Autonics
Sensors & Controllers

VER.16

SELECTION GUIDE

SENSORS
CONTROLLERS
MOTION DEVICES

CE cULus ISO-9001 EAC RoHS
www.autonics.com

BTF

GO TO A-2

PHOTOELECTRIC SENSORS

- Ultra-thin depth of only 3.7 mm
- Minimum sensing target size: Ø0.2 mm (diffuse reflective type, BGS reflective type)
- Maximum sensing distance: 1 m (through-beam type)
- IP67 protection structure (IEC standard)

BTS

GO TO A-2

PHOTOELECTRIC SENSORS

- Ultra-slim width of only 7.2 mm
- Minimum sensing target size: Ø0.15 mm (convergent reflective type)
- Maximum sensing distance: 1 m (through-beam type)
- IP67 protection structure (IEC standard)

PSAN

GO TO A-48

PRESSURE SENSORS

- Applicable in various environments including gas, liquid, and oil (fluid type)
- Auto shift function allows stable output regardless of change in original pressure
- Zero-point adjustment function, peak monitoring function, chattering prevention function

(Excepts E15S)

E15S/E18S

GO TO A-52

ROTARY ENCODERS

- Ultra-compact and lightweight (Ø15/Ø18 mm)
- Easy installation in limited spaces
- Low moment of inertia
- Power supply: 5VDC ±5%

TX

GO TO B-14

TEMPERATURE CONTROLLERS

- Large LCD display with easy-to-read white PV characters
- Compact, space-saving design with 45 mm depth
- 11-segment display for higher legibility

TK4N

GO TO B-2

TEMPERATURE CONTROLLERS

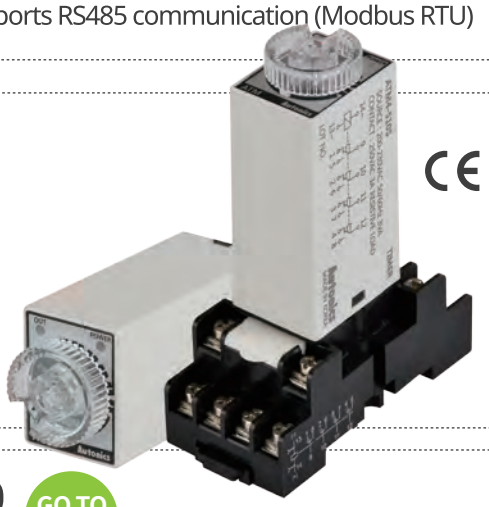
- 50 ms high-speed sampling rate and ±3% display accuracy
- High performance control with simultaneous heating and cooling control and automatic / manual control mode
- Supports RS485 communication (Modbus RTU)

ATM

GO TO B-52

TIMERS

- Ultra-compact, miniature size
- 4PDT contact (250 VAC, 3 A)
- Various timing ranges: 0.1 sec to 3 hr (11 available options, by model)
- Simple time setting with analog dial
- Power ON start method



SPB

GO TO B-88

SWITCHING MODE POWER SUPPLIES

- Stable power supply with minimal noise and ripple
- Slim and compact size
- High power conversion efficiency up to 92% with LLC circuit (SPB-240)
- Built-in power factor correction circuit (SPB-120/240)
- Built-in inrush current protection, output over current protection, output overvoltage protection (SPB-120/240), output short-circuit protection, overheating protection functions

DS/DA

GO TO B-82

DISPLAY UNITS

- Simple connector to connector multi-stage connection (without soldering)
- Expandable up to 24 units
- Mix and match 7-segment, 16-segment, and red, green displays
- Display 64 different characters (0 to 9, 27 symbols, decimal point)

AK

STEPPER MOTORS

- Compact design and lightweight with high accuracy, speed, and torque
- Various types: shaft, hollow shaft, brake, geared, geared-brake, rotary actuator, rotary actuator-brake type
- Various frame sizes : 24, 42, 60, 85 mm

