

Reference Manual

(Hardware)

M2M Controller CPU Module

CPS-MCS341-DS1-111

CPS-MCS341-DS1-131

M2M Gateway for PLC Stack CPU Module

CPS-MGS341-DS1-131

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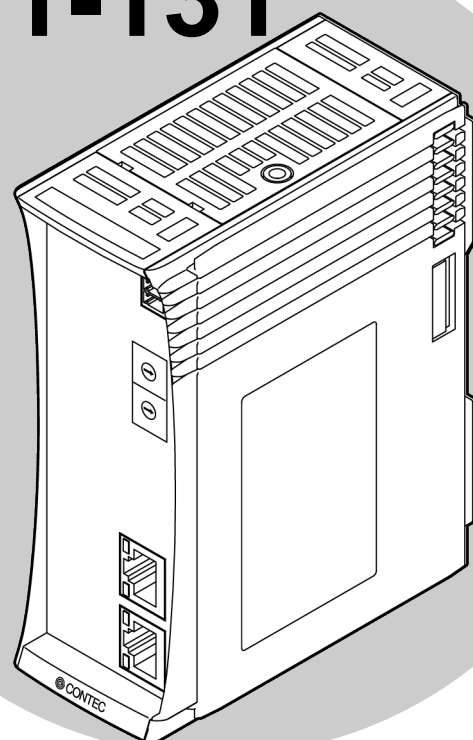


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Introduction

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
Please read the following	Must read this after opening the package.	This introduces related materials that are made available on the CONTEC website, such as those for the included items, manuals, and software.	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)

◆ 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 digital I/O (4 inputs/outputs), RS-232C, LAN interface, and Ethernet Hub.

As you desire, add the configurable type modules of our CONPROSYS series.

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.

In addition, CPS-MCS341-DS1-131 and CPS-MGS341-DS1-131 contain OPC UA server function within. It can communicate directly with HMI and SCADA software that support OPC UA clients from various makers.

CPS-MGS341-DS1-131 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.

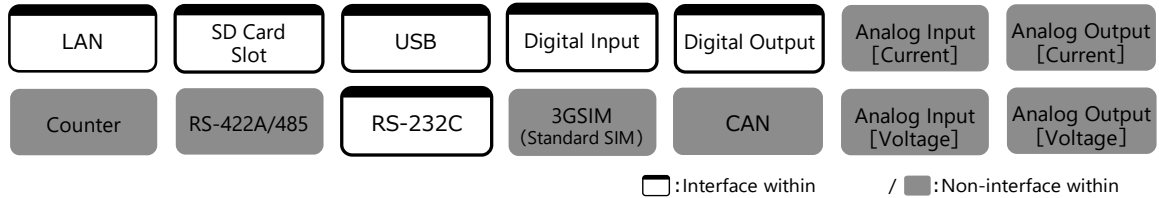
"M2M Gateway for PLC" can connect up to 10 Ethernet/calculating links with differing makers' PLCs simultaneously.

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

■ Add configurable modules (Common to all models)

This product allows you to install modules from a wide variety of types to suit the needs of the user.

* Up to 16 modules can be set and the total current consumption should be less than 3.3A.

■ No base board required (Common to all models)

As the product requires no base board for installation, it helps add modules easily and smoothly.

Installed modules can be removed from any set positions on DIN rail.

■ Compact design (Common to all models)

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

■ Adaptable to a temperature range between -20 and +60°C (Common to all models)

The product is capable of operating in the temperature between -20 and + 60°C. It can be installed in the various environments.

■ Ethernet Hub function within (CPS-MCS341-DS1-111, CPS-MCS341-DS1-131)

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

■ A powerful running platform without fan (Common to all models)

The product contains the ARM® Cortex®-A8 processor (600MHz) and the DDR3 512MB system memory.

■ Decrease damages by bus isolation and surge protection. (digital input/output) (Common to all models)

Electrical isolation between the digital input/output and CPU can block electrical noise flow. Moreover, the surge protection elements are adopted

■ Opto-coupler Isolation Input and semiconductor relay output (Common to all models)

The product has the switchable four channels of opto-coupler isolation input (compatible with current sink output) and semiconductor relay output. It is usable for external switch inputting or LED lighting.

■ Max. 115,200bps RS-232C Serial Communication (Common to all models)

The Product has one RS-232C-standard serial port. Baud rates from 300 to 115,200 bps can be set.

■ Installation easy with two pieces of terminal support and DIN rail (Common to all models)

You can install and remove a terminal connector without a screwdriver so that it can shorten the time of the replacement. As the product can be mounted on a DIN rail, removing and replacing are easy as well.

■ Equipped with LED for an operation check (Common to all models)

The product has LED for an operation check, which helps you visually confirm the communication status of each interface.

■ No electrolytic capacitor battery (Common to all models)

No electrolytic capacitor is used. The Contec is creating the product with a longer life.

2. Software Features

■ Together with OPC UA Server (CPS-MCS341-DS1-131, CPS-MGS341-DS1-131)

OPC UA (Unified Architecture) is an advanced model of OPC specifications, which presents refined capability of transmitting and receiving semantic description data. The product can communicate directly 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-MGS341-DS1-131)

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 256 group registers (CPS-MGS341-DS1-131)

Up to 10 Ethernet/calculating links can be connected. Data collection from 128 PLCs and 256 group registers can be carried out. Up to 1000 data mapping for Modbus is possible.

■ Measurement and upload

CPS-MGS341-DS1-131 measures data with an external sensor and uploads them to the Cloud server.

CPS-MCS341-DS1-111 and CPS-MCS341-DS1-131 upload measured data of the sensor and collected data from PLC to the Cloud server.

■ Web monitoring (Common to all models)

The product contains a Web server (Java applet). 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 (Common to all models)

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

■ Message communication function (Common to all models)

With the RS-232C or the Ethernet device (TCP/UDP), up to 10 links can be set to send or receive messages.

Message communication can be accomplished from Web task script.

■ Support a communication protocol MTConnect for machine tools (CPS-MCS341-DS1-131, CPS-MGS341-DS1-131)

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.

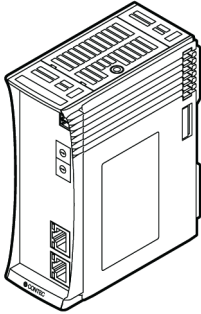
6. Product Configuration List

The product consists of the items listed below.

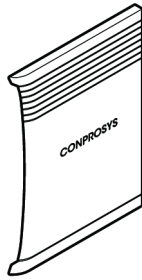
Check, with the following list, that your package is complete.

If you discover damaged or missing items, contact your retailer.

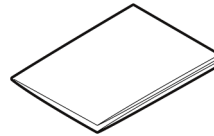
CPS-MCS341-DS1-131



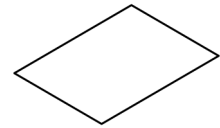
Product...1



End Cover...1



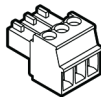
Product Guide...1



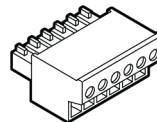
Warranty Certificate...1



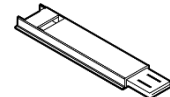
Serial Number Label...1



3-pin Connector...1

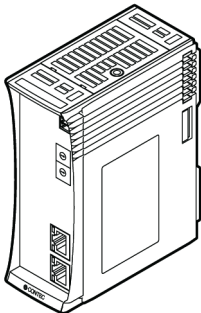


6-pin Connector...1

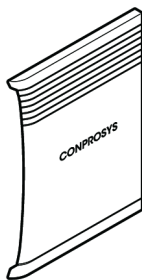


DIN Rail...1

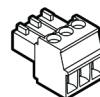
CPS-MCS341-DS1-111, CPS-MGS341-DS1-131



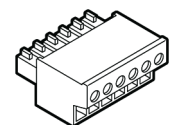
Product...1



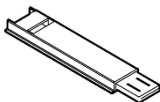
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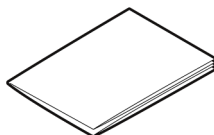
3-pin Connector...1



6-pin Connector...1



DIN Rail...1



Please read the following...1

- 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/>).

- Use the supplied plastic DIN rail when connecting this product and a module on a desk top for system development or validation. If you use the supplied plastic DIN rail in the field, it cannot be covered by warranty. Therefore, when you set the product and module in the field, use the commercially available DIN rail.

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. Veuillez 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 = $60[^{\circ}\text{C}] - 0.005 \times \text{altitude [m]}$

An Example)

The product is used at 3000 meters

$60^{\circ}\text{C} - (0.005 \times 3000\text{m}) = 45^{\circ}\text{C}$ (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, signal line, 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.

- Always attach the end cover while power is active.
- 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.
- The product is an open-type device (a device designed to be housed inside other equipment) and must always be mounted inside a mechanical enclosure having enough strength.
- The product can become extremely hot during the operation. When you intend to touch the product for the maintenance work, turn off the power first, and leave it to cool off for 20 minutes, then start the works.
- About a caution mark on the product : Touching the product may cause a burn as the surface becomes extremely hot during the operation.
- Disconnection between the product and the module during the operation may result in damage. To prevent the disconnection, always mount both of them on DIN rail for operations.
- 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 fabricant, 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 : $60\text{ [}^{\circ}\text{C]} - (0,005 \times \text{altitude [m]})$

Par exemple) Le produit est utilisé à 3 000 m.

$60\text{ }^{\circ}\text{C} - (0,005 \times 3\,000\text{ m}) = 45\text{ }^{\circ}\text{C}$ (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 (câble de signal 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.
- Toujours fixer le couvercle d'extrémité lorsque l'alimentation est active.
- 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.
- Le produit est un appareil ouvert (dispositif conçu pour être logé à l'intérieur d'une autre pièce d'équipement) et doit toujours être monté à l'intérieur d'un boîtier mécanique suffisamment solide.
- Le produit peut devenir extrêmement chaud en cours de fonctionnement. Si vous prévoyez toucher au produit pour en faire l'entretien, coupez d'abord l'alimentation puis laissez-le refroidir pendant 20 minutes. Commencez les travaux par la suite.
- Signal de mise en garde sur le produit : Toucher le produit peut entraîner des brûlures. La surface devient extrêmement chaude en cours de fonctionnement.
- Le module risque d'être endommagé s'il est déconnecté du produit en cours d'utilisation. Pour éviter toute déconnexion, toujours monter les deux éléments en service sur un rail DIN.
- 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. FCC PART15 Subpart B Class 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.

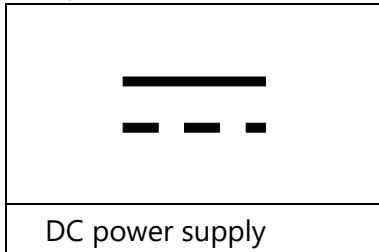
2. EN55032 Class A Notice

Warning:

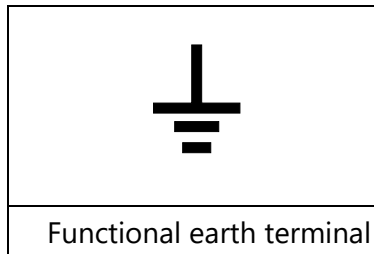
Operation of this equipment in a residential environment could cause radio interference.

