

M2M/IoT Solutions
CONPROSYS™



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Break into the IoT Revolution with CONPROSYS™

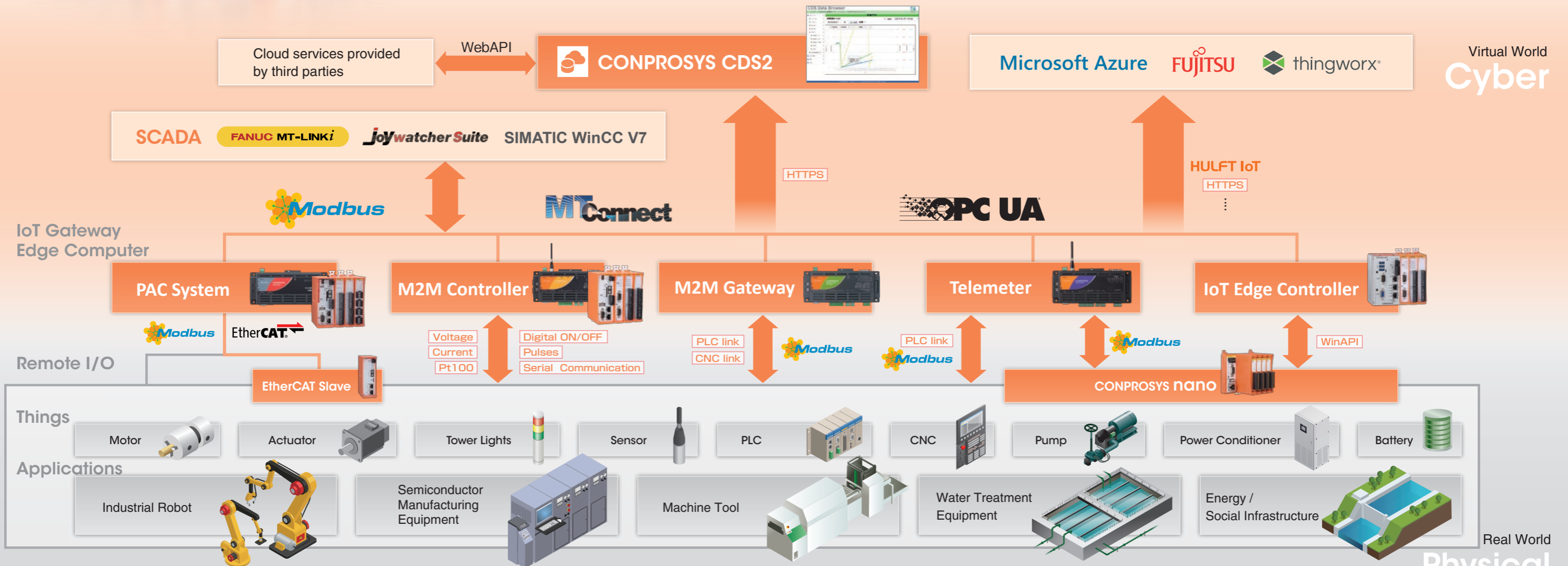
CONPROSYS series

— Innovation in Measurement Control and Remote Monitoring Systems —

Connecting Everything
Excellent Lineup of Industrial IoT Devices

These IIoT devices can be used without programming
Various Useful Functions Built-in

The convenient and simple **Cloud Service**
 provides IoT solutions by one-stop.





Varied Functionality of CONPROSYS

P6-

Easily build an IoT environment
M2M Controller series



This series, with its excellent lineup and wide range of standard-equipped application functions required for IoT devices, enables data to be collected, sent, stored and visualized using various types of sensors and control equipment.

P10-

Easily connect existing devices with IoT systems
M2M Gateway series



It can connect multi-vendor PLCs and CNC machines to IoT system. Supports both OPC UA and MTConnect communications therefore it is easier to integrate the existing equipment into IoT systems.

P12-

I/O Modules & Options

P14-

Simple M2M/IoT cloud service
CDS2 (Cloud Data Service 2)



The definitive edition of Simple IoT Cloud. Provides a low-price and simple cloud service that is suitable for various scales of applications, from IoT startups to large scale systems.

P18-

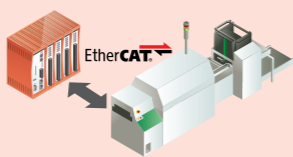
Support IoT system linking more easily
Software & SDK



Provides free and paid software options for linking with partner solutions. A Software Development Kit (SDK) that can be utilized with the expansive CONPROSYS device lineup is also provided free-of-charge.

P20-

Built in software PLC
PAC series



This real-time controller series supports CODESYS programming compliant with international standard IEC61131-3. An EtherCAT slave unit is also available.

P24-

Telemeter solution that completely no-programming
TM series



This completely no-programming telemeter series is specially designed for use with continuous monitoring and telemetering systems. All operations, from settings to uses, can be completed using only a web.

P26

Windows automation PC
IoT Edge Controller



This DIN rail-mounted, fanless Windows PC is an IoT Edge Controller equipped with security software. It can add CONPROSYS I/O modules.

P27

Best value remote I/O
nano series



A low-priced easy to use remote I/O packed with all the necessary functions. There are two types of coupler units, a remote I/O unit and a programmable I/O unit.

P28-

Smart factory provided by CONPROSYS

P30-

Easily realized various systems from an IoT of factory to IoT for facilities in multiple locations by using CONPROSYS solution.

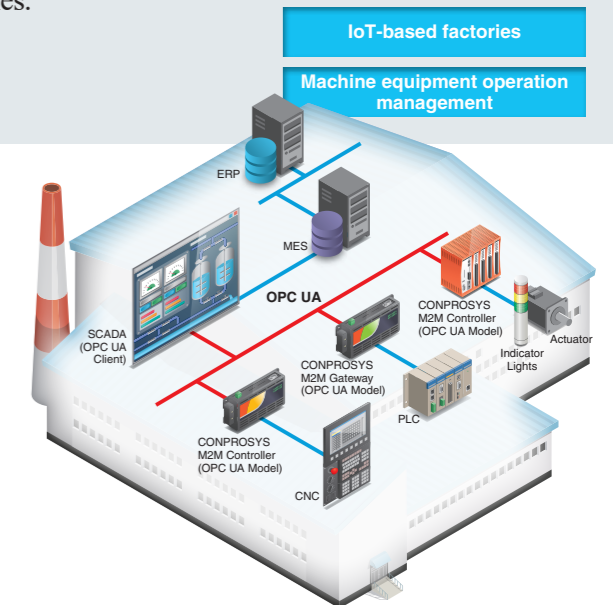
Examples of **CONPROSYS** Usage

APP 1 Supporting Process Reform in Manufacturing Industries. Initiative of Industrial 4.0
IoT-based Factories

CONPROSYS IoT devices have a built-in OPC UA server function. This makes it possible to use a SCADA system equipped with OPC UA client function to visualize the operating status of machine equipment. By making use of the open technology that complies with international standards and that is proposed by CONPROSYS, it is possible to carry out future investments in a scalable manner and with no waste such as by using MES/ERP linking to optimize supply chains and by implementing mass customization that uses the IoT.

- [Functions]
- Signal I/O
 - Data Transmission
 - 3G/920MHz
 - PLC Master
 - OPC UA
 - CNC

- [Components]
- Indicator lights, sensor inputs, CNC → M2M Controller (OPC UA Model)
 - PLC data usage → M2M Gateway (OPC UA Model)
 - Storage, management and visualization of operation data → OPC Client (MT-LINKI, other SCADA systems)
 - Actuators and indicator lights → M2M Controller (OPC UA Model)

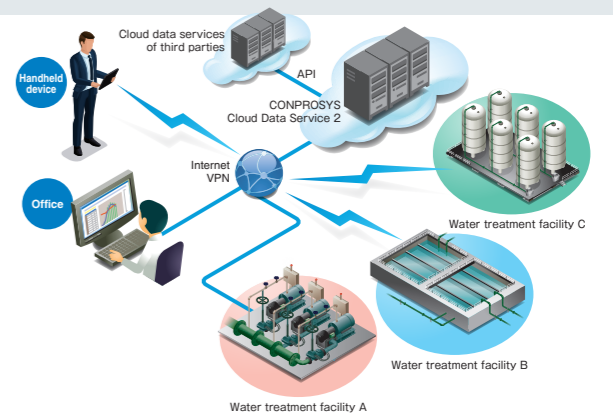


APP 2 Adding New Value to Businesses with Simple Cloud Services
Manages Infrastructure Facilities of Multi-locations

The CONPROSYS can be used to quickly construct work systems that make use of cloud technology to manage the operation of and perform predictive maintenance in multiple locations. CONPROSYS Cloud Data Service 2, a cloud service for data management, can be used to perform data linking with external machine learning and analysis tools by way of an API. CONTEC is your one-stop solution provider for everything from IoT devices to server management.

- [Functions]
- Signal I/O
 - Data Transmission
 - 3G/920MHz
 - PLC Master
 - CDS2

- [Components]
- Inputs of indicator lights and sensors → M2M Controller
 - PLC data usage → M2M Gateway
 - Storage, management and visualization of machine operation data → CONPROSYS Cloud Data Service 2 (CDS2)

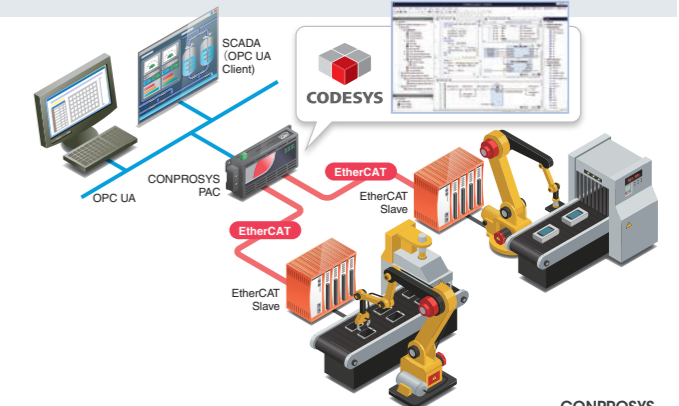


APP 3 CODESYS, a Sequence Control Software Using Open Technology
Forward to the Global Factories of the Next Generation

With the CONPROSYS PAC Series, it is possible to develop programs using an international-standard language that complies with IEC 61131-3. This makes it possible to apply PLC development technology to a variety of fields. The built-in web monitor function makes it possible to easily visualize data.

- [Functions]
- PLC Languages
 - HMI
 - OPC UA
 - EtherCAT

- [Components]
- IEC 61131-3-compliant CODESYS → PAC series
 - EtherCAT communication → EtherCAT Slave Unit
 - Visualization of operating data → CONPROSYS HMI



Varied Functionality of CONPROSYS

Built-in application functions that can be used to easily implement an IoT environment for collecting and storing data from sensors and controllers.
Data can be processed, controlled, and visualized with intuitive operations from a web browser.

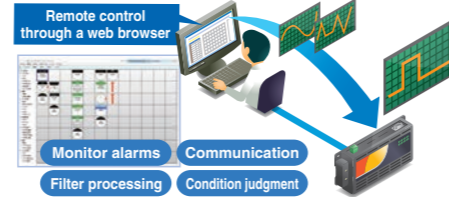
CTR M2M Controller series GW M2M Gateway series PAC PAC series TM TM series



CONPROSYS VTC (Visual Task Control)

CTR PAC
GW TM

Drag function icons from the tool box to the grid area. A variety of task processing can be added with these intuitive operations. There is no need for knowledge of programming languages or for a special development environment. A variety of tasks such as device I/O, calculations, flow control, character string operations, cloud data transmission, and file operations can be set easily from a web browser in the same manner as drawing a flow chart.



Up to 30 kinds of function-icons support you scripting easily

Up to 20 main tasks and 10 subtasks are supported

Data linking with CONPROSYS HMI

Easy Processing and Control

— Device setting, data saving, and script debugging are completed with a Web browser —

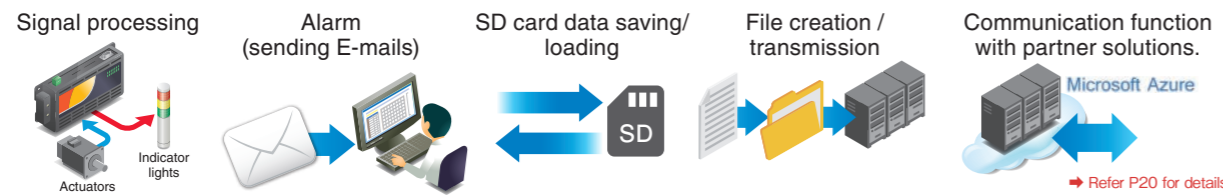
Support multiple platforms (Windows, Android, iOS, MAC, Linux)

Drag function icons from tool box to the grid area

Set the function icon in property area

Test the script in the debug window

CONPROSYS VTC is easy and convenient



Sample Programs of Task Script Language for Monitoring and Controlling Routines

We have released some routine VTC sample programs in our HP that are used in monitoring and control processing, such as self-holding circuit, seven-segment display etc.



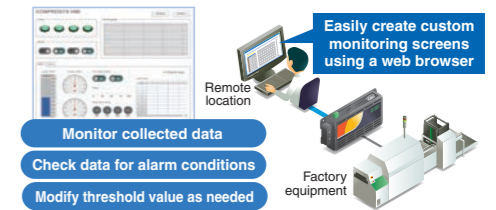
Online help is available. Visit our website for details.



CONPROSYS HMI (Human-Machine Interface)

CTR PAC
GW TM

Arranging the prepared display components to monitor the status of the input signals. Screens can be created just with a web browser. There is no need for knowledge of programming languages and for a special development environment. Just drag the prepared display components to create screens. Furthermore, the properties area window is used to configure display component settings and to set the linking of data with sensors and devices.