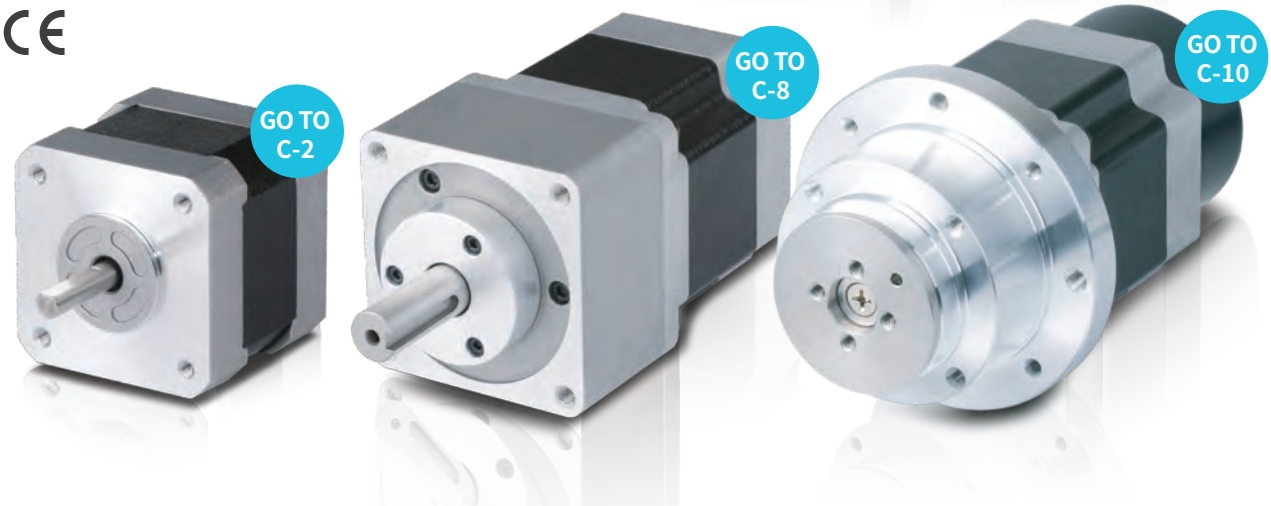
CE

GO TO C-6

GO TO C-2

GO TO C-8

GO TO C-10



MD5

STEPPER MOTOR DRIVERS

- Bipolar constant current pentagon drive type
- Auto-current down and self-diagnosis function
- Microstep drive function (max. 250 divisions)
- Minimizes effects from external noise by photocoupler input insulation

CE

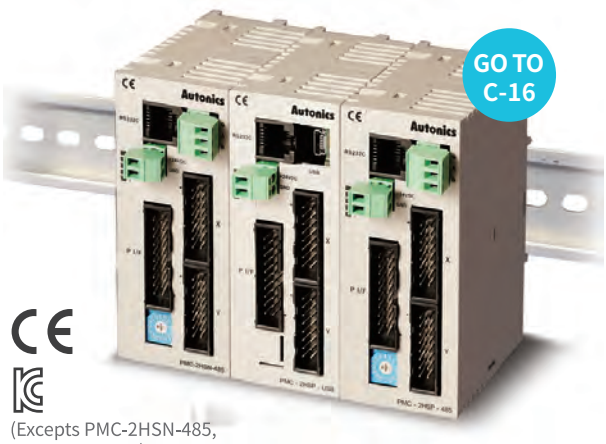
GO TO C-12

PMC-2HSP/N

MOTION CONTROLLERS

- Independent 2-axis controlling with high operating speed of up to 4Mpps
- 4 operation modes : scan, continuous, index, program mode
- Programmable up to 200 steps
- Control up to 32-axis (16 units) via RS485 serial communication (Modbus RTU)

GO TO C-16



CE

KC

(Excepts PMC-2HSN-485, PMC-2HSP-485)

SELECTION GUIDE

SENSORS

CONTROLLERS

MOTION DEVICES

※ The dimensions or specifications on this selection guide may change and some models may be discontinued without notice.
For more information of models, visit our web site (www.autonics.com) or refer to the Autonics total catalogue.

SENSORS

Photoelectric Sensors · Fiber Optic Sensors ·
Door / Area Sensors · Proximity Sensors ·
Pressure Sensors · Rotary Encoders ·
Connectors · Sockets ·
Sensor Distribution Box

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Ultra Slim, Built-in Amplifier Type Photoelectric Sensor **BTF Series** <Diffuse reflective/ BGS reflective type>  Through-beam type : W13×H19×L4.6mm Diffuse reflective type/ BGS reflective type : W13×H24×L4.6mm	Through-beam type	1m	Opaque material of min. Ø2mm	Red LED (650nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 20mA	—	Light ON / Dark ON
	Diffuse reflective type	5 to 30mm	Opaque, Translucent material (min. sensing target: Ø0.2mm)※1	Red LED (650nm)	Max. 1ms	12-24VDC	Max. 20mA	—	Light ON / Dark ON
	BGS reflective type	1 to 15mm	Opaque, Translucent material (min. sensing target: non-illuminated objects of Ø0.2mm)※1	Red LED (650nm)	Max. 1ms	12-24VDC	Max. 20mA	—	Light ON / Dark ON

※1. Based on 10mm sensing target.

