

DIP switch for system setup and RS-422A/485 setup of COM A.

The factory default of all switches are set to “OFF”.



DIP Switch

SW	Bit No.	ON/OFF	Description
SW2	1	ON	Enable the TX Terminator
		OFF	Disable the TX Terminator
	2	ON	Enable the RX Terminator
		OFF	Disable the RX Terminator
	3	ON	Internal connection state of TX+ and RX+: Short(Half Duplex)
		OFF	Internal connection state of TX+ and RX+: Open(Full Duplex)
	4	ON	Internal connection state of TX- and RX-: Short(Half Duplex)
		OFF	Internal connection state of TX- and RX-: Open(Full Duplex)
SW1	1	ON	RTS Communication Mode: Half Duplex
		OFF	RTS Communication Mode: Full Duplex
	2	-	2: OFF, 3: OFF — This indicates it is set in the default setting. 2: ON, 3: OFF — IP address setting starts up with default setting upon turning on, while user/password and group settings starts up with a user’s settings. The current IP address, user/password and group settings can be checked on the Web monitor.
	3	-	2: ON, 3: ON — Each setting will be initialized upon turning on. LED PWR and ST1 will flash upon the completion. Confirm the flashing and turn off the switch 2, 3, then reboot.
	4	OFF	System Reservation: Always OFF
	5	OFF	System Reservation: Always OFF
	6	OFF	System Reservation: Always OFF

10. LAN Port

This product has 2 ports of Ethernet LAN Port.

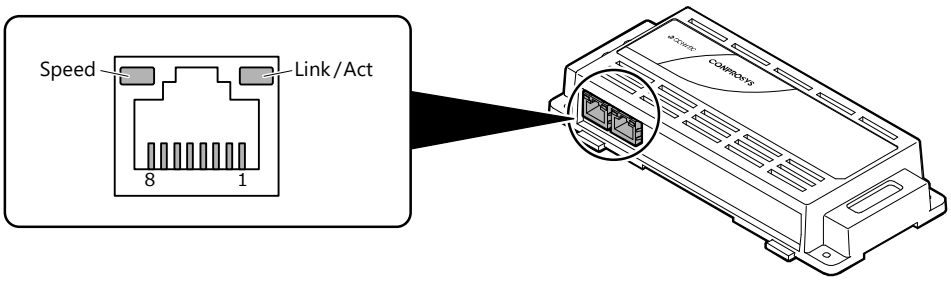
As the LAN port of the CPS-MC341-ADSC1-931 is set in HUB mode, it is recognized as one port from OS. Ethernet Hub function in this product is the switching hub.

The LAN ports of the CPS-MG341-ADSC1-931 are independent, which makes it possible to split the network segment.

Network type: 100BASE-TX/10BASE-T

Transmission speed: 100M/10Mbps

Maximum network path length: 100m/segment



Pin Assignment

Pin No.	Signal Name	Description
1	TX+	Transmission data (+) output
2	TX-	Transmission data (-) output
3	RX+	Reception data (+) input
4	N.C.	This pin is left unconnected.
5	N.C.	This pin is left unconnected.
6	RX-	Reception data (-) input
7	N.C.	This pin is left unconnected.
8	N.C.	This pin is left unconnected.

Color and Description

LED	Color	Display	Description
Speed	Orange	ON	It indicates that LAN port is connected at 100Mbps.
		OFF	It indicates that LAN port is connected at 10Mbps or not connected.
Link/Act	Green	ON	It indicate that LAN port is a connecting state
		Flashing	It indicates that LAN port transmitting and receiving data with the connected external device
		OFF	It indicates that LAN port is not connected.

⚠ CAUTION

- HUB mode of the CPS-MC341-ADSC1-931 might be slower than other standard switching HUB products.
- If a large amount of data or high-speed response is requested, an external switching HUB will be required.

⚠ ATTENTION

- Le mode avec concentrateur de commutation du produit CPS-MC341-ADSC1-931 peut être plus lent que d'autres concentrateurs de commutation normaux.
- En présence d'un volume élevé de données ou lorsqu'une réponse haute vitesse s'avère nécessaire, il faudra un concentrateur de commutation externe.

11. Digital Input / Counter Input / Digital Output Connecter

This product has 4 channels of digital Input and 2 channels of digital output.

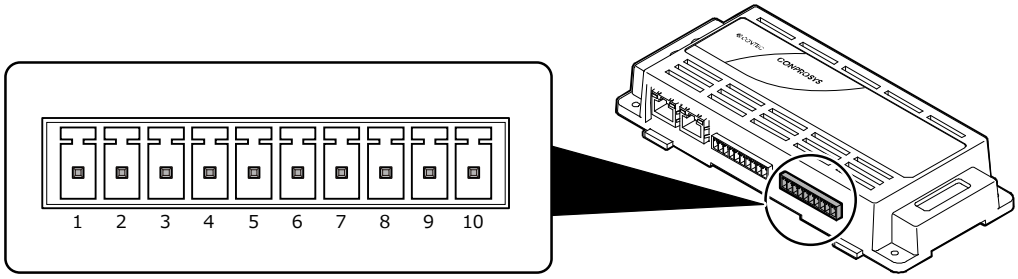
You can switch DI2 and DI3 to counter input and operate them.

Use the 10-pin connector included in the package.

Connector type: DEGSON 15EDGK-3.5-10P-14-1000AH (or equivalent)

*The type of connectors in the package differs depending on the period of manufacturing.

To check the supplied connector type, refer to “Appendix – Connector Check”.



No.	Name	Function
1	DI_ACOM	It is a common terminal for signals at the time of DI external circuit power supply connection and shares with 4 channels of input signal.
2	DI0	This indicates the input signals of channel 0. It connects the output signals from the other devices.
3	DI1	This indicates the input signals of channel 1. It connects the output signals from the other devices.
4	DI2/CNT0	This indicates digital input signals of channel 2 and counter signals of channel 0. It connects the output signals from the other devices.
5	DI3/CNT1	This indicates digital input signals of channel 3 and counter signals of channel 1. It connects the output signals from the other devices.
6	DI_BCOM	This common terminal is for signals at the time of DI built-in power supply connection. It shares with 4 channels of input signal.*1
7	DO0+	This indicates the output signals (+) of channel 0. It connects the input signals (+) from the other devices.
8	DO0-	This indicates the output signals (-) of channel 0. It connects the input signals (-) from the other devices.
9	DO1+	This indicates the output signals (+) of channel 1. It connects the input signals (+) from the other devices.
10	DO1-	This indicates the output signals (-) of channel 1. It connects the input signals (-) from the other devices.

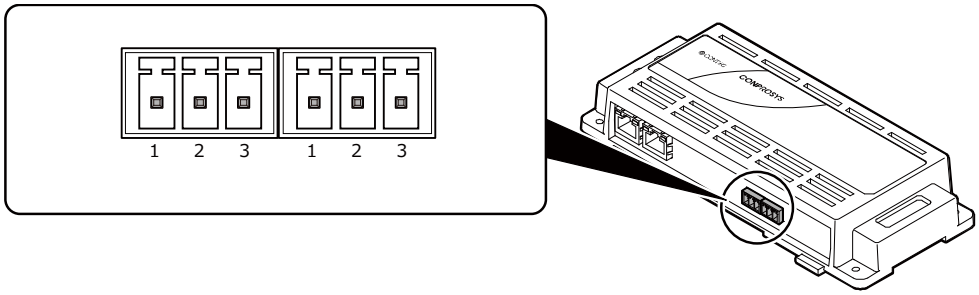
*1When using external power supply, do not connect anything to DI_BCOM

12. Analog Input Connecter

This product has 2 channels of analog input that supports isolated inter-channel.
Use the 3-pin connector included in the package to connect to external power.

Connector type: DEGSON 15EDGK-3.5-03P-14-1000AH (or equivalent)

*The type of connectors in the package differs depending on the period of manufacturing.
To check the supplied connector type, refer to “Appendix – Connector Check”.



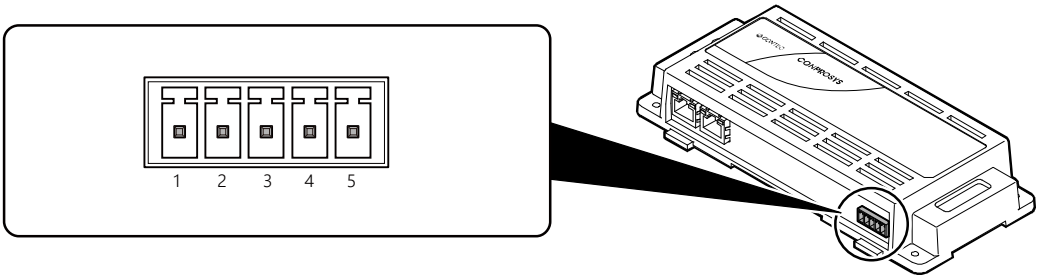
Pin Assignment

No.	Signal Name	Description
1	AI+	Analog input signals (+).
2	AI-	Analog input signals (-).
3	AGND	Analog ground.

13. RS-422A/485 Connector

This product has1 port (COM A) of RS-422A/485 communication.
Use the 5-pin connector included in the package to connect to external power.
Connector type: DEGSON 15EDGK-3.5-05P-14-1000AH (or equivalent)

*The type of connectors in the package differs depending on the period of manufacturing.
To check the supplied connector type, refer to "Appendix – Connector Check".



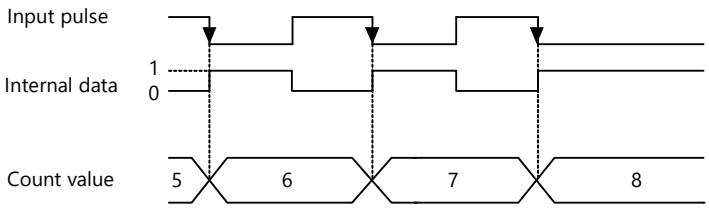
Pin Assignment

No.	Signal Name	Description
1	TX+	Transmission data (+)
2	TX-	Transmission data (-)
3	RX+	Receptions data (+)
4	RX-	Receptions data (-)
5	SG	Signal ground

3.Other Functions

1. Counter Function

When a pulse is input, the product performs incremental counting at the falling edges of input pulse.



◆ Compare Register

Compare the count value of a corresponding channel with the compare register value. If these two values match, an interrupt is generated.

This register can be set to any value from 0h to FFFFFFh.