3. Display marking

Display of power (Input Rating Label)



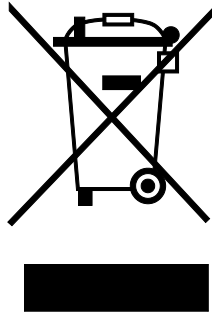
Display of functional earth terminal



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

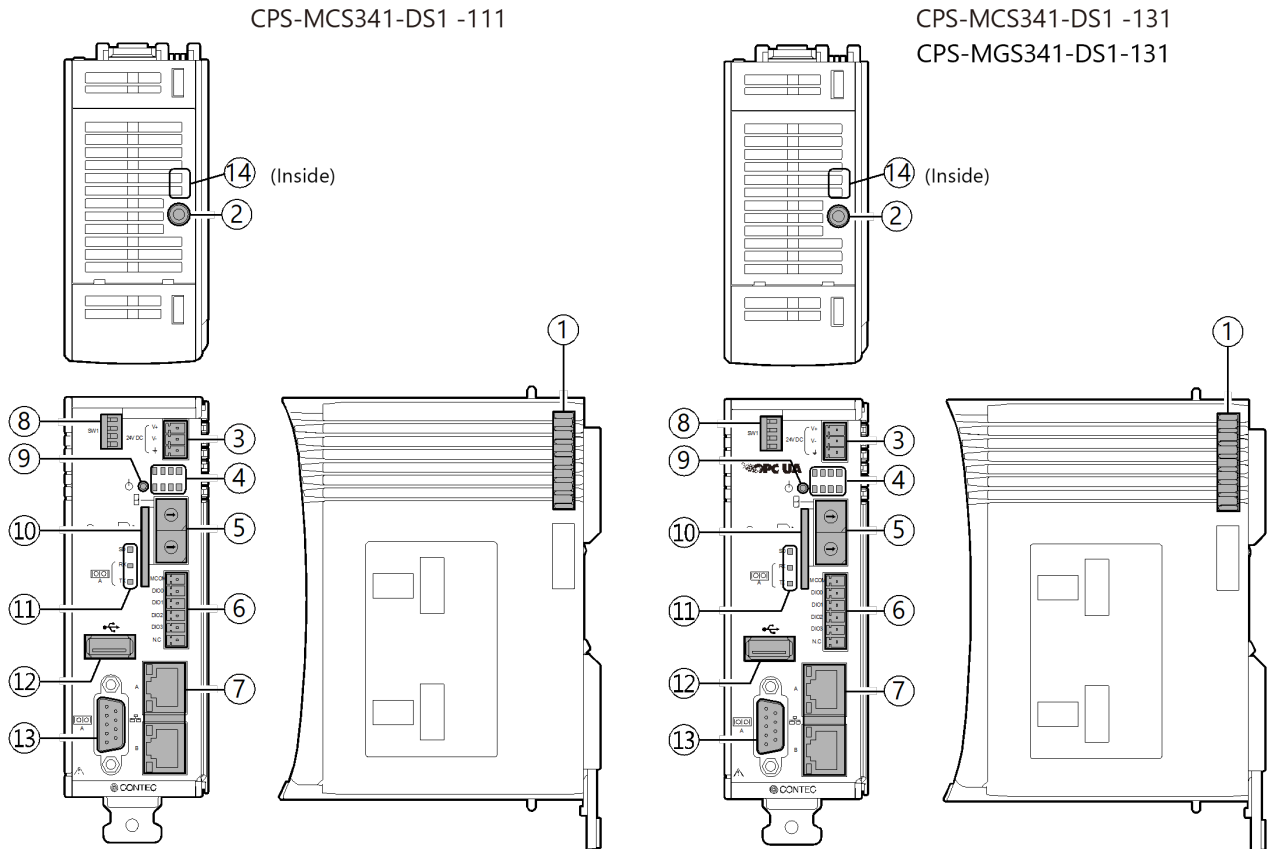
Refer to the appendix for the specification as well as how to remove and dispose of the battery.

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.



No.	Name	Function
1	Stack Bus	Used for power supply and communication with the configurable type module.
2	Maintenance Connector	Do not use it.
3	Power Connector	Use the 3-pin connector, included in the package.
4	LED Indicator 1	This indicates status of the product.
5	Rotary Switch	Used for user setup.
6	Digital I/O Connector	This is a connector for digital I/O. (Use the 6-pin connector, included in the package)
7	LAN Port	This is a connector for LAN.
8	DIP Switch	This is used for user setup.
9	Power Switch	This is used for controlling of the power supply.
10	SD Card Slot	This is for data storage.
11	LED Indicator 2	This indicates the status of the product.
12	USB Port	This is a USB port of type-A.
13	RS-232C Serial Port	This is a RS-232C serial ports (male).
14	DIP Switch 2	This is used to run SDK

2. Description of Product Components

Components such as connectors, switches are described.

1. Stack Bus

It is used for power supply and communication to the configurable type module.

CAUTION

- Never set or remove the product while power is active.
- Always confirm the PWR-LED is turned off before setting or removing the devices.

ATTENTION

- N'installez jamais, ni ne déposez le produit alors qu'il est sous tension (alimentation active).
- Confirmez toujours que la DEL PWR est éteinte avant de fixer ou de déposer les appareils.

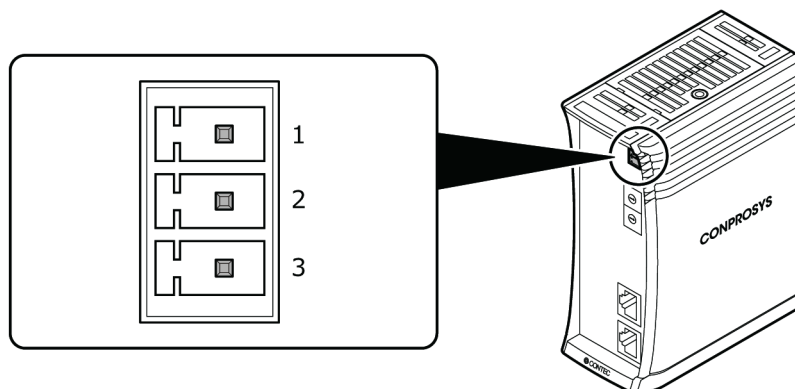
2. Maintenance Connector

Do not use this. (Maintenance purpose only)

3. Power Connector

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

Connector type: DEGSON 15EDGK-3.5-03P-13-1000AH (or equivalent)



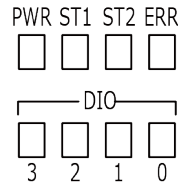
Pin Assignment

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

4. LED Indicator

Status of the product is indicated by ON/OFF and flashing of LED.
The meaning of each LED is described below.

◆ LED Indicator 1



Color and Description

LED	Color	Display	Description
PWR	Green	ON 	Power has been supplied.
		OFF 	Power has not been supplied.
ST1	Green	-	Refer to the Reference Manual (Software).
ST2	Red	-	Refer to the Reference Manual (Software).
ERR	Red	ON 	It lights up when error occurs.
		OFF 	It indicates the system runs normally.
DIO0 - DIO3	Green	ON 	It lights up at the time of I/O.
		OFF 	It indicates there is no I/O.

◆ LED Indicator 2

SD ☐

RX ☐

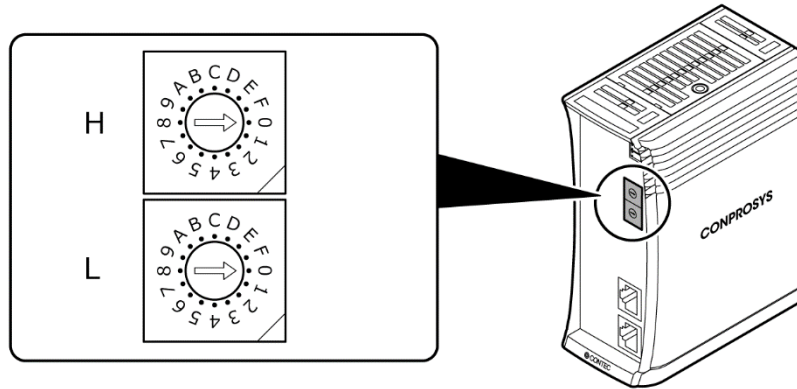
TX ☐

Color and Description

LED	Color	Display	Description
SD	Green	Flashing 	It flashes at the SD access.
		OFF 	It indicates there is no SD access.
COM-RX	Green	Flashing 	It flashes when receiving data by the RS-232C.
		OFF 	It indicates data has not been received by the RS-232C.
COM-TX	Green	Flashing 	It flashes upon transmitting data by the RS-232C.
		OFF 	It indicates there is no data transmission by the RS-232C.

5. Rotary Switch

For both H and L of ID, use with the setting [00].



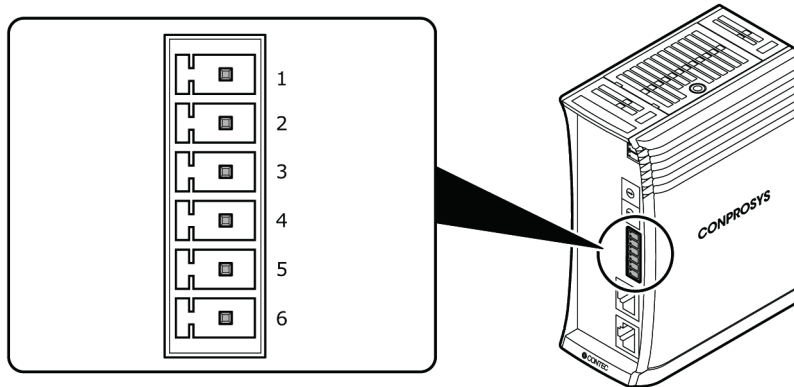
6. Digital Input/Digital Output Connector

This product has 4 channels of digital input and 4 channels of digital output.

You can switch them as digital input or digital output.

Use the 6-pin connector, included in the package to connect to external power.

Connector type: DEGSON 15EDGKC-3.81-06P-13-00AH (or equivalent)



Pin Assignment

Pin No.	Signal Name	Description
1	MCOM	This connects the negative-side of the external power and shares with 4 channels of I/O signals.
2	DIO0	I/O signal It connects output signals as digital input, and connects input signals as digital output from other devices.
3	DIO1	I/O signal It connects output signals as digital input, and connects input signals as digital output from other devices.
4	DIO2	I/O signal It connects output signals as digital input, and connects input signals as digital output from other devices.
5	DIO3	I/O signal It connects output signals as digital input, and connects input signals as digital output from other devices.
6	N.C.	This pin is left unconnected.

7. LAN Port

This product has 2 ports of Ethernet LAN Port.

As the LAN ports of the CPS-MCS341-DS1-111 and CPS-MCS341-DS1-131 are set in HUB mode, it is recognized as one port from OS.