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Ultra Compact, Built-in Amplifier Type Photoelectric Sensor **BTS Series** <Retroreflective/ Convergent reflective type>  Through-beam type : W7.2×H18.6×L9.5mm Retroreflective type/ Convergent reflective type : W7.2×H24.6×L10.8mm	Through-beam type	1m	Opaque material of min. Ø2mm	Red LED (650nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 20mA	—	Light ON / Dark ON
	Retroreflective type	10 to 200mm (MS-6)	Opaque material of min. Ø27mm (min. sensing target: opaque material of Ø2mm)※1	Red LED (650nm)	Max. 1ms	12-24VDC	Max. 20mA	—	Light ON / Dark ON
	Convergent reflective type	5 to 30mm	Opaque, Translucent material (min. sensing target: Ø0.15mm)※2	Red LED (650nm)	Max. 1ms	12-24VDC	Max. 20mA	—	Light ON / Dark ON
		5 to 15mm	Opaque, Translucent material (min. sensing target: Ø0.15mm)※2	Red LED (650nm)	Max. 1ms	12-24VDC	Max. 20mA	—	Light ON / Dark ON

※1. Based on 100mm sensing target.
※2. Based on 10mm sensing target.

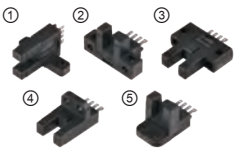
Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP67	CE	BTF1M-TDTL-■ BTF1M-TDTD-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP67	CE	BTF30-DDTL-■ BTF30-DDTD-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP67	CE	BTF15-BDTL-■ BTF15-BDTD-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP67	CE	BTS1M-TDTL-■ BTS1M-TDTD-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP67	CE	BTS200-MDTL-■ BTS200-MDTD-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP67	CE	BTS30-LDTL-■ BTS30-LDTD-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø2.5, 2m)	Sunlight : Max. 10,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP67	CE	BTS15-LDTL-■ BTS15-LDTD-■

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Compact, Long Sensing Distance, Built-in Amplifier Type Photoelectric Sensor **BJ Series** <Cable type>  <Connector type>  Through-beam type/ Retroreflective type/ Diffuse reflective type/ BGS reflective type/ Narrow beam reflective type : W10.6×H32×L20mm	Through-beam type	15m	Opaque material of min. Ø12mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 20mA	Built-in VR	Light ON/Dark ON (set by volume)
		10m	Opaque material of min. Ø12mm	Red LED (660nm)					
		7m	Opaque material of min. Ø8mm	Red LED (650nm)					
	Retroreflective type (built-in polarizing filter)	0.1 to 3m (MS-2A)	Opaque material of min. Ø75mm	Red LED (660nm)	Max. 1ms	12-24VDC	Max. 30mA	Built-in VR	Light ON/Dark ON (set by volume)
	Diffuse reflective type	1m	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 30mA	Built-in VR	Light ON/Dark ON (set by volume)
		300mm	Opaque, Translucent material	Red LED (660nm)					
		100mm	Opaque, Translucent material	Infrared LED (850nm)					
		30mm	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 30mA	—	Light ON
		15mm	Translucent material (glass)						
	BGS reflective type	10 to 30mm	Opaque, Translucent material	Red LED (660nm)	Max. 1.5ms	12-24VDC	Max. 30mA	Built-in VR	Light ON/Dark ON (set by volume)
		10 to 50mm							
	Narrow beam reflective type	30 to 70mm	Opaque, Translucent material (min. sensing target: min. Ø0.2mm (copper wire))	Red LED (650nm)	Max. 1.5ms	12-24VDC	Max. 30mA	Built-in VR	Light ON/Dark ON (set by volume)
		70 to 130mm							

Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP65 (connector type: IP67)	CE	BJ15M-TDT-■
		Connector type (M8)					BJ15M-TDT-C-■
		Cable type (Ø3.5, 2m)					BJ10M-TDT-■
		Connector type (M8)					BJ10M-TDT-C-■
		Cable type (Ø3.5, 2m)					BJ7M-TDT-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP65 (connector type: IP67)	CE	BJ3M-PDT-■
		Connector type (M8)					BJ3M-PDT-C-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP65 (connector type: IP67)	CE	BJ1M-DDT-■
		Connector type (M8)					BJ1M-DDT-C-■
		Cable type (Ø3.5, 2m)					BJ300-DDT-■
		Connector type (M8)					BJ300-DDT-C-■
		Cable type (Ø3.5, 2m)					BJ100-DDT-■
		Connector type (M8)					BJ100-DDT-C-■
NPN open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP65	CE	BJG30-DDT
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP65	CE	BJ30-BDT-■
							BJ50-BDT-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP65	CE	BJN50-NDT-■
							BJN100-NDT-■

