CONTEC

Technology for a better life

M2M/IoT Solutions

CONPROSYS™

Break into the IoT Revolution with CONPROSYS™

CONPROSYS series

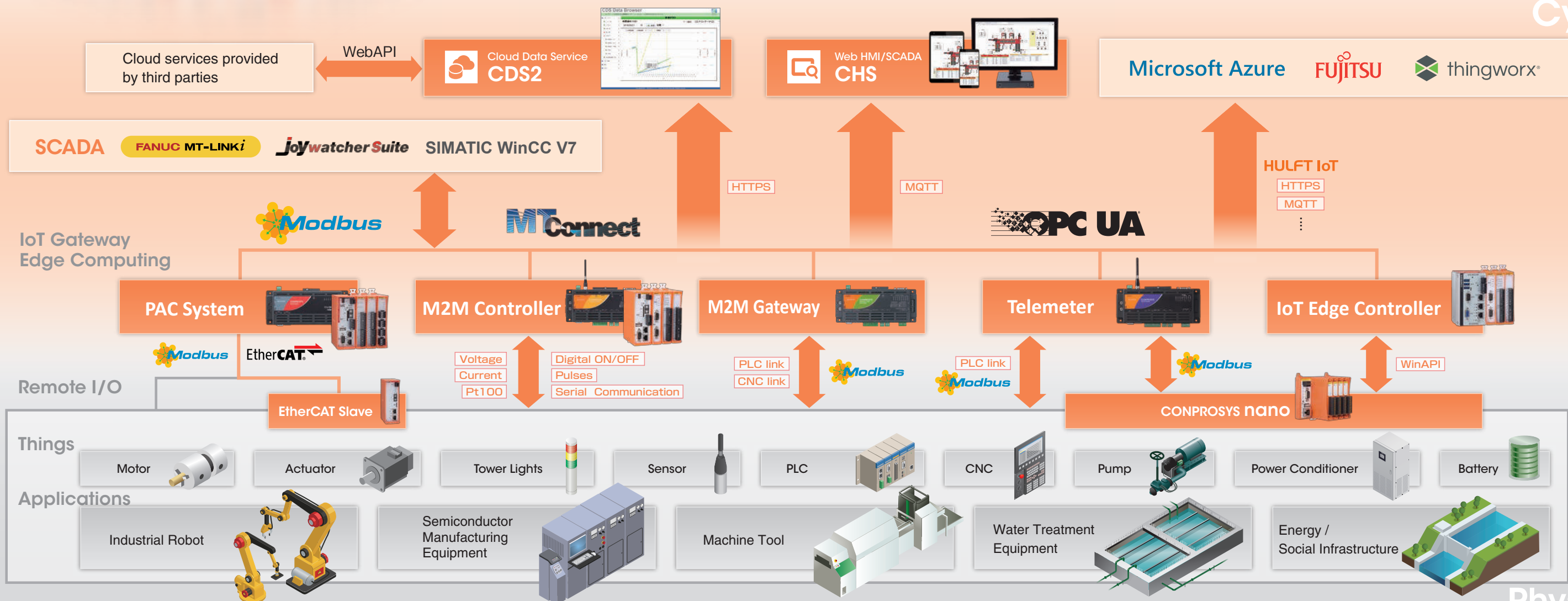— Innovation in Measurement Control and Remote Monitoring Systems —

Connecting Everything
Excellent Lineup of Industrial IoT Devices

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

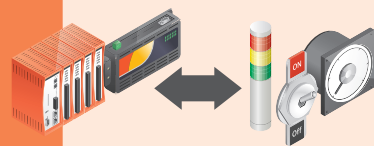The convenient and simple **Cloud Service** provides IoT solutions by one-stop.

- Data Transmission
- Signal I/O
- Modbus / Modbus Master
- EtherCAT
- CDS2
- VTC
- HMI
- MTConnect
- PCL Master
- 3G/Sub-GHz
- CNC

CONPROSYS **CDS2**

Virtual World **Cyber**

| Cloud services provided by third parties | WebAPI → | Cloud Data Service **CDS2** | | Web HMI/SCADA **CHS** | | **Microsoft Azure** **FUJITSU** **thingworx** |

SCADA FANUC MT-LINK*i* JOYWatcherSuite SIMATIC WinCC V7

HULFT IoT
HTTPS
MQTT

HTTPS MQTT

Modbus **MTConnect** **OPC UA**

IoT Gateway Edge Computing

| PAC System | M2M Controller | M2M Gateway | Telemeter | IoT Edge Controller |

Modbus EtherCAT

| Voltage Current Pt100 | Digital ON/OFF Pulses Serial Communication | PLC link CNC link Modbus | PLC link Modbus | Modbus | WinAPI |

Remote I/O

EtherCAT Slave

CONPROSYS nano

Things

| Motor | Actuator | Tower Lights | Sensor | PLC | CNC | Pump | Power Conditioner | Battery |

Applications

| Industrial Robot | Semiconductor Manufacturing Equipment | Machine Tool | Water Treatment Equipment | Energy / Social Infrastructure |

Real World **Physical**

C O N T E N T S

Varied Functionality of CONPROSYS

CTR

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.

GW

Easily connect existing devices with IoT systems
M2M Gateway series
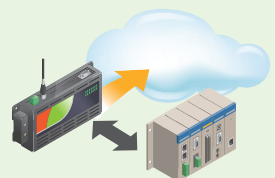
It can connect multi-vendor PLCs and CNC machines to IoT system. Supports both OPC UA and MTConnect communications therefore it is easier to integrate the existing equipment into IoT systems.

I/O Modules & Options

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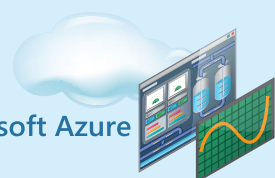### CDS2 (Cloud Data Service 2)

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.

Support IoT system linking more easily
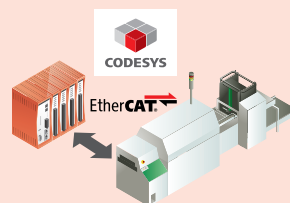### Software & SDK

Microsoft Azure

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.

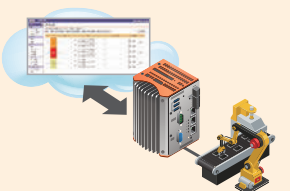**PAC**

Built in software PLC
PAC series

CODESYS
EtherCAT

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

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.

Examples of CONPROSYS Usage

APP 1

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

IoT-based factories
Machine equipment operation management

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.
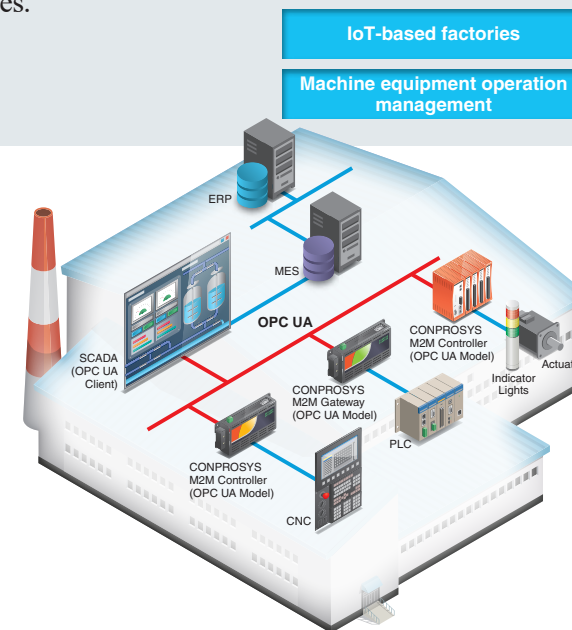
[Functions]

Signal I/O | Data Transmission | 3G/Sub-GHz | PLC Master | OPC UA | CNC
*Refer Pages 6 to 9

[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

Manages infrastructure facilities of multi-locations
Monitors plant facilities

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.
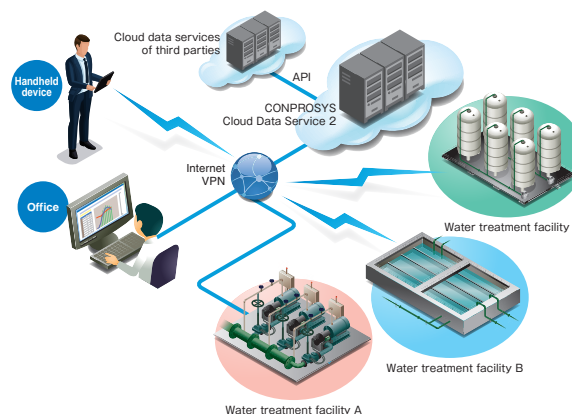
[Functions]

Signal I/O | Data Transmission | 3G/Sub-GHz | PLC Master | CDS2
*Refer Pages 6 to 9 and page 18