2. Digital Filter

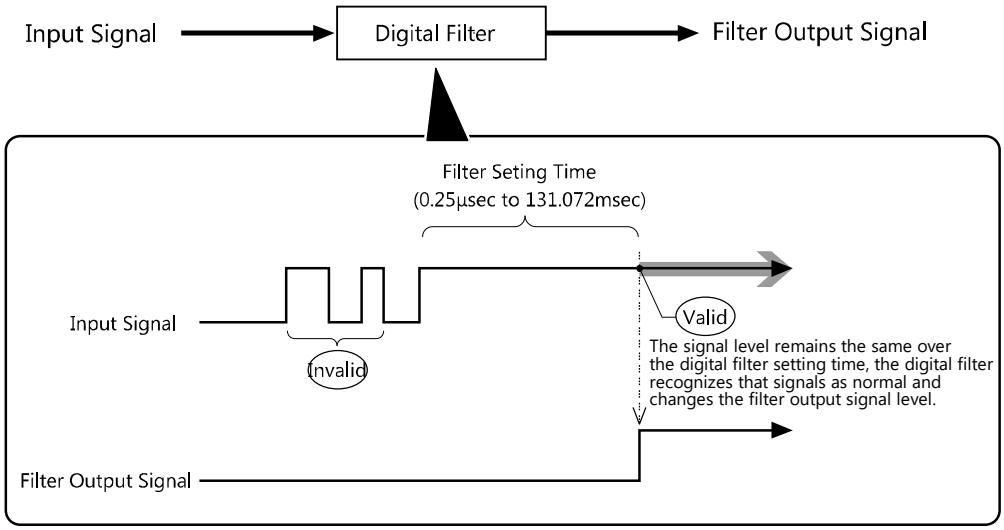
This product can apply a digital filter to every input pin, thereby preventing wrong recognition of input signals from being affected by noise or chattering.

◆ Operation Principle

The digital filter checks the input signal level during the sampling time of 1/4 cycles of digital filter setting time. When the signal level remains the same over the digital filter setting time (sampling four times), the digital filter recognizes that signals as normal and changes the filter output signal level.

When there is a change in the signal within the digital filter setting time (sampling four times), the input signals till then are disregarded and the level check continues again

If the signal level changes at a frequency shorter than the set time, therefore, the level change is ignored.



Digital Filter Setting Time

Set the digital filter time to 0 – 20 (00h - 14h).

Setting the digital filter time to 0 disables the function of filtering (0 is set as default and upon turning on the power).

Setting Data (n)	Digital Filter Time
0(00h) Default setting	The filter function is unused
1(01h)	0.25µsec
2(02h)	0.5µsec
3(03h)	1µsec
4(04h)	2µsec
5(05h)	4µsec
6(06h)	8µsec
7(07h)	16µsec
8(08h)	32µsec
9(09h)	64µsec
10(0Ah)	128µsec

Setting Data (n)	Digital Filter Time
11(0Bh)	256µsec
12(0Ch)	512µsec
13(0Dh)	1.024msec
14(0Eh)	2.048msec
15(0Fh)	4.096msec
16(10h)	8.192msec
17(11h)	16.384msec
18(12h)	32.768msec
19(13h)	65.536msec
20(14h)	131.072msec
-	-

The following lists the relation between digital filter time and setting data.

Digital Filter Time [sec] = $2^n/(8x10^6)$ n: Setting Data (0 - 20)

⚠ CAUTION

- The digital filter applies to all input channels; it cannot apply to only specific input pins.
- To pass input signal without fail, the pulse width should be twice or larger than setting filter time.
- A digital filter doesn't work effectively if the filter time is set (setting data: 1-10) shorter than the opto-coupler response time.

⚠ ATTENTION

- Le filtre numérique s'applique à tous les canaux d'entrée; il ne peut pas se limiter uniquement à des broches d'entrée spécifiques.
- Pour transmettre correctement un signal d'entrée, la largeur de l'impulsion doit être le double du délai réglé pour le filtre.
- Un filtre numérique ne fonctionne pas de manière efficace si le filtre numérique est (données de réglage : 1 à 10) inférieur au temps de réponse du photocoupleur.

Setup

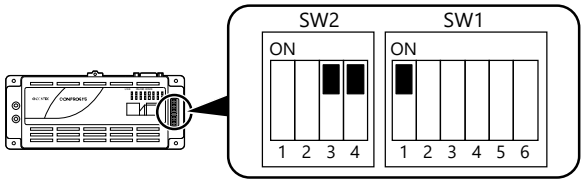
This section describes how to set switches and an antenna that are necessary to operate the product.

1.Set Data Transfer Mode

With the DIP switch (SW1, SW2), data transfer mode can be changed (half-duplex or full-duplex).
Set the data transfer mode in accordance with a device which you are connecting to.

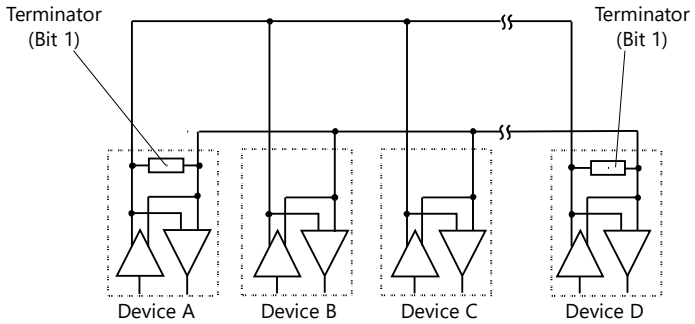
1. RS-422A/485

◆ Half-Duplex Switch Setup

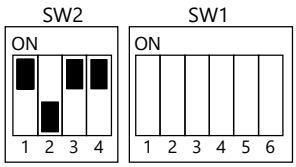
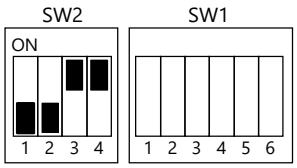
Data transfer mode	Setup method
Half-duplex [Half]	TX is used to transfer data; the sending and receiving modes should be switched over using RTS. 

Terminator setup

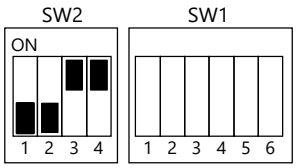
Set the terminators on or off in accordance with the device which you are communicating with.
The DIP switch (SW2) sets the terminator.
The terminators on the product are 100Ω resistors.
If you intend to use a terminator of other than 100Ω, set the terminator switch OFF first, and insert an external terminator.



(A) or (D)

Use the terminator inside	Set the terminator outside
	

(B) or (C)

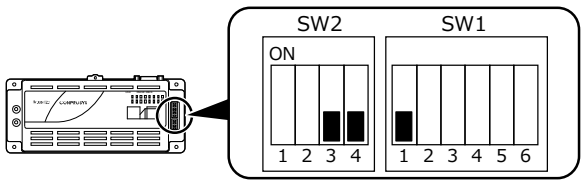
When using the terminator neither inside nor outside


DIP Switch

SW	Bit No.	ON/OFF	Description
SW2	1	ON	Enable the TX Terminator
		OFF	Disable the TX Terminator
	2	ON	Enable the RX Terminator
		OFF	Disable the RX Terminator
	3	ON	Internal connection state of TX+ and RX+: Short(Half Duplex)
		OFF	Internal connection state of TX+ and RX+: Open(Full Duplex)
	4	ON	Internal connection state of TX- and RX-: Short(Half Duplex)
		OFF	Internal connection state of TX- and RX-: Open(Full Duplex)
SW1	1	ON	RTS Communication Mode: Half Duplex
		OFF	RTS Communication Mode: Full Duplex
	2	-	System Reservation: Always OFF
	3	-	System Reservation: Always OFF
	4	-	System Reservation: Always OFF
	5	-	System Reservation: Always OFF
	6	-	System Reservation: Always OFF

◆ Full-Duplex Switch Setup

CPS-MC341-ADSC1-931 and CPS-MG341-ADSC1-931

Data transfer mode	Setup method
Full-duplex [Full]	Activating RTS signal of this product activates CTS signal. 

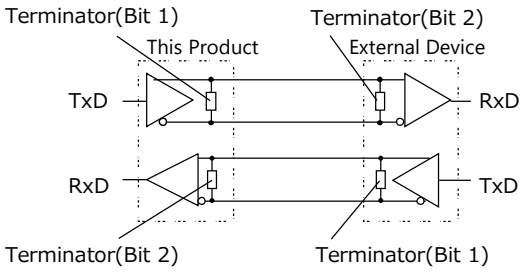
Terminator Setup

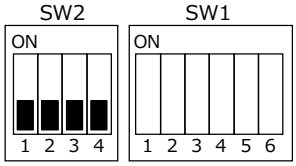
Set the terminators on or off in accordance with the device which you are communicating with.

The DIP switch (SW2) sets the terminator.

The terminators on the product are 100Ω resistors.

If you intend to use a terminator of other than 100Ω, set the terminator switch OFF first, and insert an external terminator.



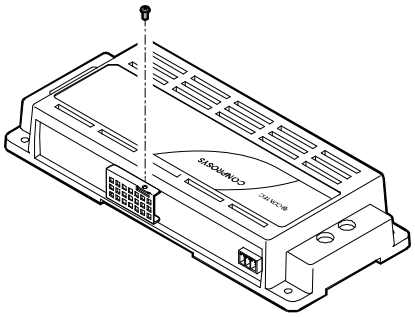
Use the terminator inside	Set the terminator outside
	

DIP Switch

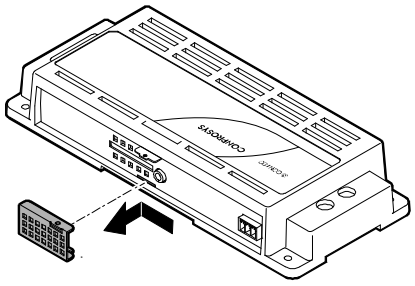
SW	Bit No.	ON/OFF	Description
SW2	1	ON	Enable the TX Terminator
		OFF	Disable the TX Terminator
	2	ON	Enable the RX Terminator
		OFF	Disable the RX Terminator
	3	ON	Internal connection state of TX+ and RX+: Short(Half Duplex)
		OFF	Internal connection state of TX+ and RX+: Open(Full Duplex)
	4	ON	Internal connection state of TX- and RX-: Short(Half Duplex)
		OFF	Internal connection state of TX- and RX-: Open(Full Duplex)
SW1	1	ON	RTS Communication Mode: Half Duplex
		OFF	RTS Communication Mode: Full Duplex
	2	-	System Reservation: Always OFF
	3	-	System Reservation: Always OFF
	4	-	System Reservation: Always OFF
	5	-	System Reservation: Always OFF
	6	-	System Reservation: Always OFF

2.Insert SD Card

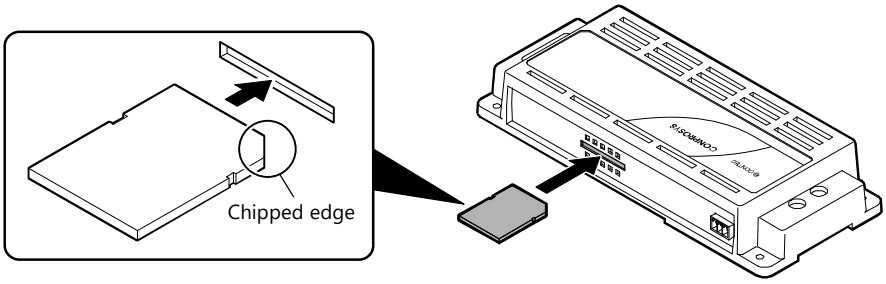
1 Unfasten the screw of the cover.
(Card cover is attached to the product upon shipping).