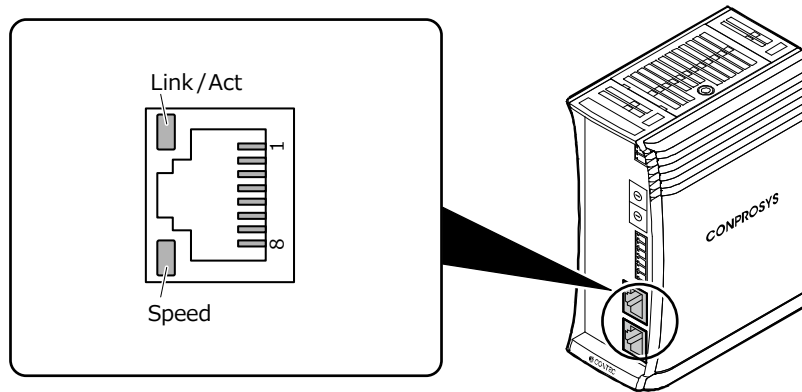
Ethernet Hub function in this product is the switching hub.

The LAN ports of the CPS-MGS341-DS1-131 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
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.
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.

CAUTION

HUB mode of the CPS-MCS341-DS1-111 and CPS-MCS341-DS1-131 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

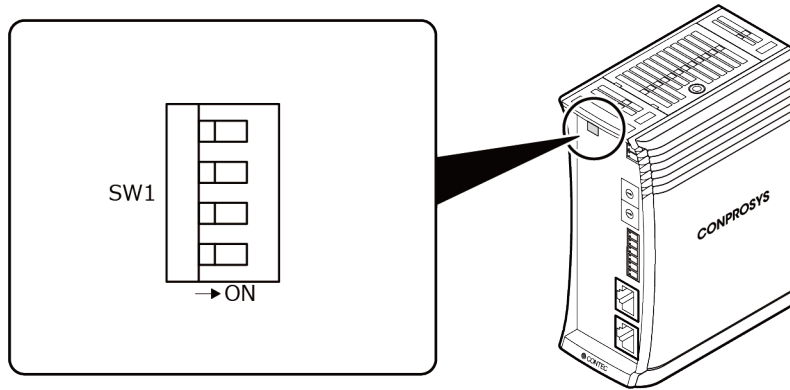
Le mode avec concentrateur de commutation du produit peut être plus lent que d'autres concentrateurs de commutation normaux.

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

8. DIP switch

◆ DIP Switch 1

It is used for user setup.

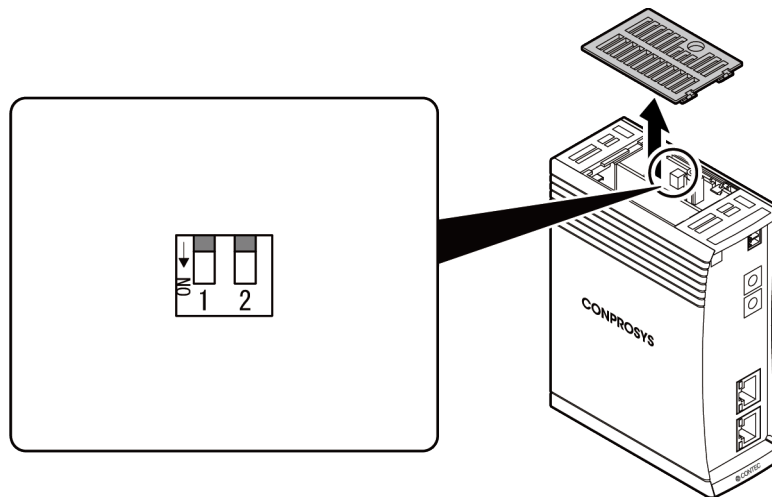


*The factory default of all switches are set to "OFF".

*Refer to the Reference Manual (Software) for switch setting.

◆ DIP Switch 2

It is used to run SDK and start the system with SD card. Do not use this switch for other purposes.

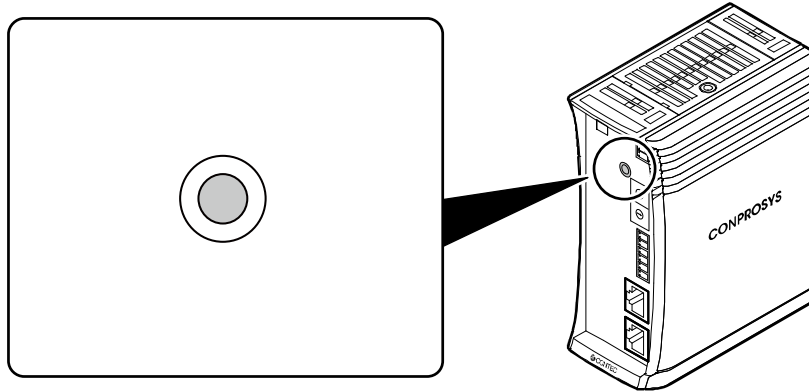


*The factory default of all switches are set to "OFF".

*Refer to the CONPROSYS Linux SDK Manual for switch setting.

9. Power Switch

It controls the power supply.



Pin Assignment

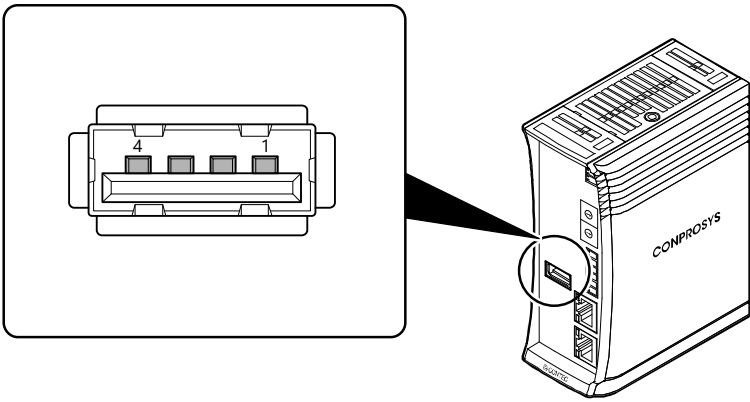
Operation	Description
Press it for a short time:	To turn off the power.
Press it for a while:	To restart the product.

10. SD Card Slot

Insert the SD card to store such as data.

11. 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

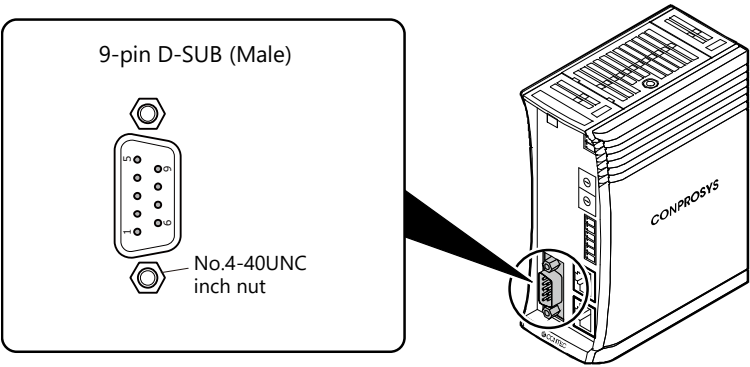
Si vous utilisez le dispositif USB avec alimentation par bus, la température ambiante devrait être de 55 °C ou moins.

12. RS-232C Serial Port

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

9-pin D-SUB (MALE) is used for this product.

The baud rate is 115,200bp (Max)



Pin Assignment

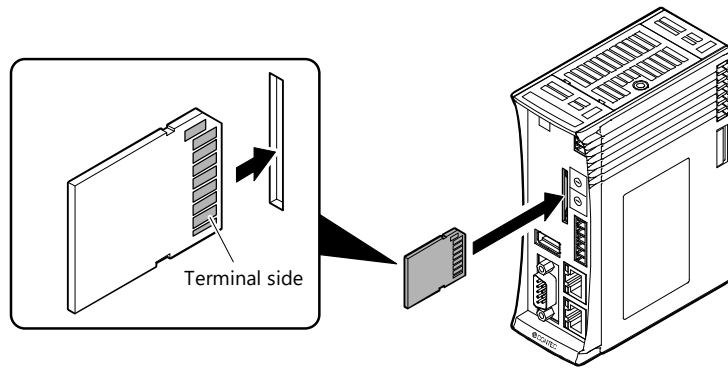
Pin No.	Signal Name	Direction	Description
1	CD	Input	Carrier detection
2	RD	Input	Reception data
3	TD	Output	Transmission data
4	DTR	Output	Data terminal ready
5	GND	-	Signal ground
6	DSR	Input	Data set ready
7	RTS	Output	Request to send
8	CTS	Input	Clear to send
9	RI	Input	Ring Indicate

Setup

This section describes how to set a SD card that is necessary to operate the product.

1.Insert SD Card

- 1 With the terminal side is in the position shown below (see the figure), insert the SD card all the way into the slot.



*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, and to connect to an external device with a cable.

1. Install the Product

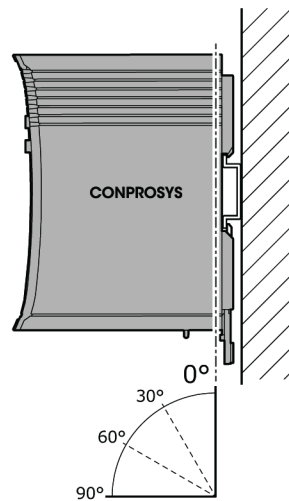
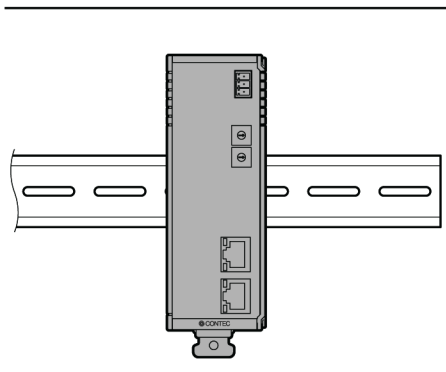
1. Installation Conditions

◆ 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.