[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

Real-time control
Smart agriculture plant

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.
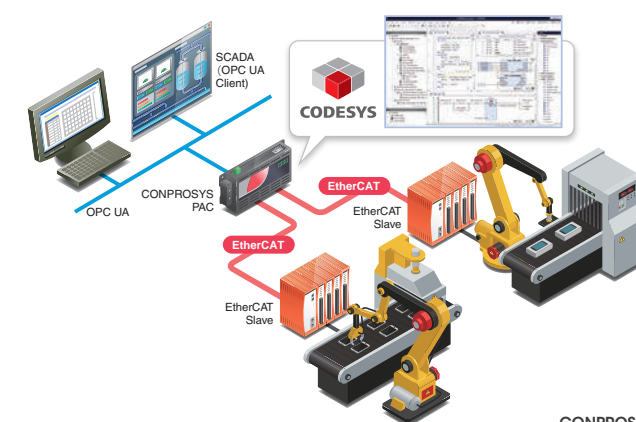
[Functions]

PLC Languages | HMI | OPC UA | EtherCAT
*Refer Pages 6 to 9 and Page 24

[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.
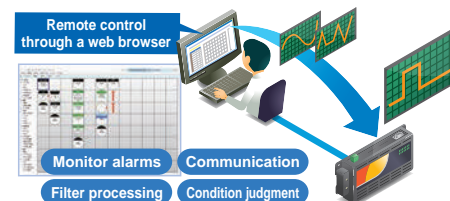Data can be processed, controlled, and visualized with intuitive operations from a web browser.

CTR M2M **Controller** series　**GW** M2M **Gateway** series　**PAC** PAC series

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CONPROSYS VTC（Visual Task Control）

CTR
GW
PAC

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.

Remote control through a web browser

Monitor alarms　Communication
Filter processing　Condition judgment

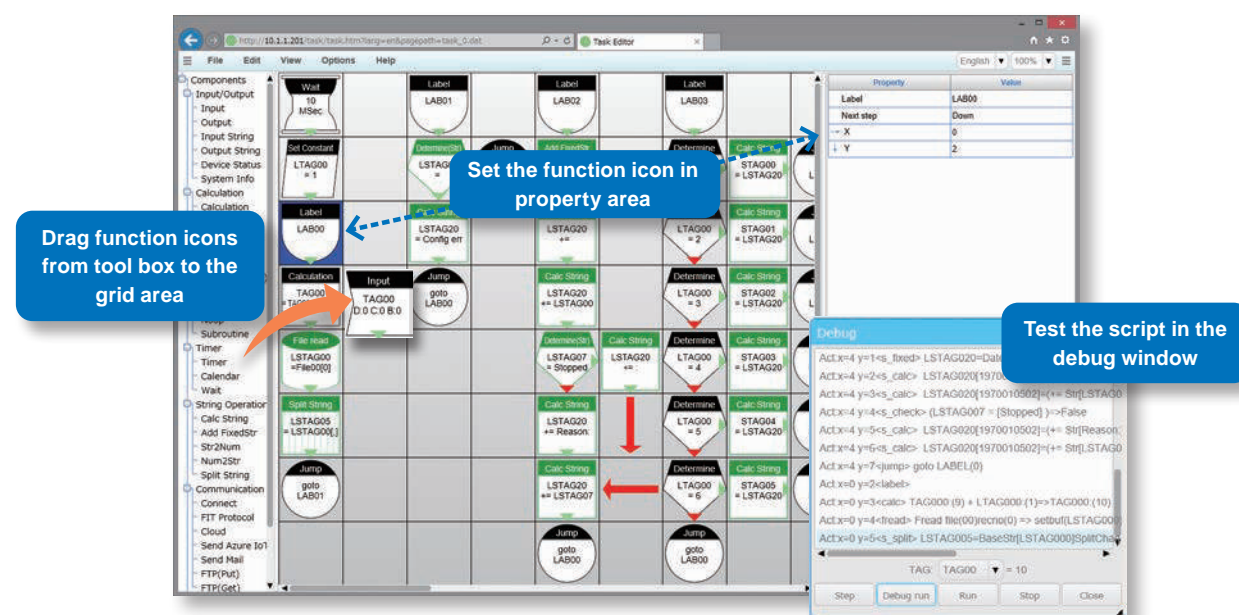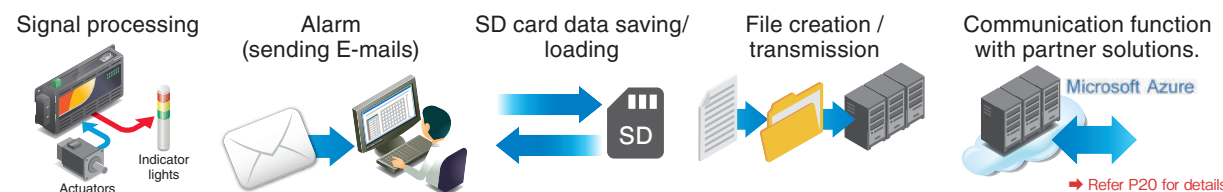| Up to 30 kinds of function-icons support you scripting easily | Up to 20 main tasks and 10 subtasks are supported | Data linking with CONPROSYS HMI |

■ 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** —

Signal processing　Alarm (sending E-mails)　SD card data saving/ loading　File creation / transmission　Communication function with partner solutions.

Actuators　Indicator lights
Microsoft Azure
➡ Refer P20 for details

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.
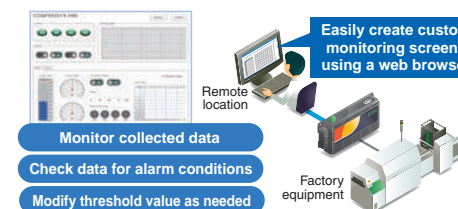
© Online help is available. Visit our website for details.

CONPROSYS HMI（Human-Machine Interface）

CTR
GW
PAC

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.

Easily create custom monitoring screens using a web browser

Remote location
Monitor collected data
Check data for alarm conditions
Modify threshold value as needed
Factory equipment

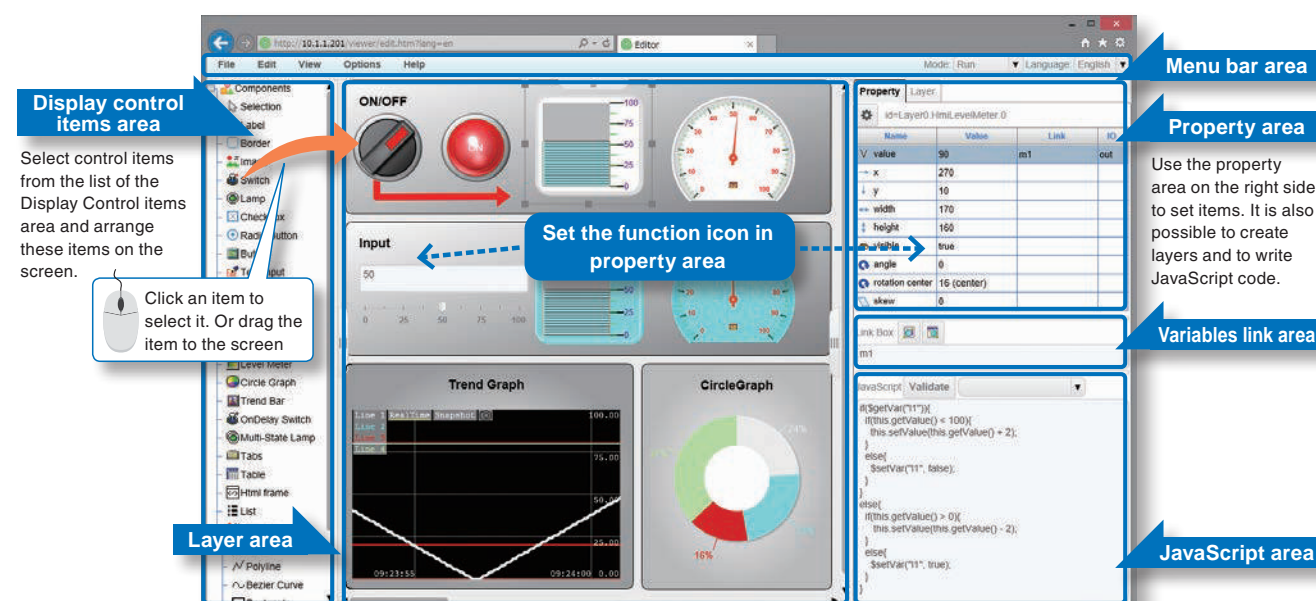| Creating screens with a variety of prepared display items | Data linking and checking can be performed at the same time as editing the screen | Enables visualization just with the CONPROSYS |

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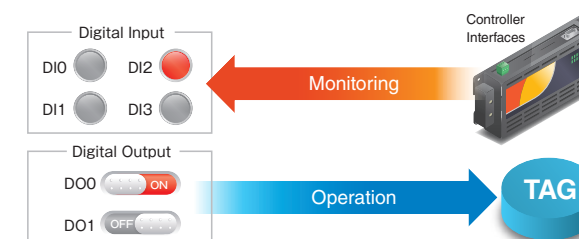— Device setting, data saving, and script debugging are completed with a Web browser —

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

Display control items area
Select control items from the list of the Display Control items area and arrange these items on the screen.