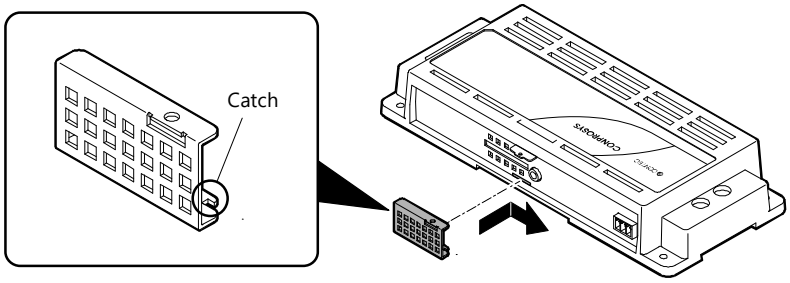
2 Slide the card cover to remove it.



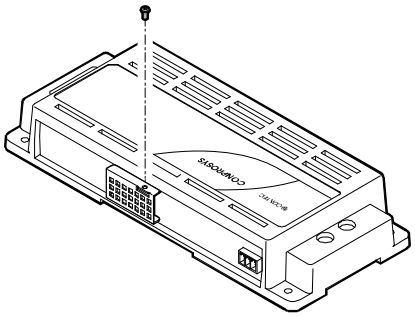
3 With the chipped edge of the SD card is in the position shown below, insert the card all the way into the slot.



4 Insert the catch of the card cover into the opening shown in the figure below.



5 Fasten with a screw.



*Reverse the procedure described in the "Insert SD card "to remove the card.

Installation

This section describes how to mount the product on a DIN rail or on the wall, and to connect to an external device with a cable.

1.Install the Product

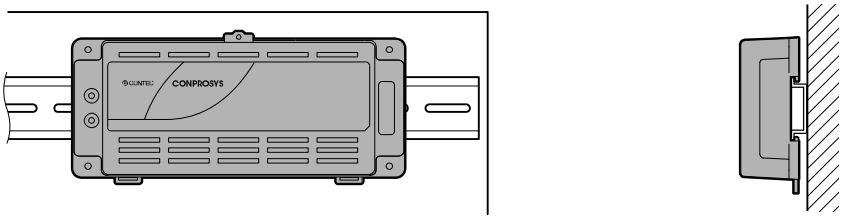
1. Installation Conditions

◆ Installation Orientation

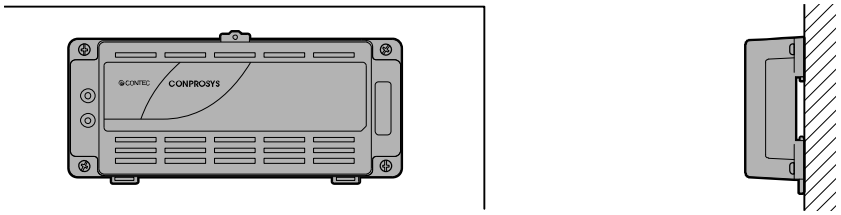
Install the product in the orientations shown below (0 °C).

Other orientations may cause problems such as malfunctions due to inadequate heat dissipation.

DIN rail Mounting

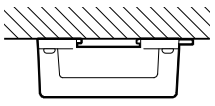


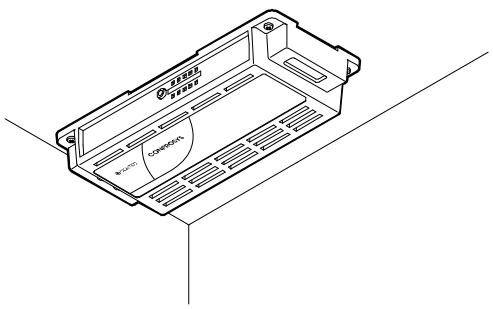
Wall Mounting



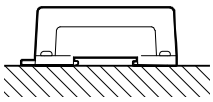
Operating ambient temperature should be between -20 °C and +55 °C when the product is installed on the ceiling or horizontally.

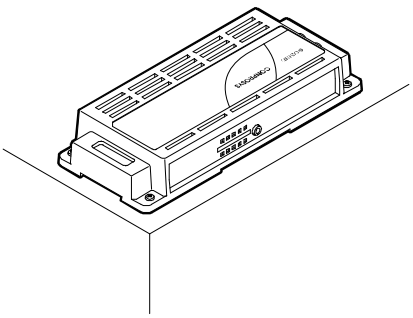
Ceiling installation





Horizontal installation



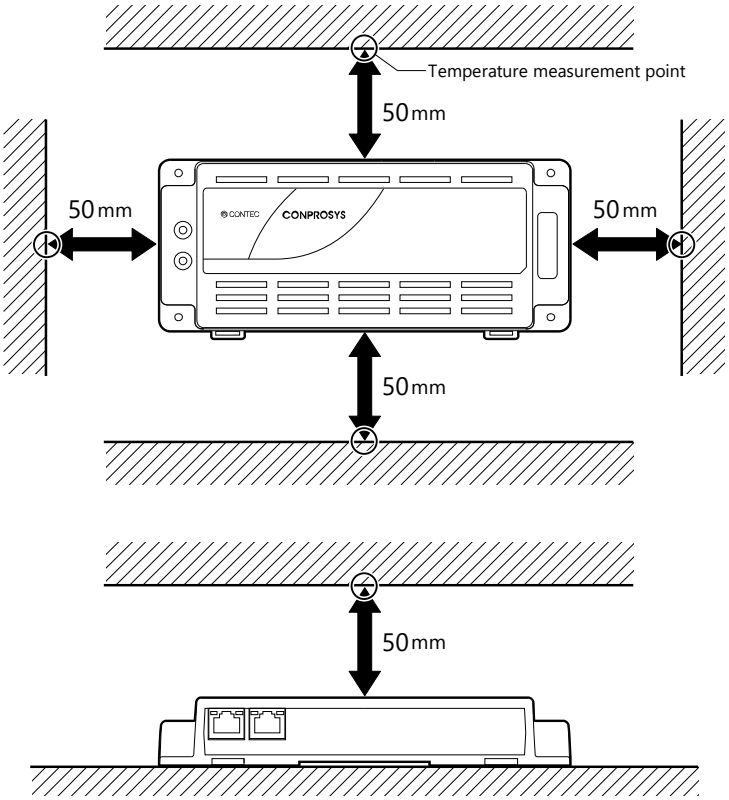


◆ Ambient Temperature

The ambient temperature is decided from the multiple measurement points which are a 50mm-distance from the product.

During the operation, adjust the air current to make certain that the temperatures measured in the points stay within the specified temperature. (-20 - +60°C)

If you use the USB device with bus power, the ambient temperature should be -20 - +55°C.



* ◯Temperature measurement points are shown as circles.

⚠ CAUTION

- Note that although the ambient temperature is within the specified range, an operational malfunction may occur if there is other device generating high heat; the radiation will influence the product to increase its temperature.
- Do not install this product into the fully-sealed space except the case in which the internal temperature is adjustable by equipment such as air conditioner. Long-term usage might increase the temperature of the product and lead to malfunctions or other troubles.
- When using the product in a high temperature environment, its life time will be shorten. Perform the forced air cooling to counteract.

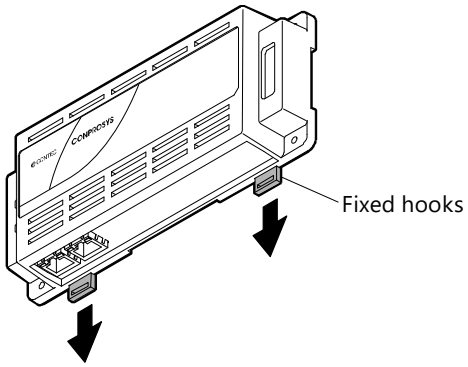
⚠ ATTENTION

- Remarquez que même si la température ambiante se situe dans la plage de température spécifiée, une défaillance opérationnelle peut survenir si un autre appareil à proximité émet beaucoup de chaleur. Le rayonnement influence la hausse de température du produit.
- N'installez pas le produit dans un espace entièrement scellé sauf dans les cas où la température interne est réglée par un appareil comme un climatiseur.
  Une utilisation sur une période prolongée peut accroître la température et mener à une défaillance ou à d'autres problèmes.
- Lors de l'utilisation du produit dans un environnement à température élevée, la durée de vie du produit sera réduite. Pour contrebalancer la température élevée, procédez à un refroidissement par air pulsé.

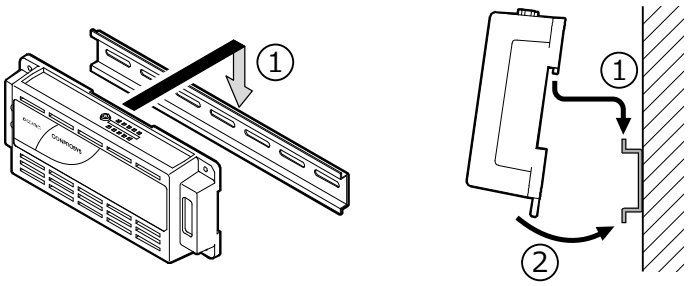
2. Mounting on/Removing from a DIN Rail

◆ How to Mount

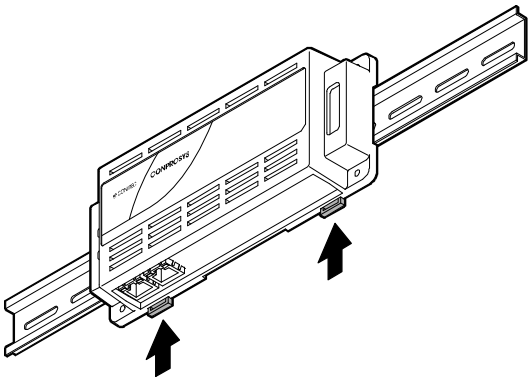
1 Pull down the hooks to unlock.
If the hooks are stuck, use a slotted screwdriver to unlock.



2 (1). Hang the product on the upper part of the DIN rail.
(2). Press it to the lower side of the DIN rail.