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Photomicro Sensor **BS5 Series** <Cable type>  ①T type: W25×H13.5×L22.2mm ②L type: W26.5×H15.4×L16.3mm ③K type: W25×H6.6×L27.6mm ④V type: W13.5×H13×L27.6mm ⑤Y type: W13.5×H15.4×L20mm	Through-beam type (not-modulated)	5mm fixed	Opaque material of min. Ø0.8×2mm	Infrared LED (940nm)	Light ON : Max. 20μs, Dark ON : Max. 100μs	5-24VDC	Max. 30mA	—	Light ON/Dark ON (set by control wire)
	Through-beam type (not-modulated)	5mm fixed	Opaque material of min. Ø0.8×2mm	Infrared LED (940nm)	Light ON : Max. 20μs, Dark ON : Max. 100μs	5-24VDC	Max. 30mA	—	Light ON/Dark ON (set by control wire)
<Connector type>  ①T type: W25×H13.5×L22.2mm ②L type: W26.6×H15.4×L13.3mm ③K type: W25×H6.6×L27.6mm ④V type: W13.5×H13×L27.6mm ⑤Y type: W13.5×H15.4×L20mm	Through-beam type (not-modulated)	5mm fixed	Opaque material of min. Ø0.8×2mm	Infrared LED (940nm)	Light ON : Max. 20μs, Dark ON : Max. 100μs	5-24VDC	Max. 30mA	—	Light ON/Dark ON (set by control terminal block)
	Through-beam type (not-modulated)	5mm fixed	Opaque material of min. Ø0.8×2mm	Infrared LED (940nm)	Light ON : Max. 20μs, Dark ON : Max. 100μs	5-24VDC	Max. 30mA	—	Light ON/Dark ON (set by control terminal block)

※ Sold separately for connector type: Connector (CT-01), Connector cable (CT-02, 1m)

Long Sensing Distance, Diffuse Reflective Type Photoelectric Sensor **BA Series**  W19×H15.5×L48.5mm	Diffuse reflective type	2m	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 15mA	Built-in VR	Light ON
									Dark ON
									Light ON
									Dark ON

Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
NPN open collector	—	Cable type (Ø3, 1m)	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP50	CE	BS5-K1M
							BS5-T1M
							BS5-L1M
							BS5-Y1M
							BS5-V1M
PNP open collector	—	Cable type (Ø3, 1m)	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP50	CE	BS5-K1M-P
							BS5-T1M-P
							BS5-L1M-P
							BS5-Y1M-P
							BS5-V1M-P
NPN open collector	—	Connector type	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP50	CE	BS5-K2M
							BS5-T2M
							BS5-L2M
							BS5-Y2M
							BS5-V2M
PNP open collector	—	Connector type	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP50	CE	BS5-K2M-P
							BS5-T2M-P
							BS5-L2M-P
							BS5-Y2M-P
							BS5-V2M-P
NPN open collector	—	Cable type (Ø3, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP64	CE	BA2M-DDT
							BA2M-DDTD
PNP open collector	—	Cable type (Ø3, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 55℃	IP64	CE	BA2M-DDT-P
							BA2M-DDTD-P

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Compact, Built-in Amplifier Type Photoelectric Sensor **BY Series** <Through-beam type (standard type)>  <Through-beam type (side sensing type)>  Standard type : W12×H16×L30mm Side sensing type : W12×H30×L16mm	Through-beam type (standard type)	500mm	Opaque material of min. Ø5mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 30mA	—	Dark ON
	Through-beam type (side sensing type)	500mm	Opaque material of min. Ø5mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 30mA	—	Dark ON
Compact, Built-in Amplifier Type Photoelectric Sensor **BYD Series** <Through-beam type>  Through-beam type/ Diffuse reflective type/ Convergent reflective type : W12×H32×L18mm	Through-beam type	3m	Opaque material of min. Ø6mm	Infrared LED	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 30mA	Fixed	Dark ON (option: Light ON)
	Diffuse reflective type	100mm	Opaque, Translucent material	Infrared LED	Operation : Max. 3ms, Return : Max. 100ms	12-24VDC	Max. 35mA	Built-in VR	Light ON
	Convergent reflective type	10 to 30mm	Opaque, Translucent material	Infrared LED	Operation : Max. 3ms, Return : Max. 100ms (in case of minimal VR setting)	12-24VDC	Max. 35mA	Fixed	Light ON
		10 to 50mm	Opaque, Translucent material	Infrared LED	Operation : Max. 3ms, Return : Max. 100ms (in case of minimal VR setting)	12-24VDC	Max. 35mA	Fixed	Light ON

Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60°C	IP50	CE	BY500-TDT
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60°C	IP50	CE	BYS500-TDT
NPN open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP64	CE	BYD3M-TDT
PNP open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP64	CE	BYD3M-TDT-P
NPN open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP50	CE	BYD100-DDT
NPN open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP64	CE	BYD30-DDT
					IP50	CE	BYD30-DDT-U (with upper operation indicator)
	●	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP50	CE	BYD30-DDT-T
NPN open collector	—	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP64	CE	BYD50-DDT
					IP50	CE	BYD50-DDT-U (with upper operation indicator)
	●	Cable type (Ø3.5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65°C	IP50	CE	BYD50-DDT-T

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Slim, Built-in Amplifier Type Photoelectric Sensor **BPS Series**  W16×H7.5×L28mm	Through-beam type	3m	Opaque material of min. Ø5mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 20mA	Built-in VR	Dark ON
									Light ON
									Dark ON
									Light ON
General-Purpose, Built-in Amplifier Type Photoelectric Sensor **BM Series** <Through-beam type>  Through-beam type/ Retroreflective type/ Diffuse reflective type : W16×H28.4×L51.5mm	Through-beam type	3m	Opaque material of min. Ø8mm	Infrared LED (940nm)	Max. 3ms	12-24VDC	Emitter/ Receiver : Max. 45mA	Fixed	Dark ON
	Retroreflective type	0.1 to 1m (MS-2)	Opaque material of min. Ø60mm	Infrared LED (940nm)	Max. 3ms	12-24VDC	Max. 40mA	Fixed	Dark ON
	Diffuse reflective type	200mm	Opaque, Translucent material, Transparent material	Infrared LED (940nm)	Max. 3ms	12-24VDC	Max. 40mA	Built-in VR	Light ON (option: Dark ON)
Side Sensing Type Photoelectric Sensor **BMS Series** <Through-beam type>  Through-beam/ Retroreflective/ Diffuse reflective type : W16×H55×L29mm	Through-beam type	5m	Opaque material of min. Ø10mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 50mA	—	Light ON/Dark ON (set by control wire)
	Retroreflective type	0.1 to 2m (MS-2)	Opaque material of min. Ø60mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
	Diffuse reflective type	300mm	Opaque, Translucent material	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)

Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
NPN open collector	—	Cable type (Ø3, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP67	CE	BPS3M-TDT
NPN open collector	—	Cable type (Ø3, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP67	CE	BPS3M-TDTL
PNP open collector	—	Cable type (Ø3, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP67	CE	BPS3M-TDT-P
PNP open collector	—	Cable type (Ø3, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP67	CE	BPS3M-TDTL-P
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BM3M-TDT
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BM1M-MDT
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BM200-DDT
NPN open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BMS5M-TDT
PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BMS5M-TDT-P
NPN open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BMS2M-MDT
PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BMS2M-MDT-P
NPN open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BMS300-DDT
PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	—	CE	BMS300-DDT-P