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

Set the function icon in property area

Menu bar area

Property area
Use the property area on the right side to set items. It is also possible to create layers and to write JavaScript code.

Variables link area

JavaScript area

Layer area

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.

Digital Input
DI0　DI2
DI1　DI3
Monitoring
Controller Interfaces

Digital Output
DO0　ON
DO1　OFF
Operation
TAG

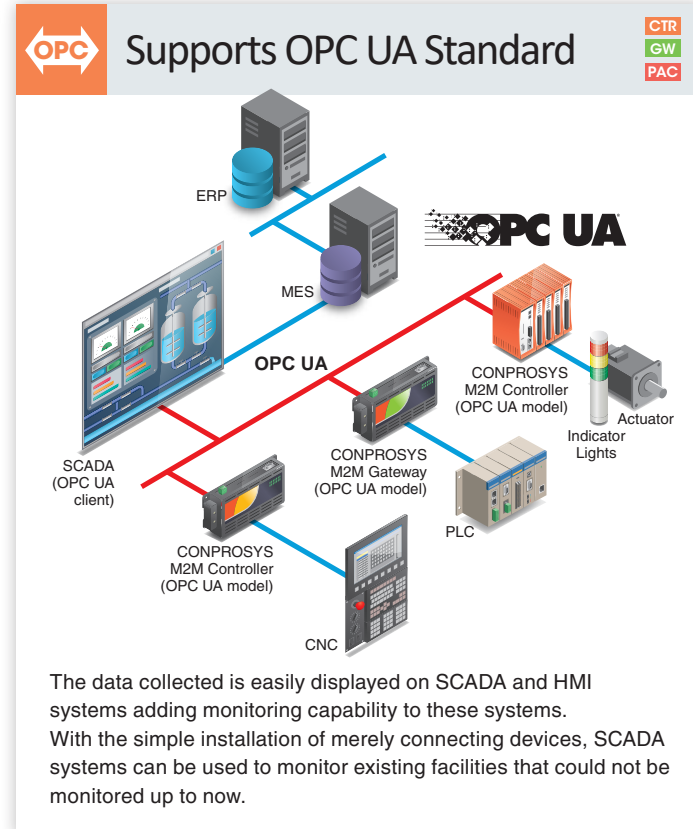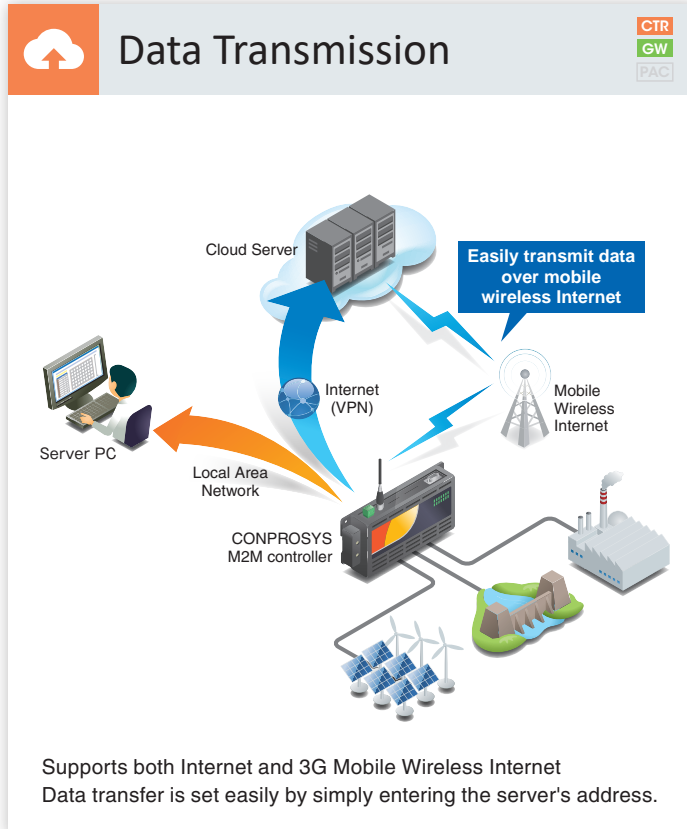© Online help is available. Visit our website for details.

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.
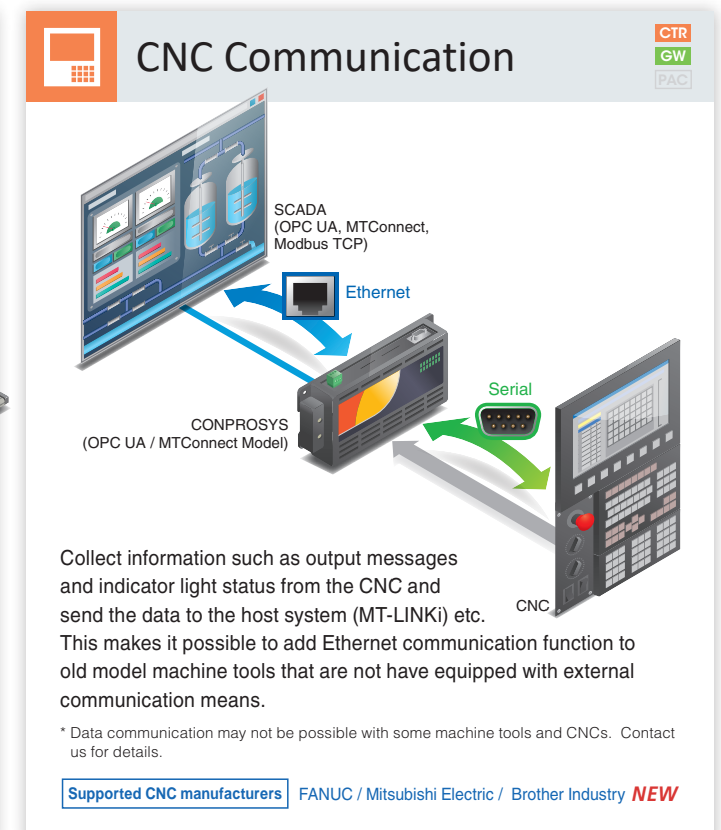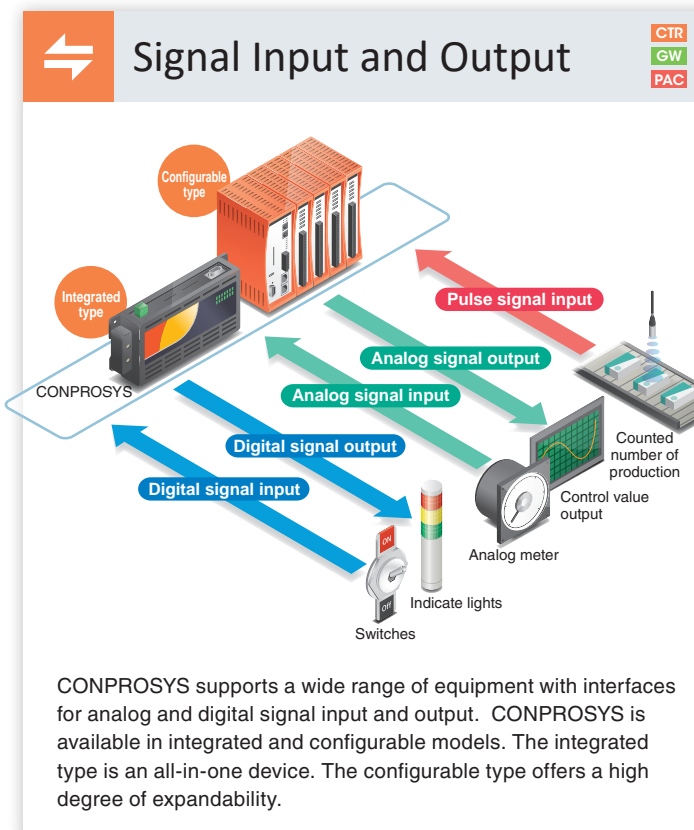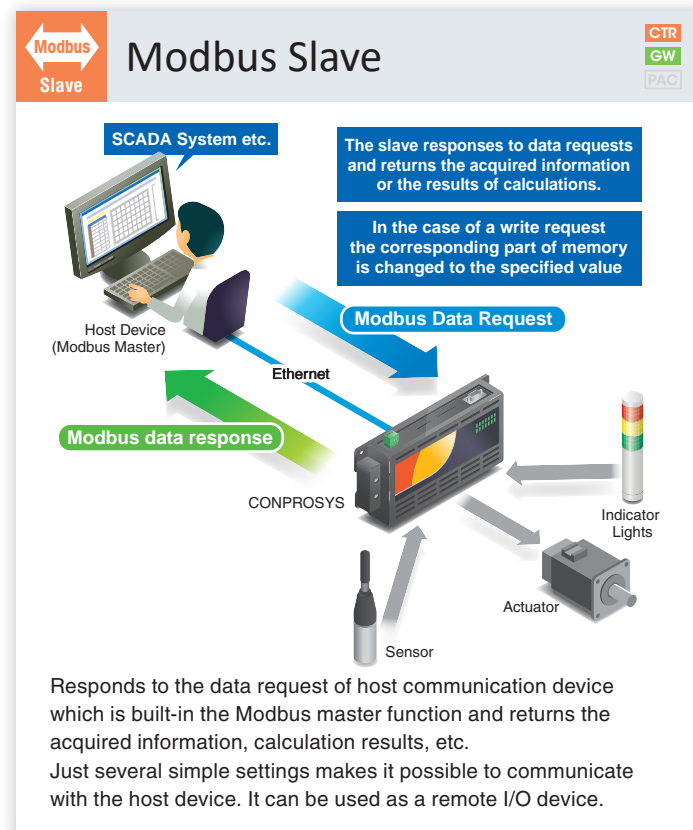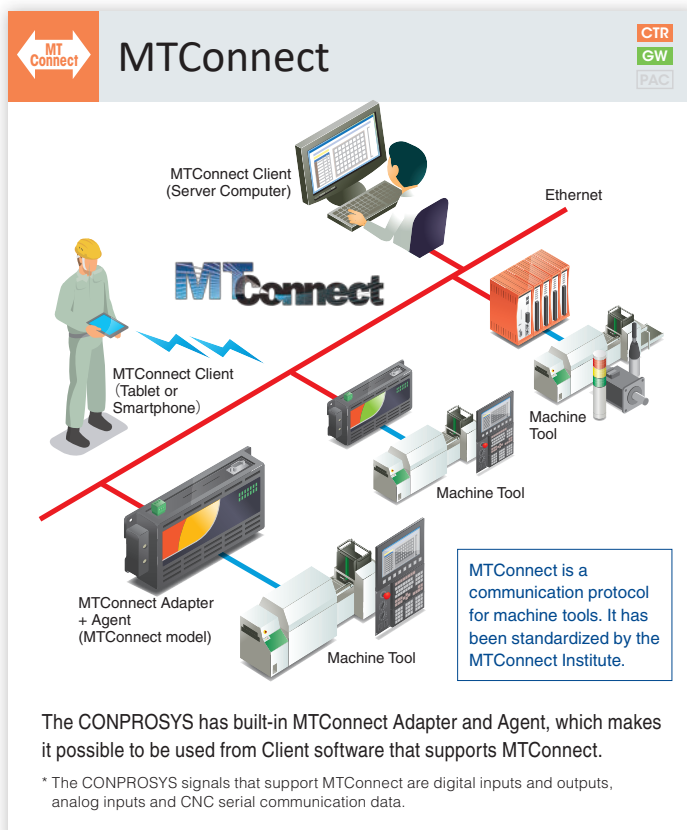
CTR M2M Controller series   **GW** M2M Gateway series   **PAC** PAC series