Creating screens with a variety of prepared display items

Data linking and checking can be performed at the same time as editing the screen

Enables visualization just with the CONPROSYS

Monitoring

— Device setting, data saving, and script debugging are completed with a Web browser —

Support multiple platforms (Windows, Android, iOS, MAC, Linux)

Display control items area

Set the function icon in property area

Menu bar area

Property area

Variables link area

JavaScript area

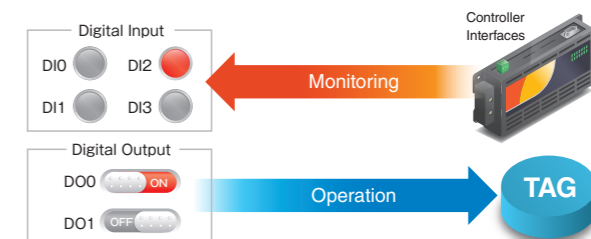
Layer area

Click an item to select it. Or drag the item to the screen.

The screen above is the image when creating the monitoring screen. The factory default setting is a white background.

Data linking with CONPROSYS VTC

It is possible to use internal variables (TAGs) to link with CONPROSYS VTC. This makes it possible to display the results of processing with VTC and to apply the HMI operations to VTC flow control.



Online help is available. Visit our website for details.

Varied Functionality of CONPROSYS

Built-in application functions that can be used to easily implement an IoT environment for collecting and accumulating data from sensors and controllers. OPC UA, Modbus, and other such international standard industrial protocols are supported, which makes it possible to connect with software made by other companies.

CTR M2M Controller series GW M2M Gateway series PAC PAC series TM TM series

Data Capitalization

Data Transmission

Easily transmit data over mobile wireless Internet

Cloud Server

Internet (VPN)

Mobile Wireless Internet

Server PC

Local Area Network

CONPROSYS M2M controller

Supports both Internet and 3G Mobile Wireless Internet. Data transfer is set easily by simply entering the server's address.

Supports OPC UA Standard

ERP

MES

OPC UA

CONPROSYS M2M Controller (OPC UA model)

CONPROSYS M2M Gateway (OPC UA model)

SCADA (OPC UA client)

PLC

CNC

Indicator Lights

Actuator

The data collected is easily displayed on SCADA and HMI systems adding monitoring capability to these systems. With the simple installation of merely connecting devices, SCADA systems can be used to monitor existing facilities that could not be monitored up to now.

Connectivity

Modbus Master

Simple settings make it easy to collect data with limited programming

CONPROSYS M2M Gateway

Ethernet

Supports multiple interfaces

CONPROSYS nano series

Modbus compatible PLC

Meter

Electricity meter

Easily configure, collect, measure and monitor data with different communication devices.

PLC Master

Simple settings make it easy to collect PLC data with limited programming

CONPROSYS M2M Gateway

Ethernet

Batch collect data from multiple equipment sources

Supports multiple interfaces

PLC

PLC

Supports multi-vendor PLCs

Easily connect to a variety of PLC devices to collect and monitor data.

Supported PLC manufacturers Mitsubishi Electric / Omron / JTEKT Corporation **NEW**

MTConnect

MTConnect Client (Server Computer)

Ethernet

MTConnect Client (Tablet or Smartphone)

Machine Tool

Machine Tool

MTConnect Adapter + Agent (MTConnect model)

Machine Tool

MTConnect is a communication protocol for machine tools. It has been standardized by the MTConnect Institute.

The CONPROSYS has built-in MTConnect Adapter and Agent, which makes it possible to be used from Client software that supports MTConnect.

* The CONPROSYS signals that support MTConnect are digital inputs and outputs, analog inputs and CNC serial communication data.

Modbus Slave

SCADA System etc.

The slave responds to data requests and returns the acquired information or the results of calculations.

In the case of a write request the corresponding part of memory is changed to the specified value

Modbus Data Request

Host Device (Modbus Master)

Ethernet

Modbus data response

CONPROSYS

Indicator Lights

Actuator

Sensor

Responds to the data request of host communication device which is built-in the Modbus master function and returns the acquired information, calculation results, etc. Just several simple settings makes it possible to communicate with the host device. It can be used as a remote I/O device.

Signal Input and Output

Configurable type

Integrated type

CONPROSYS

Pulse signal input

Analog signal output

Analog signal input

Digital signal output

Digital signal input

Counted number of production

Control value output

Analog meter

Indicate lights

Switches

CONPROSYS supports a wide range of equipment with interfaces for analog and digital signal input and output. CONPROSYS is available in integrated and configurable models. The integrated type is an all-in-one device. The configurable type offers a high degree of expandability.

CNC Communication

SCADA (OPC UA, MTConnect, Modbus TCP)

Ethernet

CONPROSYS (OPC UA / MTConnect Model)

Serial

CNC

Collect information such as output messages and indicator light status from the CNC and send the data to the host system (MT-LINKi) etc. This makes it possible to add Ethernet communication function to old model machine tools that are not have equipped with external communication means.

* Data communication may not be possible with some machine tools and CNCs. Contact us for details.

Supported CNC manufacturers FANUC / Mitsubishi Electric / Brother Industry **NEW**

Rich Variety of Interfaces and Excellent Lineup

M2M Controller series

The M2M Controller Series consists of two types of controllers: a stand-alone integrated type and an I/O interface expandable configurable type. The system is adaptable to a wide variety of locations, wiring methods and number of I/O channels. You can build a custom control and monitoring system to meet your specific needs.

Integrated Type



Refer pages 6 to 9 for icon definitions

The integrated type offers a wide range of models with a variety of I/O interfaces and communication protocols.



[Key Features]

- DIN rail or fixed mounting options available
- Embedded CPU
- Operating temperature range: -20 to +60°C (-4 to +140°F)
- Durable hardware reduces maintenance costs
- Daisy-chain connections do not required a HUB (Except some models)
- Power supply voltage: 12 to 24 VDC
- Physical dimensions: 188.0(W)x78.0(D)x30.5(H) mm (7.40"x3.07"x1.20") (does not include protrusions and antenna)

OPC UA server built-in model

CPS-MC341-ADSC1-931

OPC UA server is built-in the firmware. It can directly communicate with an Information network without a bridge PC



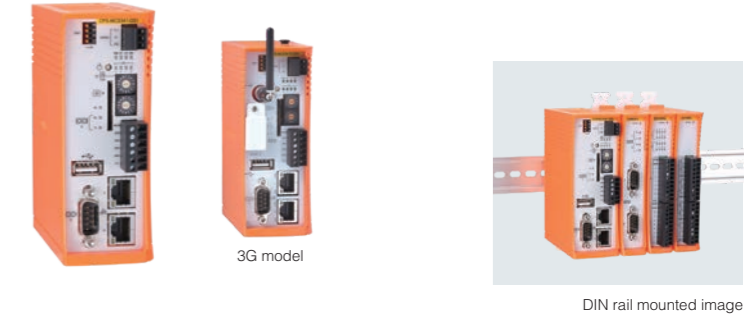
FANUC MT-LINK*i* enabled

Configurable Type



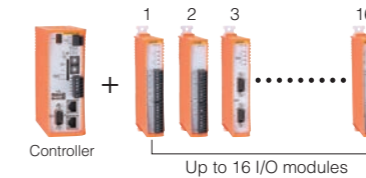
Refer pages 6 to 9 for icon definitions

The configurable type allows users to add a variety of I/O modules to a CPU controller providing ultimate flexibility.



[Key Features]

- Capable of supporting up to 16 I/O modules on a single controller
- DIN rail mountable
- Embedded CPU
- Operating temperature range: -20 to +60°C (-4 to +140°F)
- Durable hardware reduces maintenance costs
- Daisy-chain connections do not required a HUB
- Power supply voltage: 24 VDC
- Physical dimensions: 44.7(W)x94.7(D)x124.8(H) mm (1.76"x3.83"x4.91") (does not include protrusions and antenna)



OPC UA server built-in model

CPS-MCS341-DS1-131
CPS-MCS341G-DS1-130
CPS-MCS341Q-DS1-131



FANUC MT-LINK*i* enabled

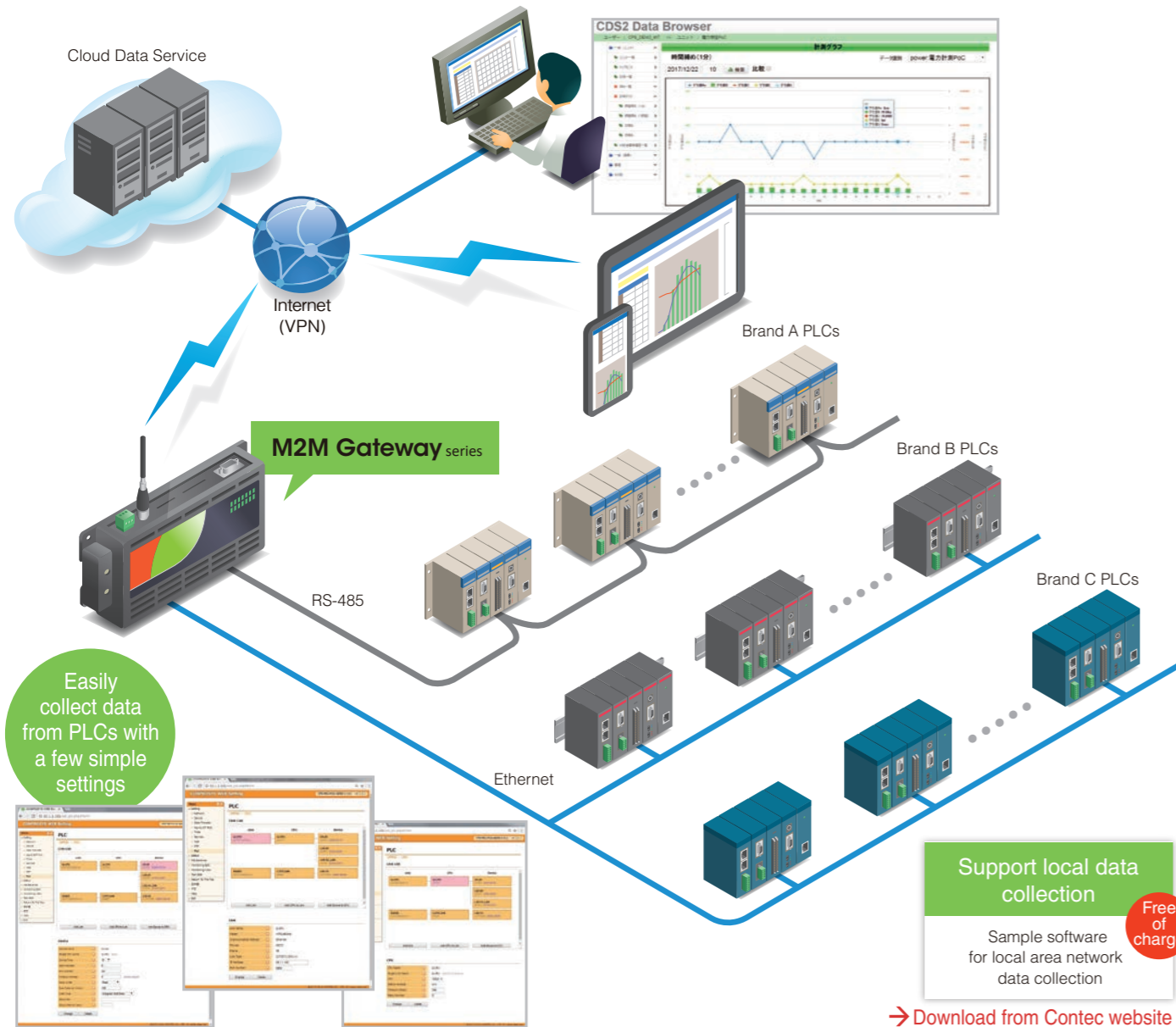
Type	Integrated Type										
Product Name	Multi I/O	Multi I/O with built-in OPC UA server and MTConnect Adapter & Agent	Multi I/O with additional RS-485	Digital I/O with RS-485	Digital I/O with RS-232C	Digital I/O with CAN	Analog I/O	Multi I/O with 3G WAN (Global) *3*4	Multi I/O with 3G WAN*4 (Japan only)	Multi I/O with 920MHz LAN (Japan only)	
Model	CPS-MC341-ADSC1-111	CPS-MC341-ADSC1-931	CPS-MC341-ADSC2-111	CPS-MC341-DS1-111	CPS-MC341-DS11-111	CPS-MC341-DS2-911	CPS-MC341-A1-111	CPS-MC341G-ADSC1-110	CPS-MC341G-ADSC1-111	CPS-MC341Q-ADSC1-111	
Interfaces	LAN	2ch	2ch	2ch	2ch	2ch	2ch	2ch	2ch	2ch	
	SD Card Slot	1 Slot	1 Slot	1 Slot	1 Slot	1 Slot	1 Slot	1 Slot	1 Slot	1 Slot	
	USB	1ch	1ch	1ch	—	1ch	—	1ch	1ch	1ch	
	Digital Input	4ch ¹	4ch ⁵	4ch ¹	8ch ¹	8ch ⁶	8ch ¹	—	4ch ¹	4ch ¹	4ch ¹
	Digital Output	2ch	2ch	2ch	8ch	8ch	8ch	—	2ch	2ch	2ch
	Analog Input (Current)	2ch	2ch	2ch	—	—	—	—	2ch	2ch	2ch
	Analog Input (Voltage)	—	—	—	—	—	—	8ch	—	—	—
	Analog Output (Voltage)	—	—	—	—	—	—	2ch	—	—	—
	Counter	2ch ²	2ch ²	2ch ²	—	—	—	—	2ch ²	2ch ²	2ch ²
	RS-422A/485	1ch	1ch	2ch	1ch	—	1ch	—	1ch	1ch	1ch
	RS-232C	1ch	1ch	1ch	—	1ch	—	—	1ch	1ch	1ch
	CAN	—	—	—	—	—	1ch	—	—	—	—
	3G SIM (Standard)	—	—	—	—	—	—	—	1 Slot	1 Slot	—
920MHz	—	—	—	—	—	—	—	—	—	○	
Functions	Data Transmission	○	○	○	○	○	○	○	○	○	
	OPC UA Server	—	○	—	—	—	—	—	—	—	
	MTConnect	—	○	—	—	—	—	—	—	—	
	Signal I/O	○	○	○	○	○	○	○	○	○	
	Modbus Master	—	—	—	—	—	—	—	—	—	
	Modbus Slave	○	○	○	○	○	○	○	○	○	
	PLC Master	—	—	—	—	—	—	—	—	—	
	HMI	○	○	○	○	○	○	○	○	○	
	VTC	○	○	○	○	○	○	○	○	○	
	CNC Communication	—	○	—	—	—	—	—	—	—	—
Others	Operating temperature	-20 to +60°C (-4 to +140°F)									
	Physical dimensions	188.0(W)x78.0(D)x30.5(H)mm (7.40"x3.07"x1.20") (does not include protrusions and antenna)									
	Power supply voltage	12 to 24VDC									

