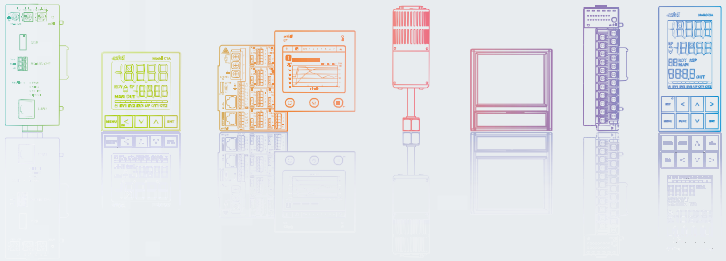
CP-PC-1391E

azbil

Control Products for Instrumentation

Selection Guide

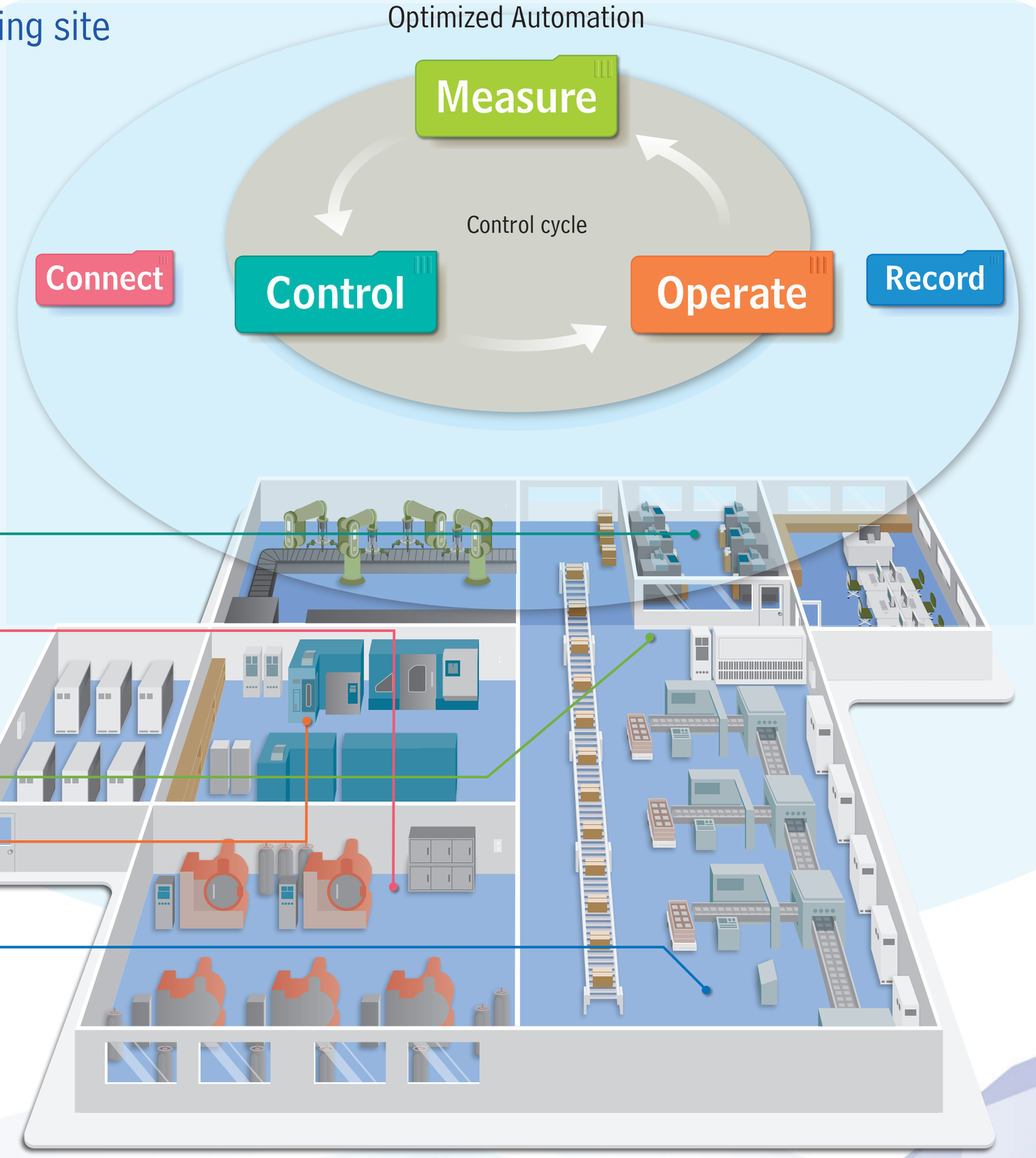


Azbil Corporation

Further optimization of any manufacturing site

We help you manufacture your products safely and efficiently by creating plants in which you can carry out your operation with ease.

We will use our wealth of know-how based on our many years of experience and new technology development to create optimally automated systems for any manufacturing site regardless of size or type. From measurement to control and management, we will increase the value of your products and services in any situation.



Control — Control devices and equipment for optimum performance.

Connect — Connect products via a communications system.

Measure — Measure changes in temperature and pressure of the objects being controlled.

Operate — Operate the plant with gases and liquids at optimal temperatures and flow rates.

Record — Real-time display, recording, and storage of acquired information.

An extensive product lineup for a wide range of applications

Azbil Corporation offers a large variety of products such as sensors, controllers, and actuators. We trust that you will find products that meet your needs.

Control (Controllers)

- Single Loop Controllers

Model C1A, C2A/C2B, C3A/C3B

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- Single Loop Controllers

Model C1M, C25/C26, C35/C36

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- Multi-Loop Controller with Multifunction Display

Model C7G

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- Multi-loop Controller with Multifunction Display

Model C7S

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- Network Instrumentation Modules

Model NX-_ _ _

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Connect (Communication converters)

- Network Instrumentation Module
  Smart Device Gateway

Model NX-SVG

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Measure (Sensors)

- Temperature Sensors

Model YY_ _ _

- Sapphire Diaphragm Gauges
- Smart Pressure Transmitters

Model SPG5_/6_/7_ Model PTG7_G

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Operate (Actuators)

- Solid-State Relays

Model PGM10N/F

- Power Controllers

Model PG5_ _ Model PU21_ Model PU23_

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Operate (Actuators)

- Control Motors

Model ECM3000

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- Control Valves
- Smart Valve Positioners

Model AGVB_ _ _/AGVM_ _ _, VFR_ _ _
Model AVP30_, AVP20_

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Record (Recorders)

- Hybrid Recorders

Model SR-106 (Multi-point type)
Model SR-101/102/103/104 (Pen type)
Model SR-206/212/224 (Multi-point type)
Model SR-201/202/203/204 (Pen type)

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- Paperless Recorders (Advanced Recorders)