Data Capitalization

Data Transmission
CTR GW PAC

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

Supports OPC UA Standard
CTR GW PAC

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.

MTConnect
CTR GW PAC

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
CTR GW PAC

The slave responses 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

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.

Connectivity

Modbus Master
CTR GW PAC

Simple settings make it easy to collect data with limited programming

Supports multiple interfaces

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

PLC Master
CTR GW PAC

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

Batch collect data from multiple equipment sources

Supports multiple interfaces

Supports multi-vendor PLCs

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

| Supported PLC manufacturers | Mitsubishi Electric / Omron / JTEKT / Panasonic / Keyence **NEW** |

Signal Input and Output
CTR GW PAC

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
CTR GW PAC

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 Excel lent 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

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

Refer pages 6 to 9 for icon definitions

3G model

DIN rail mounted image

[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.

3G model

DIN rail mounted image

[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)

Controller   +   Up to 16 I/O modules
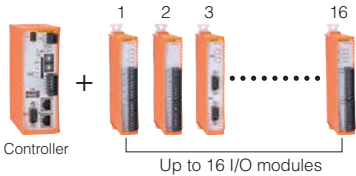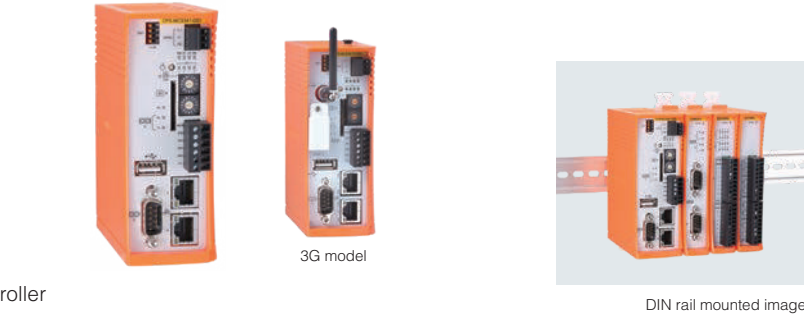
OPC UA server built-in model

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

FANUC MT-LINK*i* enabled

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	2ch
SD Card Slot	1 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
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	—	○	—	—	—	—	—	—	—	—
Signal Tower Light Monitor*8	○	○	○	—	○	—	—	○	○	○
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									

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	○	○	○*7	○
OPC UA Server	—	○	○*7	○*7
MTConnect	—	○	○*7	○*7
Signal I/O	○	○	○	○
Modbus Master	—	—	—	—
Modbus Slave	—	—	—	—
PLC Master	—	—	—	—
HMI	○	○	○	○
VTC	○	○	○	○
CNC Communication	—	○	○	—
Signal Tower Light Monitor*8	○	○	○	○
Others				
Operating temperature	-20 to 60°C (-4 to 140°F)			
Physical dimensions	44.7(W)×94.7(D)×124.8(H)mm (1.76"×3.83"×4.91") (does not include protrusions and antenna)			
Power supply voltage	24VDC			

*1 Opto-isolated input (supports sink output). Built-in 12VDC power. *2 Share with digital inputs. *3 CPS-MC341G-ADSC1-110 can be used in EU(RE directive), USA, Japan, Philippine, and India. (As of May 2019)
*4 SIM card not included. Standard size SIM card only.   *5 Opto-isolated (supports sink output and current source output). Built-in 12VDC power or external 12-24VDC power is switchable.
*6 Opto-isolated (supports sink output). External 12-24VDC power supply is needed. *7 Available only for Ethernet communication. 3G and 920Mhz wireless communication do not support this function.
*8 A new product, Signal Tower Light Monitor, has been released. Refer to page 17 for details.
* The specifications are supported by the newest firmware drivers. Please download the newest firmware from Contec website when you need.
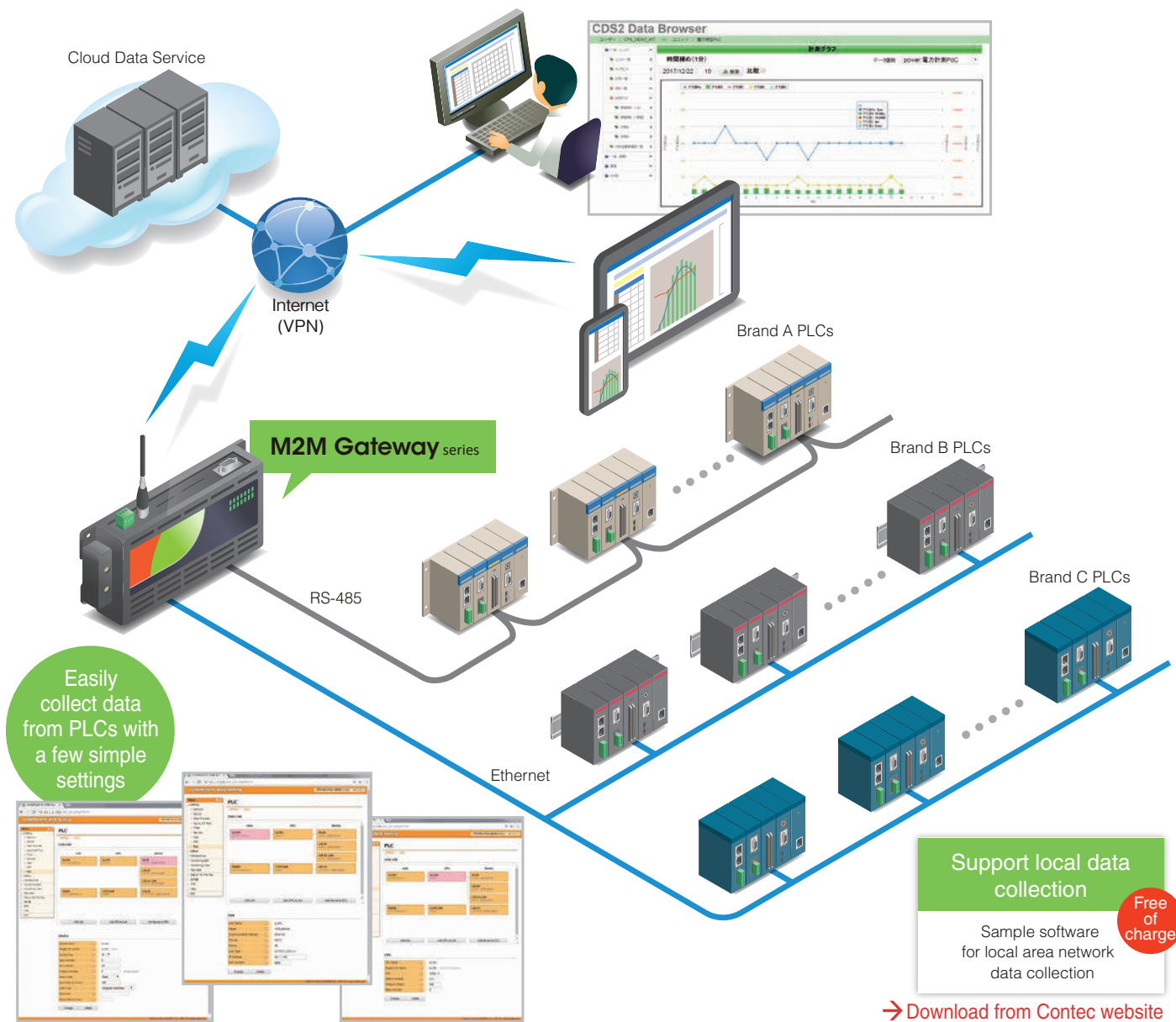
Multi-vendor Compatible PLC to IoT
M2M Gateway series