Type	Configurable Type				
Name of Product	Controller	Controller with built-in OPC UA server and MTConnect Adapter & Agent	Controller with built-in OPC UA server and MTConnect Adapter & Agent + 3G WAN*4 (Japan only)	Controller with built-in OPC UA server and MTConnect Adapter & Agent + 920MHz LAN (Japan only)	
Model	CPS-MCS341-DS1-111	CPS-MCS341-DS1-131	CPS-MCS341G-DS1-130	CPS-MCS341Q-DS1-131	
Interfaces	LAN	2ch	2ch	2ch	2ch
	SD Card Slot	1 Slot	1 Slot	1 Slot	1 Slot
	USB	1ch	1ch	1ch	1ch
	Digital Input	4ch ¹	4ch ¹	4c ¹	4ch ¹
	Digital Output	4ch ²	4ch ²	4ch ²	4ch ²
	Analog Input (Current)	—	—	—	—
	Analog Input (Voltage)	—	—	—	—
	Analog Output (Voltage)	—	—	—	—
	Counter	—	—	—	—
	RS-422A/485	—	—	—	—
	RS-232C	1ch	1ch	1ch	1ch
	CAN	—	—	—	—
	3G SIM (Standard)	—	—	1 Slot	—
920MHz	—	—	—	○	
Functions	Data Transmission	○	○	○	○
	OPC UA Server	—	○	○ ⁷	○ ⁷
	MTConnect	—	○	○ ⁷	○ ⁷
	Signal I/O	○	○	○	○
	Modbus Master	—	—	—	—
	Modbus Slave	○	○	○	○
	PLC Master	—	—	—	—
	HMI	○	○	○	○
	VTC	○	○	○	○
	CNC Communication	—	○	—	—
Others	Operating temperature	-20 to +60°C (-4 to +140°F)			
	Physical dimensions	44.7(W)x94.7(D)x124.8(H)mm (1.76"x3.83"x4.91") (does not include protrusions and antenna)			
	Power supply voltage	24VDC			

Refer pages 14 to 17 for line up of configurable type I/O modules.

Multi-vendor Compatible PLC to IoT M2M Gateway series

A single CONPROSYS controller can collect data from multiple PLC controlled equipment. M2M Gateway series supports devices from a variety of vendors, including Mitsubishi's MELSEC series, Omron's Sysmac series, and JTEKT's TOYOPUC series.

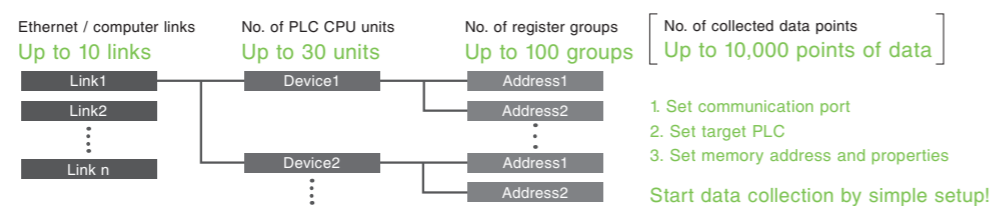


Monitoring PLC Device Memory

- Reads data from PLC memory (I/O status, data register, link register, file register, etc.)
- Transmits collected data to the cloud through simple settings.
- It is possible to communicate with the PLC at an arbitrary timing by setting the communication attribute and using the VTC function

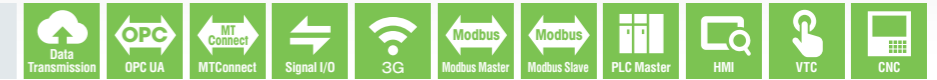
Link up to 10 Systems and 100 Register Groups

Connect up to 10 PLCs using an Ethernet connection or up to 30 PLCs using a serial connection. Connect up to 100 register groups to collect up to 10,000 points of data.



Lineup

Integrated Type



Refer pages 6 to 9 for icon definitions



LAN Model
CPS-MG341-ADSC1-111
Built-in OPC UA Server Model
CPS-MG341-ADSC1-931
FANUC MT-LINK*i* enabled



3G Model
CPS-MG341G-ADSC1-111
Built-in OPC UA Server Model
CPS-MG341G-ADSC1-930
FANUC MT-LINK*i* enabled

* Key features are same as integrated type M2M controller series. Refer P10 for details.

Type	Integrated Type			
Name of Product	PLC data logger + Multi I/O	PLC data logger + Multi I/O with built-in OPC UA server and MTCConnect Adapter & Agent	PLC data logger + Multi I/O + 3G WAN (Japan Only)*1	PLC data logger + Multi I/O + 3G WAN (Japan Only)*1 with built-in OPC UA server and MTCConnect Adapter & Agent
Model	CPS-MG341-ADSC1-111	CPS-MG341-ADSC1-931	CPS-MG341G-ADSC1-111	CPS-MG341G-ADSC1-930
Interfaces	LAN	2ch	2ch ⁴	2ch
	SD Card Slot	1 Slot	1 Slot	1 Slot
	USB	1ch	1ch	1ch
	Digital Input	4ch ²	4ch ⁵	4ch ²
	Digital Output	2ch	2ch	2ch
	Analog Input (Current)	2ch	2ch	2ch
	Analog Input (Voltage)	—	—	—
	Analog Output (Voltage)	—	—	—
	Counter	2ch ³	2ch ³	2ch ³
	RS-422A/485	1ch	1ch	1ch
	RS-232C	1ch	1ch	1ch
Functions	CAN	—	—	—
	3G SIM (Standard)	—	—	1 Slot
	920MHz	—	—	—
	Data Transmission	○	○	○
	OPC UA Server	—	○	—
	MTCConnect	—	○ ⁶	—
	Signal I/O	○	○	○
	Modbus Master	○	○	○
	Modbus Slave	○	○	○
	PLC Master	○	○	○
	HMI	○	○	○
VTC	○	○	○	
CNC Communication	—	○	—	
Others	Operating temperature	-20 to +60°C (-4 to +140°F)		
	Physical dimensions	188.0(W)×78.0(D)×30.5(H)mm (7.40"×3.07"×1.20") (does not include protrusions and antenna)		
	Power supply voltage	12 to 24VDC		

*1 SIM card not included. Standard size SIM card only. Visit www.contec.co.jp for details.

*2 Opto-isolated input (supports sink output). Built-in 12VDC power. *3 Counter inputs share with digital inputs.

*4 The LAN ports are independent, which makes it possible to split the network segment.

*5 Opto-isolated inputs (supports both current sink output and current source output). Built-in 12VDC power or external 12-24VDC power is switchable.

*6 Transmittable signals by MTCConnect are the collected data through the gateway module's interfaces, and the serial communication data with the CNC.

* The specifications are supported by the newest firmware drivers. Please download the newest firmware from Contec website when you need.

Supports Multiple PLC Devices and Modbus Equipment from Different Vendors

Compatible with Mitsubishi MELSEC-FX / -A / -Q / -L / iQ-F / iQ-R series, Omron Sysmac C / CPM / CS / CJ / CP series, and JTEKT TOYOPUC PC10G-CPU series. Communicates with a variety of Modbus equipment

Please visit our website for the latest information regarding supported PLCs and Modbus devices.



I/O Modules & Options

I/O Modules I/O interface expansion modules of the configurable type controllers and the IoT Edge controller. 24 VDC power is supplied by the controller to the attached I/O modules via the internal bus.

CTR M2M Controller series **PAC** PAC series **EG** Edge series

Digital Input and Output Modules					
Model	Input	Output	Power Consumption	Connectors	Controller series
CPS-DIO-0808L	8-ch Opto-isolated	8-ch Opto-isolated open-collector (Current sink type)	50mA (Max.)	Screw terminal block (3.81mm/0.15" pitch)	CTR PAC EG
CPS-DIO-0808BL (Built-in 12VDC power)	8-ch Opto-isolated (Compatible with current sink output)	8-ch Opto-isolated open-collector (Current sink type)	120mA (Max.)		
CPS-DIO-0808RL	8-ch Opto-isolated (Compatible with current source output)	8-ch Opto-isolated (Current source type)	100mA (Max.)		
CPS-DI-16L	16-ch Opto-isolated (Compatible with current sink output)	—	100mA (Max.)		
CPS-DI-16RL	16-ch Opto-isolated (Compatible with current source output)	—	100mA (Max.)		
CPS-DO-16L	—	16-ch Opto-isolated open-collector (Current sink type)	100mA (Max.)		
CPS-DO-16RL	—	16-ch Opto-isolated (Current source type)	100mA (Max.)		

Analog Input and Output Modules					
Model	Input	Output	Power Consumption	Connectors	Controller series
CPS-AI-1608LI	8-ch differential input, 16-bit resolution, ±10V Bus isolated	—	100mA (Max.)	Screw terminal block (3.81mm/0.15" pitch)	CTR PAC EG
CPS-AI-1608ALI	8-ch differential input, 16-bit resolution, 0-20mA Bus isolated	—	100mA (Max.)		
CPS-AO-1604VLI	—	4-ch voltage output, 16-bit resolution, ±10V Bus isolated	200mA (Max.)		
CPS-AO-1604LI	—	4-ch current output, 16-bit resolution, 0-20mA Bus isolated	200mA (Max.)		

Counter Modules					
Model	Input	Output	Power Consumption	Connectors	Controller series
CPS-CNT-3202I	Phase A/Up 1x2ch Phase B/Down 1x2ch Phase Z/CLR 1x2ch General input 1x2ch Optocoupler isolated. Isolation between channels	Match signal output 1x2ch (Opto-isolated open-collector output)	100mA (Max.)	Screw terminal block (3.81mm/0.15" pitch)	CTR PAC EG

Relay Modules					
Model	Input	Output	Power Consumption	Connectors	Controller series
CPS-RRY-4PCC	—	4-ch Relay contact output (1 pair of Form c contacts)	100mA (Max.)	Screw terminal block (5.08mm/0.20" pitch)	CTR PAC EG

Sensor Module					
Model	Supported sensor / wiring method	No. of CH / Isolation	Power Consumption	Connectors	Controller series
CPS-SSI-4P	Pt100 / Three-wire or four-wire	4-ch / Bus isolated	50mA (Max.)	Screw terminal block (3.81mm/0.15" pitch)	CTR PAC

Serial Communication Modules					
Model	Transmission Scheme	No. of CH / Isolation	Power Consumption	Connectors	Controller series
CPS-COM-1PC	RS-232C Asynchronous serial transmission	1-ch / Bus isolated	90mA (Max.)	9-pin D-SUB connector (s)	CTR PAC EG
CPS-COM-2PC		2-ch / Bus isolated Isolation between channels	110mA (Max.)		
CPS-COM-1PD	RS-422A/RS-485 Asynchronous serial transmission (Full duplex / half duplex)	1-ch / Bus isolated	110mA (Max.)	Screw terminal block (3.81mm/0.15" pitch)	
CPS-COM-2PD		2-ch / Bus isolated Isolation between channels	150mA (Max.)		

Options

Product Name	Model	Input	Output	Physical Dimensions	Mount Method	Support Products
Power Supplies	CPS-PWD-15AW12-01	85 to 264VAC	12VDC, 1.3A (Max.)	39(W)x80(D)x79(H)mm (1.54"x3.15"x3.11") (does not include protrusions)	Mountable to a 35mm/1.38" DIN rail	Integrated type controllers
	CPS-PWD-30AW24-01		24VDC, 1.3A (Max.)	22.5(W)x75(D)x90(H)mm (0.89"x2.95"x3.54") (does not include protrusions)		Configurable type controllers
	CPS-PWD-90AW24-01		24VDC, 3.8A (Max.)	50(W)x90(D)x90(H)mm (1.97"x3.54"x3.54") (does not include protrusions)		

*A DC cable and a 3-pin I/O connector are included.
*AC power cable is not included. An optional AC power cable is available from Contec (IPC-ACC0DE3).