Model ARF106/112 Model ARF212/224/236/248

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  Model SR-106 (Multi-point type),
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Multifunctional compact controllers

Single Loop Controllers

(Model C1A only)

Model C1A

Accuracy ±0.1% RD | Sampling cycle 25 to 500 ms | Communications RS-485 | Pattern operation

Model C2A

Model C2A/C2B

Accuracy ±0.2% FS | Sampling cycle 50 to 500 ms | Communications RS-485

Model C3B

Model C3A/C3B

Accuracy ±0.1% RD | Sampling cycle 25 to 500 ms | Communications RS-485 | Pattern operation

Model C1M

Accuracy ±0.2% FS | Sampling cycle 50 to 500 ms | Communications RS-485 | Step operation

Model C25

Model C25/C26

Accuracy ±0.3% FS | Sampling cycle 300 ms | Communications RS-485

Model C36

Model C35/C36

Accuracy ±0.1% FS | Sampling cycle 100 ms | Communications RS-485 | Step operation

C1A | C2A/C2B | C3A/C3B | C1M | C25/C26 | C35/C36

Easy configuration using the Smart Loader Package

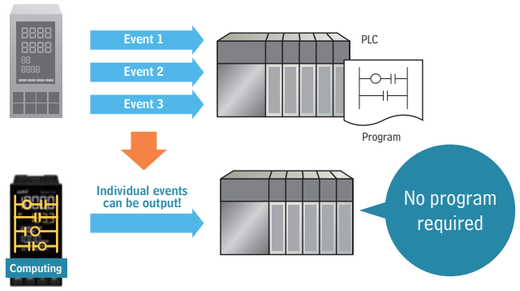
By connecting a PC to the controller using a special USB loader cable, you can read and write parameters from the PC using the smart loader package. This is useful in a variety of situations: setup, trial run adjustments, operation checks, etc.

Controller model No.	Loader model No.	Cable model No.	Power supply function
C1A/C2A/C2B/C3A/C3B	SLP-C1F*	SLP-ULCJA0	Yes
C1M	SLP-C1F*	81441177-001	No
C15/C25/C26/C35/C36	CLP-C35	81441177-001	No

* You can download Model SLP-C1F for free from our website.
https://aa-industrial.azbil.com/jp/en

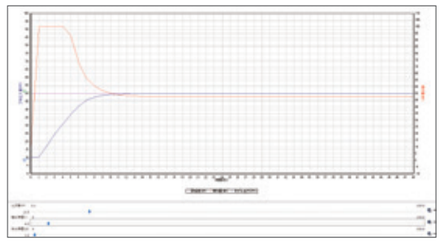
More efficient input/output with logical operations

You can assign logical operation results to event contacts. This allows you to reduce the number of output wires, reducing the man-hours required for wiring the connecting devices and achieving a new way of instrumentation.



PID simulator

The PID simulator assists in reducing overshoot and hunting. It helps you to reduce the time needed for trial run adjustment and to improve takt time and the quality of equipment.



C1A | C2A/C2B | C3A/C3B

More efficient communication through address replacement

You can improve communication efficiency by assigning data to be communicated with the host to consecutive addresses. This also reduces the workload for the management of set addresses and debugging.

■Addresses after replacement

Communication item	Address
AUTO/MANUAL	15360
RUN/READY	15361
PV	15362
SP	15363
Internal event 1	15364
PID1 proportional band	15365
PID1 integral time	15366
PID1 derivative time	15367

Only a single communication session needed as the addresses are consecutive

1

Pattern operation for process-optimized operation

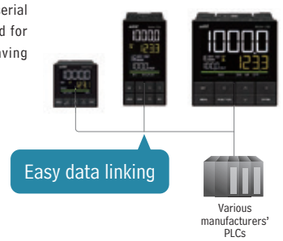
Equipped with a pattern operation function of up to 16 patterns and 16 segments. The power loss recovery function restarts the device once power is restored, continuing from the pattern number, segment number, remaining number of cycles, and segment elapsed time used before the power outage.

Model	Standard	With extended data memory
C3A/C3B	1 pattern, 16 segments	16 patterns, 16 segments
C2A/C2B		
C1A		8 patterns, 16 segments

C1A | C2A/C2B | C3A/C3B | C1M

Easy connection with PLC link function

Data is transmitted by RS-485 serial communication without the need for a communication program, saving you time and engineering work.



C1A | C2A/C2B | C3A/C3B | C25/C26 | C35/C36

Widely customizable multi-status indicator

The controller has a multi-status indicator that shows the ON/OFF state of each item and a MV graph. You can set conditions for turning on the light and at which level the indicator lights up. You can use this indicator for various purposes as you see fit.

As a monitor for alarms
(Example: If an alarm is issued, the light(s) will start flashing quickly, while under normal conditions, all lights remain lit.)

As an output indicator

Excellent usability and readability
Controller with compact data storage (CDS) function

Multi-Loop Controller with Multifunction Display

Model C7G

Accuracy ±0.1% FS | Sampling cycle 10 to 100 ms | Communications Ethernet RS-485 | 1,2,3,4-loop control | Pattern operation | Numerical operation

High-speed, high-accuracy control
Controller features a load protection function and analog input terminals with reinforced isolation

Multi-Loop Controller with Multifunction Display

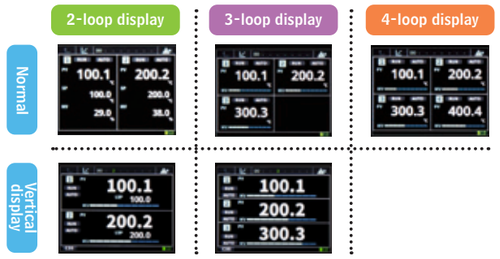
Model C7S

Accuracy ±0.1% FS | Sampling cycle 10 to 100 ms | Communications Ethernet RS-485 | 1,2,3,4-loop control | Pattern operation | Numerical operation

Model C7G

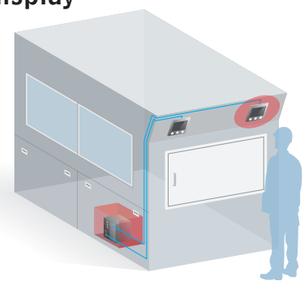
Excellent usability and readability

3.5-inch full dot matrix LCD offers crystal-clear display of values and graphs during control operation. The home screen can be customized according to the purpose.



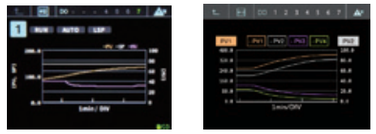
Separable display

Flexibility in installing the display unit is greatly improved by making the display separable.