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
AC/DC, Long Sensing Distance, Built-in Amplifier Type Photoelectric Sensor **BEN Series** <Diffuse reflective type>  Through-beam type/ Retroreflective type/ Diffuse reflective type : W18×H50×L50mm	Through-beam type	10m	Opaque material of min. Ø16mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 50mA	—	Light ON/Dark ON (set by volume)
					Max. 20ms	24-240VAC 24-240VDC	Emitter/ Receiver : Max. 4VA		
	Retroreflective type (standard type)	0.1 to 5m (MS-2)	Opaque material of min. Ø60mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 50mA	Built-in VR	Light ON/Dark ON (set by volume)
					Max. 20ms	24-240VAC 24-240VDC	Max. 4VA		
	Retroreflective type (built-in polarizing filter)	0.1 to 3m (MS-2)	Opaque material of min. Ø60mm	Red LED (660nm)	Max. 1ms	12-24VDC	Max. 50mA	Built-in VR	Light ON/Dark ON (set by volume)
					Max. 20ms	24-240VAC 24-240VDC	Max. 4VA		
	Diffuse reflective type	300mm	Opaque, Translucent material	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 50mA	Built-in VR	Light ON/Dark ON (set by volume)
					Max. 20ms	24-240VAC 24-240VDC	Max. 4VA		
AC/DC, Long Sensing Distance, Built-in Amplifier Type Photoelectric Sensor **BX Series** <Diffuse reflective type>  Through-beam type/ Retroreflective type/ Diffuse reflective type : W25×H68×L80mm	Through-beam type	15m	Opaque material of min. Ø15mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 50mA	Built-in VR	Light ON/Dark ON (set by switch)
					Max. 20ms	24-240VAC 24-240VDC	Emitter/ Receiver : Max. 3VA		
	Retroreflective type (standard type)	0.1 to 5m (MS-2)	Opaque material of min. Ø60mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 50mA	Built-in VR	Light ON/Dark ON (set by switch)
					Max. 20ms	24-240VAC 24-240VDC	Max. 3VA		
	Retroreflective type (built-in polarizing filter)	0.1 to 2m (MS-2) 0.1 to 3m (MS-3)	Opaque material of min. Ø60mm	Red LED (660nm)	Max. 1ms	12-24VDC	Max. 50mA	Built-in VR	Light ON/Dark ON (set by switch)
					Max. 20ms	24-240VAC 24-240VDC	Max. 3VA		
	Diffuse reflective type	700mm	Opaque, Translucent material	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 50mA	Built-in VR	Light ON/Dark ON (set by switch)
					Max. 20ms	24-240VAC 24-240VDC	Max. 3VA		
Cylindrical Type Photoelectric Sensor **BR Series** <Cable type>  <Connector type>  Through-beam type/ Retroreflective type/ Diffuse reflective type/ Narrow beam reflective type : Ø18, L74mm	Through-beam type	4m	Opaque material of min. Ø15mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 45mA	Fixed	Dark ON
									Light ON
		20m	Opaque material of min. Ø15mm	Infrared LED (850nm)	Max. 1ms	12-24VDC	Emitter/ Receiver : Max. 45mA	Fixed	Dark ON
									Light ON
	Retroreflective type	0.1 to 3m (MS-2)	Opaque material of min. Ø60mm	Red LED (660nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
	Diffuse reflective type	100mm	Opaque, Translucent material	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
		400mm	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
	Narrow beam reflective type	200mm	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)

Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
NPN, PNP open collector simultaneous output	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65℃	IP50	CE	BEN10M-TDT
Relay							BEN10M-TFR
NPN, PNP open collector simultaneous output	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65℃	IP50	CE	BEN5M-MDT
Relay							BEN5M-MFR
NPN, PNP open collector simultaneous output	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65℃	IP50	CE	BEN3M-PDT
Relay							BEN3M-PFR
NPN, PNP open collector simultaneous output	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 65℃	IP50	CE	BEN300-DDT
Relay							BEN300-DFR
NPN, PNP open collector simultaneous output	—	Terminal block type	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP66	CE	BX15M-TDT
	●						BX15M-TDT-T
Relay	—						BX15M-TFR
	●						BX15M-TFR-T
NPN, PNP open collector simultaneous output	—	Terminal block type	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP66	CE	BX5M-MDT
	●						BX5M-MDT-T
Relay	—						BX5M-MFR
	●						BX5M-MFR-T
NPN, PNP open collector simultaneous output	—	Terminal block type	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP66	CE	BX3M-PDT
	●						BX3M-PDT-T
Relay	—						BX3M-PFR
	●						BX3M-PFR-T
NPN, PNP open collector simultaneous output	—	Terminal block type	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-20 to 55℃	IP66	CE	BX700-DDT
	●						BX700-DDT-T
Relay	—						BX700-DFR
	●						BX700-DFR-T
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BR4M-TDTD-■
		Connector type (M12)					BR4M-TDTD-C-■
		Cable type (Ø5, 2m)					BR4M-TDTL-■
		Connector type (M12)					BR4M-TDTL-C-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP67	CE	BR20M-TDTD-■
		Connector type (M12)					BR20M-TDTD-C-■
		Cable type (Ø5, 2m)					BR20M-TDTL-■
		Connector type (M12)					BR20M-TDTL-C-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BR3M-MDT-■
		Connector type (M12)					BR3M-MDT-C-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BR100-DDT-■
		Connector type (M12)					BR100-DDT-C-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)					BR400-DDT-■
		Connector type (M12)					BR400-DDT-C-■
■: Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BR200-DDTN-■
		Connector type (M12)					BR200-DDTN-C-■