Product Name	Model	Rating	Cable Length	Terminals	Support Products
AC Power Cable	IPC-ACC0DE3	125VAC 7A	2m	3-pole round terminal	Power supplies

Product Name	Model	Frequency Band	Cable Length	Antenna Gain	Physical Dimensions	Support Products
Roof Top Antenna	CPS-ANT-R3-01	800 MHz band 920 MHz band 2.1 GHz band	3m	800 MHz band: 3.88dBi 920 MHz band: 3.02 dBi 2.1 GHz band: 3.76 dBi (Don't include cable loss)	42(W)x42(D)x93(H)mm (1.65"x1.65"x3.66") (Not including protrusions and cable)	920 MHz models 3G WAN models

Product Name	Model	Cable Length	Specification	Support Products
Connection Cable for FANUC CNC	CPS-CAB-S01-1	1m	20-pin to 9-pin conversion cable (Software flow control, one touch lock type)	OPC UA server built-in modules
	CPS-CAB-S01-3	3m		
	CPS-CAB-S01-5	5m		
Connection Cable for Mitsubishi Electric CNC	CPS-CAB-S02-1 NEW	1m	20-pin to 9-pin x 2 conversion cable (Software flow control, one touch lock type)	OPC UA server built-in modules

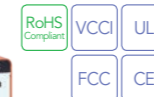
Product Name	Model	Number	Support Products
Magnet (for mounting)	CPS-MAG01-4	4	Integrated Type Modules

Industrial Switching HUB

100BASE-TX, 8-port Type, Wide Temperature Range

SH-8008F

- Operating temperature from -20 to +60°C
- Supports 8 ports with 100BASE-TX
- Power supply redundant, power supply reverse wiring countermeasure circuit built-in
- Mountable on the 35mm DIN Rail
- Compact Size (40(W) x 60(D) x 90(H) mm) / (1.57(W) x 2.36(D) x 3.54(H) inch)



100BASE-TX, 5-port Type, Wide Temperature Range

CPS-HBL-8005F

- Operating temperature from -20 to +60°C
- Supports 5 ports with 100BASE-TX
- Power supply redundant, power supply reverse wiring countermeasure circuit built-in
- Mountable on the 35mm DIN Rail
- Compact Size (25.2(W) x 94.7(D) x 124.8(H) mm) / (0.99(W) x 3.73(D) x 4.91(H) inch)



I/O Modules & Options



An innovative IoT solution for measuring motor insulation deterioration during operation
Three-phase Motor Insulation Deterioration Monitoring Module + ZCT Sensor

Model	The Measured Circuit	No. of measured circuit	Inner diameter of ZCT	Measurement voltage range	Measurement leakage current range (Resolution: 0.001 mA)	Measured insulation resistance range	Controller series
CPS-MM-LC	Overall equipment measurement (power supply mode) / Inverter output section measurement (inverter mode) / AC servo amplifier output measurement (inverter mode)	1ch	Φ25mm (Φ0.98")	Phase voltage 10 VAC or more, 600 VAC or less	Overall equipment measurement: 0 to less than 1A Inverter output section measurement: 0 to less than 100 mA AC servo amplifier output measurement: 0 to less than 100 mA	Less than 1,000MΩ*	CTR

* Supports inverters and AC servo amplifiers that supply low-voltage, three-phase power. * The guaranteed accuracy range is less than 10 MΩ
 * DC servo motor, and equipment that use single-phase power supply are not supported.

Modes-IO® This module also features "Modes-IO" patented technology from Tanashin Denki Co., Ltd. that can be used for measuring leakage current resistance component (I0r) from operating motors with high precision.

Eliminates the need to stop equipment for inspections

This module measures leakage current resistance components (I0r) from operating motors with high precision. It changes the maintenance work to constant monitoring and contribute to the improvement of the equipment operation rate.

Shipped with a ZCT (Φ25) sensor for up to 30kW low-voltage, three-phase motors and AC servo motors.

This module supports three-phase delta connections and three-phase Y connections. It can be applied to a wide range of devices such as pumps, compressors, A/C fans, metalworking machines, and transport equipment.

Supports devices that acts without using a PC. Supports cloud service.

This module supports M2M controllers with built-in IoT functions such as data collection, web monitoring, and cloud linking. It can also be operated without a PC.

Flexible systems can be constructed by using in combination with the various functions of M2M controller CPU modules.

Image of connected with a M2M controller



Monitoring display example using CONPROSYS HMI

Threshold values can be changed temporarily.

Displays the insulation resistance values of the measurement results.

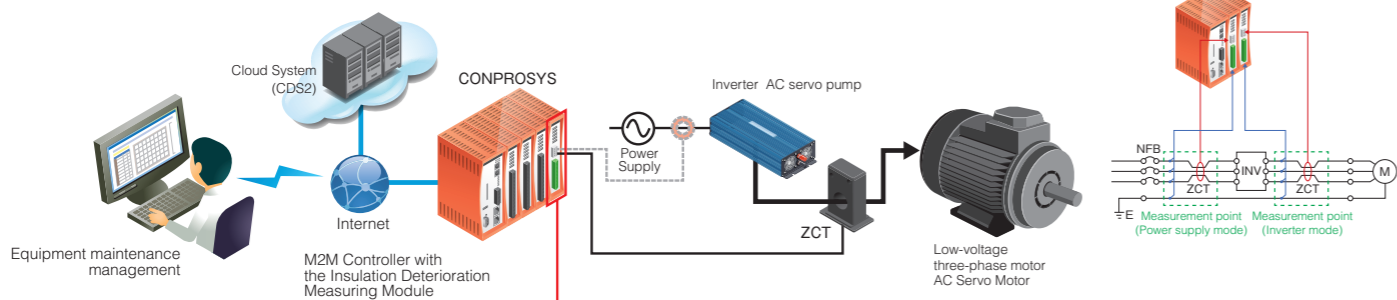
Displays the judgements of the threshold.

Hourly insulation resistance graph display for the day

CONPROSYS HMI makes it possible to view equipment information on a Web browser without using a cloud server or similar device. This monitoring display example can be downloaded free-of-charge from the "Script sample programs" page of our company's website. Target sample software: "Sample software for three-phase motor insulation deterioration monitoring module"

Example of System Configuration

- Detects insulation deterioration on the inverter output side, where measurements are known to be difficult
- Two measurement modes (power supply mode, inverter mode) for various measurement targets



Supports very long-distance wireless communication with zero communications costs

LoRa Communication Module

(This product is only for the Japan market)

Model	Wireless System	Frequency band / Modulation method	No. of Channels	Power Consumption	Connectors	Controller series
CPS-COM-1QL	ARIB STD-T108	920.6 ~ 928.0MHz LoRa (Spread Spectrum)	15ch (at 62.5 and 125kHz bandwidth) 7ch (at 250kHz bandwidth) 5ch (at 500kHz bandwidth)	100mA (MAX)	SMA connector	CTR

Bi-direction communication between master station and slave station is realized by using CONPROSYS VTC serial communication tasks. User can download task script samples of transmission and reception routines for LoRa communication module from our web site free-of-charge.

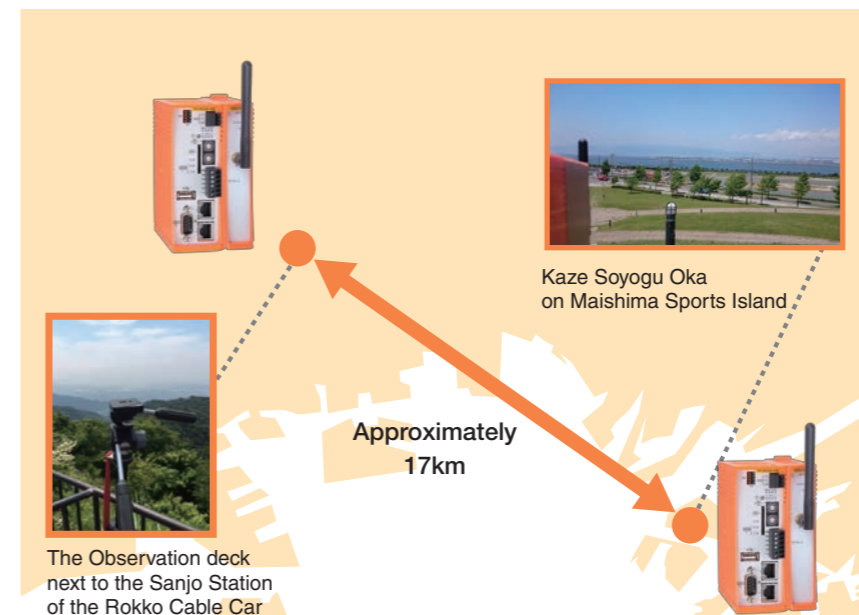


Stable Communication Confirmed Over a Distance of Approximately 17 km

The Observation deck next to the Sanjo Station of the Rokko Cable Car

Kaze Soyogu Oka on Maishima Sports Island

The communicable distance of the LoRa (chirp spread spectrum) modulation method was confirmed by the demonstration experiment.



Channel Characteristics

Bandwidth: 125kHz; Output power: -4dBm; Diffusion rate: 7

Channel	No. of Successful Communications	Successful Communication Rate
8	4,999	99.98%
15	5,000	100%

Output Power Characteristics

Bandwidth: 125kHz; Channel: 8ch; Diffusion rate: 7

Output Power	No. of Successful Communications	Successful Communication Rate
+13dBm	5,000	100%
-4dBm	4,999	99.98%

Diffusion Rate Characteristics

Bandwidth: 125kHz; Channel: 8ch; Output power: +13dBm;

Diffusion Rate	No. of Successful Communications	Successful Communication Rate
7	1,000	100%
8	1,000	100%
9	970	96.5%
10	994	99.4%
11	995	99.5%
12	998	99.8%

The LoRa modulation

LoRa is an abbreviation for Long Range.

It is a technology for long-distance communication in a radio format to transmit (modulated) voice and data signals over radio waves.

Although slower than frequency shift-keying (FSK) modulation, it is noise-resistant and suitable for applications that communicate over long distances.

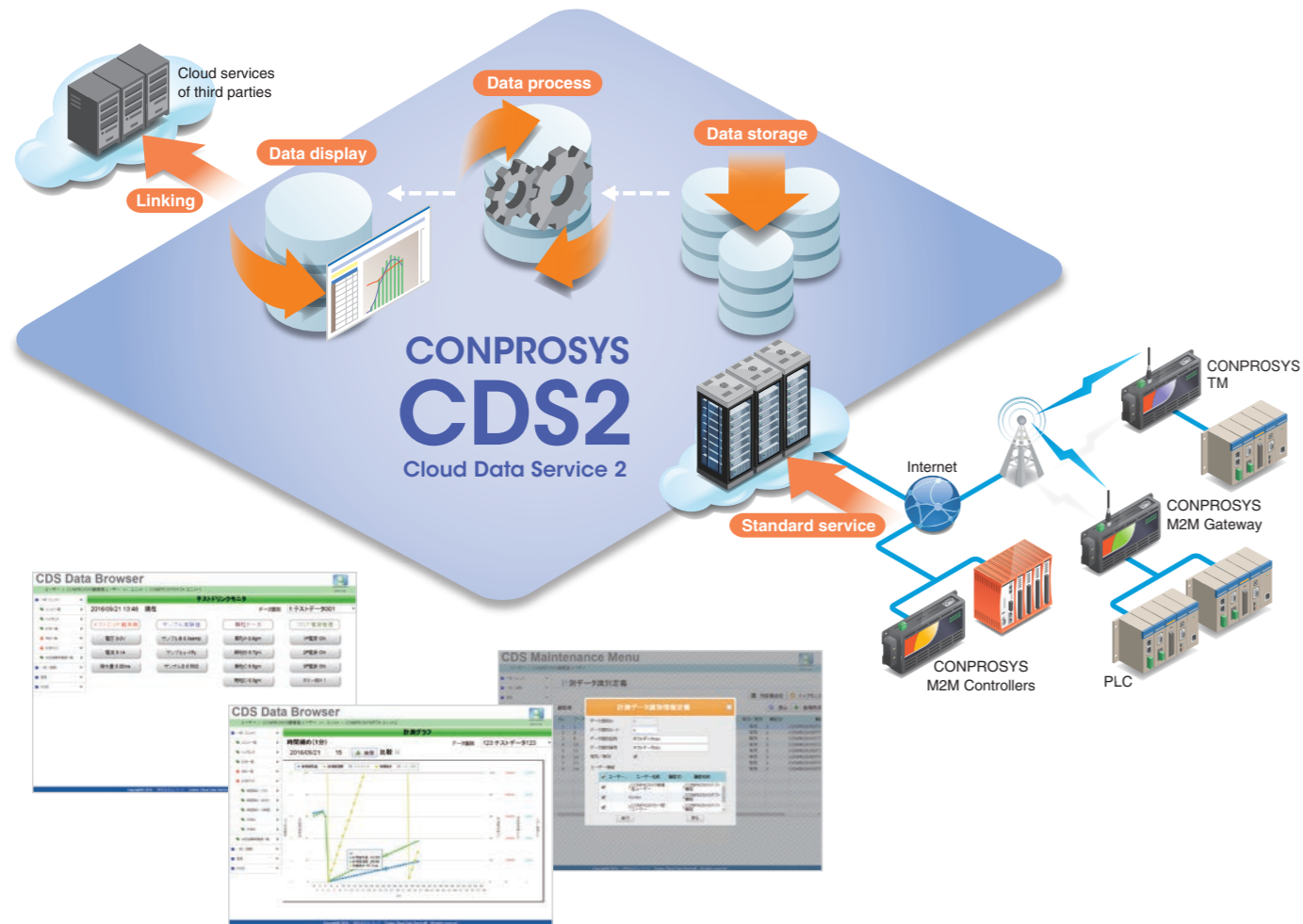
IoT Cloud Services Evolve Data Utilization

CONPROSYS CDS2 (Cloud Data Service 2)

(This service is only for the Japan market)

Stores collected data of M2M Controllers and M2M Gateways. The stored data can be viewed and downloaded from a web browser. Contec provides a cloud service that can link with external servers to support our customers from a startup IoT system to large-scale systems.