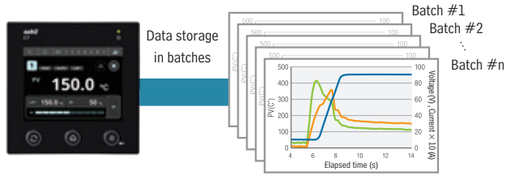
Trend graph display

Control status can be conveniently checked on a graph while making trial-run adjustments.



Compact data storage

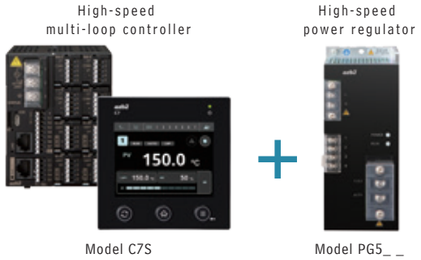
Control output and process data such as temperature, pressure, flow rate, and resistance are extracted at speeds of up to 10 ms and stored. When data is collected through network communication, rapid variations can occur that cause some data to be lost, but the model C7G saves data to an SD card so that nothing is lost.



Model C7S

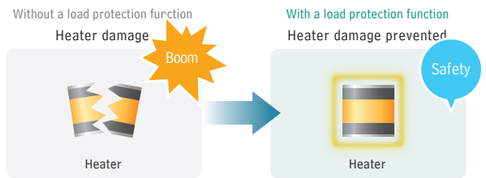
High-speed, high-accuracy feedback control

This product achieves optimal control when combined with an actuator specifically designed for high-speed thermal processes.



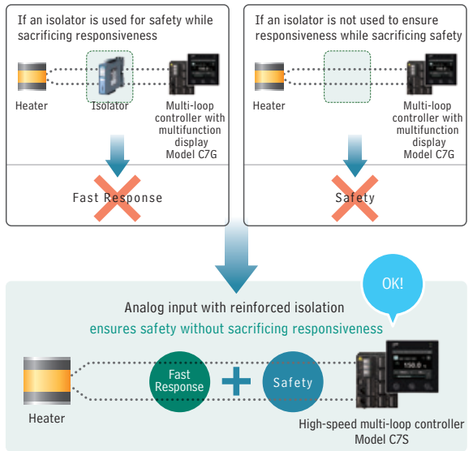
Load protection function*

This product has a load protection function for monitoring the load state and (if an abnormality occurs) for protecting the heater from damage.
*Patent pending



Analog input with reinforced isolation

This product's analog inputs have reinforced isolation for improved safety and reduced risk of electric shock, while maintaining responsiveness.



Scalable controllers that include Ethernet Modbus™/TCP communication functionality as a standard feature

Network Instrumentation Modules

(Excluding model NX-CL1/CR1/TL1/TR1)
(Excluding model NX-CL1/CR1/TL1/TR1)
(Excluding model NX-CL1/CR1/TL1/TR1)
(Excluding model NX-CL1/CR1/TL1/TR1)

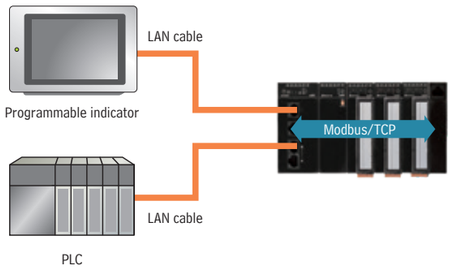
Model NX-_ _ _

- Collective setting by Ethernet
- Accuracy ±0.1 to 0.3% FS
- Sampling cycle 100 to 500 ms
- Modbus communications RS-485
- Switching hub function
- Optical Ethernet support
- Multi-loop cooperative control
- Inputs 16 pulse
- Proportioning outputs 16 time

Model NX-_ _ _

Comes with Ethernet Modbus/TCP as standard

All control units are equipped with Modbus/TCP functionality as standard. As a result, multiple-point high-speed parameter access, which was not possible using serial communication, is now available.
You can connect the module directly to a programmable indicator or PLC that supports Modbus/TCP. In addition, use of a switching hub unit (model NX-CB_) allows you to have in-panel wiring and decreases the footprint size.



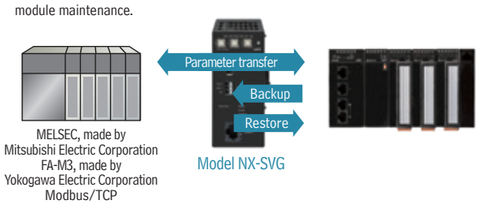
Multi-loop cooperative control

Multi-loop cooperative control between modules is handled by a supervisor module (model NX-D25/35 only).

- Control of temperature differences between zones
  Contributes to improving yield by saving energy and improving quality.
- Peak power suppression control
  This works effectively to suppress peak power in the case of temperature rises due to system startup.
- Optimal start-up control
  Provides energy savings for equipment and processes that contain both a fast-rising loop and a slow-rising loop.

High-speed, large-capacity data communication with PLC

The model NX-SVG is used to achieve fast communication of large amounts of data between Network Instrumentation Modules and PLCs.
Parameter backup and parameter restore functions are implemented to support module maintenance.



An IoT gateway for data exchange among control devices from multiple vendors without the need for programs

Network Instrumentation Module

Smart Device Gateway *1

Model NX-SVG

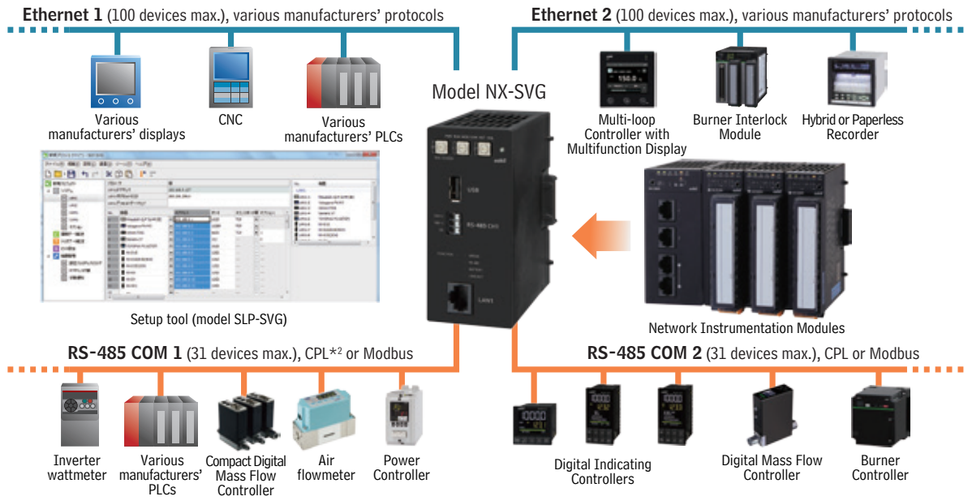
- Communications Ethernet 2
- Communications RS-485 2
- Wide PLC comm. support
- Modbus communications
- Modbus/TCP server
- Modbus/TCP master

Model NX-SVG

Greatly boosts data collection capabilities of PLCs, etc., and supports equipment IoT integration

This product supports the communication protocols used by various manufacturers' PLCs and factory automation devices in all kinds of networks, eliminating the need for control devices to support the communication protocols used by individual devices.