A single CONPROSYS controller can collect data from multiple PLC controlled equipment.
M2M Gateway series supports devices from a variety of vendors,
including Mitsubishi MELSEC series, Omron Sysmac series, JTEKT TOYOPUC series, Panasonic FP series,
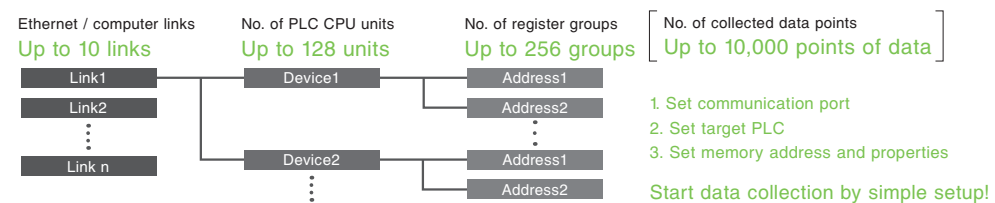and Keyence KV series. One Gateway device can connect and collect data from multiple PLCs.

CDS2 Data Browser

Cloud Data Service

Internet (VPN)

Brand A PLCs

M2M Gateway series

RS-485

Brand B PLCs

Brand C PLCs

Ethernet

Easily collect data from PLCs with a few simple settings

Support local data collection

Free of charge

Sample software for local area network data collection

→ Download from Contec website

• 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 256 Register Groups

Connect up to 10 PLCs using an
Ethernet connection or up to 128
PLCs using a serial connection.
Connect up to 256 register groups
to collect up to 10,000 points of
data.

Ethernet / computer links
Up to 10 links

No. of PLC CPU units
Up to 128 units

No. of register groups
Up to 256 groups

No. of collected data points
Up to 10,000 points of data

Link1
Link2
⋮
Link n

Device1

Device2

Address1
Address2

Address1
Address2

1. Set communication port
2. Set target PLC
3. Set memory address and properties

Start data collection by simple setup!

Lineup

Integrated Type

Data Transmission | OPC UA | MTConnect | Signal I/O | 3G | Modbus Master | Modbus Slave | PLC Master | HMI | VTC | CNC

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 to 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 MTConnect 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 MTConnect 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	2ch*4
	SD Card Slot	1 Slot	1 Slot	1 Slot	1 Slot
	USB	1ch	1ch	1ch	1ch
	Digital Input	4ch*2	4ch*5	4ch*2	4ch*5
	Digital Output	2ch	2ch	2ch	2ch
	Analog Input (Current)	2ch	2ch	2ch	2ch
	Analog Input (Voltage)	—	—	—	—
	Analog Output (Voltage)	—	—	—	—
	Counter	2ch*3	2ch*3	2ch*3	2ch*3
	RS-422A/485	1ch	1ch	1ch	1ch
	RS-232C	1ch	1ch	1ch	1ch
	CAN	—	—	—	—
	3G SIM (Standard)	—	—	1 Slot	1 Slot
	920MHz	—	—	—	—
Functions	Data Transmission	○	○	○	○
	OPC UA Server	—	○	—	○
	MTConnect	—	○*6	—	○*6
	Signal I/O	○	○	○	○
	Modbus Master	○	○	○	○
	Modbus Slave	○	○	○	○
	PLC Master	○	○	○	○
	HMI	○	○	○	○
	VTC	○	○	○	○
	CNC Communication	—	○	—	○
	Signal Tower Light Monitor	○	○	○	○
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"x3.07"x1.20") (does not include protrusions and antenna)			
	Power supply voltage	12 to 24VDC			

*1 SIM card not included. Standard size SIM card only.
*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 MTConnect are the collected data through the gateway module's inferfaces, and the serial communication data with the CNC.
*7 A new product, Signal Tower Light Monitor, has been released. Refer to page 17 for details.
* 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, JTEKT TOYOPUC PC10G-CPU series,
Panasonic FP7 / FPΣ / FP-X / FP-X0 series and Eco-POWER METERs,
and Keyence KV-3000 / KV-5000 / KV-7000 / KV-8000 / KV-Nano series.
Communicates with a variety of Modbus equipment

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 (Compatible with current sink output)	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)			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-ACCODE3).

Product Name	Model	Rating	Cable Length	Terminals	Support Products
AC Power Cable	IPC-ACCODE3	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	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

Product Name	Model	Specification	Physical Dimensions
8-Port Type	SH-8008F	・Supports 100BASE-TX ・Operating temperature from -20 to 60℃ (-4 to 140°F) ・Power supply redundant, power supply reverse wiring countermeasure circuit built-in	40(W) x 60(D) x 90(H) mm) / (1.57" x 2.36" x 3.54") (does not include protrusions)
5-Port Type	CPS-HBL-8005F		25.2(W) x 94.7(D) x 124.8(H) mm) / (0.99" x 3.73" x 4.91") (does not include protrusions)
PoE Gigabit 8-Port Type	SH-9008AT-POE NEW	・Compliant with IEEE802.3af / IEEE802.3at ・Power supply input rage from 12 to 57VDC ・Power supply redundant, Power failure detection relay	41(W) x 94.7(D) x 144.3(H) mm) / (1.61" x 3.73" x 5.68") (does not include protrusions)

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.   * Please contact us if you need a ZCT that's diameter is larger than 25mm.

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.

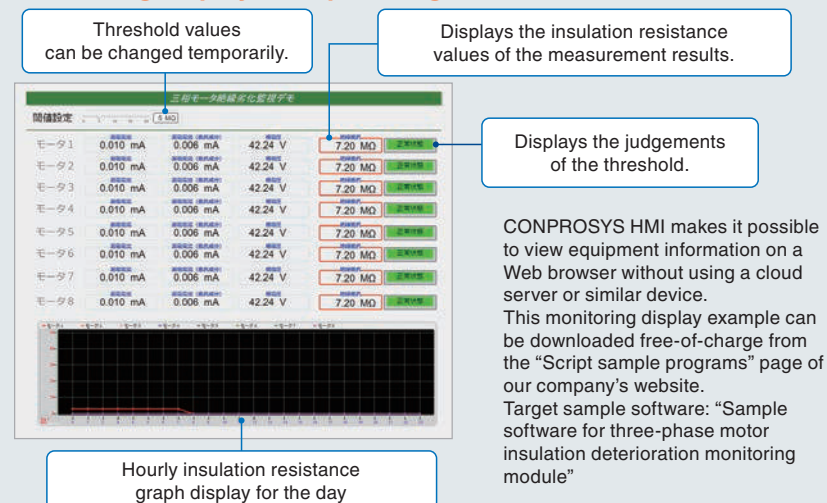### Supports devices that acts without using a PC. Supports cloud service.

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.