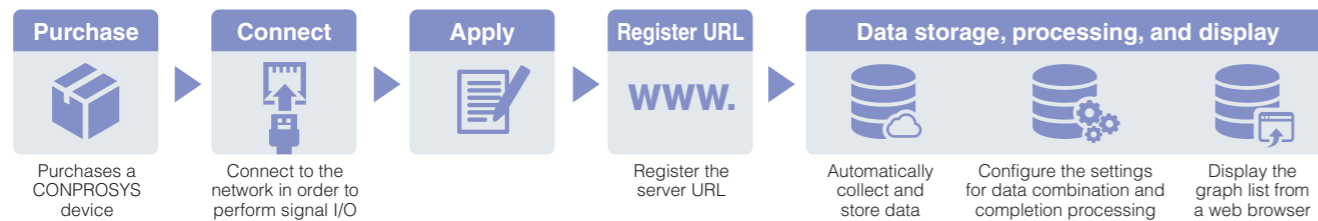
- Data Storage and Visualization with Simple Settings
- User Management such as Limiting Viewing Ranges
- Possible to Display Information of Multiple Devices on a Single Graph



● Provided at a low price and with a simple plan

● Easily implement IoT cloud services

The collected data can easily be transmitted to and stored on cloud servers.



● A fully functional trial version is now available!

[Basic Specifications]

Category	Item	Contents	Details
Browsing user management	Max. No. of browsing users	The No. of browsing users that can be added	5 users
Data measurement	Measurement interval	Measurement data interval	1 second or more
	Transmission interval	Interval for the transmission of measurement data to the server	1 minute or more
Data management	Retention period	Raw data	1 to 1,825 days (default value: 65 days)
		Minutely data	1 to 5 years (default value: 2 years)
		Hourly data	1 to 5 years (default value: 5 years)
		Daily data	1 to 5 years (default value: 5 years)
		Monthly data	1 to 20 years (default value: 20 years)
		Yearly data	1 to 20 years (default value: 20 years)
Alarm function	Send e-mail	Number of addresses to which alarm e-mail notifications are sent simultaneously	Max. 5 addresses

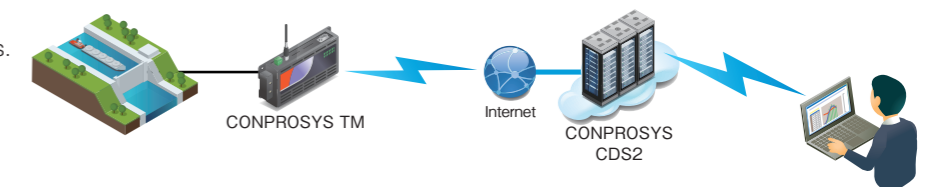
* Proposals are available for visualization and for data linking in order to enable the use of data stored on the server. Contact CONTEC for more information.

[Rich Functionality]

- Data collection for multiple tables (separate tables) by way of "data identification codes"
- Support for timestamps with data having units as small as seconds
- Industry value conversion function for collected data (function for converting numeric values by way of constant expressions)
- Connected terminal status analysis function
- Functions for connecting, combining, selecting, and performing calculations on data tables
- Function for setting the ending processing (hourly ending, weekly ending, monthly ending, and fiscal year ending)
- Function for setting the data save period (automatic deletion of data)
- Multi-screen settings for each user (full monitor, data list, and graph screen)
- Data hub functions (data linking with another cloud service)

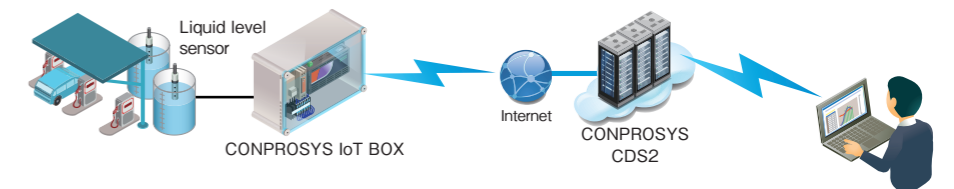
Usage Example 1 River Water Level Monitoring Systems

- Remote monitoring of river water level (tide level) and floodgate opening levels. Sending alarming notification email.
- Enhanced floodgate control efficiency



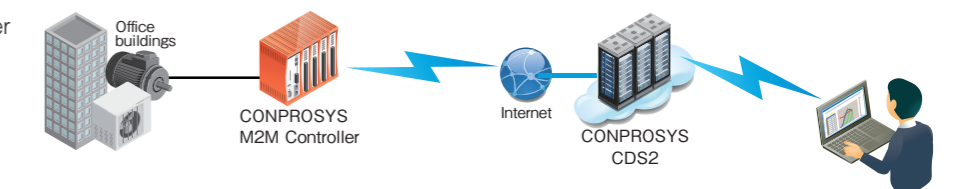
Usage Example 2 Unmanned Gas Station Tank Remaining Amount Monitoring Systems

- Remote monitoring of unmanned fueling station tank remaining amount
- Efficient fuel distribution



Usage Example 3 Building Equipment Management & Monitoring Systems

- Remote monitoring of pumps and other equipment operation status. Sending alarming notification emails.
- Failure prediction function for enhanced preventive maintenance efficiency

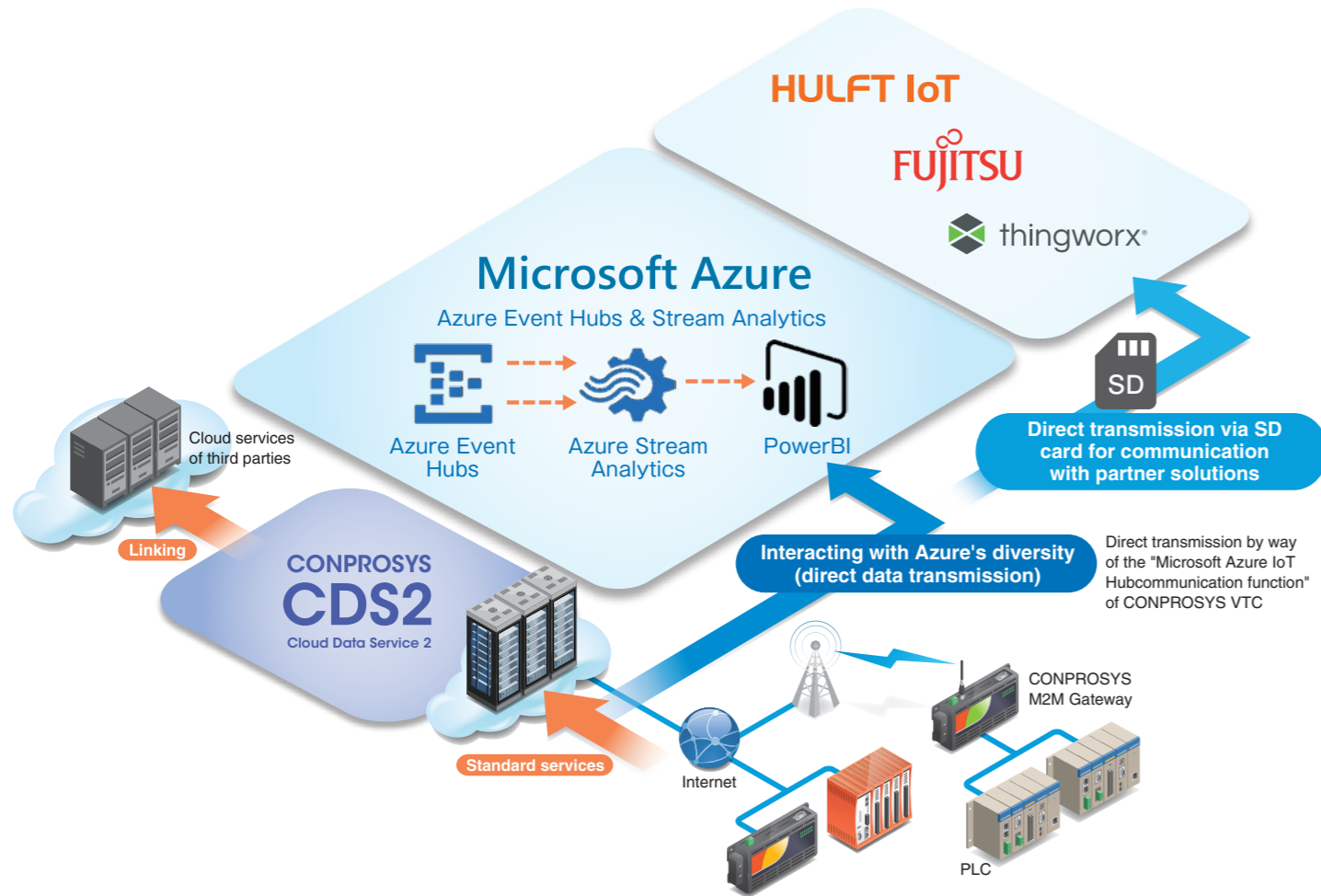


Easily Realize Cooperation with Partner Solutions

Software

I/O interface expansion modules of the configurable type controllers and the IoT Edge controller.

CONPROSYS and Partner Solutions



Microsoft Azure IoT Hub Communication Function

● CONPROSYS VTC can be used to implement Azure IoT devices quickly

By VTC (Visual Task Control) which is a task programming function standardly built-in CONPROSYS, data can be directly transmitted to Azure. There is no need to develop an application for communicating with Azure.



● Specifications for communication with the Azure IoT Hub

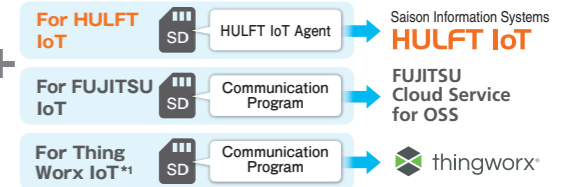
Item	Specification	Item	Specification
Number of connected Azure IoT Hubs	1 (One device can connect to only one Azure IoT Hub.)	Transmission timeout period	30 seconds
Communication protocol	HTTPS (AMQP and MQTT are not supported.)	Reception method	Automatic execution of the received data processing when transmission is executed
Azure IoT Hub security	Authentication with security token	Reception interval	Synchronized with the transmission interval
Transmission method	Execut the "Send Azure IoT" process task	Received data processing	substitute the data into the TAG or STAG of the process task has assigned.
Transmission interval	Optional (when the "Send Azure IoT" task is executed)	Reception data format	JSON format (TAG and STAG specification and substitute value)
Transmission data format	JSON format (The specified file is converted to JSON format and transmitted.)	TAGs that can be used for reception data	"TAG00" to "TAG99" and "STAG00" to "STAG99"

SD Cards for Communication with Partner Solutions

The option SD card makes it possible of that the built-in functions of CONPROSYS directly communicate with the partner solution. By inserting the SD card in a CONPROSYS controller, the IoT settings of the related company are added to the maintenance menu of the CONPROSYS controller.

Name	Model	Interface	Memory capacity	Dimensions
SD card for communication with HULFT IoT	CPS-SD-HUL-01	SD Memory card Informace	1,800MB	24.0 (W) x 32.0 (D) x 2.1 (H)
SD card for communication with FUJITSU IoT	CPS-SD-FUJ-01			

*1 SD cards for ThingWorx IoT are provided via Hitachi High-Tech Solutions Corporation.
*These option SD cards work with the firmware version 3.0.0 or later of the CONPROSYS controllers.



Examples of Using VTC for Partner Solutions

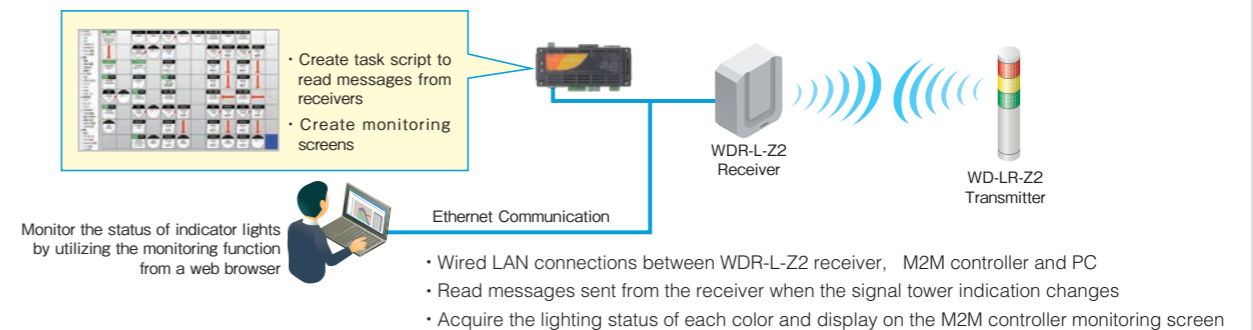
Sample task scripts now available! Free of Charge

Sample task scripts for linking with partner solutions can be downloaded from the "Script sample programs" page of our company's website.



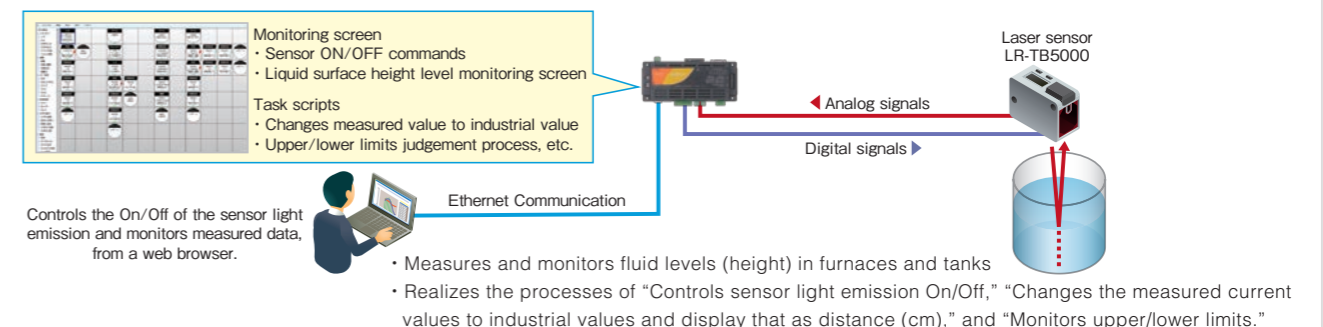
Sample Task 1 Acquisition & indication of data using PATLITE Corporation AirGRID signal towers

Acquires lighting data sent from AirGRID series receivers via Ethernet connection.