A wide variety of control devices incorporated into manufacturing equipment can now interchange data without the need to create communication programs, significantly simplifying the integration of equipment into an IoT.

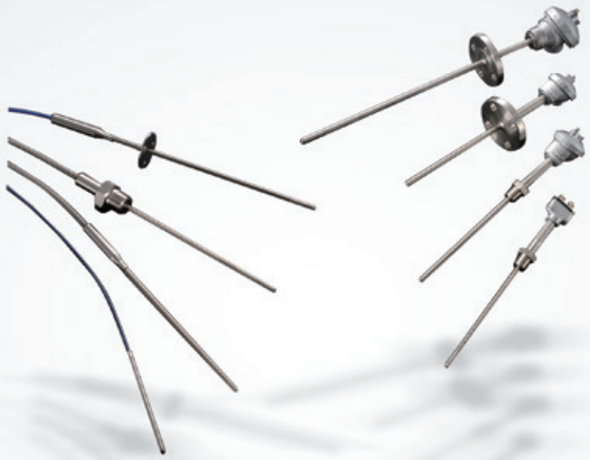


ADVANTAGE #1	No software required	ADVANTAGE #2	Four communication ports	ADVANTAGE #3	Machine tool IoT integration

*1. A communication gateway that allows the interchange of information between various kinds of control device without programming, enabling smarter development work.
*2. Controller Peripheral Link: Azbil Corporation's host communication protocol

The extensive lineup, including lead wire and terminal box types, meets almost any need

Temperature Sensors



Thermocouple types

- General-purpose thermocouples
- General-purpose sheathed thermocouples
- Simple thermocouples

Resistance temperature detector types

- General-purpose RTDs
- General-purpose sheathed RTDs
- Simple RTDs
- RTDs by use

Measure

Compact, lightweight pressure sensors offer high performance and high reliability

Sapphire Diaphragm Gauges (Model SPG5_/6_/7_)
Smart Pressure Transmitters (Model PTG7_G)

(Model SPG5_ only)

Model SPG6_

Model SPG5_/6_/7_

Accuracy 0.25% of reading

Accuracy 0.5% of reading
Self-heating 160℃ or higher

Response speed 35 ms

One-push zero adjustment

LED status display

Model PTG71G

Model PTG7_G

Accuracy ±0.5% FS

Accuracy ±0.2% FS (high precision model)

Measure

Model YY_ _ _

For diverse needs

The model YY_ _ _ provide temperature measurements for various applications. The adoption of elements for thermocouples and platinum temperature detecting resistors meets diverse needs.

Extensive lineup
From simple types to special types, temperature sensors can be selected for your intended use.

Lead wire and terminal box types
Various types of sensors are available with lead wire, exposed terminal, and terminal box connections.

A suitable shape for the intended purpose
Many shapes are available, including straight, screw-in, and flange shape.

Calibration service that meets international standards (ISO/IEC 17025)

Calibration of your measurement instruments is indispensable to quality control.
We provide various calibration services tailored to your needs.

On-site calibration service
We will visit plant or office and calibrate the thermometer where it is actually used (in the loop configuration in which the temperature sensor and indicator are connected).

Calibration service by mail
If you send us your thermometer, we will calibrate it in our calibration facility.

JCSS calibration service
A JCSS calibration company (compliant with International MRA) will provide ISO/IEC 17025-based calibration.

Note: In addition to thermometers, we will calibrate any measuring instrument, including pressure gauges, differential pressure gauges, hygrometers, and flowmeters, manufactured by any manufacturer. However, there are some measuring instruments that we cannot calibrate, so please contact us to find out if we can calibrate your instrument.

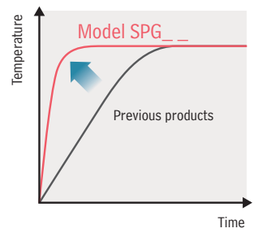
Model SPG5_/6_/7_

Excellent reproducibility even at high temperatures

Single-crystal sapphire is used for the pressure-sensitive element. This corrosive-resistant and heat-resistant material allows you to perform measurements with high reproducibility even at high temperatures from of 125 to 200 °C.

Quick warm-up for stable control

A microprocessor uses digital PID calculation to control the heater of the model SPG_ _, affording temperature control with short warm-up time and excellent stability.



Model PTG7_G

Wide range of interfaces

Choose an interface suitable for your application from our extensive line of products.

- Screw type
- Flush diaphragm type
- Sanitary type
- Sanitary remote seal type
- Flange type
- Chemical screw type

Screw type Sanitary type

Compact and lightweight, but rugged

This product has a lightweight body (screw type = approx. 900 g) which can be directly attached to a pipe. The rugged body has a waterproof/dust-proof structure and meets explosion-proof standards. This product can be used with confidence for various applications.

- Waterproof/dust-proof structure: IEC IP67
- Explosion-proof structure:
  TIIS pressure-resistant oil-filled explosion-proof (Ex do II CT4X)
  FM intrinsically safe explosion-proof (AEx ia IIC T4)
  KOSHA pressure-resistant explosion-proof (Ex d IIC T4)

Support for diverse heater control needs

Solid-State Relays (Model PGM10N/F)
Power Controllers (Model PG5_ _)

(Excluding model PGM10N)
(Model PGM10F only)
(Model PGM10F only)

Model PGM10N/F

Wide-voltage input signal 3.5 to 30 V | Zero-cross type

Model PG5_ _

Single-phase power controller | Rated power supply voltage 100 to 240 V AC | Rated current 15 A・30 A

Choose the right unit from our wide range of

Power Controllers

Model PU21_

Single-phase power controller | Phase control Zero-cross control

Model PU23_

Three-phase power controller | Phase control Zero-cross control | 6-arm control

Operate

Model PGM10N/F

Extensive lineup

Two types of power regulators, one with no heat sink and one with a built-in heat sink, are available.

No heat sink type
Model PGM10N

Maximum load current 15A/25A/45A

Built-in heat sink type
Model PGM10F

Maximum load current 15A/25A

Designed for a wide range of input voltages

Made for a wide-voltage input signal. This product can be connected easily to the voltage pulse output from our controllers.