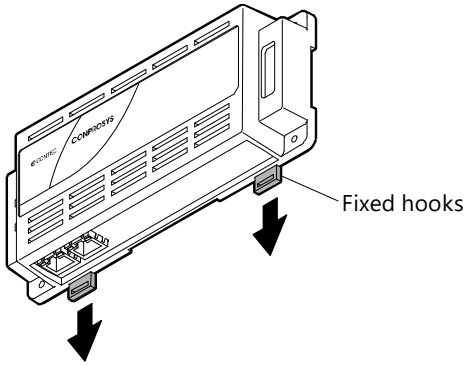


3 Push the hooks up to lock the product on the DIN rail.

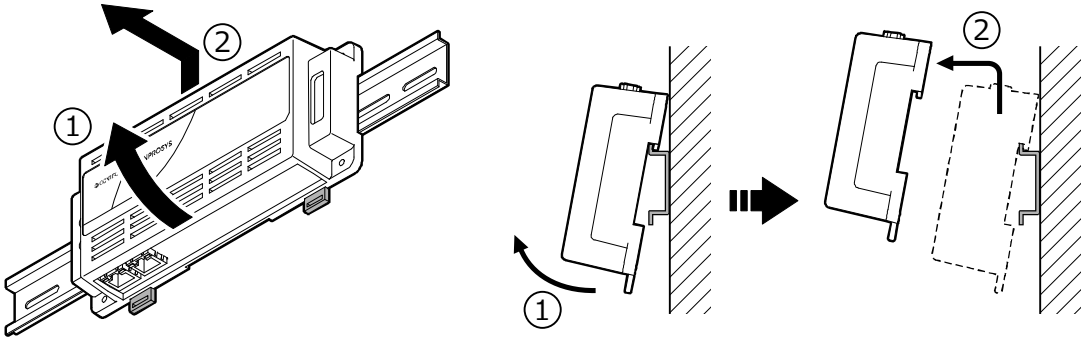


◆ How to Remove

1 Pull down the hooks to unlock.
If the hooks are stuck, use a slotted screwdriver to unlock.



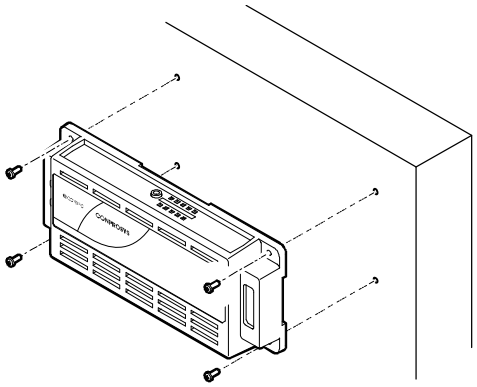
2 (1). With the hooks unlocked, pull the lower part of the product toward you.
(2). By lifting the product, you can easily remove it from the DIN rail.

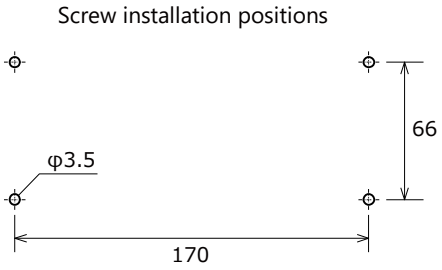


3. Mounting on the Wall

Appropriate screws (fit into φ3.5 hole) are required to install the product on the wall.

The commercial screws can be purchased individually. Get the screws fit into φ3.5 hole and set the product.





⚠ CAUTION

- Tightening torque should be carefully controlled according to the wall on which you are installing to.
- Installing onto the wall may not satisfy the UL-standard certification.

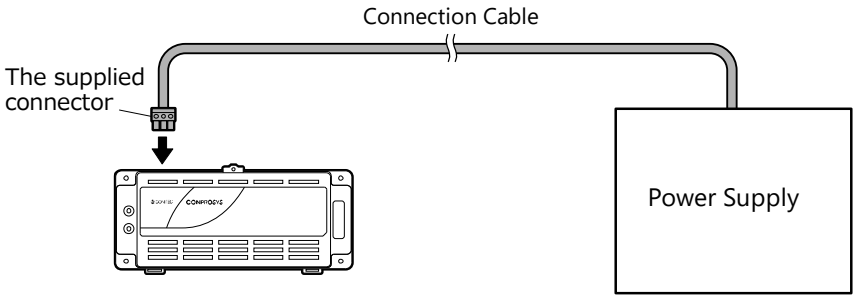
⚠ ATTENTION

- Surveillez étroitement le couple utilisé pour serrer les vis. Il doit être approprié pour le type de mur utilisé pour le montage.
- Il est possible qu'un montage mural ne satisfasse pas aux besoins de la certification de la norme UL.

2.Connecting to an External Device

Use the supplied connector plug to connect the product to an external device.

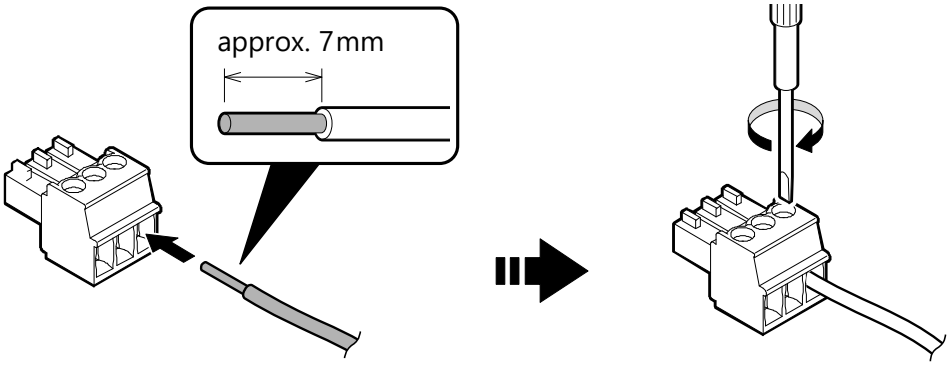
The following example describes how to make the connecting cable with a 3-pin connector.



Applicable wire : AWG24 - 16

1 Strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable and insert it to the opening.

2 After the insertion, secure the stripped part by turning screws with a slotted driver to prevent it from disconnecting.



⚠ CAUTION

- Removing the connector plug by grasping the cable can break the wire. Always grasp the connector to remove it.
- Tightening torque of the supplied connector is described below.
  DEGSON : 0.19 N·m, PHOENIX CONTACT, PTR MESSTECHNIK : 0.25 N·m
- Strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.

⚠ ATTENTION

- Ne tirez pas sur le câble de la fiche du connecteur pour retirer la fiche, vous risquez de briser le fil. Saisissez toujours le connecteur pour le retirer.
- Le couple de serrage pour le connecteur fourni est indiqué ci-dessous.
  DEGSON : 0,19 N·m; PHOENIX CONTACT, PTR MESSTECHNIK : 0,25 N·m
- Dénudez environ 7 mm (plus ou moins 0,5 mm) de la section gainée du câble pour le raccorder au connecteur.

3.Cable Connection

1. Power

◆ Power Cable

Use the power cable described below.

Cable	Twisted pair cable (when using a single wire, twist V+ wire and V- wire)
Cable Diameter	AWG24 - 16(0.2mm^2 - 1.25mm^2)
Cable Length	Within 3 meters

◆ FG Cable

Use the FG cable described below.

Cable Diameter	AWG18 - 16(0.75mm^2 - 1.25mm^2)

Refer to **"Power Connector"** in the **page 26** for details of the power connector and pin assignment.

◆ Specification of External Power Supply

This product is designed to operate at least with 15watt power supply.
In addition, the power supply must fulfill the following requirements.

Rising time for up to 12 voltage	2 milliseconds up to 30 milliseconds

Cable	Use copper wires that tolerate a temperature of 75 °C or higher.

Recommended power supply is the optional product of the CPS-PWD-15AW12-01.

⚠ CAUTION

- Removing the connector plug by grasping the cable can break the wire. Always grasp the connector to remove it.
- Tightening torque of the supplied connector is described below.
  DEGSON : 0.19 N·m, PHOENIX CONTACT, PTR MESSTECHNIK : 0.25 N·m
- Strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.
- If the maximum output current of the external power supply is smaller than the maximum consumption current of the product, the abnormal operations might occur due to the inrush

current at the start-up time or the load fluctuation. The aging external power supply could cause a start-up failure

- About a caution mark ⚠ on the product: Please use copper wires that tolerate the temperature of 75 °C and higher.

⚠ ATTENTION

- Ne tirez pas sur le câble de la fiche du connecteur pour retirer la fiche, vous risquez de briser le fil. Saisissez toujours le connecteur pour le retirer.
- Le couple de serrage pour le connecteur fourni est indiqué ci-dessous.
  DEGSON : 0,19 N-m; PHOENIX CONTACT, PTR MESSTECHNIK : 0,25 N-m
- Dénudez environ 7 mm (plus ou moins 0,5 mm) de la section gainée du câble pour le raccorder au connecteur.
- Si le courant de sortie maximum de l'alimentation externe est moindre que le courant maximum absorbé par ce produit, il y a possibilité d'un dysfonctionnement en raison de l'appel de courant au moment de la mise en route ou de la fluctuation de charge. Le vieillissement de l'alimentation externe peut provoquer un défaillance au démarrage.
- Signal de mise en garde ⚠ sur le produit : Veuillez utiliser des fils de cuivre qui résistent à une température de 75 °C Celsius et plus.

2. LAN

◆ LAN Cable

Use the LAN cable described below

Category	Category 5 or more
Cable Length	Within 100 meters

Refer to **"LAN Port"** in the **page 31** for details of the LAN port and pin assignment.

3. RS-422A/485

◆ RS-422A/485 Cable

Use the RS-422A/485 cable described below.

<table>
<tr><td>Cable</td><td>Twisted pair cable with the shield</td></tr>
<tr><td>Cable Diameter</td><td>AWG28-16(0.08mm^2 - 1.25mm^2)</td></tr>
<tr><td>Cable Length</td><td>Affected by the communication speed (baud rate) between the product and the external device.
The cable should not exceed the length indicated in the table below.
Even the length is within the indicated one, as the amount of attenuation differs by the material of the cables, communication abnormality may occur.

Estimated cable length and the communication speed

<table>
<tr><th>Cable Length (m)</th><th>Communication speed (bps)</th></tr>
<tr><td>300</td><td>115,200</td></tr>
<tr><td>600</td><td>57,600</td></tr>
<tr><td>900</td><td>19,200</td></tr>
<tr><td>1,200</td><td>9,600</td></tr>
</table>

The cable lengths in the table are not guaranteed for the communication speed.

The table below lists the maximum communication distances of the terminator resistor value and individual cable diameters.
The terminators on the product (100Ω) and the terminators generally used with RS-422A/485(120Ω) are listed.

Maximum communication distances of the terminator resistor value (100Ω) and cable diameter

<table>
<tr><th>Terminator Resistor (Ω)</th><th>Cable Diameter</th><th>Maximum Communication Distance (m)</th></tr>
<tr><td rowspan="4">100</td><td>AWG28</td><td>400</td></tr>
<tr><td>AWG26</td><td>700</td></tr>
<tr><td>AWG24</td><td>1100</td></tr>
<tr><td>AWG22</td><td>1200</td></tr>
</table>

Maximum communication distances of the terminator resistor value (120Ω) and cable diameter

<table>
<tr><th>Terminator Resistor (Ω)</th><th>Cable Diameter</th><th>Maximum Communication Distance (m)</th></tr>
<tr><td rowspan="4">120</td><td>AWG28</td><td>500</td></tr>
<tr><td>AWG26</td><td>800</td></tr>
<tr><td>AWG24</td><td>1200</td></tr>
<tr><td>AWG22</td><td>1200</td></tr>
</table>
</td></tr>
</table>

*Refer to **"RS-422A/485 Connector"** in the **page 35** for details of the RS-422A/485 Connector and pin assignment.