Sample Task 2 Connection with the TOF laser sensor of KEYENCE

Connects with the laser sensor (LR-TB5000), perform processes of "Sensor light emission On/Off control," "Current value display," and "Upper/lower limit monitoring."



For Using Various CONPROSYS Controllers for Other Usages

Software Development Kits

These Software Development Kits are available free-of-charge for using a variety of CONPROSYS controllers.

CONPROSYS Linux SDK

Free of Charge

This is a software development tool used to create programs when using the CONPROSYS hardware as a Linux controller.

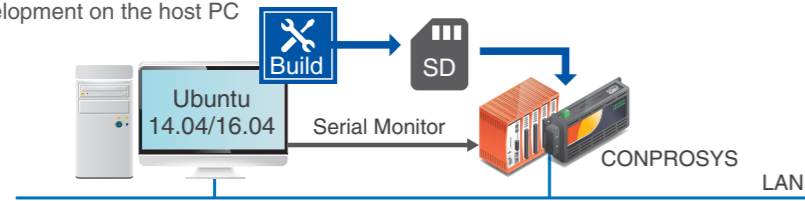
[→ Download from Contec website](#)

Supported products		M2M Controller series (Integrated type, configurable type) M2M Gateway series
Operating environment	Host PC for development (cross development environment only)	Linux distribution: Ubuntu 14.04 (64-bit version)/Ubuntu 16.04 (64-bit version) 40 GB or more free space required The user must have administrator rights that enable the execution of the sudo command.

Provides two software development environments

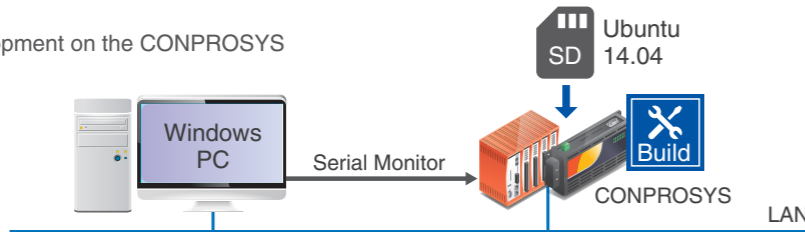
The CONPROSYS Linux SDK provides two SDKs: a cross development environment that uses the host computer and a self-development environment that is executed on the CONPROSYS hardware.

Cross development on the host PC



* An ISO image file for writing media with media writing software is available.
* Use writing software when creating a DVD-R or other installation media.

Self-development on the CONPROSYS



* Only Ubuntu 14.04 is supported for the self-development environment.

In the self-development environment, the CONPROSYS is equipped with a web server, so connecting to the CONPROSYS from a web browser on a PC or a similar device makes it possible to view the network settings and the system status.

[Web Setup screen images]



Web Setup top menu

The screen used to configure network settings

The screen used to view the system status

CONPROSYS Expansion SDK

Free of Charge

This is a software development tool that can be used to add programs to the wide range of CONPROSYS functions just using an SD card.

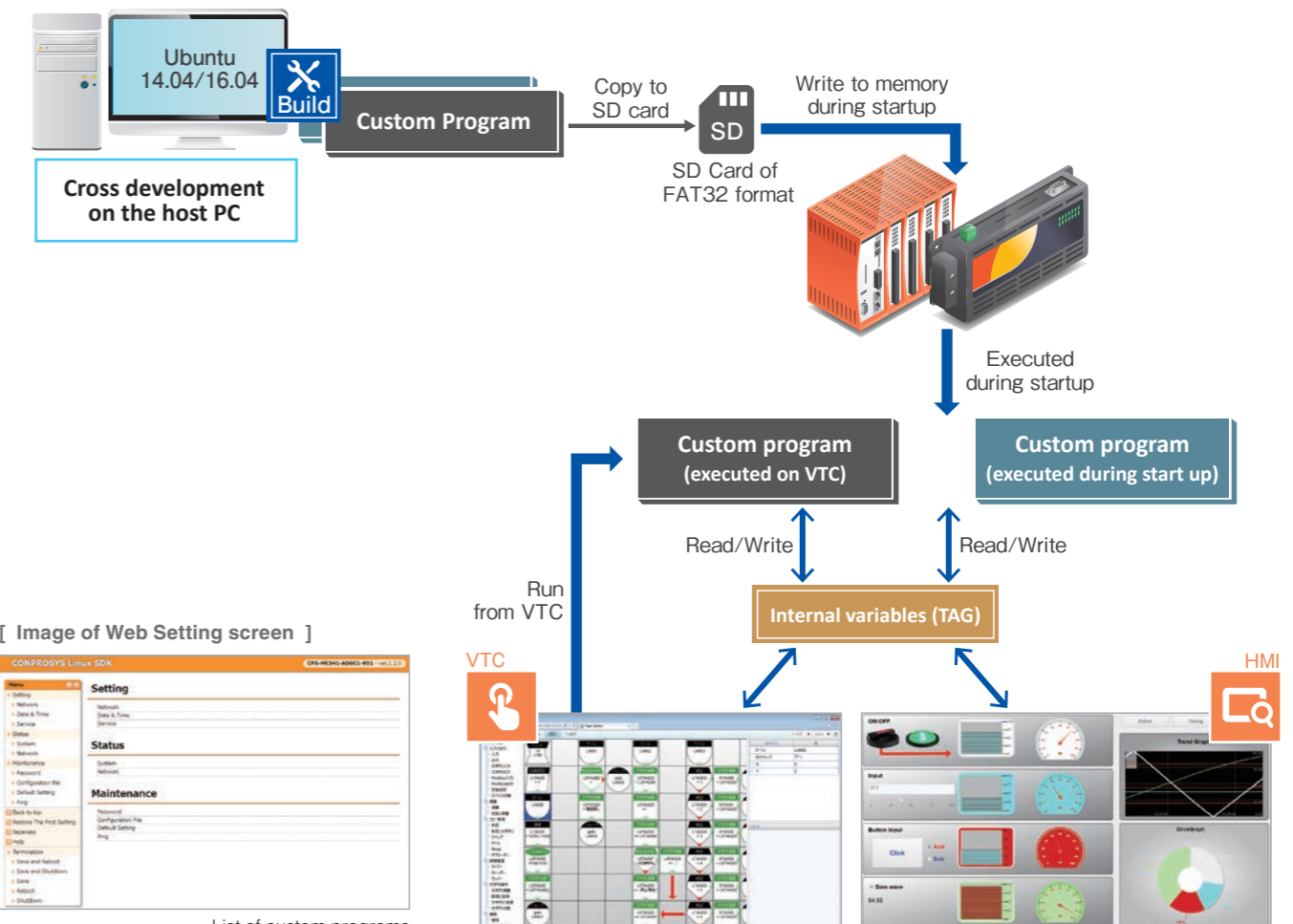
[→ Download from Contec website](#)

Supported products	M2M Controller series (Integrated type, configurable type) M2M Gateway series
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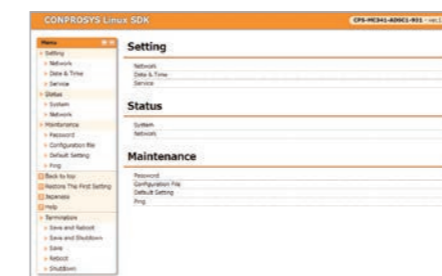
[Key Features]

- Using CONPROSYS Linux SDK, it is possible to add custom programs built using cross-development on the host PC.
- Data linkage with HMI and VTC is possible using internal variables (TAG) from custom programs.
- There are two types, including one program that executes when during start up and another that is invoked on VTC.

[Image of adding custom programs]



[Image of Web Setting screen]



List of custom programs

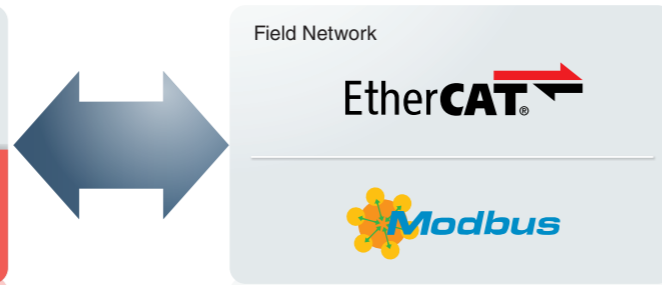
SLC (Single Level Cell) NAND flash memory SD card that is ideally for industrial applications

Name of Product	Model	Details
SD Memory Card	SD-4GB-A	SD Card 4GB

Enter into the IoT Era with a Real Time Controller

PAC series

IEC61131-3 standard CODESYS programming. Rich functionality to build an open system.



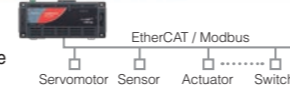
Web monitoring function using built-in CONPROSYS HMI

CONPROSYS PAC series includes a web server function and web screen creation software. Monitoring screens can be developed in a user friendly web browser environment. Devices can be monitored through a web browser without the use of a cloud server. No programming experience required.



Fieldbus master function

The built-in customized CODESYS Runtime engine supports EtherCAT / Modbus TCP master functions. In the CODESYS integrated development environment, fieldbus I/O can be directly assigned to variables in the same manner as the built-in I/O of a PAC integrated controller and the attached I/O of a PAC configurable controller.

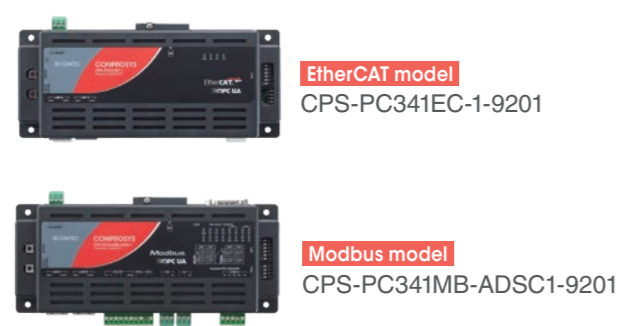


Built-in OPC UA server for SCADA/MES/EPR linking

The built-in OPC UA server provides the ability to embed the CONPROSYS PAC series controller into a host SCADA system or other applications that support OPC UA protocol.

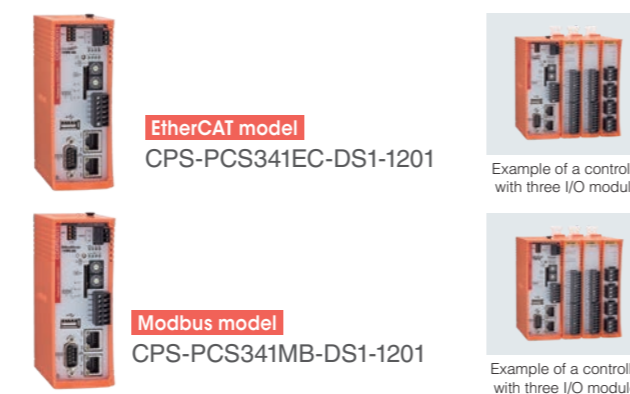
Lineup

Integrated Type



*Key features are the same as the integrated type M2M controller series. Refer to page 10 for details.
*Check the datasheets of each model for its interface specification from Contec Web site.

Configurable Type



*Key features are the same as the configurable type M2M controller series. Refer to page 10 for details.

EtherCAT Slave Unit CPS-ECS341-1-011

- EtherCAT slave unit**
EtherCAT features allow the I/O modules to be controlled from a distance. Up to 16 I/O modules can be stacked to one slave unit.
- Daisy chain connection**
Each slave unit is equipped with an input port and an output port. Up to 65,535 slave units can be connected to one master. An MDP standard supported master controller will automatically recognize and register the I/O modules that attached on this EtherCAT slave unit.



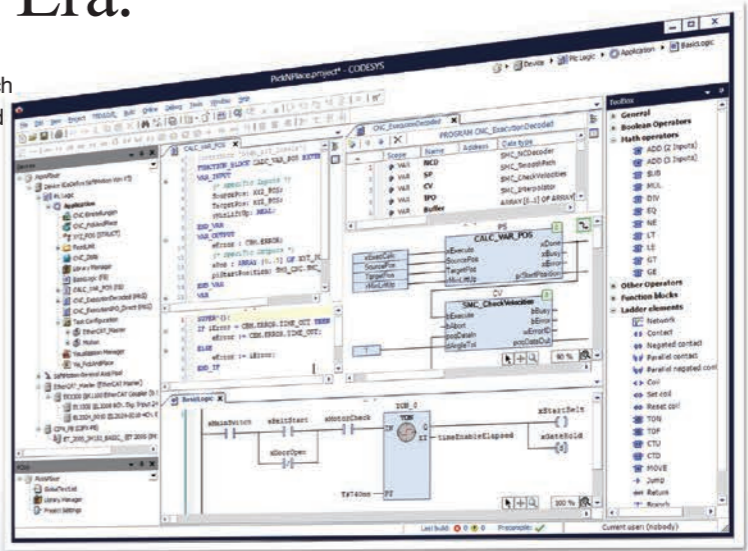
*Common features are same as configurable type M2M controller series. Refer P10 for details.

CODESYS, the Optimal Solution for the IoT Era.

The PAC Series supports CODESYS programming, which complies with the IEC 61131-3 international standard, and is equipped with functions to enable the manufacturing industry to construct open systems. Enables the overall optimization of systems by integrating PLC and HMI control and implementing open communication.