Controllers that can be connected in parallel (for 1 output)

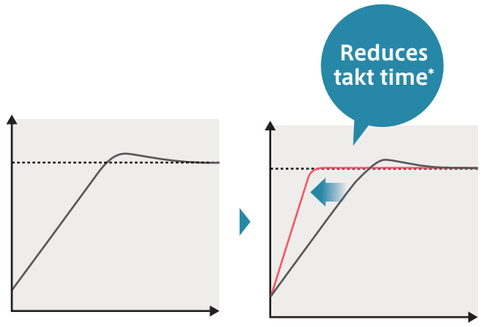
Model No. of Azbil's controller	Model No. of Azbil's solid state relay (SSR)	
	PGM10N_ _ _	PGM10F_ _ _
C1M/C1A/C2/C3	2 units	2 units
C25/26/35/36		
C7G	2 units	2 units
NX-D15/25/35*	10 units	8 units

* An external power supply is required when connecting to model NX-D15/25/35.

Model PG5_ _

Support for high-speed heating processes exceeding 100 °C per second.

This is a high-speed single-phase power regulator. In combination with a special heater, it can be used for equipment that raises the temperature by several hundred degrees in one second.



*Depending on heater capacity

Model PU21_, PU23_

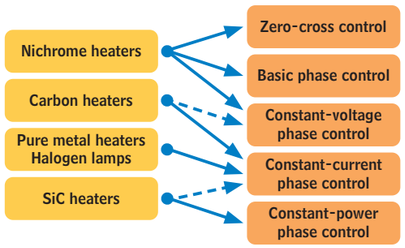
A diverse line of products

Select the right unit for your application from a diverse lineup of single-phase, three-phase, from 100 V to 400 V models. Moreover, a wide range of rated currents from 10 A to 500 A is available.

Single-Phase model PU21_
100 to 440 V AC
10 to 500 A

Three-Phase model PU23_
200 to 440 V AC
10 to 500 A

We provide four different types of phase control and zero-cross control systems for regulating power. Control systems can be switched according to the type of heater used. A digital input or communication function can be used to switch between phase control and zero-cross control.*1

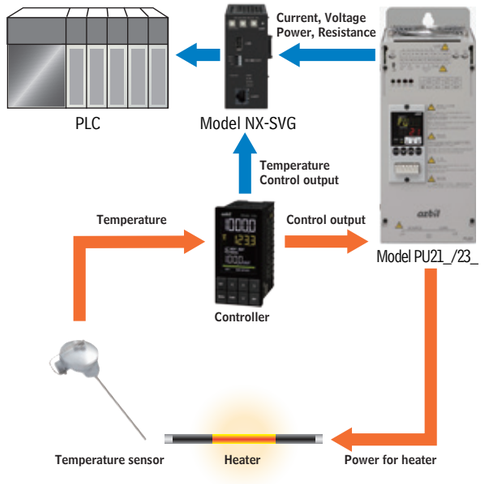


Ample options are available for expanding functions.

- Heater burn-out alarm*2
- Current control function*2
- Built-in fuse*3
- Built-in current transformer (CT)*4

Visualizing heater control

Output to heaters (e.g., current and power) and heater resistance can be retrieved by using the communication function. If the model NX-SVG is used, heater control can be visualized without using any program.



*1: The setup/communication unit is required in order to use the communication function.
*2: Each model PU21_ requires one CT. Each model PU23_ requires three CTs.
*3: Built-in fuse options are not available for the 10 A and 20 A models of model PU23_.
*4: Built-in current transformers are available in 10 -75 A models.

Operate

Providing robust, dependable control

Control Motors

CE (24 V AC model only)

cULus (24 V AC model only, with some exceptions)

90° model

160° model

Model ECM3000

- •Position proportional •Current input •On/off
- Long life
- Angle of rotation 90° or 160°

Our extensive lineup is sure to contain a product for the job

Control Valves
Smart Valve Positioners

CE (Model AVP30_ only)

KC (Model AVP302/307 only)

Control Valves: Model AGVB_ _ _/AGVM_ _ _ , VFR_ _ _
Smart Valve Positioners: Model AVP30_ , AVP20_

- Small and lightweight
- Easy adjustment

Operate

Model ECM3000

Designed for environment resistance

With a protective structure equivalent to IP54, the model ECM3000 can be used in an environment with some splashed water.

Note: Outdoors, use a protective cover for this product.

Various optional functions

90° models are also available with four auxiliary switches. It is possible to output a position signal giving the amount of valve travel to an external device. A model with a 4 to 20 mA DC forced open/close function is also available.

Full range of supply power types

Since the model ECM3000 supports supply voltages of 100 and 200 V AC, when choosing a model there is no need to worry about a power transformer. The 4 to 20 mA DC type also has a free power supply model available.

Model	AC power supply
ECM3000D	24 V, 100 V, 200 V
ECM3000E	24 V
ECM3000F	24 V, 100 V, 200 V
ECM3000G	24 V, 85 to 264 V

Control Valves: Model AGVB_ _ _/AGVM_ _ _ , VFR_ _ _
Smart Valve Positioners: Model AVP30_ , AVP20_

Numerous product types to support customer needs

Checking of fluid properties → Calculations: Calculation of Cv and flow velocity, and analysis of results →

Valve selection
- General-purpose valves
- Angle/three-way valves
- Valves for large diameter or large flow pipes
- Valves for specific uses

→ **Actuator selection**
- Air actuators
- Electric actuators

→ **Accessory selection**
- Positioners
- Airlock/pilot valves
- Regulator with filter
- Solenoid valves
- Volume boosters
- Limit switches

Streamline maintenance work with azbil's positioners and reduce your plant's operational costs

Features of Smart Valve Positioner model AVP30_ and model AVP20_

- Complete separation of the air and electric circuits reduces risk to electrical components
- Auto/manual changeover switch
- Automatic adjustment function
  - Support for Azbil-made and other control valves
  - Compatible with ball valves and other rotary valves
- As a vibration countermeasure, model AVP20_ with separate travel detector is also available.
- Equipped with control valve diagnostic parameters

Model AVP20_

Model AVP30_

Operate

Charts + Data, a 2-in-1 Recorder

Hybrid Recorders

Model SR-106

Model SR-106 (Multi-point type)
Model SR-101/102/103/104 (Pen type)

Ethernet (10BASE-T/100BASE-TX) | SD card | Software package

Model SR-206/212/224

Model SR-206/212/224 (Multi-point type)
Model SR-201/202/203/204 (Pen type)

Ethernet (10BASE-T/100BASE-TX) | SD card | Software package

Field support with networking capabilities and a library of functions

Paperless Recorders (Advanced Recorders)

Model ARF106/112

Ethernet (10BASE-T/100BASE-TX) | USB1.1

Model ARF212/224/236/248

Ethernet (10BASE-T/100BASE-TX) | USB2.0

Model SR-106, SR-101/102/103/104, SR-206/212/224, SR-201/202/203/204

Function 1 Chart recording

The familiar chart recording function that everyone is used to has been enhanced. It's easier to use than ever.