◆ Baud Rate

See the table below for the baud rate that can be set with the product.

Error rate differs depending on the set baud rate.

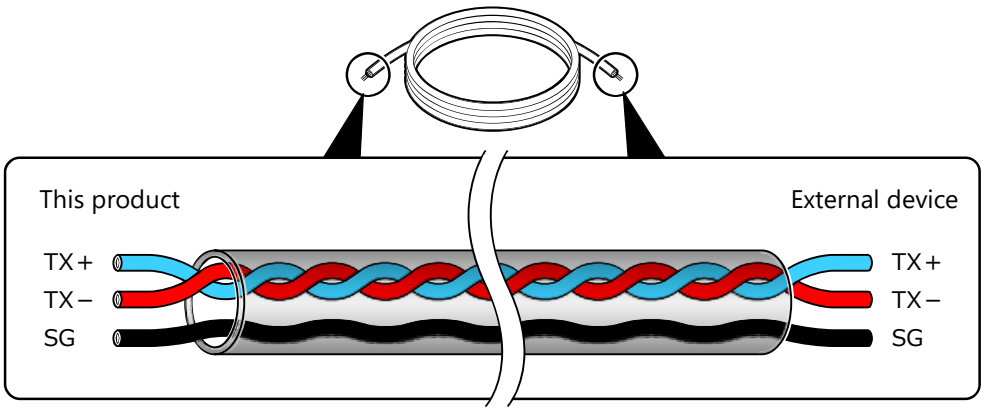
Baud Rate (bps)	Error (%)
300	0.00
600	0.00
900	0.00
1,200	0.00
2,400	0.00
4,800	0.00
9,600	0.16
14,400	0.16
19,200	0.16
28,800	0.16
38,400	0.16
57,600	0.16
115,200	0.16

◆ Half Duplex

Half duplex needs two or more sets of twisted-pair.

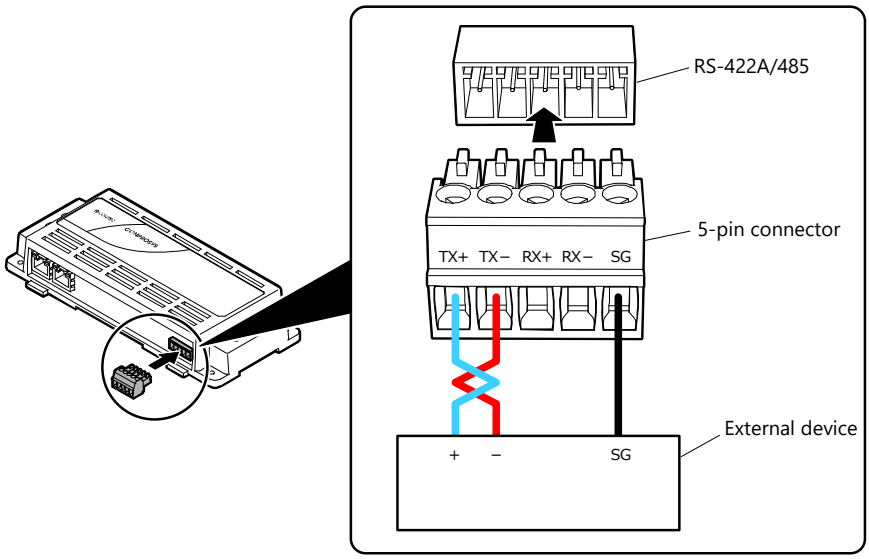
One set is for a signal line, other free line(s) is (are) for the signal ground (SG).

Connect TX + and TX- to make them as a set of twisted pair wire.



Connecting to an external device

Connect the product in accordance with the specification of the external device.

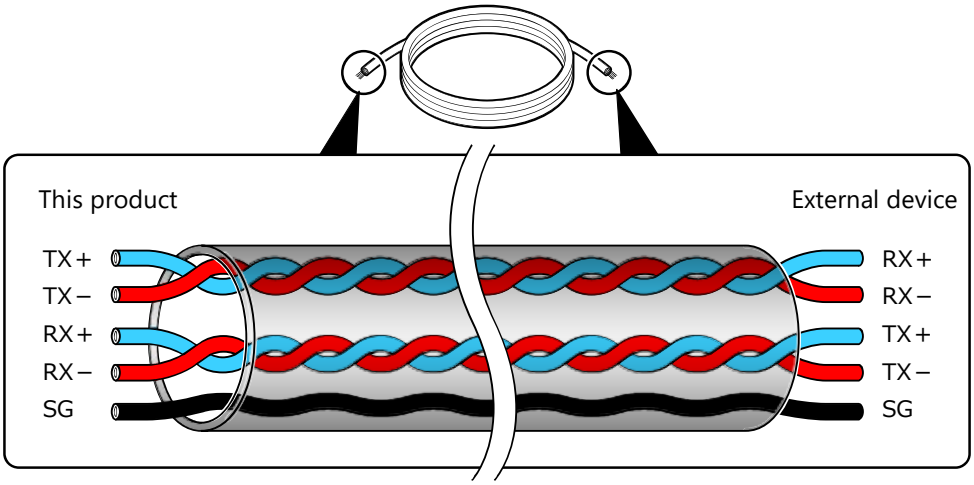


◆ Full Duplex

Full duplex needs three or more sets of twisted-pair.

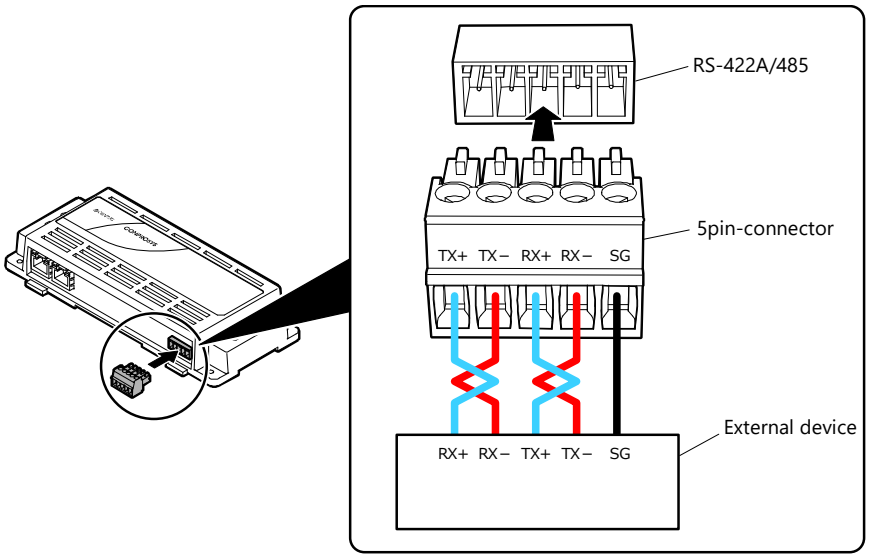
Two sets are for a signal line, other free line(s) is (are) for the signal ground (SG).

Connect [TX + and TX-] [RX+ and RX-] to make them as a set of twisted pair wire.



Connecting to an external device

Connect the product in accordance with the specification of the external device.



◆ Notes on the Shield Connection

- Ground the shield to the frame ground (FG) of the external device.
- Use an unshielded cable if there is no terminal or/and place for grounding.
- Do not ground to Power GND.
- Shield should not be used as the signal ground (SG).

⚠ CAUTION

- Removing the connector plug by grasping the cable can break the wire. Always grasp the connector to remove it.
- Tightening torque of the supplied connector is described below.
  DEGSON : 0.19 N·m, PHOENIX CONTACT, PTR MESSTECHNIK : 0.25 N·m
- Strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.
- If the shielded cables are incorrectly wire-connected to the ground, the shield might become an antenna picking up noises or become a source of noise.
  If you find the problems, remove the grounding of the shield.
- About a caution mark ⚠ on the product : Please use copper wires that tolerate the temperature of 75 °C and higher.

⚠ ATTENTION

- Ne tirez pas sur le câble de la fiche du connecteur pour retirer la fiche, vous risquez de briser le fil. Saisissez toujours le connecteur pour le retirer.
- Le couple de serrage pour le connecteur fourni est indiqué ci-dessous.
  DEGSON : 0,19 N·m; PHOENIX CONTACT, PTR MESSTECHNIK : 0,25 N·m
- Dénudez environ 7 mm (plus ou moins 0,5 mm) de la section gainée du câble pour le raccorder au connecteur.
- Si les câbles blindés sont mal raccordés à la mise à la terre, le blindage pourrait agir comme antenne et recueillir des signaux parasites ou en émettre.
- Si vous découvrez les sources de problèmes, retirez la mise à la terre du blindage.
- Signal de mise en garde sur le produit :
  Veuillez utiliser des fils de cuivre qui résistent à une température de 75 °C Celsius et plus.

4. RS-232C

◆ RS-232C Cable

When using an RS-232C interface, different cables are required depending on the type of device to which you are connecting (computer or modem, etc.).

Check the requirements of the external device and select either a straight-through or crossed (null modem) cable as appropriate.

If special treatment of the signal lines in the connector is required, ensure that this is done in accordance with the specifications.

Refer to **"**

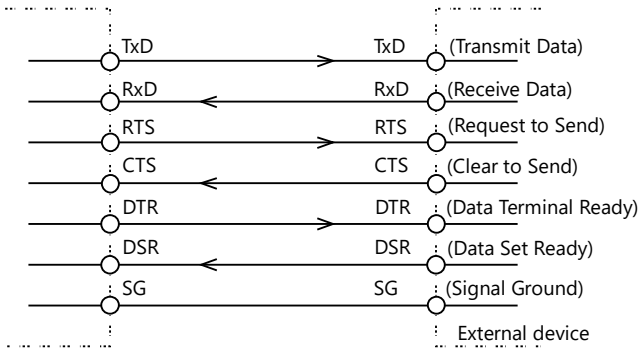
ATTENTION

Si vous utilisez le dispositif USB avec alimentation par bus, la température ambiante devrait être de 55 °C ou moins.

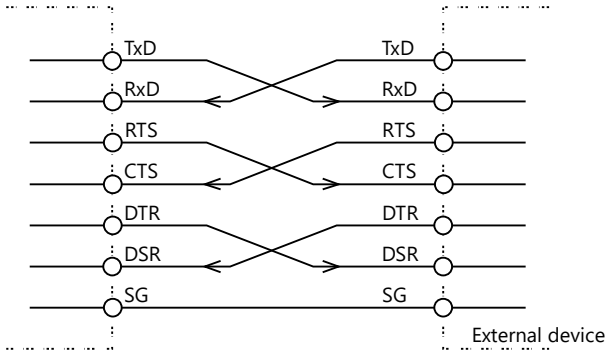
RS-232C Serial Port**"** in the **page 27** for details of the RS-232C serial port and pin assignment.