Photoelectric Sensors

Series	Sensing Type	Sensing Distance	Sensing Target	Light Source	Response Time	Power Supply	Current Consumption And Power Consumption	Sensitivity Adjustment	Operation Mode
Cylindrical Type Photoelectric Sensor (Plastic) **BRP Series** <Cable type>  <Connector type>  Retroreflective type/ Diffuse reflective type/ Narrow beam reflective type : Ø18, L74mm	Retroreflective type	0.1 to 3m (MS-2)	Opaque material of min. Ø60mm	Red LED (660nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
	Diffuse reflective type	100mm	Opaque, Translucent material	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
		400mm	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
	Narrow beam reflective type	200mm	Opaque, Translucent material	Infrared LED (850nm)	Max. 1ms	12-24VDC	Max. 45mA	Built-in VR	Light ON/Dark ON (set by control wire)
U-Shaped Type Photoelectric Sensor **BUP Series** <BUP30>  <BUP50>  BUP30: W52×H20×L72mm BUP50: W78.5×H20×L78.1mm	Through-beam type	30mm	Opaque material of min. Ø4mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 30mA	Fixed	Light ON/Dark ON (set by control wire)
			Opaque material of min. Ø1.5mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 30mA	Built-in VR	Light ON/Dark ON (set by control wire)
		50mm	Opaque material of min. Ø4mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 30mA	Fixed	Light ON/Dark ON (set by control wire)
			Opaque material of min. Ø1.5mm	Infrared LED (940nm)	Max. 1ms	12-24VDC	Max. 30mA	Built-in VR	Light ON/Dark ON (set by control wire)

Control Output	Timer Function	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
■: Control Output Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BRP3M-MDT-■
		Connector type (M12)					BRP3M-MDT-C-■
■: Control Output Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BRP100-DDT-■
		Connector type (M12)					BRP100-DDT-C-■
■: Control Output Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)					BRP400-DDT-■
		Connector type (M12)					BRP400-DDT-C-■
■: Control Output Type No-mark: NPN open collector P: PNP open collector	—	Cable type (Ø5, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 60℃	IP66	CE	BRP200-DDTN-■
		Connector type (M12)					BRP200-DDTN-C-■
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-30
PNP open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-30-P
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-30S
PNP open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-30S-P
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-50
PNP open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-50-P
NPN open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-50S
PNP open collector	—	Cable type (Ø4, 2m)	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (received illumination)	-25 to 65℃	IP66	CE	BUP-50S-P

Photoelectric Sensors

Series	Operation Method	Button Operation			Light Source	Power Supply	Current Consumption	Operation Load
		Stop Position	Output Switching Position	Operation Limit Position				
Push Button Type Photomicro Sensor **BS5-P Series**  W20×H14×L25mm	Push button type※1	5.0±0.4mm	4.0±0.5mm	Max. 0mm	Infrared LED (940nm)	12-24VDC	Max. 35mA	Max. 3N (max. 0.3kgf)

※1. Detection occurs when the button is pushed and the light source is blocked.

Series	Sensing Type	Applicable Pipe	Standard Sensing Target	Light Source	Response Time	Power Supply	Current Consumption
Liquid Level Sensor **BL Series**  W23×H14×L13mm	Through-beam type	Using binding band : Ø6 to 13mm, Using protection bracket : Ø12.7mm (1/2 inch) transparent pipe in 1mm thickness (FEP (fluoroplastic) or with equivalent transparency)	Liquid in a pipe※1	Infrared LED (950nm)	Max. 2ms	12-24VDC	Max. 30mA

※1. The unit may not detect the liquid with low transparent, with high viscosity, or with floating matters.

Series	Size	Applied Sensor
Retroreflective Tape **MST Series** 	50×50mm	Retroreflective type: BM1M-MDT, BMS2M-MDT-□, BR3M-MDT-□-□, BEN5M-MDT, BEN5M-MFR, BX5M-MDT, BX5M-MDT-T, BX5M-MFR, BX5M-MFR-T, BTS200-MDT□-□ Retroreflective type (built-in polarizing filter): BJ3M-PDT-□-□, BEN3M-PDT, BEN3M-PFR, BX3M-PDT-□, BX3M-PFR-□
	100×100mm	
	200×200mm	

Operation Mode	Control Output	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
Light ON (output OFF when button is pushed)	NPN open collector	Cable type (Ø3, 1m)	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP40	CE	BS5-P1ML
	PNP open collector	Cable type (Ø3, 1m)	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP40	CE	BS5-P1ML-P
Dark ON (output ON when button is pushed)	NPN open collector	Cable type (Ø3, 1m)	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP40	CE	BS5-P1MD
	PNP open collector	Cable type (Ø3, 1m)	Fluorescent lamp : Max. 1,000lx (received illumination)	-20 to 55℃	IP40	CE	BS5-P1MD-P