Multi-point type

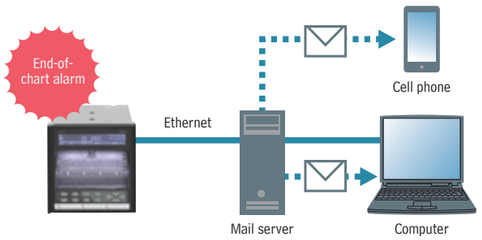
- Inputs: 6/12/24
- Dot printing interval: 5s / dot or 2.5s / dot (switchable)
- Full multi-range input

Pen type

- inputs: 1 to 4
- Recording cycle: 100 ms
- Full multi-range input

Out-of-paper problem prevention

Alarm relay*1 gives advance notice of the end of the roll. With an Ethernet connection, an end-of-chart warning can be sent to you by e-mail*1 so that you are always prepared.



Function 2 Data recording

SD card slot and USB port are standard features, so data can be saved to both an SD card (sold separately) and via the communication function,*1 while it is simultaneously printed on chart paper.

- Saves data at intervals as short as 0.1 s.*2
- Data can be saved in binary or text format.
- Data can be saved in several ways, such as to the SD card only, or to the SD card when an alarm is issued.

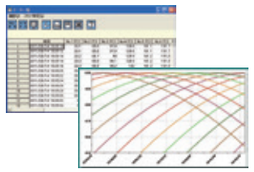
The bundled software makes parameter setting and data management easy.

● Parameter setting software

With the communication function*1 and USB port, parameters are easy to set and change using a PC. Parameter settings can also be easily copied to an SD card (sold separately).

● Data analysis software

Allows you to analyze saved data and easily copy, display, and edit trends.

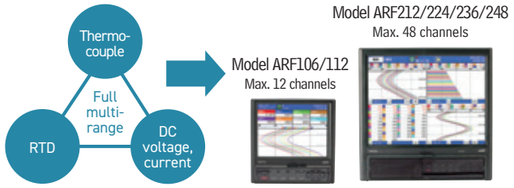


*1. Optional function
*2. The cycle is achieved by a pen recorder. The shortest cycle takes 1 second with a multipoint recorder.

Model ARF106/112, ARF212/224/236/248

High precision and extensibility

It is possible to quickly collect data from all points in 100 ms.
In addition, a high accuracy of ±0.1% FS is achieved.



*An external resistor is used for DC current.

Selectable data format for saving

Data format when saving can be selected depending on the user's needs.

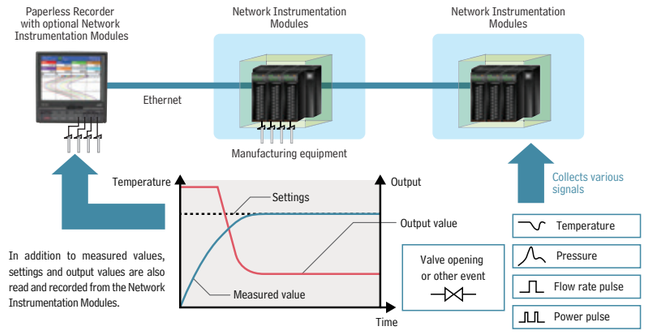
CSV format
Data can be opened directly with a general-purpose application (such as Excel). Data can be checked and edited.

Binary format*
Past data can be reproduced on the model ARF-___ screen (historical trends).

*Processing data on a PC requires dedicated data-analysis software.

Network function library

With optional Ethernet-capable Network Instrumentation Modules, data from a module can be recorded via the network.
With a distributed arrangement, wiring can be minimized and unit channel price reduced while expanding the number of measurement channels.



In addition to measured values, settings and output values are also read and recorded from the Network Instrumentation Modules.

Record

Control Digital Indicating Controllers

Name and model	Single Loop Controller Model C1A	Single Loop Controller Model C2A/C2B	Single Loop Controller Model C3A/C3B
Appearance			
Indication accuracy	±0.1 % rdg. ± 1 digit (thermocouple, RTD) ±0.1 % FS ± 1 digit (DC voltage, DC current)	±0.2 % FS ± 1digit	±0.1 % rdg. ± 1 digit (thermocouple, RTD) ±0.1 % FS ± 1 digit (DC voltage, DC current)
Sampling cycle	25, 50, 100, 300, 500 ms	50, 100, 300, 500 ms	25, 50, 100, 300, 500 ms
Rated power supply voltage	100 to 240 V AC 50/60 Hz 24 V DC , 24 V AC 50/60 Hz Note: Varies depending on the model.	100 to 240 V AC 50/60 Hz 24 V DC , 24 V AC 50/60 Hz Note: Varies depending on the model.	100 to 240 V AC 50/60 Hz 24 V DC , 24 V AC 50/60 Hz Note: Varies depending on the model.
External dimensions (mm)	H48 × W48 × D73.6	C2A: H96×W48×D73.6 C2B: H96×W96×D73.6	C3A: H96×W48×D73.6 C3B: H96×W96×D73.6
Panel cutout size (mm)	$45^{+0.5}_{0} \times 45^{+0.5}_{0}$	C2A: $44^{+0.5}_{0} \times 92^{+0.5}_{0}$ C2B: $92^{+0.5}_{0} \times 92^{+0.5}_{0}$	C3A: $44^{+0.5}_{0} \times 92^{+0.5}_{0}$ C3B: $92^{+0.5}_{0} \times 92^{+0.5}_{0}$

Name and model	Single Loop Controller Model C1M	Single Loop Controller Model C25/C26	Single Loop Controller Model C35/C36
Appearance			(Model C36 only)
Indication accuracy	±0.2 % FS ± 1 digit (RTD, DC voltage, DC current) ±0.3 % FS ± 1 digit (thermocouple)	±0.3 % FS ± 1digit	±0.1 % FS ± 1digit
Sampling cycle	50, 100, 300, 500 ms	300 ms	100 ms
Rated power supply voltage	100 to 240 V AC 50/60 Hz	100 to 240 V AC 50/60 Hz 24 V DC , 24 V AC 50/60 Hz Note: Varies depending on the model.	100 to 240 V AC 50/60 Hz 24 V DC , 24 V AC 50/60 Hz Note: Varies depending on the model.
External dimensions (mm)	H48 × W48 × D70.5	C25: H96×W48×D70 C26: H96×W96×D70	C35: H96×W48×D73.6 C36: H96×W96×D73.6
Panel cutout size (mm)	$45^{+0.5}_{0} \times 45^{+0.5}_{0}$	C25: $44^{+0.5}_{0} \times 92^{+0.5}_{0}$ C26: $92^{+0.5}_{0} \times 92^{+0.5}_{0}$	C35: $44^{+0.5}_{0} \times 92^{+0.5}_{0}$ C36: $92^{+0.5}_{0} \times 92^{+0.5}_{0}$