Orientation for DIN rail Mounting



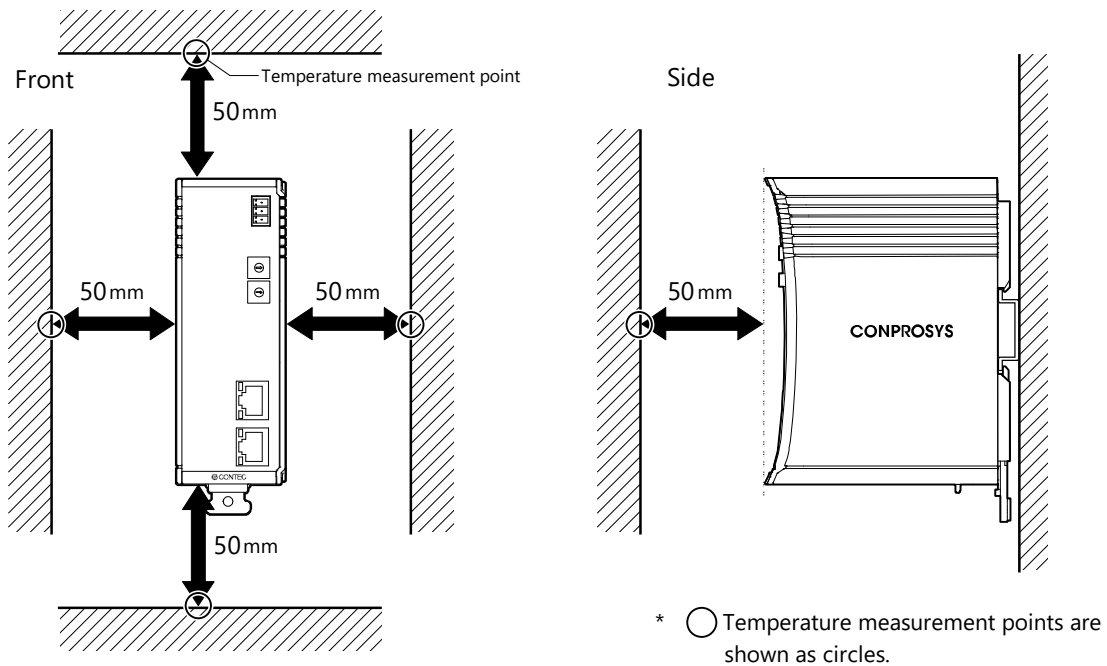
◆ Ambient Temperature

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

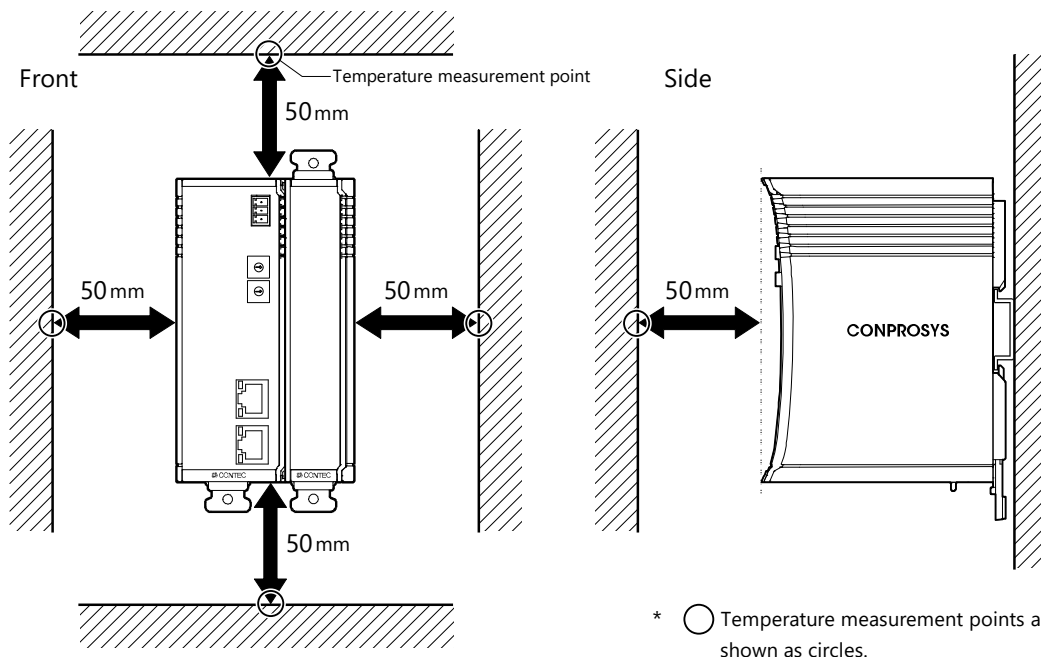
During the operation, adjust the air current to make certain that the temperatures measured in the points stay within the specified temperature. (-20 - +60°C)

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

Configurable controller alone



Configurable controller and module(s)



 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

This product should be set on DIN rail for operation.

CAUTION

The connection connector of the controller or modules have no locking mechanisms. Therefore, they might be moved over when inserting or removing cables, using the switches, or transferring the products.

Disconnection between the product and the module, or between the modules during the operation can result in damage.

To prevent the disconnection, always mount both of them on DIN rail for operations.

ATTENTION

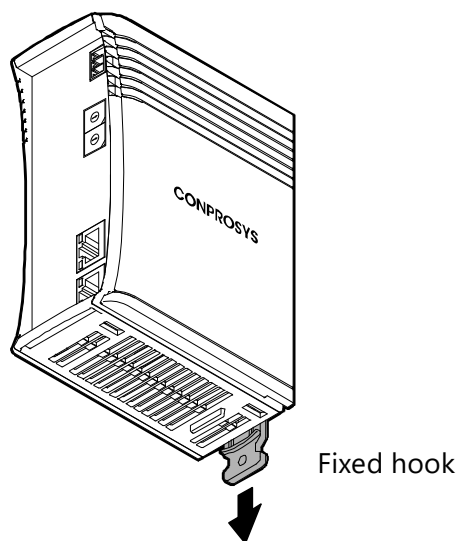
Les connecteurs utilisés pour raccorder le contrôleur ou les modules sont dépourvus de mécanisme de verrouillage. Ils risquent donc d'être déplacés en insérant ou en retirant des câbles, en utilisant les commutateurs ou en transférant les produits.

Le module risque d'être endommagé s'il est déconnecté du produit alors qu'il est en cours d'utilisation.

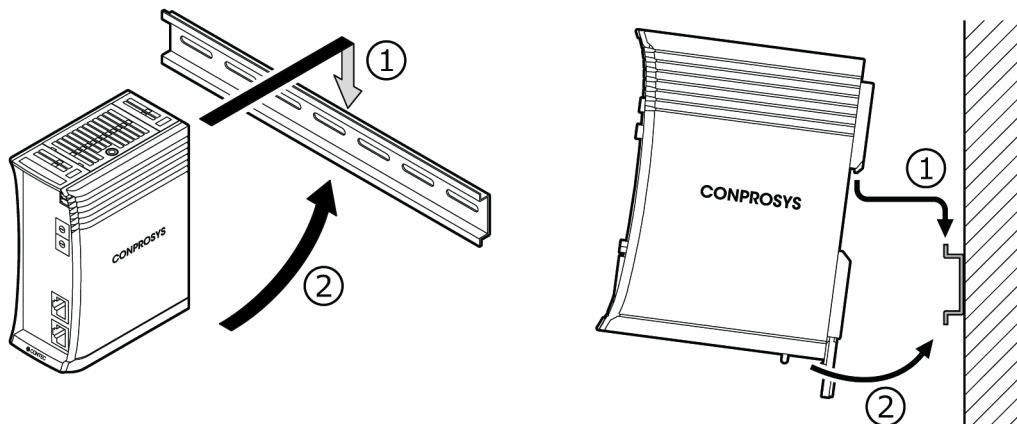
Pour éviter toute déconnexion, toujours monter les deux éléments en service sur un rail DIN.

◆ How to Mount

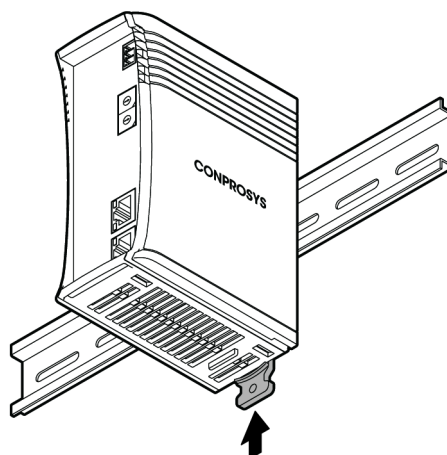
- 1** Pull down the hook to unlock.
If the hook is stuck, use a slotted screwdriver to unlock.



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

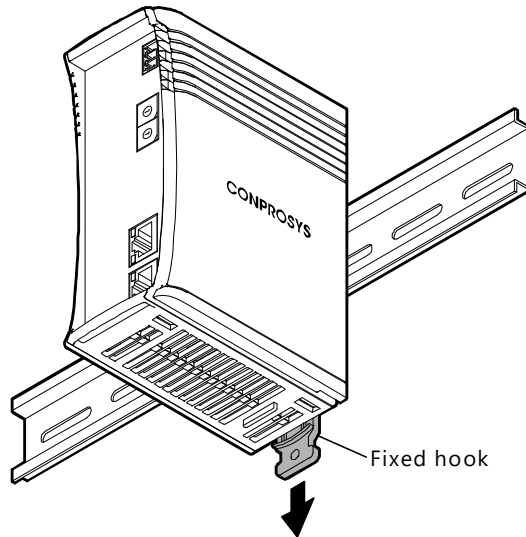


- 3** Push the hook up to lock the product on the DIN rail.



◆ How to Remove

- 1 Pull down the hook to unlock.
If the hook is stuck, use a slotted screwdriver to unlock.

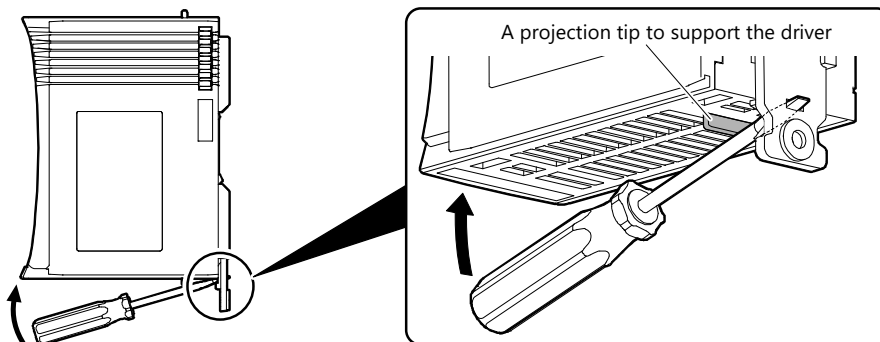


Unlock the hook with a slotted screwdriver

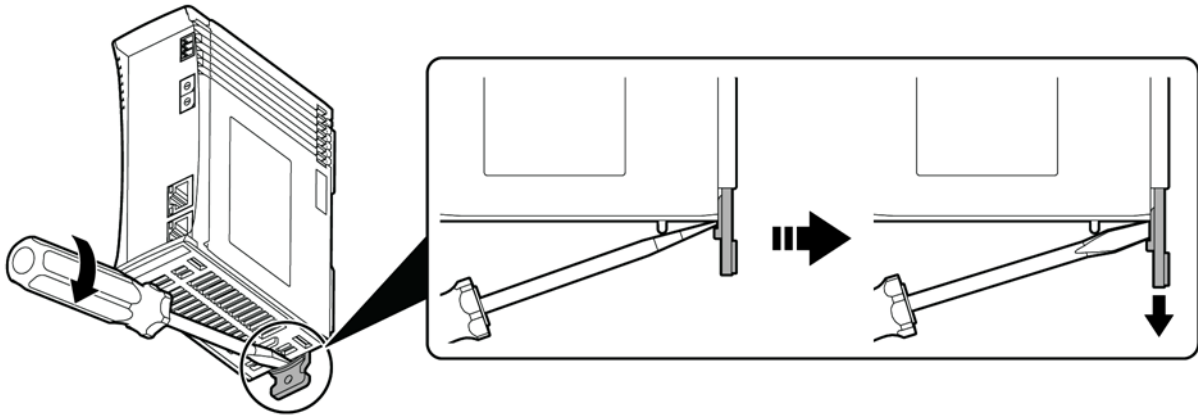
There are two ways to unlock the hook using a slotted screwdriver.

Unlock it by one of the following.