- IEC 61131-3 compliant
Up to 6 programming languages are supported
- Up to 11 types of fieldbus protocols are available.*
- Supports OPC UA that is adopted by Industrie 4.0 standard

* The CONPROSYS PAC series supports EtherCAT and Modbus. Contact Contec for information on supporting other fieldbus protocols.



CODESYS Integrated Development Environment

A CODESYS development environment, that has been integrated PLC programming, fieldbus settings, etc. is provided free of charge. It overwhelmingly reduces the man-hour of developing an automation system in the production site.



- PLC Programming**
Supports all 5 types of IEC61131-3 standard programming languages (ST, LD, FBD, SFC, IL), and CFC programming languages. Also supports object-oriented programming defined in IEC 61131-3 third edition.

 - ST (Structured Text)
 - LD (Ladder Diagram)
 - FBD (Function Block Diagram)
 - SFC (Function Chart)
 - IL (Instruction List)
 - CFC (Continuous Function Chart)

"Connecting" Controller

Because CODESYS supports OPC UA, a standard communication protocol, and various types of fieldbus protocols, it contributes to the rapid popularization of Industrial IoT. Communication settings of OPC UA and the field buses are all possible from the CODESYS integrated development environment. This enables seamless development of many things ranging from control programs to fieldbus communication settings and assignment of slave I/O variables, thus greatly reducing engineering work-hours.

- Inter-device Communication**
 - OPC UA
 - OPC Classic
 - Serial Communication
 - TCP/UDP Communication, etc.



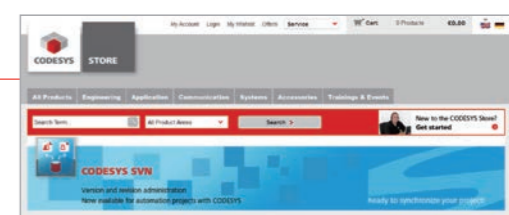
Supported Field Buses*

- EtherCAT
- EtherNet/IP
- PROFINET
- PROFIBUS
- J1939
- I/O-Link
- IEC 61850
- PROFINET
- Sercos
- CANopen
- Modbus TCP/RTU
- BACnet
- EtherNet/IP
- CANopen
- BACnet
- IO-Link
- Sercos

*The CONPROSYS PAC series supports EtherCAT and Modbus. Contact Contec for information on supporting other fieldbus protocols.

Open Scalability: CODESYS STORE

A variety of packages ranging from sample programs to plug-ins for communication with SQL are available in the "CODESYS STORE." Some of the packages in this online store are free and some are not. In addition to the packages provided by CODESYS as standard, a wide variety of third-party tools have also been released, which provides the system with scalability.



Remote Monitoring Solution that Completely No-programming

CONPROSYS™ TM series NEW (This solution series is available only in Japanese language.)

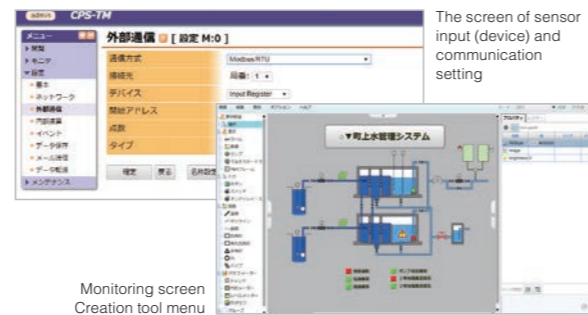


A series of telemeters specially designed for use with continuous monitoring and telemetering systems

- Completely no-programming. Settings and operation just via web browser.**
- Sensor input and digital I/O terminals. Supports communication with Modbus devices and PLCs.**
- Upgraded to integrated monitoring of multiple bases with a dedicated cloud service.**

[Key Features of TM series]

- Data collection, monitoring, file saving, trigger alarm, and external device communication functions are pre-programmed.
- From setup to operations, all the actions are performed from web browser.
- Communicate with various devices and PLCs that support Modbus slave protocol.
- Monitoring screen creation function "CONPROSYS HMI". Can be used for custom monitoring screen creation.
- CONPROSYS Cloud Data Service 2 (CDS2) communication function
*CDS2 is an optional service package.



Type	Integrated Type	
Product Name	CONPROSYS telemetry system 2 x LAN ports, Multiple I/O Interfaces	
Model	cps-TM341MB-ADSC1-931	
Data Collection	Measurement cycle	20msec
	External communication	1,000 points (20 connections x 50 words). Transmission interval: 100 msec or longer
	Internal calculation	500 points. Calculation interval: 100 msec
File Saving	File format	CSV format (character code: UTF-8)
	Max. storage capacity	Up to 10 MB per file. Total 320 MB or 5,000 files
	File saving cycle	High-speed: 100 msec and up, Normal: 1 second and up, Cloud: 1 minute and up
Trigger Event Monitoring	Min. monitoring cycle	200msec
	No. of settings	Up to 200. Up to 5000 records are kept
E-Mail Sending	Max. No. of addresses	10
Cloud	Target service	CONTEC cloud service (CDS2)
Time Sync	Protocol	NTP (w/server function)
File sharing	Target services	Windows file sharing, FTP servers
CPU / Memory	ARM Cortex-A8 600MHz / OnBoard 512MB RAM	
SD card	Pre installed SLC card	
LAN	2 x 10BASE-T/100BASE-TX*2	
3G*3	Supported SIM	Standard size SIM
	Method	3G (UMTS)
	Supported Radio Frequencies	Band1 (2100MHz) 、 Band6 (800MHz) 、 Band8 (900MHz) 、 Band19 (800MHz)
Serial I/F	RS-422A/485	Half duplex 1ch. 5-pin terminal
Digital Input / Counter Input	Input spec.	Photocoupler-isolated inputs 4ch (2ch of these can be used as counter inputs) When using internal power supply (12 VDC) for external circuits: Supports current sink output When using external power supply (12 to 24 VDC): Supports current sink and current source outputs
Digital Output	Output spec.	Semiconductor relay output 2ch. 100 mA at 26.4 VAC/VDC (Max.)
Analog Input	Input spec.	Current differential input 2ch. Input rage: 0 to 20 mA. Resolution: 12 bit ± 10 LSB
Power Supply	Rated voltage	12 - 24VDC
	Power consumption	12V 0.8A (Max) 24V 0.4A (Max)
Dimensions(mm)	188.0 (W) x 78.0 (D) x 30.5 (H) (not include protrusions and antenna)	
Weight	350g	
Mounting	35 mm DIN rail or screws	
Ambient Operating Environment	Temperature range: -20 to +60°C(-4 to +140°F). Humidity range: 10 to 90%RH (no condensation)	

*1 SIM card is not included. Only standard SIM card supported. *2 The LAN ports are independent and network segments can be divided. *3 CPS-TM341GMB-ADSC1-931 only.
*Please visit our website for details.

Embedded Windows PC for Internet Connections

IoT Edge Controller series NEW



※ A image connected with three optional I/O modules

McAfee Whitelist Solution Installed

[Key Features of IoT Edge Controller]

- Windows 10 IoT Enterprise
- Intel Quad-core Apollo Lake SoC
- Three Intel Gigabit LAN Ports
- Operation Temperature Range: -20 to +60°C(-4 to +140° F)
- DIN rail mounting
- McAfee Security Whitelist installed



Model	cps-BXC200-NA01P03	cps-BXC200-W10M01P03	cps-BXC200-NA02P05	cps-BXC200-W10M02P05
CPU	Intel®Atom®Processor x7-E3950 (1.6GHz)			
Memory	4GB (204pinSO-DIMM) ,PC3-12800 (DDR3L-1600) ECC		8GB (204pinSO-DIMM) ,PC3-12800 (DDR3L-1600) ECC	
Storage*1	32GB		64GB	
OS	N/A	Windows 10 IoT Enterprise LTSC 2016 64bit JP / EN / CN / KO + McAfee Whitelist security software	N/A	Windows 10 IoT Enterprise LTSC 2016 64bit JP / EN / CN / KO + McAfee Whitelist security software
BIOS	BIOS (mfd. by AMI)			
Graphic controller	Intel HD Graphics 505 (built in CPU)			
System resolution	Display Port:3840 x 2160 @ 60Hz; Analog RGB: 1920 x 1200 @ 60Hz			
Display ports	DisplayPort x 1, Analog RGB x1 (15-pinHD-SUB connector)			
M.2 card slot	1 slot, M.2 2242, SATAIII. An M.2 card(pSLC) has been installed.			
Cfast card slot	1 slot, CFast card Type I, bootable			
LAN*2	Intel I210IT controller 1000BASE-T/100BASE-TX/10BASE-T x 3 ports (RJ-45 connectors) (supports Wake On LAN)			
USB	USB 3.0 compliant x 3 ports (TYPE-A connectors)			
Serial I/F	RS-232C x 1 port, 9pin D-SUB connector (male), Baud rate: 50 to 115,200bps			
Watchdog timer (WDT)	Software programmable, 1sec - 255sec (Reset or shutdown the controller when the set time counted).			
General-purpose I/O	Isolated input x 2ch (One of the inputs can be used for remote reset or remote power on.) Isolated output x 1ch (It can be used either as a G/P output or as the WDT time-up output)			
Hardware monitoring	Monitors CPU temperature and power supply voltage.			
RTC/CMOS	Life of the lithium battery for backup is 10 years or longer. The RTC accuracy is ±3 min (at 25°C) per month (CPU built-in RTC).			
Power management	Power management setup via BIOS. Power on by Ring / Wake On LAN function. Supports PC98/PC99 ACPI Power management.			
Stack bus for I/O modules	Supports up to 8 CONPROSYS I/O modules. (The total current consumption of the modules should be less than 3.3A)			
RAS	1 port (3.81mm pitch 6-pin)			
Rated input voltage	24VDC (input voltage range: 24V±10%)			
Power consumption (Max)	24V 1.5A (without USB I/F and stacked I/O module); 24V 4.8A (with USB I/F and I/O modules)			
External device power supply capacity	CFast card slot: +3.3V 0.5A (500mA x 1), USB3.0 I/F: +5V 2.7A (900mA x 3), Stack bus I/F: 24V 3.3A			
Dimensions(mm)	76 (W) x94 (D) x124.8 (H) (No projection included)			
Weight	1.1kg			
Installation method	Mounting on the 35mm DIN rail			
Operating / Storage ambient temperature	-20 to +60°C (-4 to +140°F) (-20 to +55°C (-4 to +131°F) when using 1000BASE-T)*3 / -20 to +60°C (-4 to +140°F)			
Ambient humidity	10 - 90%RH (No condensation)			
Floating dust particles	Not to be excessive			
Line-noise resistance	Line noise	AC Line/±2kV*4, 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 /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 60068-2-6 compliant, IEC 60068-2-6 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)			

*1: The capacity of memory is a value when 1GB is calculated by 1 billion bytes. The capacity that can be recognized from OS might be displayed fewer than an actual value.
*2: Pay attention to the ambient temperature when operating 1000BASE-T.
*3: Consider ambient temperature derating.
*4: When you use an optional power product (CPS-PWD-90AW24-01).

There are over 20 types of CONPROSYS I/O modules that can be stack connected with the controllers. These modules are driven by the similar API software as the one used for CONTEC PCI cards & USB units. It is possible of highly compatibility at the application level.

Remote I/O System for IoT

CONPROSYS™ nano series 

Remote I/O devices for digitizing interspersed local devices.
CONPROSYS nano is easy to use and excellent cost performance, which accelerates digital transformation of industrial systems.



Best value remote I/O

Remote I/O equipment that does not compromise ease of use and narrowed down to necessary functions. Modular design realizes lean configuration with minimum required I/Os.

I/O Modules

Programmable with IEC 61131-3 PLC languages

Coupler unit Programmable Remote I/O

CODESYS runtime that supports the IEC61131-3 PLC languages has been built-in. It is possible to write a control program developed in a CODESYS development environment into the unit.



Supports Windows PC, Linux PC, or Modbus device

Coupler unit Remote I/O

It can be used as a remote I/O device of equipment with Modbus master function such as Windows PC, Linux PC*, and PLC.

Compatible with 35 mm DIN rail
Easy to insert and remove an I/O module



Coupler Unit

Remote I/O 4-slot					
Model	Function	Power Supply	Dimension	Installation Method	Operating Temperature
CPSN-MCB271-S1-041	Windows / Linux driver control Modbus-TCP slave	12-24VDC	110(W) x 74.8(D) x (95(H))(mm) (4.33"(W)x2.94"(D)x3.74"(H))	35 mm DIN rail Screw	-20 to +60°C (-4 to +140°F) ¹
Programmable Remote I/O 4-slot					
Model	Function	Power Supply	Dimension	Installation Method	Operating Temperature
CPSN-PCB271-S1-041	IEC 61131-3 compliant programming Modbus-TCP master / slave	12-24VDC	110(W) x 74.8(D) x (95(H))(mm) (4.33"(W)x2.94"(D)x3.74"(H))	35 mm DIN rail Screw	-20 to +60°C (-4 to +140°F) ¹
Programmable Remote I/O 4-slot					
Model	Function	Power Supply	Dimension	Installation Method	Operating Temperature
CPSN-PCB271-01-041	Modbus-TCP slave 2 port HUB	12-24VDC	110(W) x 74.8(D) x (95(H))(mm) (4.33"(W)x2.94"(D)x3.74"(H))	35 mm DIN rail Screw	-20 to +60°C (-4 to +140°F) ¹

¹ In case the unit is wall mounted by left 90° or right 90°, or placed flatly, the range is -20 to +55°C (-4 to +131°F).