Control Multi-Loop Controller with Multifunction Display

Name and model	Multi-Loop Controller with Multifunction Display Model C7G	Multi-Loop Controller with Multifunction Display Model C7S
Appearance		
Control channels	1, 2, 3, 4	1, 2, 3, 4
Sampling cycle	10 ms, 50 ms, 100 ms	10 ms, 50 ms, 100 ms
Rated power supply voltage	100 to 240 V AC 50/60 Hz 24 V DC Note: Varies depending on the model.	100 to 240 V AC 50/60 Hz 24 V DC Note: Varies depending on the model.
External dimensions (mm)	H92 × W92 × D138.7 (integrated mounting)	H92 × W92 × D138.7 (integrated mounting)
Panel cutout size (mm)	$92^{+0.5}_{0} \times 92^{+0.5}_{0}$	$92^{+0.5}_{0} \times 92^{+0.5}_{0}$

Control Network Instrumentation Modules

Name and model	Controller Module Model NX-D15	Controller Module Model NX-D25	Controller Module Model NX-D35	Supervisor Module Model NX-S11/12/21/01
Appearance				
Control loops	4	4	2, 4	32 (8 units)
Sampling cycle	500 ms	200 ms	100 ms	-
Rated power supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
External dimensions (mm)	H100 × W30 × D104	H100 × W30 × D104	H100 × W30 × D104	H100 × W30 × D85

Name and model	Digital Input Module Model NX-DX1	Pulse Input Module Model NX-DX2	Digital Output Module Model NX-DY1	Digital Output Module Model NX-DY2
Appearance				
Inputs	16	16	-	-
Outputs	-	-	16 (sink)	16 (source)
Rated power supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
External dimensions (mm)	H100 × W30 × D104	H100 × W30 × D104	H100 × W30 × D104	H100 x W30 x D104

Name and model	Communication Box Model NX-CB2/CB1	Communication Adapter Model NX-CL1/CR1	Terminal Adapter Model NX-TL1/TR1
Appearance	(Model NX-CB1 only)		
Individual specifications	100 Mbps Ethernet RJ45 (4 ports) With an optical port: 100 Mbps Ethernet RJ45 (3 ports) + LC (1 port)	RJ45 (1 port)	Ring communication terminal
Mounting method	DIN rail	DIN rail	DIN rail
Rated power supply voltage	24 V DC	-	-
External dimensions (mm)	H100 × W30 × D85	H100 × W20 × D26.4	H100 × W20 × D36.5

Product approved for CE marking.
Product approved for UKCA marking.
Product listed by UL covering CSA requirements.
Product compliant with Korean safety standards
Product meets ship classification society requirements (see p. 23 for details).

Connect Network Instrumentation Module

Smart Device Gateway

Name and model	Network Instrumentation Module Smart Device Gateway Model NX-SVG
Appearance	
Event bus	-
Mounting method	DIN rail
Communication port	Ethernet: 2, RS-485: 2
Rated power supply voltage	24 V DC
External dimensions (mm)	H100.5 × W45.8 × D84.3

Measure Temperature Sensors

Thermocouples

Name and model	Temperature Sensor (General-Purpose Sheathed Thermocouple) Model YYF_ _	Temperature Sensor (General-Purpose Sheathed Thermocouple) Model YYE_ _	Temperature Sensor (General-Purpose Sheathed Thermocouple) Model YYH_ _	Temperature Sensor (General-Purpose Thermocouple) Model YYC_ _
Appearance				
Element type	Single/Double	Single/Double	Single	Single/Double
Type	K, E, J, T	K, E, J, T	K, E, J, T	K, E, J, T
Measurement range	-40 to +900 ℃	-40 to +900 ℃	-40 to +900 ℃	0 to 900 ℃
Material	ASTM316L (equivalent to SUS316L)	ASTM316L (equivalent to SUS316L)	ASTM316L (equivalent to SUS316L)	SUS316
Protective tube outside diameter (mm)	3.2/4.8/6.4/8.0	1.0/1.6/3.2/4.8/6.4/8.0 (only straight type single element available for 1.0/1.6)	3.2/4.8/6.4/8.0	10/12/15/22 (21.7)

Resistance Temperature Detectors

Name and model	Temperature Sensor (Simple Thermocouple) Model YYU1_/2_/3_	Temperature Sensor (Simple Thermocouple) Model YYU4_	Temperature Sensor (General-Purpose Resistance Temperature Detector) Model YYK_ _	Temperature Sensor (General-Purpose Resistance Temperature Detector) Model YYP_ _
Appearance				
Element type	Single	Single	Single/Double	Single/Double
Type	K, J	K, J	Pt100Ω 3-wire type JPt100Ω 3-wire type	Pt100Ω 3-wire type JPt100Ω 3-wire type
Measurement range	0 to 250 ℃	0 to 150 ℃, 0 to 250 ℃	0 to 250 ℃, 0 to 500 ℃	-200 to +100 ℃, -40 to +250 ℃, 0 to 500℃
Material	SUS316	-	SUS316	SUS316
Protective tube outside diameter (mm)	3.2	-	3.2/4.8/6.4/8.0	10/12/15/22 (21.7)

Name and model	Temperature Sensor (General-Purpose Sheathed Resistance Temperature Detector) Model YYM_ _	Temperature Sensor (General-Purpose Sheathed Resistance Temperature Detector) Model YYN_ _	Temperature Sensor (Simple Resistance Temperature Detector) Model YYT_ _
Appearance			
Element type	Single/Double	Single/Double	Single
Type	Pt100Ω 3-wire type JPt100Ω 3-wire type	Pt100Ω 3-wire type JPt100Ω 3-wire type	Pt100Ω 3-wire type
Measurement range	-200 to +100 ℃, -40 to +250 ℃, 0 to 500 ℃	-200 to +100 ℃, -40 to +250 ℃, 0 to 500 ℃	0 to 250 ℃
Material	ASTM316L (equivalent to SUS316L)	ASTM316L (equivalent to SUS316L)	SUS316
Protective tube outside diameter (mm)	3.2/4.8/6.4/8.0	3.2/4.8/6.4/8.0	3.0

Measure Pressure Detectors

Name and model	Sapphire Diaphragm Gauge Model SPG5_/6_/7_	Smart Pressure Transmitters Model PTG7_G
Appearance	(Model SPG5_ only)	
Measurement range	0 to 133.32 kPa (depends on the model)	-100 kPa to +50 MPa (depending on the model)
Accuracy	0.25% of reading at self-heating temperature of less than 160 °C 0.5% of reading at self-heating temperature of 160 °C and higher	±0.5% FS, ±0.2% FS (high precision model)
Mounting angle	Any direction	-
Input power supply voltage	±15 V DC ±10% (dual power supplies) ±24 V DC ±10% (single power supply)	See the specification sheet.