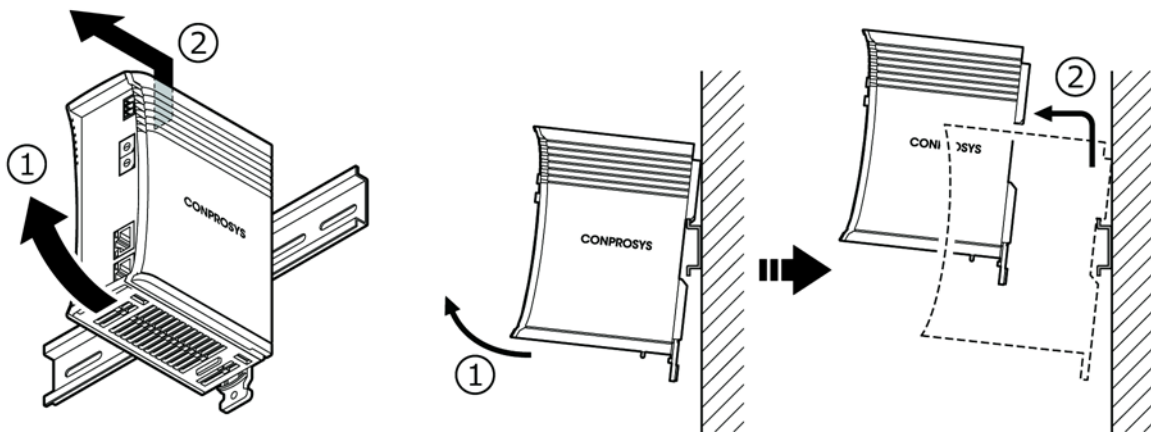
- Using the screwdriver as leverage
Insert a slotted screwdriver (the point should be smaller than 4.5mm) into a hole.
(see the figure below)
By using the screwdriver as leverage, move it upward in the direction of the arrow to unlock.



- By rotating the screwdriver
Place the slotted screwdriver (the point should be smaller than 8mm) as shown in the figure.
Rotate the screwdriver 90-degree in either direction.



- 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. Setting the Configurable Type Module

CAUTION

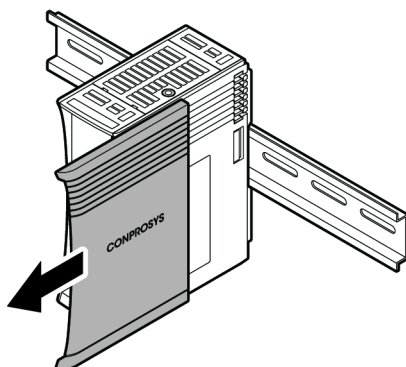
- Always confirm the PWR-LED is turned off before setting or removing the modules
- Always check the module is firmly fixed on DIN rail with hooks when setting the product.

ATTENTION

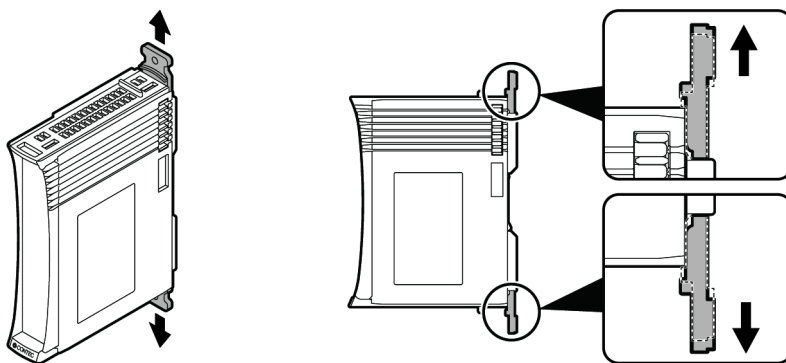
- Confirmez toujours que la DEL PWR est éteinte avant de fixer ou de déposer les modules.
- Vérifiez toujours si le contrôleur est solidement fixé sur le rail DIN avec les crochets lors de l'insertion du produit.

◆ How to Set

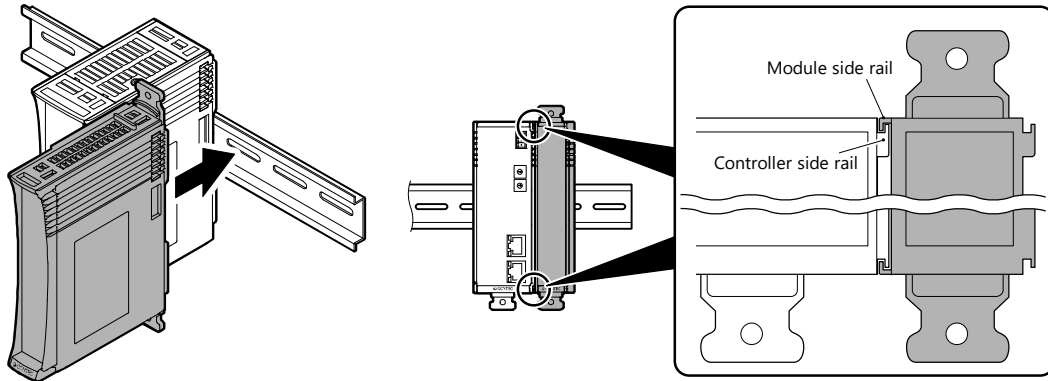
- 1 First, slide the attached end cover to remove it from the product that is mounted on the DIN Rail.



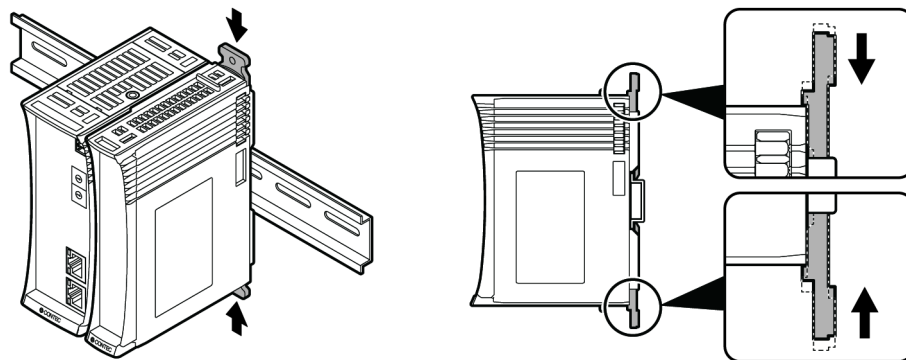
- 2 Unlock the hooks of the module.
If the hooks are stuck, use a slotted screwdriver to unlock.



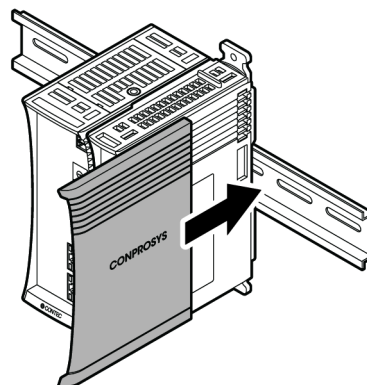
- 3** Engage the side rail of the setting module to the side rail of the controller (or another module) that is already mounted.
When the rails fit, slide the setting module all the way toward the DIN rail.



- 4** Fix and secure the module on the DIN rail by locking the hooks.

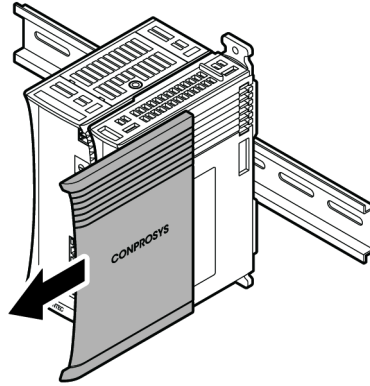


- 5** Put back and slide the end cover to the module.

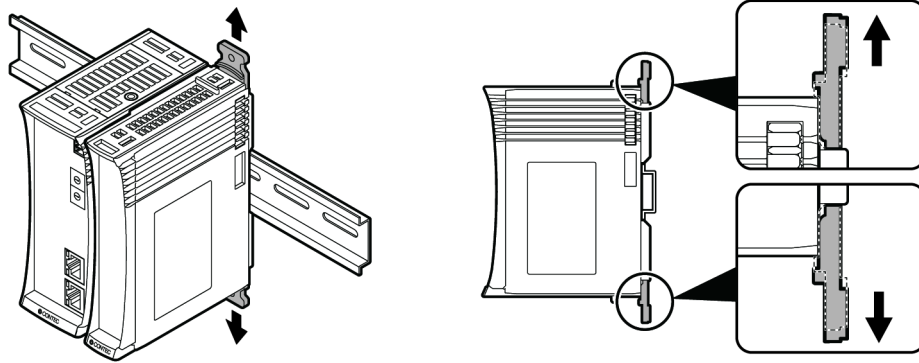


◆ How to Remove

- 1 First, slide the attached end cover from the configurable type module to remove it.



- 2 Unlock the hooks of the module.
If the hooks are stuck, use a slotted screwdriver to unlock.

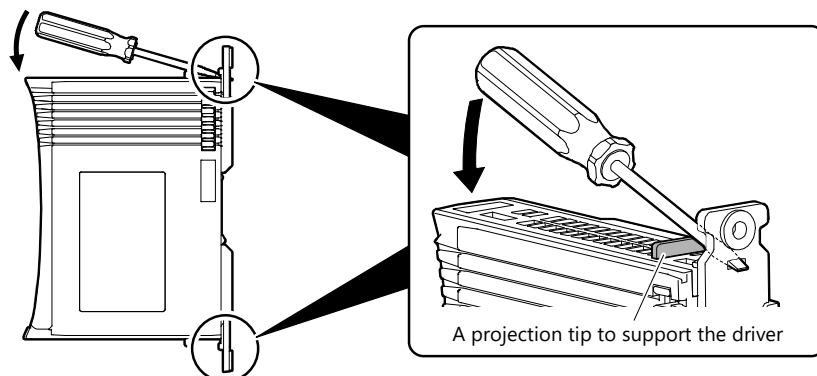


Unlock the hook with a slotted screwdriver

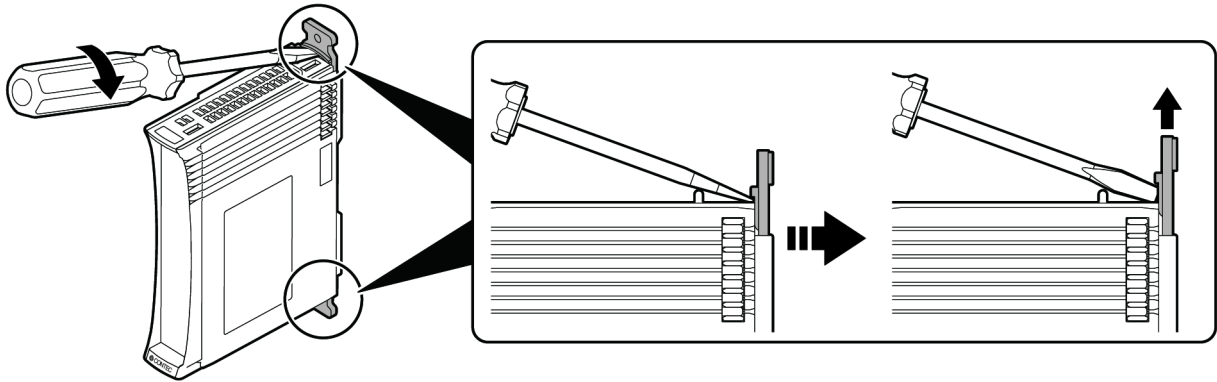
There are two ways to unlock the hook using a slotted screwdriver.