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"

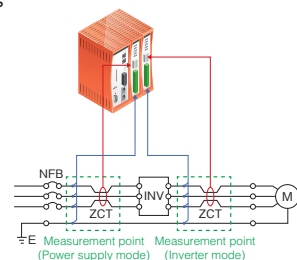Hourly insulation resistance graph display for the day

■ 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
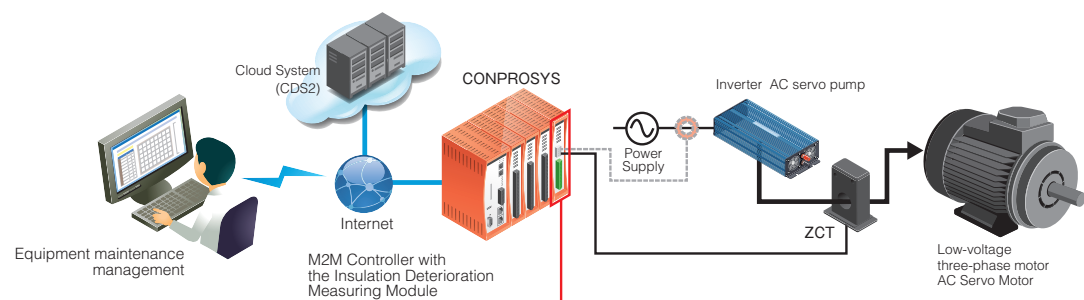
■ Wiring

"Visualize" multiple signal tower status on a browser
▌Signal Tower Light Monitor NEW

The slave unit (CPS-PAV-AE01-JP) is mounted onto the signal tower

[Features]
● Install the unit to existing signal tower lights in only 10 seconds!
● During daytime (under lights), it can be operated with solar cells only. During nighttime (in darkness), switch to industrial lithium batteries for operation
● Its power-saving EnOcean-based wireless communication technology realizes a wiring-less structure and easy installation.
● IP65-compliant, -20 to 60℃/-4 to 140° Fwide temperature range
● Controllers (sold separately) used to connect with EnOcean USB receivers can be selected from the wide lineup of CONPROSYS controllers*.
● Easy setup by simply selecting and registering the slave unit ID on the setting screen for the controller (sold separately).
● Ready-to-use monitoring screens are available. The acquired data is displayed graphically in time series.

Program SD card

EnOcean USB receiver for master unit

CONPROSYS main unit (sold separately)
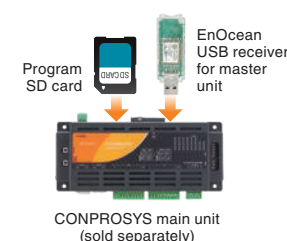
* Selection is possible from CONTEC's M2M Controller Series or Gateway Series of master units. (Excludes models whose interface does not include USB and SD card slots.)

Type	Model	Details
Master unit set (EU model)	CPS-PAV-AES1-EU	Signal tower lights monitoring set (Program SD card, EnOcean USB receiver, Slave unit)
Slave unit (EU model)	CPS-PAV-AE01-EU	Signal tower lights sensor unit
Master unit set (US model)	CPS-PAV-AES1-US	Signal tower lights monitoring set (Program SD card, EnOcean USB receiver, Slave unit)
Slave unit (US model)	CPS-PAV-AE01-US	Signal tower lights sensor unit

* -US Model: Use of this product is restricted for the North America, and use in other countries is prohibited by the Radio Law.
* -EU Model: Use of this product is restricted for the EU countries or China, and use in other countries is prohibited by the Radio Law.

[System configuration image]
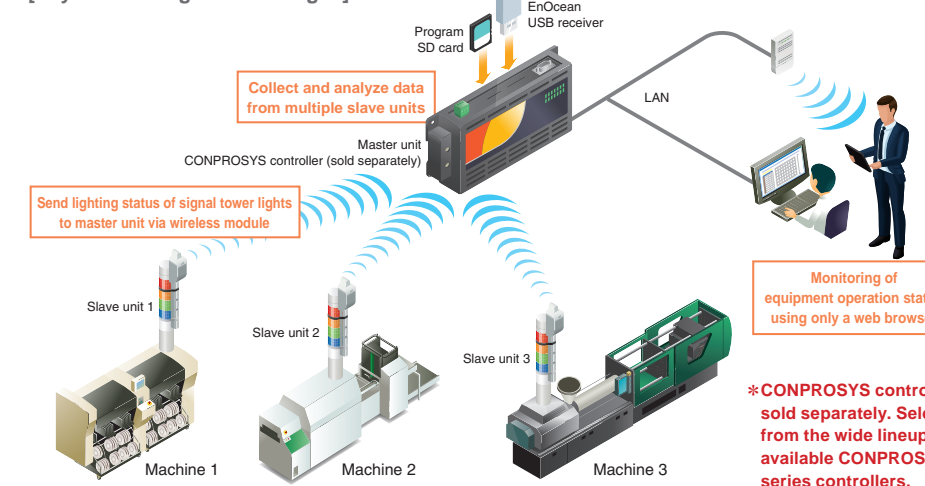
[Example of Web Browser Display Screen]

Condition monitoring (Andon)

Condition Monitoring (Timeline Bars)

Slave Unit Map Screen
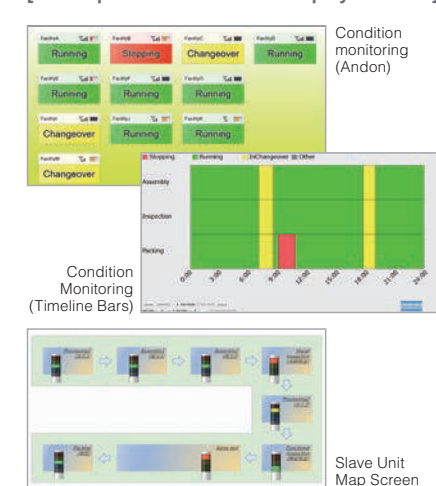
[Slave unit specifications]

Item		Description
Wireless specification	Standard	EnOcean
	Frequency	868.3MHz (-EU Model), 902.875MHz (-US Model)
	The number of sensors can be set	16
	Transmission output	5dBm (EIRP) ±2.5dB (-EU Model), 1dBm[typ.] (-US Model)
	Data rate/modulation	125 kbps/ASK modulation (-EU Model), 125 kbps/FSK modulation (-US Model)
	Communication distance	400m (-EU Model), 300m (-US Model) (Values measured in an open space)
Power specification	Power generation element	Solar cell (ECS300)
	Auxiliary battery	Industrial lithium battery (BR-1/2AA: Panasonic)
	Battery life	Up to 3 years *1
Sensor	Detect wavelength	400nm to 800nm (sensor specification)
	Sensitivity adjustment method	Adjustment (16 levels)
	Light-on illuminance	1000lx or more *2
	Light-off illuminance	600lx or less *2
	Blinking detect frequency	0.4Hz to 2.8Hz
	The number of sensors	Up to 5 tiers

Item		Description
Resistance environment	Operating ambient temperature	-20 to 60°C / -4 to 140°F
	Operating ambient humidity	10 to 90%RH (No condensation)
	Vibration resistance	10 to 58.1Hz /semi-amplitude vibration 0.15mm, 58.1 to 150Hz/20m/s 80 minutes each in X, Y, and Z directions
	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)
Applicable signal tower		Produced by PATLITE Co., Ltd. Signal Tower LR4, LR5, LR6, and LR7 series, LME series *3
Physical dimensions (mm/inch)		328/12.91 (W) x 60.7/2.39 (D) x 41.6/1.64 (H) (excluding protrusions)
Weight (g/oz)		150/5.29
Standard		-EU: IP65, CE Marking (RE Directive, RoHS Directive), -US: IP65, RoHS-compliant, FCC Class A

*1 It is a lifetime when the product is used with the economy drive mode (slide switch m1 setting) under the condition of 25 deg. C, for 12 hours in the day time (800lx) and 12 hours in the night time (0lx). Note that the product can semi-permanently operate with the economy drive mode (slide switch m1 setting) under the condition of 800lx at all times. *2 It indicates the value measured by the illuminance meter (CENTER530) for the emission of the white LED (NSSL157AT-H3). *3 This product can be used along with the signal towers fit in the listed specifications (lighting section 40mm to 41.5mm pitch, and φ40 to φ70).

Easily Realize Cooperation with Part ner Solutions

Software

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

■ CONPROSYS and Partner Solutions

HULFT IoT

FUJITSU

thingworx®

Microsoft Azure
Azure Event Hubs & Stream Analytics

Azure Event Hubs

Azure Stream Analytics

PowerBI

Cloud services of third parties

Linking

CONPROSYS CDS2
Cloud Data Service 2

Standard services

Internet

Direct transmission via SD card for communication with partner solutions

SD

Direct transmission by way of the "Microsoft Azure IoT Hubcommunication function" of CONPROSYS VTC

Interacting with Azure's diversity (direct data transmission)
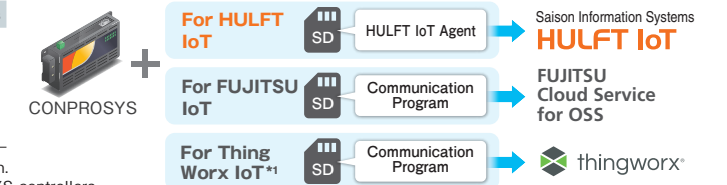
CONPROSYS M2M Gateway

PLC

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) × 32.0 (D) × 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.