Products with ship classification society certification

Name and model number		NK	LR	BV	DNV GL	KR	ABS	RINA	GL	CCS
Single Loop controller	C36	●	●							●
Network Instrumentation Modules	NX-D15/25/35 NX-S11/12/21/01 NX-DX1/2 NX-DY1/2 NX-CB1 NX-CL1/CR1 NX-TL1/TR1	●	●	●	●		●			●

Product approved for CE marking.
Product approved for UKCA marking.Europe.
Product listed by UL covering CSA requirements.
Product compliant with Korean safety standards

Operate Solid-State Relays

Name and model		Solid-State Relay Model PGM10N	Solid-State Relay Model PGM10F
Appearance			
Type		No heat sink type	Built-in heat sink type
Input signal		3.5 to 30 V DC(Voltage pulse)	4.5 to 30 V DC(Voltage pulse)
Mounting method	DIN rail	-	●
	Wall mountable	●	●

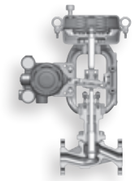
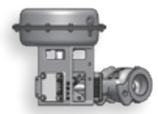
Operate Power Controllers

Name and model		Single-phase Power Controller Model PG5_ _	Name and model		Single-phase Power Controller Model PU21_	Three-phase Power Controller Model PU23_
Appearance			Appearance			
Type		High-speed type	Control system	Phase control	Basic, Constant-voltage, Constant-current, Constant-power	
Input signal		4 to 20 mA DC		Zero-cross control	●	●
Mounting method	DIN rail	-	Rated power supply voltage		100 to 440 V AC	200 to 440 V AC
	Wall mountable	●	Rated current		10 to 500 A	

Operate Control Motors

Name and model		Control Motor Model ECM3000D	Control Motor Model ECM3000E	Control Motor Model ECM3000F	Control Motor Model ECM3000G
Appearance		(24 V AC power supply model only) (24 V AC model only, with some exceptions)			
Control operation		On/off	Position proportional	Position proportional	Position proportional
Output torque		12.5 N・m	12.5 N・m	12.5 N・m or 6 N・m	12.5 N・m
Rated power supply voltage	24 V AC	●	●	●	●
	100 V AC	-	-	●	-
	200 V AC	-	-	●	-
	85 to 264 V AC	-	-	-	●

Operate Control Valves

	General-Purpose Valves	Valves for Large Diameter/ Large Flow Pipes	Motor-Operated Valves
Name and model	Top Guided Single Seated Control Valve Model AGVB_ _ _/AGVM_ _ _	Eccentric Rotary Control Valve Model VFR_ _ _	Electric Top Guided Single Seated Control Valve Model AGVB_ _ _/AGVM_ _ _
Appearance			
Nominal size	15 A to 100 A	25 A to 300 A	15 A to 50 A
Pressure rating	AGVB_ _ _: ANSI/JPI 150,JIS10K AGVM_ _ _: ANSI/JPI 300,JIS16K to 30K	ANSI/JPI 150, 300, 600* JIS10K, 20K, 30K*, 40K* * Size 2 in. or less	AGVB_ _ _ : ANSI/JPI 150, JIS10K AGVM_ _ _ : ANSI/JPI 300, JIS16K to 30K
Connection type	Flanged: RF, FF Welded: SW, BW	Wafer Flanged: RF	Flanged: RF, FF Welded: SW, BW
Body material	Carbon steel Stainless steel	Carbon steel Stainless steel	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A	SCS24 SCS14, SCS14 with CoCr-A	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A
Operating temperature limit	-196 to +400 ℃	-60 to +350 ℃	-196 to +400 ℃
Features/usage	General-use process for petrochemical and chemical plant	• High rangeability • Powder or high viscosity service	Flow control of saturated vapor, cold and hot water, etc.
Options	Low leakage packing system	Multi-hole plate for anti-cavitation and low noise	Low leakage gland packing system

Operate Smart Valve Positioners

Name and model	Smart Valve Positioner Model AVP30_	Smart Valve Positioner Model AVP20_
Appearance	(Model AVP302/ 307 only)	
Input signal	4 to 20 mAdc, configurable to any required range for split range	4 to 20 mAdc, configurable to any required range for split range
Stroke range	10 to 100 mm (direct acting), up to 90 degrees (rotary)	10 to 100 mm (direct acting), up to 90 degrees (rotary)
Supply air pressure	140 to 700 kPa	140 to 700 kPa
Ambient temperature range	-40 to +80 ℃	-40 to +80 ℃

Product approved for CE marking.
Product approved for UKCA marking.
Product listed by UL covering CSA requirements.
Product meets safety standards in Germany.
Product compliant with Korean safety standards

Record Recorders

Name and model	Hybrid Recorder Model SR-106 (Multi-point type) Model SR-101/102/103/104 (Pen type)	Hybrid Recorder Model SR-206/212/224 (Multi-point type) Model SR-201/202/203/204 (Pen type)	Paperless Recorder (Advanced Recorder) Model ARF106/112
Appearance			
Recording points	Multi-point type: 6 Pen type: 1, 2, 3, 4 (varies depending on the model)	Multi-point type: 6, 12,24 Pen type: 1, 2, 3, 4 (varies depending on the model)	6, 12
Measuring interval	Multi-point type: 1 s/6-point Pen type: Approx. 100 ms	Multi-point type: 1 s/6-point, 2 s/12-point, 2 s/24-point, Pen type: Approx. 100 ms	100 ms to 60 min according to the setting
Rated power supply voltage	100 to 240 V AC 50/60 Hz	100 to 240 V AC 50/60 Hz	100 to 240 V AC 50/60 Hz
External dimensions (mm)	H144 × W144 × D268.2 (varies depending on the model/ additional functions)	Multi-point type: H288 × W288 × D242.5 Pen type: H288 × W288 × 267.5	H144 × W144 × D203.6
Panel cutout size (mm)	138 × 138	281 × 281	138 × 138
Weight	Approx. 3.0kg	Approx. 7.6 kg	Approx. 2.2 kg
	Manufacturer: CHINO Corporation	Manufacturer: CHINO Corporation	

Name and model	Paperless Recorder (Advanced Recorder) Model ARF212/224/236/248
Appearance	
Recording points	12, 24, 36, 48
Measuring interval	100 ms to 60 min according to the model and setting
Rated power supply voltage	100 to 240 V AC 50/60 Hz
External dimensions (mm)	H288 × W288 × D250.7
Panel cutout size (mm)	281 × 281
Weight	Approx. 7.2 kg

CE Product approved for CE marking.
UK CA Product approved for UKCA marking.

VTL TECH CO., LTD.
SOLUTIONS PROVIDER FOR INDUSTRIES

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