Unlock it by one of the following.

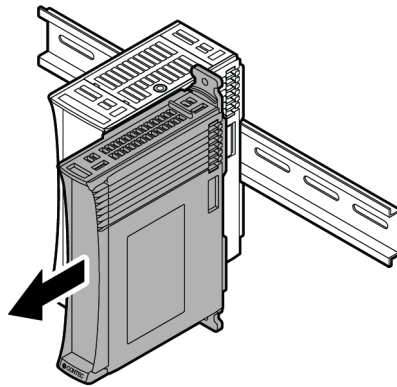
- Using the screwdriver as leverage
Insert a slotted screwdriver (the point should be smaller than 4.5mm) into a hole.
(see the figure below)
By using the screwdriver as leverage, move it upward in the direction of the arrow to unlock.



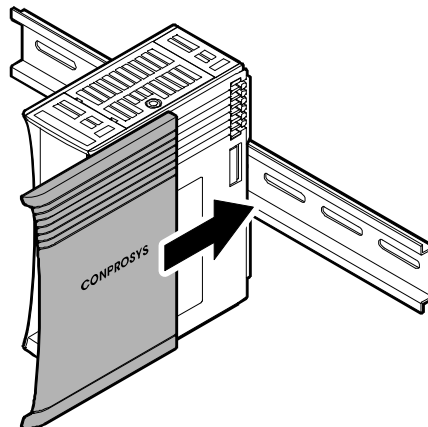
- By rotating the screwdriver
Place the slotted screwdriver (the point should be smaller than 8mm) as shown in the figure.
Rotate the screwdriver 90-degree in either direction.



- With the hooks unlocked, pull the module toward you.

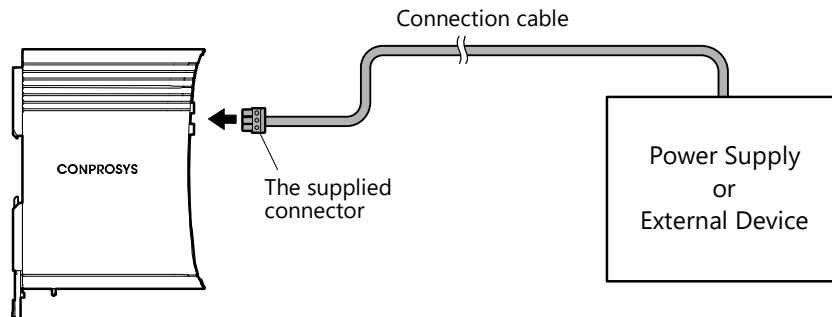


- Put back the end cover to the controller.



2.Connecting to an External Device

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

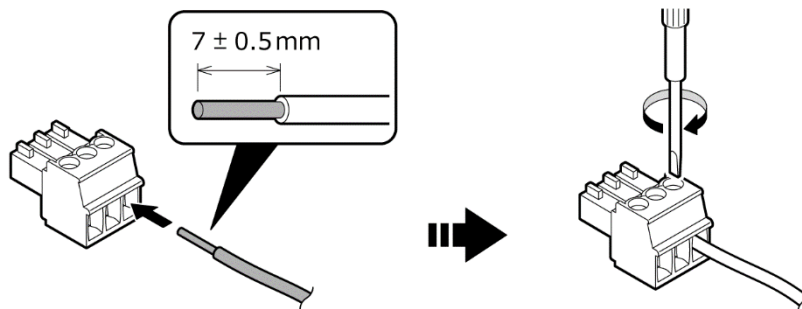


The following example describes how to make the connecting cable with a supplied connector.

Example of making the connecting cable with a 3-pin connector

Applicable wires : AWG20 - 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 0.19 N·m.
- Strip off approximately 7mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.

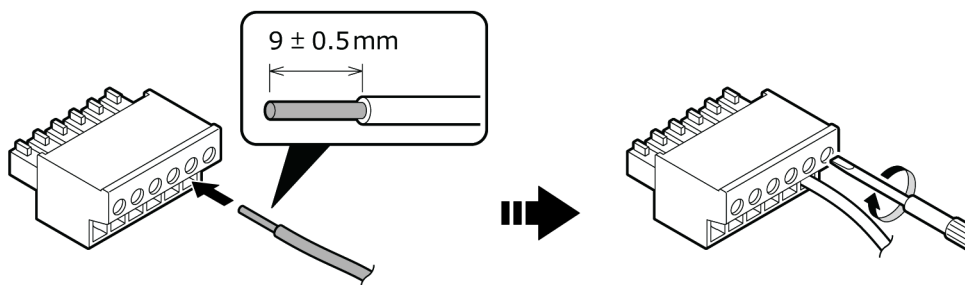
ATTENTION

- 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.
- Utilisez un couple de 0,19 N·m pour le connecteur présent.
- Dénudez environ 7 mm (plus ou moins 0,5 mm) de la section gainée du câble pour le raccorder au connecteur.

Example of making the connecting cable with a 6-pin connector

Compatible wires : AWG28 - 16

- 1** Strip off approximately 9mm (plus or minus 0.5mm) of the covered part of 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 0.19 N·m.
- Strip off approximately 9mm (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.
- Utilisez un couple de 0,19 N·m pour le connecteur present.
- Dénudez environ 9 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	AWG20 - 16(0.5mm ² - 1.25mm ²)
Cable Length	Within 3 meters

*Refer to "**Power Connector**" in the **page 25** for details of the power connector and pin assignment.

◆ FG Cable

Use the FG cable described below.

Applicable wire	AWG18 - 16(0.75mm ² - 1.25mm ²)
------------------------	--

◆ Specification of External Power Supply

This product is designed to operate at least with 30 - 90 watt power supply.

In addition, the power supply must fulfill the following requirements.

Rising time for up to 24 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 products of the CPS-PWD-30AW24-01 or CPS-PWD-90AW24-01(CONTEC).

CAUTION

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.

ATTENTION

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.

2. LAN

◆ LAN Cable

Use the LAN cable described below

Category	Category 5 or better
Cable Length	Within 100 meters

Refer to "**LAN Port**" in the **page 29** for details of the LAN port and pin assignment.

3. 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.

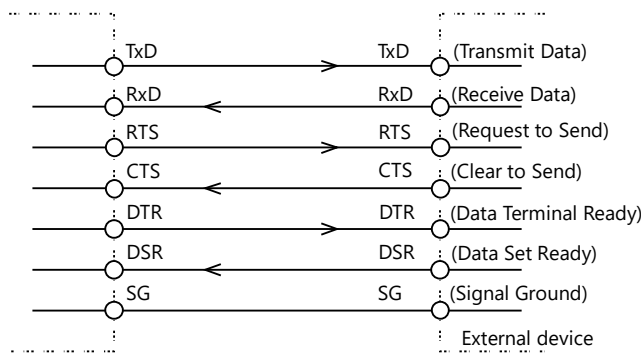
If special treatment of the signal lines in the connector is required, ensure that this is done in accordance with the specifications.

Refer to "**RS-232C Serial Port**" in the **page 34** for details of the RS-232C serial port and pin assignment.

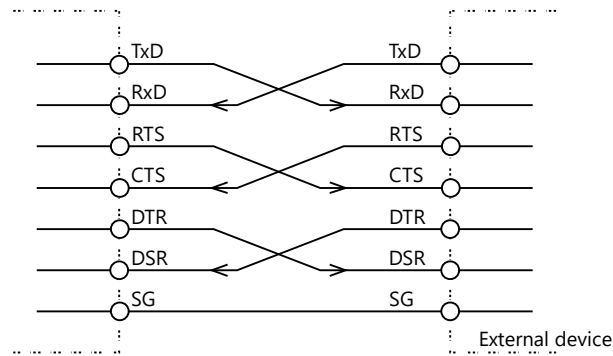
Connecting to an external device

Example RS-232C cable connection to an external device is described below.

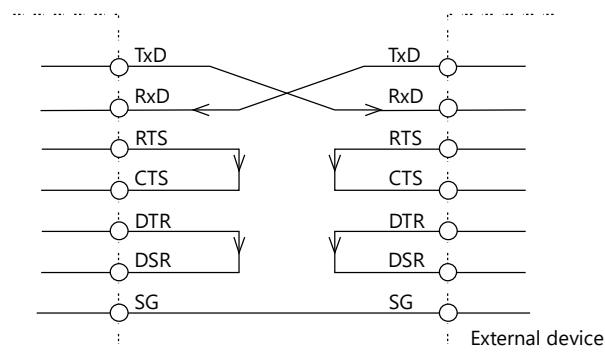
Example Connection to a Modem



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

*Baud rate setting can be set on Web browser menu.

Refer to the Reference Manual (Software) for setting procedure.

4. Digital Input

◆ Digital Input Cable

Use the digital input cable described below.

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

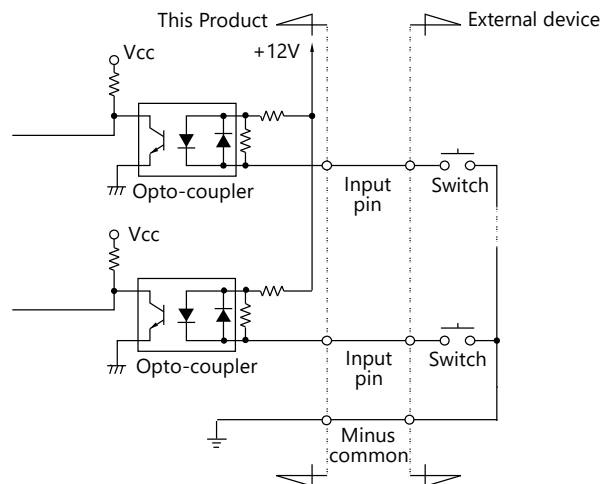
*Refer to "**Digital Input/Digital Output Connector**" in the **page 28** for details of the digital input connector and pin assignment.

Input equivalent circuit

Input equivalent circuit of digital input interface unit is shown in the figures below.

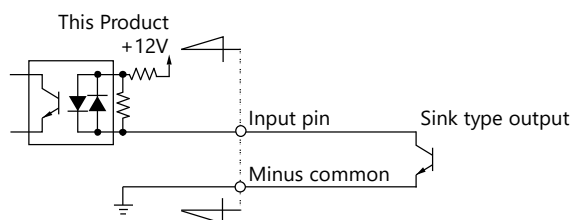
DI connects to a device which can be current-driven such as switch or transistor output device.

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)



◆ Connecting to an external device

Connecting the Input to the sink type output



5. 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.
Applicable wire	AWG28 - 16
Cable Length	The length differs depending on the actual use environment.

*Refer to "**Digital Input/Digital Output Connector**" in the **page 28** for details of the digital output connector and pin assignment.