CONPROSYS +

For HULFT IoT | SD | HULFT IoT Agent → Saison Information Systems HULFT IoT

For FUJITSU IoT | SD | Communication Program → FUJITSU Cloud Service for OSS

For Thing Worx IoT*1 | SD | Communication Program → thingworx

■ Web HMI/SCADA Software

CONPROSYS HMI System (CHS)

HTML5

- Real SCADA realized by Web system
- Support CONPROSYS IoT Devices
- Support MQTT (Built-in broker)
- Easy online purchase

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.

Send Azure Iot

File00

● **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)
ransmission 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"

● **Develop & Runtime environments are based on web server**

At the user end, the user needs not to install any special software, only uses a browser (Chrome or Firefox) to connect to the server, then he/she can configure the system.

● **The execution environment can be either on the cloud or on premise.**

You just need to prepare a Windows Server environment as an execution environment, you can use this software regardless of this environment is on the cloud or is on premises.

● **Drawing the process flow chart by Drag & Drop, just like operating on PowerPoint**

Provides nearly 60 visualization components, quick draw rich expressive monitor screen.

● **Multi-device support allows monitoring anytime, anywhere**

If you have a browser that supports HTML5, you can monitor not only on your computer but also on your tablet or smartphone.

● **Easy to introduce and high cost performance**

The license can be purchased according to the system scale (number of projects). It can be purchased online from a dedicated purchasing site. The trial version is available free of charge.

➡ Access via Contec website

"Demo site" is now available to experience the ease of use of the development environment!

MyCommerce®
A Digital River Company

*The license for this product is sold in the online store MyCommerce.
*For inquiries after purchasing this product, please contact the "CONTEC Discussion Forum", a community site operated by our company.

For Using Various CONPROSYS Co ntrollers 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.
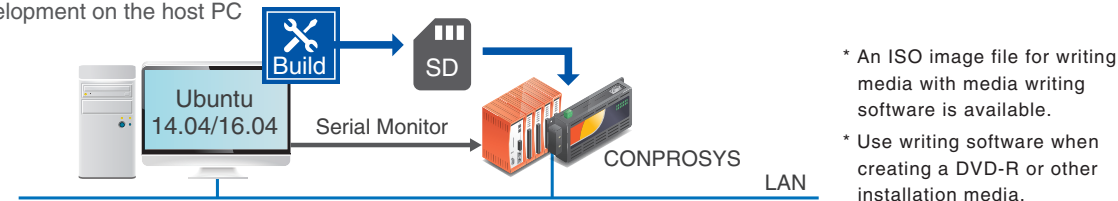
→Download from Contec website

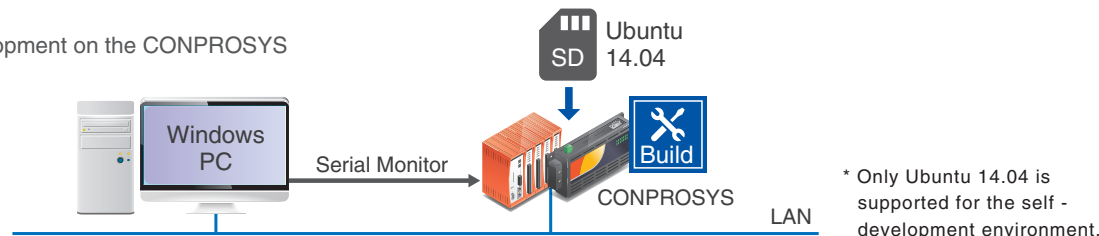| Supported products	M2M Controller series (Integrated type, configurable type) M2M Gateway series
Operating environment	Host PC for development (cross development environment only)	Linux distribution: Ubuntu 14.04 (64-bit version)/Ubuntu 16.04 (64-bit version) 40 GB or more free space required The user 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

Ubuntu 14.04/16.04
Build
SD
Serial Monitor
CONPROSYS
LAN

* 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

Ubuntu 14.04
SD
Windows PC
Build
Serial Monitor
CONPROSYS
LAN

* 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.
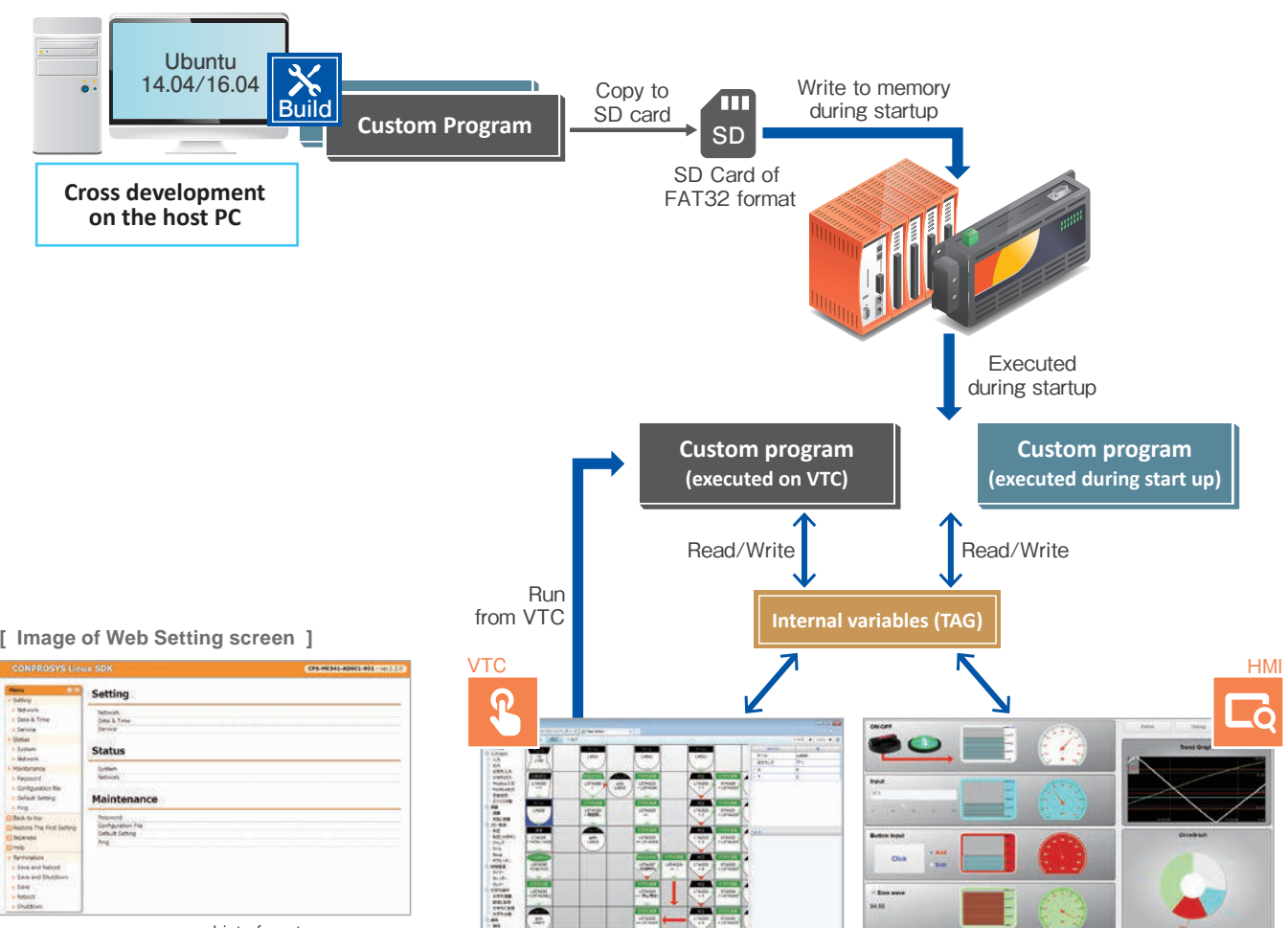
→Download from Contec website

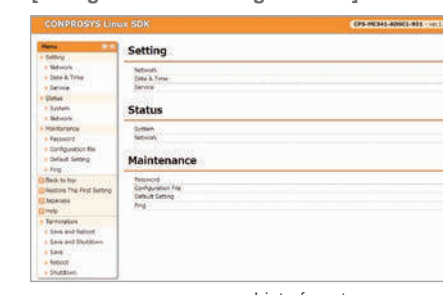| Supported products	M2M Controller series (Integrated type, configurable type) M2M Gateway series

[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]

Ubuntu 14.04/16.04
Build
Custom Program
Copy to SD card
SD
Write to memory during startup
SD Card of FAT32 format
Cross development on the host PC
Executed during startup
Custom program (executed on VTC)
Custom program (executed during start up)
Read/Write
Read/Write
Run from VTC
Internal variables (TAG)
VTC
HMI

[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 Ti me Controller

|PAC series

IEC6l13l-3 standard CODESYS programming. Rich functionality to build an open system.

IEC 61131-3 standard Programming System
CODESYS

Ladder, SFC, Function block, Structured text, etc.