I/O Modules

Digital Input and Output Modules				
Model	Input	Output	Power Consumption	Connector
CPSN-DI-08L	8ch Opto-coupler isolated input Supports current sink (negative logic) or source (positive logic) output	—	3.3VDC 50mA (Max.)	Screw terminal block (3.81mm/0.15" pitch 10 pins)
CPSN-DI-08BL (Built-in 12V DC power supply)	8ch Opto-coupler isolated input Supports current sink output (negative logic)	—	5VDC 110mA (Max.) 3.3VDC 50mA (Max.)	
CPSN-DO-08L	—	8ch Opto-coupler isolated open collector output Current sink type (negative logic)	3.3VDC 90mA (Max.)	
CPSN-DO-08BL (Built-in 12V DC power supply)	—	8ch Opto-coupler isolated open collector output Current sink type (negative logic)	5VDC 130mA (Max.) 3.3VDC 90mA (Max.)	
CPSN-DO-08RL	NEW	8ch Opto-coupler isolated output (Current source output)(positive logic)	N/A	
CPSN-DO-08BRL (Built-in 12V DC Power supply)	NEW	8ch Opto-coupler isolated output (Current source output)(positive logic)	N/A	
CPSN-DI-16BCL (External 12 to 24VDC power supply/ Built-in 12V DC power supply)	NEW	16ch Opto-coupler isolated input (Supports current sink(negative logic) or source (positive logic) output) with simple counter function	N/A	

I/O Modules

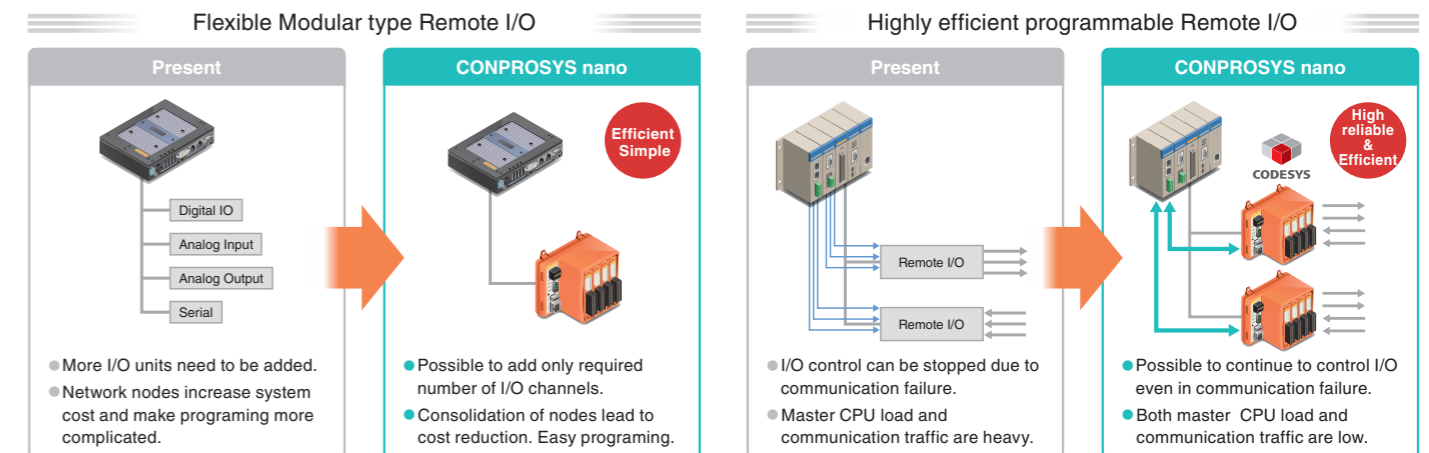
Analog Input Module						
Model	Input Format ¹	No. of Input Channels	Input Voltage ¹	Input Current ^{1,2}	Power Consumption	Connector
CPSN-AI-1208LI *1 *2	Single-end input or differential input	8ch (single-end input)	±10V, ±5V, ±2.5V, 0 – 10, 12bit, (Bus isolated)	±20mA 12bit, (Bus isolated)	5VDC 210mA (Max.) 3.3VDC 10mA (Max.)	Screw terminal block (3.81mm/0.15" pitch 10 pins)
CPSN-AI-2408LI *2		4ch (differential input)	±10V, ±5V, ±2.5V, 24-bit, bus isolation	±20mA, 24-bit, bus isolation	N/A	

¹ All input channels are assigned for the same input format and input range. ² Current input is only for differential input.

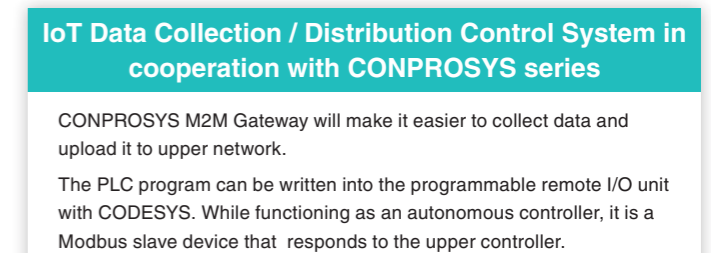
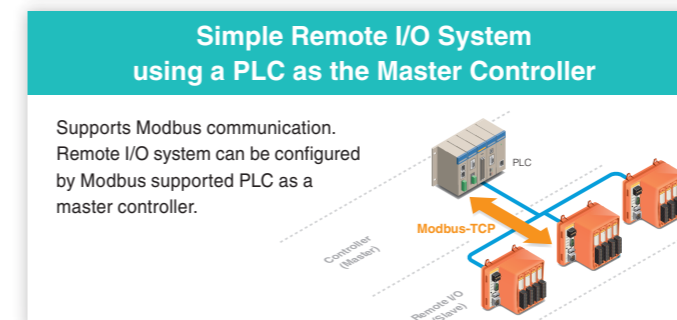
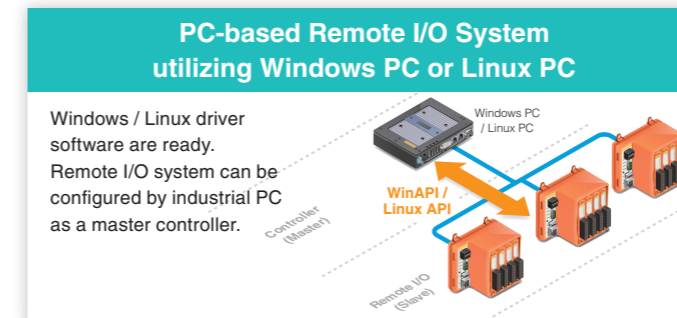
Serial Communication Module				
Model	Transmission Scheme	No. of CH/ Isolation	Power Consumption	Connector
CPSN-COM-1PD	Asynchronous serial transmission (Full duplex / Half duplex)	1ch / Bus isolated	5VDC 250mA (Max.) 3.3VDC 20mA (Max.)	Screw terminal block (3.81mm/0.15" pitch 10 pins)

Sensor Module					
Model	Input Format	No. of CH/ Isolation	Supported Sensors	Power Consumption	Connector
CPSN-SSI-04C	Differential input	4ch, bus isolation	Thermocouple J,K,B,E,N,R,S,T	N/A	Screw terminal block (3.81mm/0.15" pitch 10 pins)

Benefits of CONPROSYS nano series

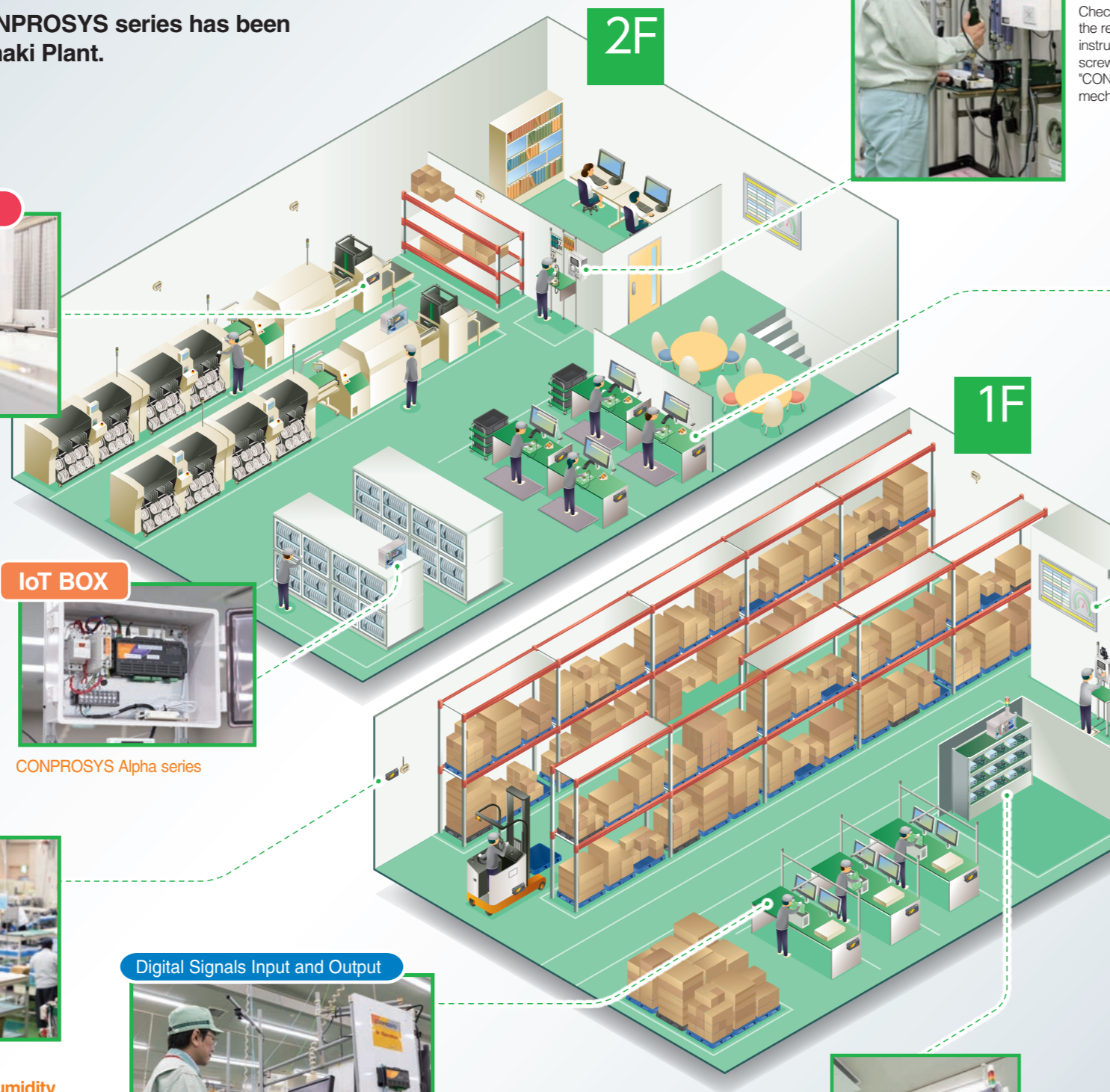


System Configuration Examples Utilizing CONPROSYS nano series



Easily visualize and analyze collected data Smart factory provide by CONPROSYS™

The practicality of the CONPROSYS series has been proven at the Contec Komaki Plant.



Pulse Signal Input and Output



Manage the quantity of produced cards of the SMT lines.

Measure quantity by using the counter function based on the ON/OFF signal from a photoelectric tube equipped on the SMT lines. The production result can then be compared with the production plan and sent to the cloud.

IoT BOX



CONPROSYS Alpha series

Analog Signals Input



Manage the environment by collecting temperature and humidity data in the factory

Measure the temperature and humidity in the work area and monitor the WBGT in the plant. Monitor environmental conditions in critical factory and warehouse locations with a graphical display of temperature and humidity.

Digital Signals Input and Output



Manage the operational status of lean cell production

To visualize operation time, operation rate and absence status of every worker, each working cell has been equipped with small camera. Information of operating status and number of production are displayed in real time.

Monitor the internal temperature of aging devices Aim for improvement in quality and productivity

Temperature controlled by heaters is constantly monitored to see if it deviates from acceptable parameters. The data of aging inspection is saved and utilized for traceability management. The analyzed data will be used to improve quality and productivity.



Increase Efficiency

Torque Driver Check System

Online monitoring of screwdriver torque confirmation before work

Check screwdriver torque before work and save the result to the server. In coordination with the work instruction management system, only the passed screwdriver can be used. This picture shows a "CONPROSYS Alpha series" product that integrated that mechanism.



Online monitoring of soldering iron tip temperature



Graphical display of key production metrics

Antistatic Electricity Check System



Check electrostatic & body temperature Quality retention and health management performed simultaneously

At the time of arrival, checking the static electricity charge with the electrostatic checker and measuring the body temperature with an infrared camera. Workers will work not to interfere with quality and also work in a good health condition. There is also a "CONPROSYS Alpha series" product for electrostatic checking.



An infrared camera image

Solution Products
From CONTEC Komaki Plant

CONPROSYS™ Alpha Series

A box-shaped unit with all the necessary functions for onsite installation

IoT BOX

Power Supply Unit

Selectable from CONPROSYS IoT devices



Circuit breaker

Resin or sheet metal selectable cabinet

This product features all the equipment necessary for data collection—including IoT device, power supply, circuit breaker, and optional communication antenna—all selected by the customer and pre-mounted in a cabinet.

Swiftly resolves long-standing factory issues!
Easy-Installation Package

Antistatic Electricity Check System



*Image is for illustration purposes.

Operators employing insufficient static electricity countermeasures can be detected by checking the performance of antistatic shoes and wrist straps. Results (date and time and measured values) can be saved as CSV files for each test subject and can be used as evidence.

Torque Driver Check System



*Image is for illustration purposes.

Torque drivers with inappropriate settings can be detected by judging whether settings are within the suitable range. CONTEC has packaged the hardware and software mechanisms for managing measurement results as electronic data.

➔ Please visit our website for details.