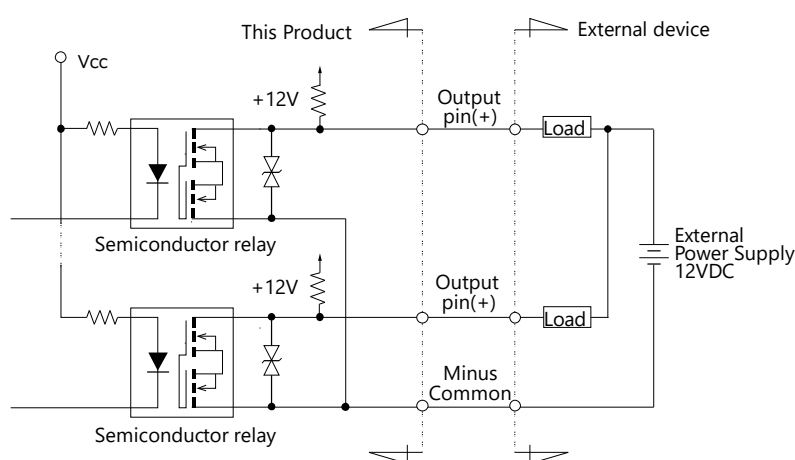
Digital Output Circuit

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.

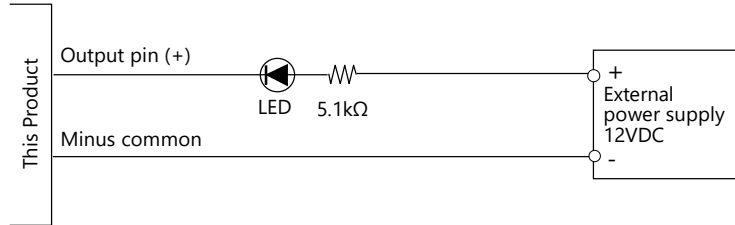
⚠ ATTENTION

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

Example of connecting to the LED

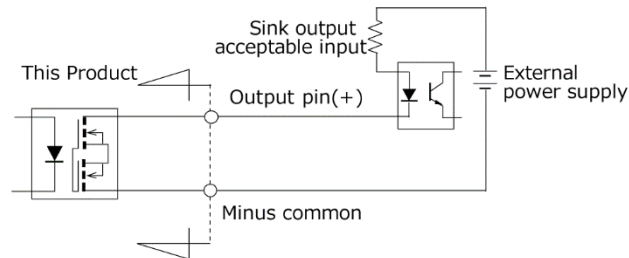
The corresponding LED lights up when you output "1" into the appropriate bit.

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



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-MCS341-DS1-111	CPS-MCS341-DS1-131, CPS-MGS341-DS1-131
CPU		ARM Cortex-A8 600MHz	
Memory		On Board 512MB DDR3 SDRAM	
ROM		On-Board 32MB NOR Flash for OS	On-Board 64MB NOR Flash for OS
LAN	Transmission standard	10BASE-T/100BASE-TX	
	The number of channels	2ch *1	
	Connector	RJ-45 Connector	
	LED	Speed (Yellow), Link/Act (Green)	
USB	Transmission standard	USB2.0 standard follow	
	The number of channels	1	
	Connector	TYPE-A	
SD card slot	Standard	SD standard follow	
	Connector	SD memory card slot	
	LED	Read/Write (Green)	
RS-232C	Baud Rate	300bps - 115.2kbps	
	Data length	5, 6, 7, 8 bit 1, 1.5, 2 stopbit	
	Parity check	Even, Odd, Non-parity	
	Isolation/Resistance	Non-isolated	
	The number of channels	1	
	Connector	9-pin D-SUB connector (Male)	
	LED	Transmission (Green), Reception (Green)	
Digital input and Output	Input type	Opto-coupler isolation input (Compatible with current sink output) (negative logic) *2	
	Input isolation	Opto-coupler isolation	
	Input voltage resistance	1000V	
	The number of input signal channels	4	
	Open-circuit impedance	10kΩ or more	
	Short-circuit impedance	500Ω or less	
	Response time (digital input)	Within 200μsec	
	Interrupt (digital input)	4 interrupt input signals are arranged into a single output of interrupt signal. An interrupt is generated at the falling edge (HIGH-to-LOW	

Item		CPS-MCS341-DS1-111	CPS-MCS341-DS1-131, CPS-MGS341-DS1-131
		transition) or rising edge (LOW-to-HIGH transition). (setting can be done by software)	
	Output type	Semiconductor relay output	
	Output isolation	Semiconductor relay isolation	
	Output voltage resistance	1000V	
	The number of output signal channels	4 *usable as digital input or digital output	
	Maximum output voltage/current	13.2V/100mA	
	Response time	Within 2msec	
	ON resistance	8Ω or less (at 25 °C)	
	OFF leakage current	4μA or less (at 25 °C)	
	Surge protection element	Interactive TVS Diode Stand off voltage : ±30V, Peak pulse power : 400W (1ms)	
	LED	DIO-DI3 (Green)	
	Connector	2 pieces 3.81mm pitch 6-pin Terminal (N.C., DIO3, DIO2, DIO1, DIO0, MCOM)	
	Applicable wire	AWG28 - 16	
Stack Bus	The maximum number of stack buses	16 *3	
LED		Power (Green)/Status 1 (Green)/Status 2 (Red) /Error (Red)	
Switch		Power SW, Rotary SW, DIP SW	
RTC		RTC built-in (battery within)	
Power supply *4	Rated input voltage	24VDC	
	Input voltage range	21.6 - 26.4VDC	
	Power consumption	Controller alone: 24V 0.3A (Max.) With module(s): 24V 3.6A (Max.)	
	Connector	2-piece 3.5mm pitch 3-pin terminal (V+, V-, FG)	
	Applicable wire	AWG20 - 16	
	Surge protection element V+ - V-, V- - FG	Interactive TVS diode Stand off voltage : ±30V, Peak pulse power : 400W (1msec)	
Physical dimensions (mm)		44.7(W) x 94.7(D) x 124.8(H) (No projection included)	
Weight		300g	
Installation method		Quick mounting on the 35mm DIN rail	
OS		Linux kernel 3.2	

*1 The LAN ports of the CPS-MGS341-DS1-131 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 total current consumption of the devices should be less than 3.3A

*4 Use power cable within 3meters.

Installation Environment Requirements

Item		CPS-MCS341-DS1-111	CPS-MCS341-DS1-131, CPS-MGS341-DS1-131
Operating ambient temperature		-20 - +60°C *5	
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 *6 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 *7 /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), UL, UKCA	

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

*6 When you use an optional power product

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



CAUTION

You can set the modules as you desire to the configurable controller up to 16 modules.

The total current consumption of the modules should be less than 3.3A.



ATTENTION

Le nombre maximum de modules empilés en fonctionnement avec le contrôleur de type empilable est de 16. La consommation totale de courant des modules doit être de moins de 3,3 A.

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

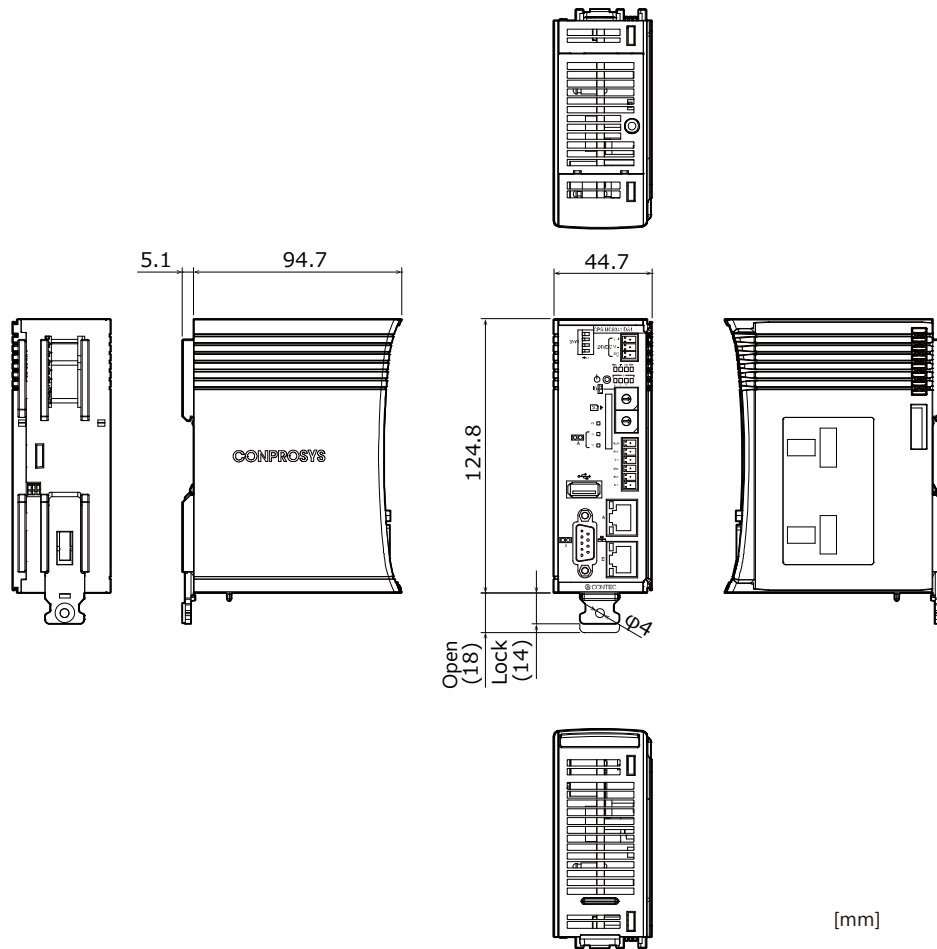
- If the fluctuation of power supply voltage is beyond the product specifications, connect a constant voltage transformer.
- If the noise is large, connect an isolation transformer (a noise cut transformer).
- Never bundle, place nearby or in parallel the power supply cable and the input /output signal 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-90AW24-01 (by CONTEC), instantaneous voltage drop allowed time is 20 milliseconds or less