PAC series

Field Network

EtherCAT®

Modbus

● 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.

EtherCAT / Modbus

Servomotor Sensor Actuator Switch

● 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

EtherCAT model
CPS-PC341EC-1-9201

Modbus model
CPS-PC341MB-ADSC1-9201

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

Configurable Type

EtherCAT model
CPS-PCS341EC-DS1-1201

Example of a controller with three I/O modules

Modbus model
CPS-PCS341MB-DS1-1201

Example of a controller with three I/O modules

*Key features are the same as the configurable type M2M controller series.
 Refer to page 11 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.

BUS
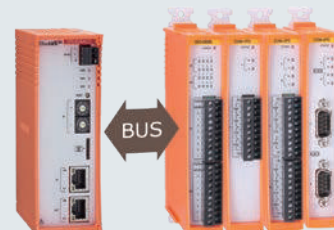
*Key features are same as configurable type M2M controller series. Refer P11 for details.
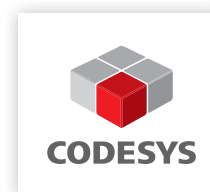
# CODESYS, the Optimal Solution for the IoT Era.

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 **5** 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.
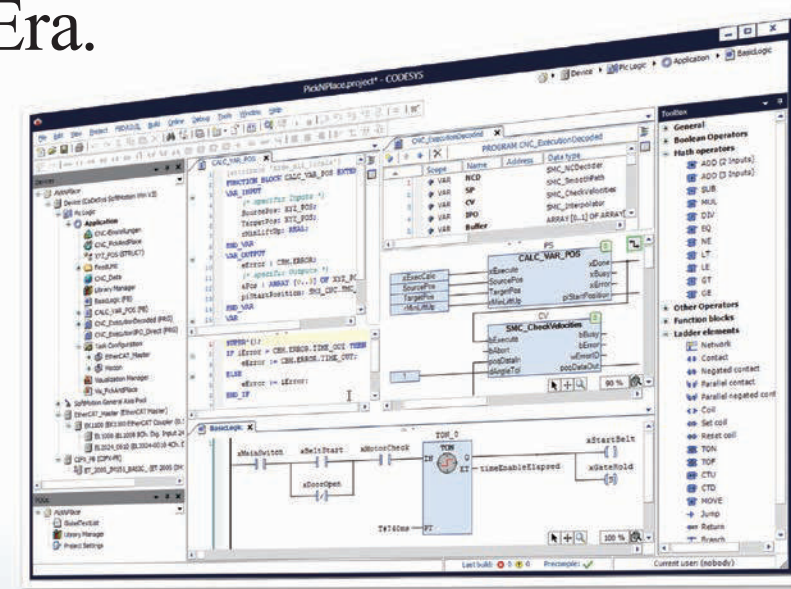
CODESYS Integrated Development Environment

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.

CODESYS Integrated Development Environment

PLC Function   Fieldbus Stack

● 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.

OPC UA

Supported Field Buses*
・ EtherCAT   ・ PROFINET
・ EtherNet/IP   ・ Sercos
・ PROFIBUS   ・ CANopen
・ J1939   ・ Modbus TCP/RTU
・ I/O-Link   ・ BACnet
・ IEC 61850

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

EtherCAT. PROFINET
Modbus EtherNet/IP
CANopen BACnet
IO-Link sercos the automation bus

## 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.
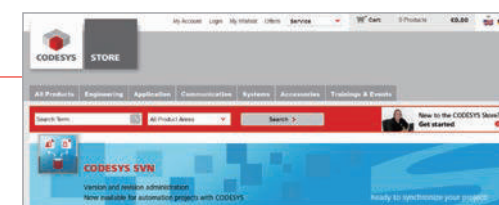
# Embedded Windows PC for Internet Connections
|IoT Edge Controller series

IEC61131-3 standard CODESYS programming. Rich functionality to build an open system.
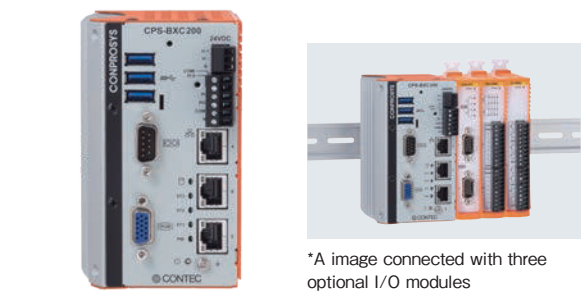
*A image connected with three optional I/O modules

[Key Features of IoT Edge Controller]

- Windows 10 IoT Enterprise
- Intel Quad-core Apollo Lake SoC
- Three Intel Gigabit LAN Ports
- Operation Temperature Rage : -20 to 60℃(-4 to 140° F)
- DIN rail mounting

Up to 8 I/O modules
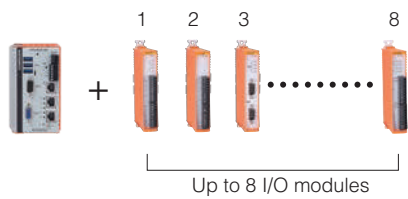
• Flexible I/O modular system

| Digital I/O | Relay | Analog I/O | Temperature sensor | Counter | RS-232C/485 |

There are 17 types of CONPROSYS I/O modules that can be attached to the controller, that makes it easy to connect various of sensors, actuators, and M2M communication devices. The Windows and Linux API driver software is same as the one that supports our PCI cards and USB units. Achieves high compatibility. (Refer P14 and P15 for details of CONPROSYS I/O modules.)

• 8 product models

- 3 basic models with 4GB memory and 32GB SSD, 8GB memory and 32GB SSD, or 8GB memory and 64GB SSD
- Win 10 IoT Enterprise pre-installed model
- Win 10 IoT Enterprise + McAfee Whitelist security software pre-installed models
- Win 10 IoT Enterprise + McAfee Whitelist security software + Edgecross basic software trial version (Japanese only) pre-installed models

• McAfee Whitelist security

McAfee Whitelist security software blocks the unlisted executing programs and protects your embedded control system from the in the unlikely event invaded virus programs or other not allowed executing programs.

• Edgecross pre-installed models

User can get a quick start of Edgecross data collector with a value model of IoT Edge controller that pre-installed the Edgecross basic software trial version (Japanese only) and connected with CONPROSYS I/O modules or a remote I/O coupler (CONPROSYS nano).

Model	CPS-BXC200-NA01P03	CPS-BXC200-W10M01P03	CPS-BXC200-NA02P05	CPS-BXC200-W10M02P05	CPS-BXC200-NA02M03 *NEW*	CPS-BXC200-W10M02M03B *NEW*	CPS-BXC200-W10M01P03A *NEW*	CPS-BXC200-W10M02P05A *NEW*
Memory	4GB, ECC	8GB, ECC					4GB, ECC	8GB, ECC
Storage*1	32GB (pSLC)		64GB (pSLC)		32GB (MLC)		32GB (pSLC)	64GB (pSLC)
OS	N/A	Windows 10 IoT Enterprise LTSB 2016 64bit JP/EN/CN/KO	N/A	Windows 10 IoT Enterprise LTSB 2016 64bit JP/EN/CN/KO	N/A	Windows 10 IoT Enterprise LTSB 2016 64bit JP/EN/CN/KO		Windows 10 IoT Enterprise LTSB 2016 64bit JP/EN/CN/KO
Software	N/A	McAfee Whitelist security software	N/A	McAfee Whitelist security software	N/A			McAfee Whitelist security software, Edgecross (Japaness Only)
CPU	Intel® Atom® Processor x7-E3950 (1.6GHz)							
Display ports	DisplayPort x 1 (3840 x 2160 @60Hz), Analog RGB x1 (1920 x 1200 @60Hz) (15-pinHD-SUB connector)							
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 / Serial interface	USB3.1 Gen1 (USB3.0) compliant x 3 ports (TYPE-A connectors) / RS-232C x 1 port, 9pin D-SUB connector (male), Baud rate: 50 to 115,200bps							
General-purpose I/O / RAS	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). / 1 port (3.81mm pitch 6-pin)							
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)							
Watchdog timer (WDT)	Software programmable, 1sec to 255sec (Reset or shutdown the controller when the set time counted)							
Hardware monitoring	Monitors CPU temperature and power supply voltage							
RAS	1 port (3.81mm pitch 6-pin)							
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.							
Rated input poltage	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); USB3.1 Gen1 (USB3.0) I/F: +5V 2.7A (900mA x 3), Stack bus I/F: 24V 3.3A							
Dimensions (mm/inch)	76/2.99(W)×94/3.70(D)×124.8/4.91(H) (No projection included)							
Weight	1.1kg 2.43lb (Excluding attachment fittings)							
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)							
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 temper ature when operating 1000BASE-T. *3 : Consider ambient temperature derating. *4 : When you use an optional power product (CPS-PWD-90AW24-01).

Haben Sie Fragen?

Ihr Distributor hilft Ihnen gerne weiter:

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