Connecting to an external device

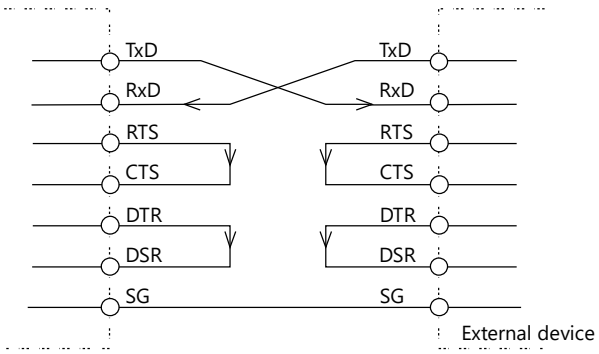
Example Connection to a Modem



Example Connection to a PC



Example Connection to a Device



◆ Baud Rate

See the table below for the baud rate that can be set with the product.

Error rate differs depending on the set baud rate.

Baud Rate (bps)	Error (%)
300	0.00
600	0.00
900	0.00
1,200	0.00
2,400	0.00
4,800	0.00
9,600	0.16
14,400	0.16
19,200	0.16
28,800	0.16
38,400	0.16
57,600	0.16
115,200	0.16

5. Analog Input

◆ Analog Input Cable

Use the Analog Input cable described below

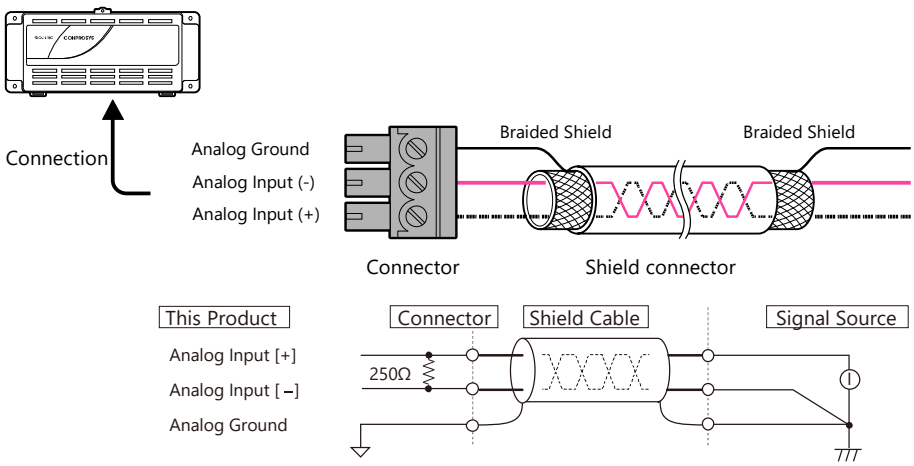
Cable	Use copper wires that tolerate the temperature of 75 °C and higher.
Cable Diameter	AWG28 - 16
Cable Length	Within 20 meters.

*Refer to **"Analog Input Connecter"** in the **page 34** for details of the analog input connector and pin assignment.

*The type of connectors in the package differs depending on the period of manufacturing.
To check the supplied connector type, refer to “Appendix – Connector Check”.

Connecting to an external device

Connect the input [+] of each analog input channel of the interface connector with the signal, and connect the input [-] with the signal source ground. In addition, connect the analog ground of this product with ground of signal source by braided shield.



⚠ CAUTION

- Removing the connector plug by grasping the cable can break the wire. Always grasp the connector to remove it.
- Tightening torque of the supplied connector is described below.
  DEGSON : 0.19 N·m, PHOENIX CONTACT, PTR MESSTECHNIK : 0.25 N·m
- Strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.
- When the analog ground is not connected, the conversion data will be undefined.
- Analog signal which input [+] Input, and [-] input does not exceed the maximum input rating of the analog input current. If it exceeds the maximum, this product may be damaged.
- When the terminal of [+] input or [-] input is not connected, conversion data is undefined.

- Connect both the [+] input and the [-] input terminals that are not connected to signal source to the analog ground.
- About a caution mark ⚠ on the product : Please use copper wires that tolerate the temperature of 75 °C and higher.

6. Digital Input/Counter Input

◆ Digital Input/Counter Input Cable

Use the Digital Input/Counter Input cable described below.

Cable	Use copper wires that tolerate the temperature of 75 °C and higher.
Cable Diameter	AWG28 - 16
Cable Length	The length differs depending on the actual use environment.

*Refer to **"**

ATTENTION

Le mode avec concentrateur de commutation du produit CPS-MC341-ADSC1-931 peut être plus lent que d'autres concentrateurs de commutation normaux.

- En présence d'un volume élevé de données ou lorsqu'une réponse haute vitesse s'avère nécessaire, il faudra un concentrateur de commutation externe.

Digital Input / Counter Input / Digital Output Connecter**"** in the **page 32** for details of the digital input/counter input /digital output connector and pin assignment.

*The type of connectors in the package differs depending on the period of manufacturing.
To check the supplied connector type, refer to "Appendix – Connector Check".

Input equivalent circuit of digital / counter input interface unit is shown in the figure below.

DI connects to a device which can be current-driven such as switch or transistor output device.

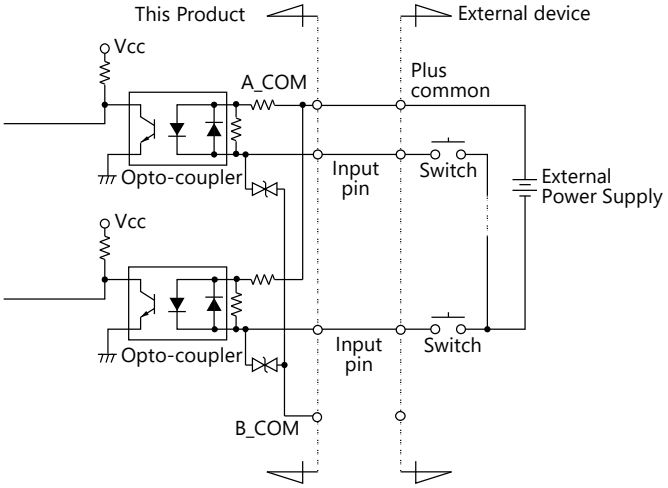
Input the ON / OFF state of a device which can be current-driven as digital value. The signal input unit is opto-coupler isolated input (Corresponded to current sink output).

When using an external circuit power supply, the DI/CNT corresponds to current sink output and current source output. When using the built-in power supply, the DI/CNT solely corresponds to current sink output. Switching to an external circuit or to the built-in power supply can be done with the software.

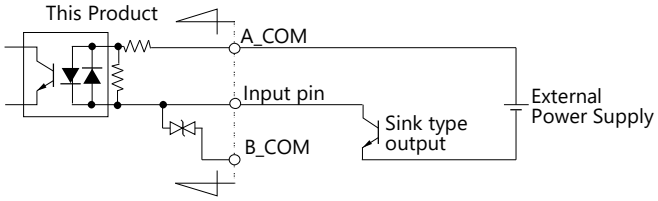
Input equivalent circuit (When the product using an external circuit power supply)

Corresponded to current sink output

Connecting Switch

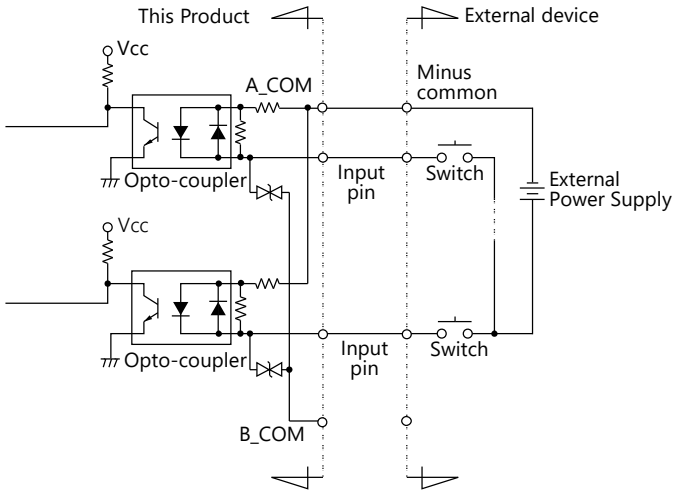


Connecting the Input to the sink type output (Connecting to an external device)

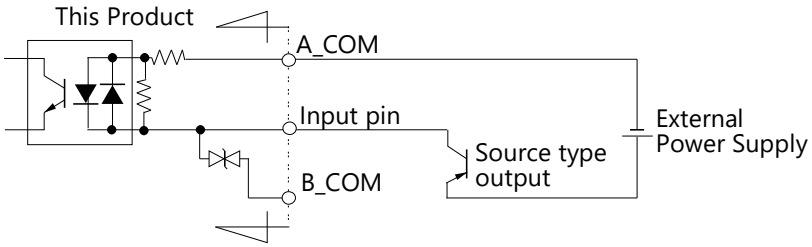


Corresponded to current source output

Connecting Switch



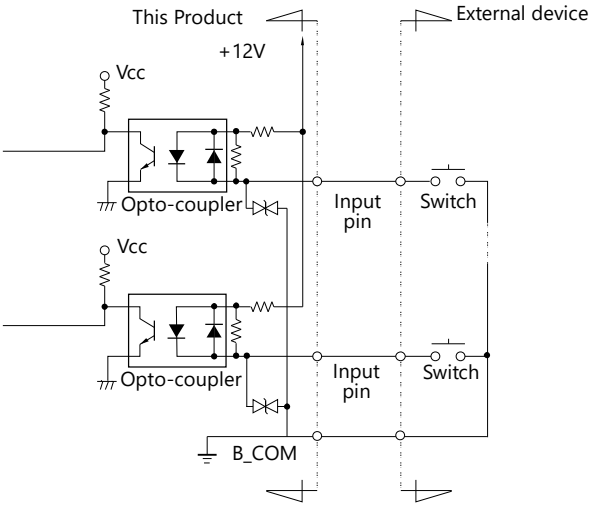
Connecting the Input to the source type output (Connecting to an external device)



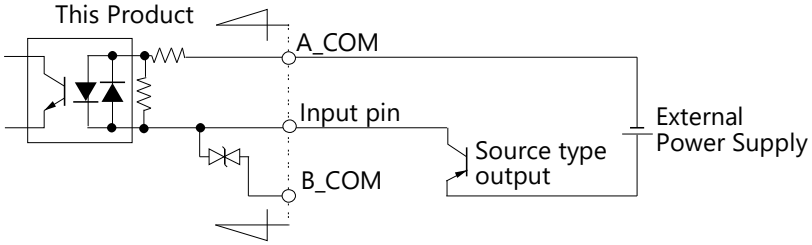
Input Circuit (When using the built-in power supply)

Corresponded to current sink output

Connecting Switch



Connecting the Input to the sink type output (Connecting to an external device)



7. Digital Output

◆ Digital Output Cable

Use the Digital Output cable described below.

Cable	Use copper wires that tolerate the temperature of 75 °C and higher.
Cable Diameter	AWG28 - 16
Cable Length	The length differs depending on the actual use environment.

*Refer to **"**

ATTENTION
Le mode avec concentrateur de commutation du produit CPS-MC341-ADSC1-931 peut être plus lent que d'autres concentrateurs de commutation normaux.