ATTENTION

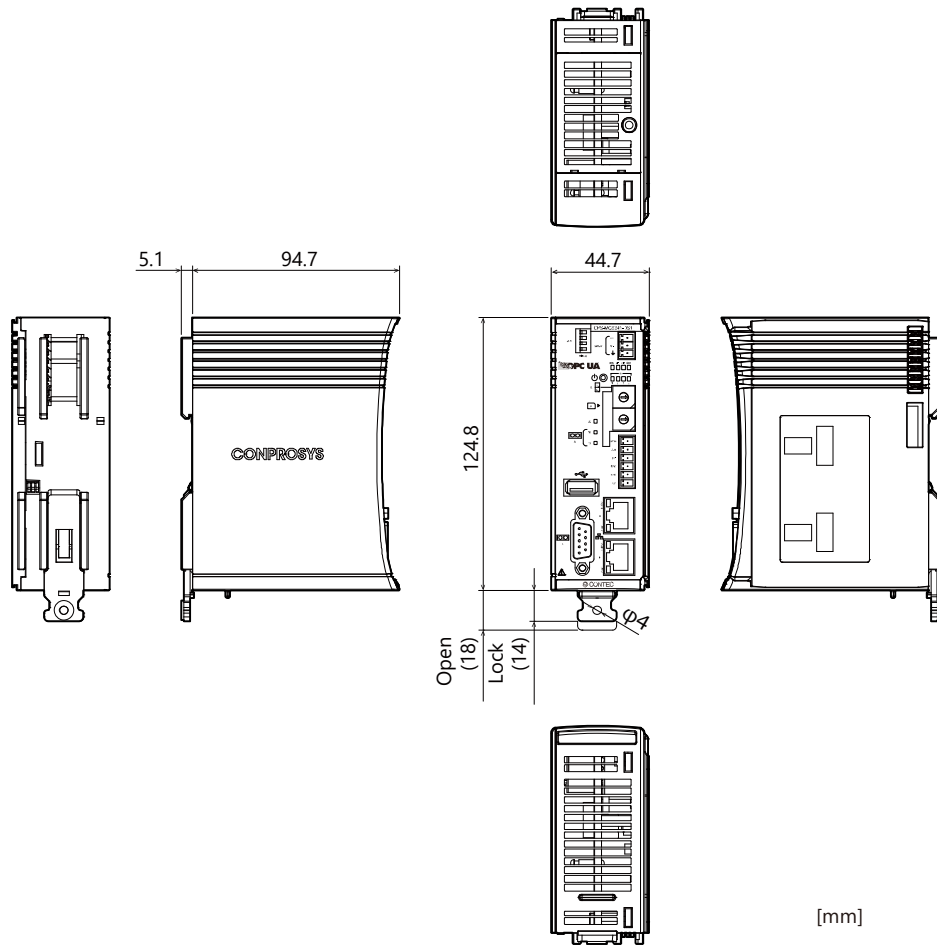
- Si les fluctuations de la tension d'alimentation sont au-delà des caractéristiques du produit, raccordez un transformateur à tension constante.
- Si les signaux parasites sont importants, raccordez un transformateur de séparation (transformateur qui réduit les interférences).
- Ne combinez jamais, 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-90AW24-01 (de CONTEC), le délai permis de chute instantanée de tension sera de 20 millisecondes ou moins.

2. Physical Dimensions

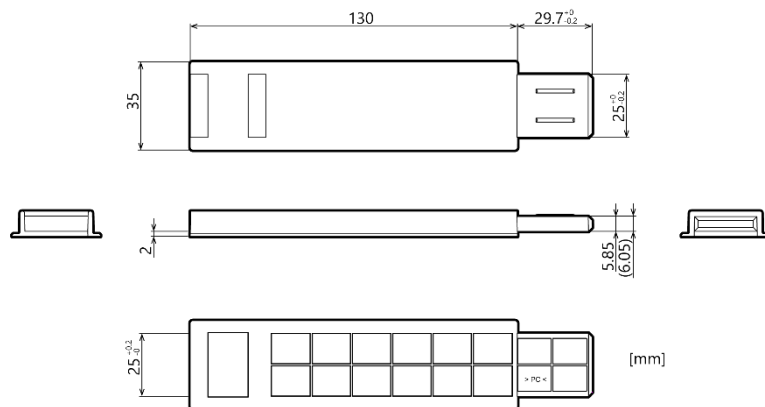
1. CPS-MCS341-DS1-111



2. CPS-MCS341-DS1-131, CPS-MGS341-DS1-131

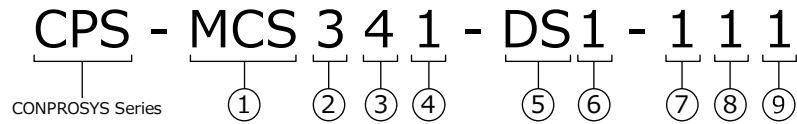


3. Included DIN Rail



3.The Details of Model Name

Details of the model name are described below.



No.	Item	Description	
1	Model	MCS	Standard Configurable Type Model
		MGS	Gateway Configurable Type Model
2	CPU	3	ARM Cortex A8
3	Memory	4	512M Byte
4	Version	1	The 1st Model
5	Interface	D	Digital I/O
		S	Serial (RS-232C)
6	Numbering of the Interface	1	The 1st Model
7	OS	1	Linux OS
8	ROM	1	32MB
		3	64MB
9	Application	1	Original Version

4. Battery Disposal

1. Battery Specification

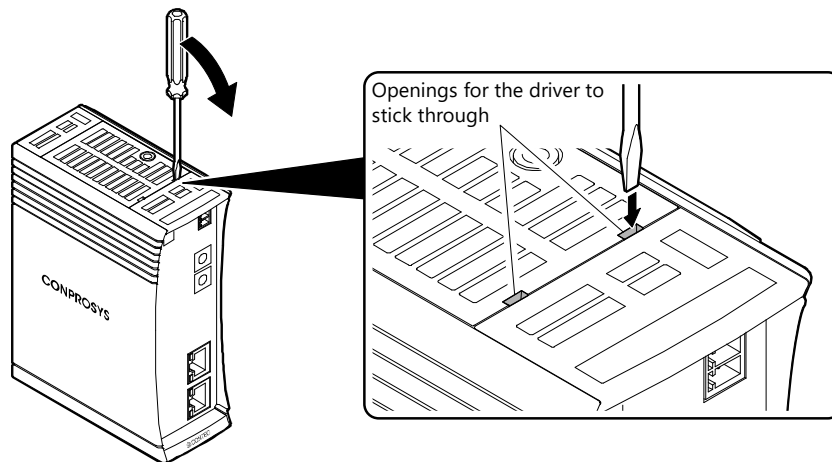
The product contains one battery and the details are as follows:

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

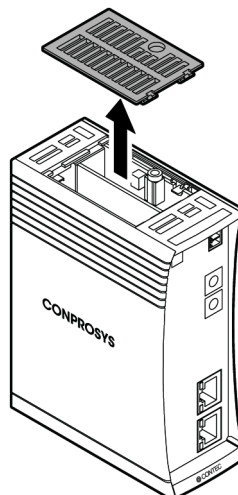
2. How to remove the battery

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

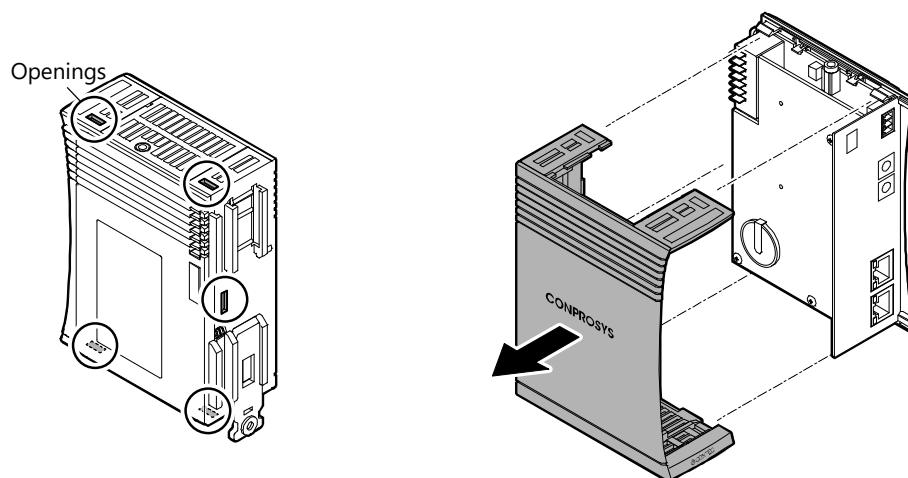
- 1 Stick a slotted driver through one of the openings, and unhook the tabs of the top cover.



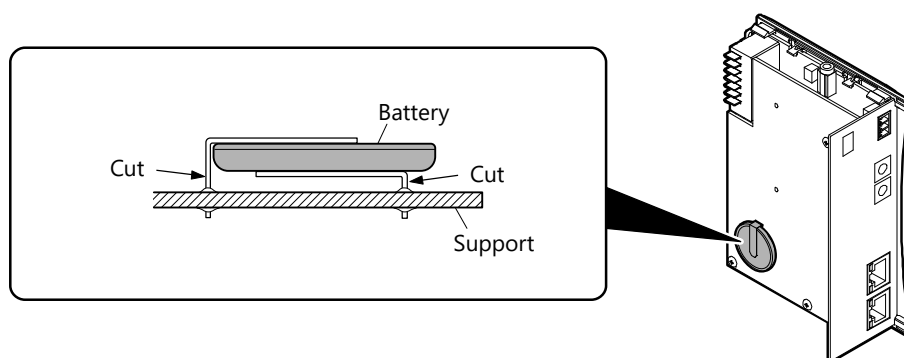
- 2 Lift off the top cover.



- 3** Unhook the five tabs of the product to remove the body cover.



- 4** 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-90AW24-01	Fitting power supply 90W (Input: 100-240VDC, Output: 24VDC 3.8 A)
	CPS-PWD-30AW24-01	Fitting power supply 30W (Input: 100-240VDC, Output: 24VDC 1.3 A)
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-2GB-B	SD card (2GB)
	SD-4GB-A	SD card (4GB)
Configurable Type Module	CPS-DIO-0808L	with digital input/output (No built-in power supply)
	CPS-DIO-0808BL	with digital input/output (built-in power supply)
	CPS-DIO-0808RL	with digital input/output (current source)
	CPS-DI-16L	with digital input (current sink)
	CPS-DI-16RL	with digital input (current source)
	CPS-DO-16L	with digital output (current sink)
	CPS-DO-16RL	with digital output (current source)
	CPS-AI-1608LI	with analog input (voltage input 8 channels)
	CPS-AI-1608ALI	with analog input (current input 8 channels)
	CPS-AO-1604LI	with analog output (current output 4 channels)
	CPS-AO-1604VLI	with analog output (voltage output 4 channels)
	CPS-CNT-32021	with counter input
	CPS-RRY-4PCC	with relay output
	CPS-SSI-4P	with temperature sensor input
	CPS-COM-1PC	with RS-232C (contains 1port)
	CPS-COM-2PC	with RS-232C (contains 2 ports)
	CPS-COM-1PD	with RS-422A/485 (1channel)
	CPS-COM-2PD	with RS-422A/485 (2 channels)
	CPS-COM-1QL	with LoRa communication
	CPS-MM-LC	with Insulation Deterioration Monitoring

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.

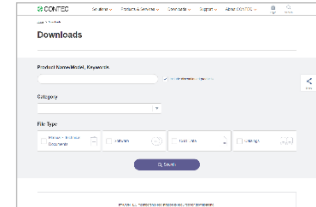
1.Services

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 device driver, firmware, and differential manuals in several languages. Membership registration (myCONTEC) is required to use the services.



Revision History

MONTH YEAR	Summary of Changes
October 2016	The First Edition
June 2018	Changed the layout of the manual.
July 2021	Additional note on trademarks
November 2022	The bundled item was added in the Production Configuration List.
January 2024	Added CPS-MGS341-DS1-131
April 2024	Corrections due to changes in the bundle

- 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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<https://www.contec.com/>

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CPS-MCS341-DS1-111, CPS-MCS341-DS1-131, CPS-MGS341-DS1-131 Reference Manual (Hardware)

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