- En présence d'un volume élevé de données ou lorsqu'une réponse haute vitesse s'avère nécessaire, il faudra un concentrateur de commutation externe.

Digital Input / Counter Input / Digital Output Connecter**"** in the **page 32** for details of the digital output connector and pin assignment.

*The type of connectors in the package differs depending on the period of manufacturing.
To check the supplied connector type, refer to "Appendix – Connector Check".

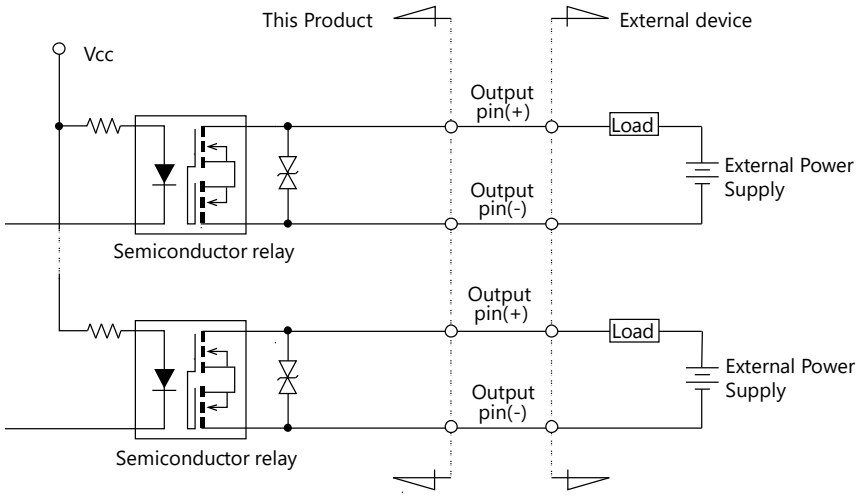
Digital output circuit

DO connects to the device controlled by the current drive, such as relay controlling or LED.

The connection requires an external power supply to deliver current.

ON/OFF of the device controlled by the current drive is controlled by digital value.

The rated of output current is up to 100mA per point.



⚠ CAUTION

When supplying power, all output will be OFF.

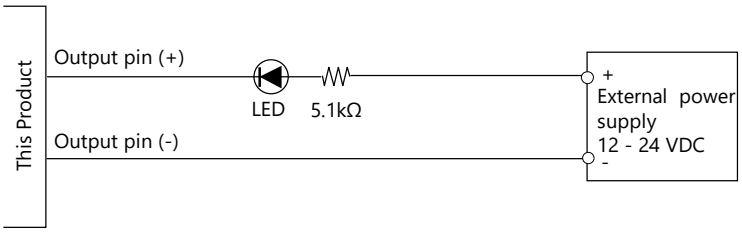
⚠ ATTENTION

À la mise sous tension de l’alimentation, toutes les sorties seront ÉTEINTES.

Example of connecting to the LED

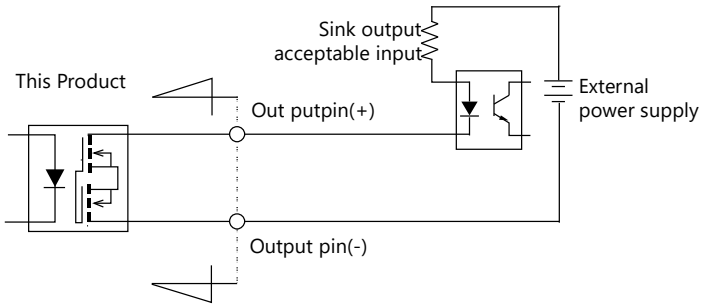
The corresponding LED lights up when you output "1" into the appropriate bit.

The corresponding LED turns off when you output "0" into the appropriate bit.

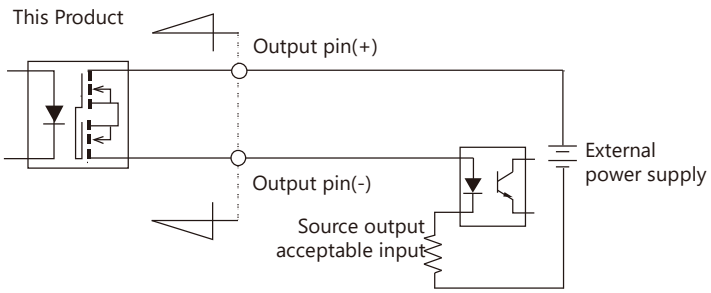


Connecting to an external device

Connecting the output to the sink output acceptable input



Connecting the output to the source acceptable input



⚠ CAUTION

- Removing the connector plug by grasping the cable can break the wire. Always grasp the connector to remove it.
- Tightening torque of the supplied connector is described below.
  DEGSON : 0.19 N·m, PHOENIX CONTACT, PTR MESSTECHNIK : 0.25 N·m
- For wiring, strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.
- About a caution mark ⚠ on the product: Please use copper wires that tolerate the temperature of 75 °C and higher.

⚠ ATTENTION

- Ne tirez pas sur le câble de la fiche du connecteur pour retirer la fiche, vous risquez de briser le fil. Saisissez toujours le connecteur pour le retirer.
- Le couple de serrage pour le connecteur fourni est indiqué ci-dessous.
  DEGSON : 0,19 N-m; PHOENIX CONTACT, PTR MESSTECHNIK : 0,25 N-m
- Dénudez environ 7 mm (plus ou moins 0,5 mm) de la section gainée du câble pour le raccorder au connecteur.
- Signal de mise en garde ⚠ sur le produit :
  Veuillez utiliser des fils de cuivre qui résistent à une température de 75 °C Celsius et plus.

Appendix

This section lists the specifications and the physical dimensions of the product, and the details of model name.

1.Specifications

1. Specifications

Function Specifications

Item		CPS-MC341-ADSC1-931, CPS-MG341-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 *1
	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 are unimplemented)
	Baud Rate	300bps - 115.2kbps
	Data length	5, 6, 7, 8bit 1, 1.5, 2stopbit
	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(1msec)
	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 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 (Yellow)
RS-232C	Baud Rate	300bps - 115.2kbps
	Isolation	Non-isolated
	Data length	5, 6, 7, 8bit 1, 1.5, 2stopbit
	Parity check	Even, Odd, Non-parity

Item		CPS-MC341-ADSC1-931, CPS-MG341-ADSC1-931
	The number of channels	1
	Connector	9-pin D-SUB connector (Male)
	LED	Transmission (Yellow), Reception (Yellow)
Digital input Counter input	Input type	Opto-coupler Isolation Input (Compatible with current sink output and current source output) (negative logic) *2
	Isolation/Resistance	Bus Isolation /500VDC, Opto-coupler Isolation/1000V
	Built-in power supply	12VDC (compatible with current sink output) *3
	Input type	5.6kΩ
	Input ON current	1.6mA or more
	Input OFF current	0.16mA or less
	Response time	Within 200μsec *4
	Interrupt (Digital input)	4 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	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 - DI3 (Yellow)
	Surge protection element each signal to B_COM	Interactive TVS diode Stand off voltage : ±30V, Peak pulse power : 400W(1msec)
Digital output	Output type	Semiconductor relay output
	Isolation/Resistance	Semiconductor relay isolation/1000V
	Maximum output voltage / current	26.4VAC/VDC/100mA
	Response time	Within 2msec
	ON resistance	8Ω or less (at 25℃)
	OFF leakage current	4μA or less (at 25℃)
	The number of channels	2
	LED	DO0 - DO1 (Yellow)
	Surge protection element + to -	Interactive TVS diode Stand off voltage : ±30V, Peak pulse power : 400W(1msec)
Digital input / Counter input / Digital output	Connector	2-piece 3.5mm pitch 10-pin terminal (DI_ACOM, DI0, DI1, DI2, DI3, DI_BCOM, DO0+, DO0-, DO1+, DO1-)
	Applicable wire	AWG28 - 16
Analog input	Input type	Current Input
	Input range	0 - 20mA

Item		CPS-MC341-ADSC1-931, CPS-MG341-ADSC1-931
	Maximum input rating	30mA
	Input impedance	250Ω
	The number of channels	Differential Input 2ch
	Channel switching rate	3msec/ch (Max.) *5
	Conversion rate	The sampling interval differs by the software programmed by the user.
	Data buffer	None
	Resolution	12bit
	Non-Linearity error *6	±10LSB
	Isolation/Resistance	Bus Isolation /500VDC, Inter Channel Isolation /200V
	Connector	2-piece 3.5mm pitch 3-pin terminal (AI+, AI-, SG)
	Applicable wire	AWG28 - 16
	LED	AI0 - AI1 (Yellow)
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 life :10 years or longer at 25°C) lunar inequality ±15sec (at 25°C)
Power supply *7	Rated input voltage	12 - 24VDC
	Input voltage range	10.8 - 30VDC
	Power consumption	12V 0.7 A (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 (1msec)
Physical dimensions (mm)		188.0(W)×78.0(D)×30.5(H) (No projection included)
Weight		250g
Installation method		Quick mounting on the 35mm DIN rail, Mounting on the wall using the screws *8
OS		Linux kernel 3.2

*1 The LAN ports of the CPS-MG341-ADSC1-931 are independent, which makes it possible to split the network segment.

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

*3 The default setting is for an external circuit power supply. With a software command, it can be switched to the built-in power use.

*4 Response time of Opto-coupler

*5 Switching time of Inter Channel

*6 The non-linearity error means an error of approximately 0.07% occurs over the maximum range at -20 °C and +60 °C ambient temperature.

*7 Use power cable within 3meters.

*8 Commercial screws are required (fit into φ3.5 hole).

Installation Environment Requirements

Item		CPS-MC341-ADSC1-931, CPS-MG341-ADSC1-931
Operating ambient temperature		-20 - +60°C *9
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/±2kV *10 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 *11 /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), KC, UL

*9 If you use the USB with bus power, operate the product at between -20 and +55°C.

*10 When you use the CPS-PWD15AW12-01 (optional product).

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

2. Power Requirements

System requires a clean, steady power source for reliable performance of the high frequency CPU on the product, the quality of the power supply is even more important.

⚠ CAUTION

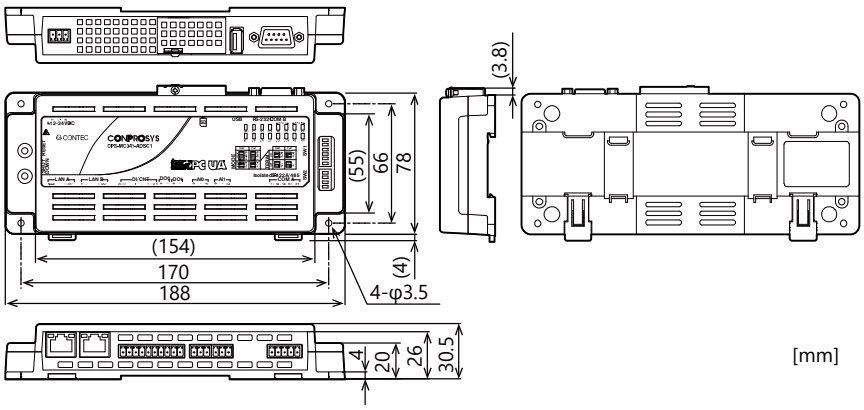
- If the fluctuation of power supply voltage is beyond the product specifications, connect a constant voltage transformer.
- If the noise is large, connect an isolation transformer (a noise cut transformer).
- Never bundle, place nearby or in parallel the power supply cable and the input /output signal lines.
- If lightning surge protection is required, connect the surge protective device (SPD).
- Place the surge protective device (SPD) and the product away from each other to ground.
- Select appropriate surge protection devices for all of the route.
- When you restart the power, give the product for at least one second (or longer) of the power OFF time.
- When you use with the CPS-PWD-15AW12-01 (by CONTEC), instantaneous voltage drop allowed time is 20 milliseconds or less

⚠ ATTENTION

- Si les fluctuations de la tension d'alimentation sont au-delà des caractéristiques du produit, raccordez un transformateur à tension constante.
- Si les signaux parasites sont importants, raccordez un transformateur de séparation (transformateur qui réduit les interférences).
- Ne combinez jamais, ni installez le câblage d'alimentation et les câbles d'entrée ou de sortie de signal à proximité ou en parallèle.
- Si une protection contre les surtensions découlant de la foudre est requis, raccordez un parafoudre.
- Mettez le produit et le parafoudre à la terre et placez-les bien loin l'un de l'autre.
- Sélectionnez les bons dispositifs de protection contre les surtensions pour toutes les voies d'accès.
- Quand vous remettez le courant, laissez le produit hors tension pendant au moins une seconde (ou plus) du délai hors tension.
- Lorsque vous utilisez le produit avec CPS-PWD-15AW12-01 (de CONTEC), le délai permis de chute instantanée de tension sera de 20 millisecondes ou moins.

2.Physical Dimensions

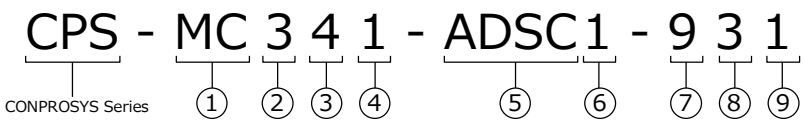
◆ CPS-MC341-ADSC1-931
CPS-MG341-ADSC1-931



[mm]

3.The Details of Model Name

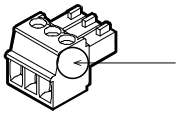
Details of the model name are described below.



No.	Item	Description	
1	Model	**MC**	Standard Integrated Type Model
		MG	Gateway Integrated Type Model
2	CPU	**3**	ARM Cortex A8
3	Memory	**4**	512M Byte
4	Version	**1**	The 1st Model
5	Interface	**A**	Analog I/O
		D	Digital I/O
		S	Serial(RS-232C/RS-422A/485)
		C	Counter
6	Numbering of the Interface	**1**	The 1st Model
7	OS	**9**	Linux OS, Built-in battery
8	ROM	**3**	64MB
9	Application	**1**	Original Version

4.Connector Check

The maker of connectors in the package or embedded in the product differs depending on the period of manufacturing. The maker and types of the connectors can be checked by the color.



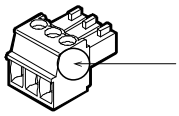
⚠ CAUTION

See the table below for maker, type, and tightening torque value of the connectors to check and use the product appropriately.

Maker		Type	Color	Tightening torque
3pin Connector				
Connector type (Plug)	PHOENIX CONTACT	MC 1,5/3-ST-3,5	Green	0.25 N·m
Connector type (Socket)		MC1,5/3-G-3,5	Green	-
Connector type (Plug)	DEGSON	15EDGK-3.5-03P-14-1000AH	Green	0.19 N·m
Connector type (Socket)		15EDGRC-THR-3.5-03P-13	Black	-
5pin Connector				
Connector type (Plug)	PTR MESSTECHNIK	AK1550/5-3.5-GREEN	Green	0.25 N·m
Connector type (Socket)		STL1550/5G-3.5-H-GREEN	Green	-
Connector type (Plug)	DEGSON	15EDGK-3.5-05P-14-1000AH	Green	0.19 N·m
Connector type (Socket)		15EDGRC-THR-3.5-05P-13	Black	-
10pin Connector				
Connector type (Plug)	PTR MESSTECHNIK	AK1550/10-3.5-GREEN	Green	0.25 N·m
Connector type (Socket)		STL1550/10G-3.5-H-GREEN	Green	-
Connector type (Plug)	DEGSON	15EDGK-3.5-10P-14-1000AH	Green	0.19 N·m
Connector type (Socket)		15EDGRC-THR-3.5-10P-13	Black	-

Vérification du connecteur

Selon la période de fabrication, le fabricant des connecteurs de l'emballage ou intégré au produit varie. Il est possible de confirmer le fabricant et les types de connecteur par la couleur.



⚠ ATTENTION

Consultez le tableau ci-dessous pour connaître le fabricant, le type de connecteur et le couple de serrage pour vérifier et utiliser le produit de manière appropriée.

Fabricant		Type	Couleur	Couple de serrage
Connecteur à 3 broches				
Type de connecteur (enfichable)	PHOENIX CONTACT	MC 1,5/3-ST-3,5	Vert	0.25 N·m
Type de connecteur (broche)		MC1,5/3-G-3,5	Vert	-
Type de connecteur (enfichable)	DEGSON	15EDGK-3.5-03P-14-1000AH	Vert	0.19 N·m
Type de connecteur (broche)		15EDGRC-THR-3.5-03P-13	Noir	-
Connecteur à 5 broches				
Type de connecteur (enfichable)	PTR MESSTECHNIK	AK1550/5-3.5-GREEN	Vert	0.25 N·m
Type de connecteur (broche)		STL1550/5G-3.5-H-GREEN	Vert	-
Type de connecteur (enfichable)	DEGSON	15EDGK-3.5-05P-14-1000AH	Vert	0.19 N·m
Type de connecteur (broche)		15EDGRC-THR-3.5-05P-13	Noir	-
Connecteur à 10 broches				
Type de connecteur (enfichable)	PTR MESSTECHNIK	AK1550/10-3.5-GREEN	Vert	0.25 N·m
Type de connecteur (broche)		STL1550/10G-3.5-H-GREEN	Vert	-
Type de connecteur (enfichable)	DEGSON	15EDGK-3.5-10P-14-1000AH	Vert	0.19 N·m
Type de connecteur (broche)		15EDGRC-THR-3.5-10P-13	Noir	-

5.Battery Disposal

1. Battery Specification

The battery details are as follows:

Item	Description
Type	Lithium primary battery
Model	BR2330A/HD
Maker	Panasonic
Nominal Voltage	3V
Nominal Volume	255mAh

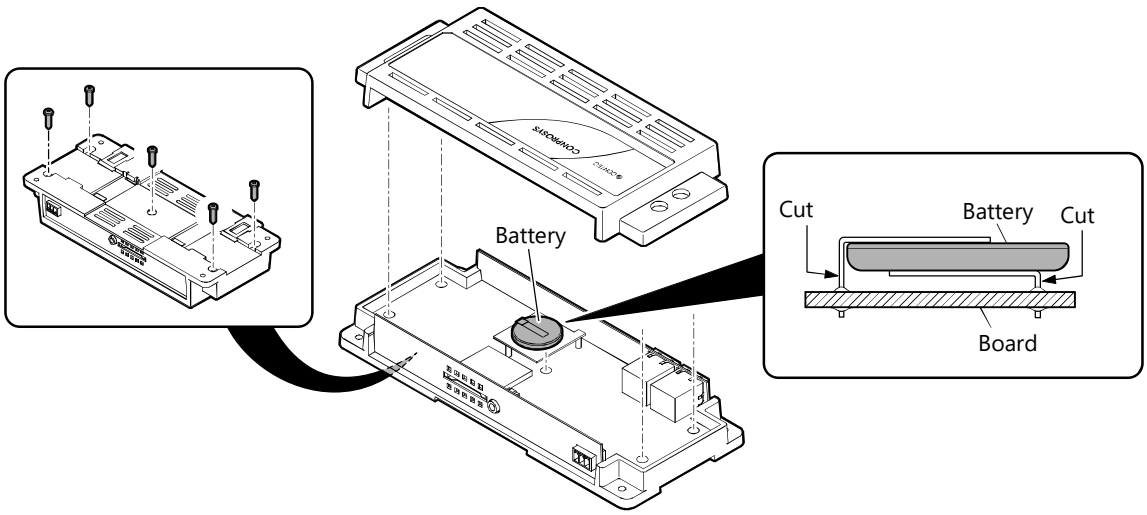
2. How to remove the battery

When disposing of the product, follow the instruction below and remove the battery.

1 Remove the five screws from bottom of the product to remove the cover. (See the figure below)

2 Remove the cover.

3 Cut the two holding metals with nippers and take off the battery.



⚠ CAUTION

When disposing of the battery, please comply with your local municipal regulations and ordinances.

⚠ ATTENTION

Respecter les règles et les ordonnances municipales pertinentes lors de l'élimination de la batterie.

Optional Products

This section lists optional items that can be used along with the product.

1.Optional Products

Optional product items are as follows:

Acquire them as required.

Product Name	Model type	Description
DIN rail fitting power supply	CPS-PWD-15AW12-01	Fitting power supply 15W (Input: 100-240VDC, Output: 12VDC 1.3A)
FANUC CNC connection cable	CPS-CAB-S01-1	CNC connection cable 1m
FANUC CNC connection cable	CPS-CAB-S01-3	CNC connection cable 3m
FANUC CNC connection cable	CPS-CAB-S01-5	CNC connection cable 5m
MITSUBISHI CNC connection cable	CPS-CAB-S02-1	CNC connection cable 1m
SD Card	SD-4GB-A	SD card (4GB)
Magnet	CPS-MAG01-4	Magnet (Four Piece Set)

Visit the Contec website for the latest optional products.

Website https://www.contec.com/

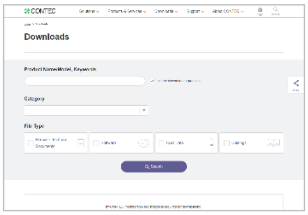
Customer Support and Inquiry

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

1.Services

CONTEC offers the useful information including product manuals that can be downloaded through the CONTEC website.

Download



https://www.contec.com/download/

You can download updated driver software, firmware, and differential manuals in several languages. Membership registration (myCONTEC) is required to use the services.

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Revision History

MONTH YEAR	Summary of Changes
January 2017	The First Edition
April 2018	Changed the layout of the manual.
September 2018	Additional information was listed due to some parts change.
July 2021	Additional note on trademarks

- All relevant issues have been considered in the preparation of this document.
- Should you notice an omission or any questionable item in this document, please feel free to notify your retailer.
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  In some cases, trademark symbols such as '™' or '®' are not specified in this manual.

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CPS-MC341-ADSC1-931, CPS-MG341-ADSC1-931 Reference Manual (Hardware)

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