Operation Mode	Control Output	Connection	Environment		Protection Structure	Approval	Model
			Ambient Illumination	Ambient Temperature			
Light ON/Dark ON (set by button)	NPN open collector	Cable type (Ø2.5, 1m)	Sunlight/ Incandescent lamp : Max. 3,000lx for each (received illumination)	10 to 55℃	IP64	CE	BL13-TDT
	PNP open collector	Cable type (Ø2.5, 1m)	Sunlight/ Incandescent lamp : Max. 3,000lx for each (received illumination)	10 to 55℃	IP64	CE	BL13-TDT-P

Material	Ambient Temperature	Packing Unit	Model
Surface film: Polymethyl methacrylate Prism layer: Polycarbonate Adhesive layer: Acrylic	-35 to 65℃ (attachment temperature: 10 to 30℃)	10	MST-50-10
		5	MST-100-5
		2	MST-200-2

Fiber Optic Sensors

Series	Type	Light Source	Response Time	Power Supply	Current Consumption	Operation Mode	Control Output
Digital Display, Fiber Optic Amplifier **BF5 Series** <BF5-D>  W10×H30×L70mm <BF5-S>  W10×H30×L70mm	Dual display	Red LED (660nm)	50μs, 150μs, 500μs, 4ms, 10ms	12-24VDC	Max. 50mA	Light ON/Dark ON (set by parameter)	NPN open collector
							PNP open collector
		Green LED (530nm)	50μs, 150μs, 500μs, 4ms, 10ms	12-24VDC	Max. 50mA	Light ON/Dark ON (set by parameter)	NPN open collector
							PNP open collector
		Blue LED (470nm)	50μs, 150μs, 500μs, 4ms, 10ms	12-24VDC	Max. 50mA	Light ON/Dark ON (set by parameter)	NPN open collector
							PNP open collector
	Single display	Red LED (660nm)	150μs, 500μs, 4ms	12-24VDC	Max. 50mA	Light ON/Dark ON (set by parameter)	NPN open collector
							PNP open collector
High Performance, Fiber Optic Amplifier **BF4 Series**  W12×H32.8×L62mm	Standard type	Red LED (660nm)	Frequency 1 : Max. 0.5ms Frequency 2 : Max. 0.7ms	12-24VDC	Max. 45mA	Light ON/Dark ON (set by ON/OFF button)	NPN open collector
							PNP open collector
		Green LED (525nm)	Frequency 1 : Max. 0.5ms Frequency 2 : Max. 0.7ms	12-24VDC	Max. 45mA	Light ON/Dark ON (set by ON/OFF button)	NPN open collector
							PNP open collector
	External synchro. type	Red LED (660nm) Green LED (525nm)	Frequency 1 : Max. 0.5ms Frequency 2 : Max. 0.7ms	12-24VDC	Max. 45mA	Light ON/Dark ON (set by ON/OFF button)	NPN open collector
	External input sensitivity setting type	Red LED (660nm) Green LED (525nm)	Frequency 1 : Max. 0.5ms Frequency 2 : Max. 0.7ms	12-24VDC	Max. 45mA	Light ON/Dark ON (set by ON/OFF button)	NPN open collector
General-Purpose, Fiber Optic Amplifier **BF3 Series**  W15×H38.9×L69.1mm	Built-in twin volume type	Red LED (660nm)	Max. 1ms	12-24VDC	Max. 40mA	Light ON/Dark ON (set by control wire)	NPN open collector
							PNP open collector

Series	Type	Power Supply	Communication	Communication Speed	Input
Communication Converter for Fiber Optic Amplifier **BFC Series**※1  W10×H30×L70mm	Communication converter for fiber optic amplifier	12-24VDC※2	RS485 communication, Serial communication, SW input	1200, 2400, 4800, 9600, 19200, 38400bps	NPN solid-state
					PNP solid-state

※1. BFC is communication converter only for fiber optic amplifier, BF5 Series.
※2. BFC power is from the connected amplifier unit via side connector.

Timer Function	Sensitivity Setting	Environment		Protection Structure	Approval	Model
		Ambient Illumination	Ambient Temperature			
OFF, OFF Delay, ON Delay, One-shot (1 to 5000ms)	Manual sensitivity setting Teaching sensitivity setting (auto-tuning, 1-point, 2-point, positioning)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000 (received illumination)	-10 to 50℃	IP40	CE	BF5R-D1-N
						BF5R-D1-P
OFF, OFF Delay, ON Delay, One-shot (1 to 5000ms)	Manual sensitivity setting Teaching sensitivity setting (auto-tuning, 1-point, 2-point, positioning)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	IP40	CE	BF5G-D1-N
						BF5G-D1-P
OFF, OFF Delay, ON Delay, One-shot (1 to 5000ms)	Manual sensitivity setting Teaching sensitivity setting (auto-tuning, 1-point, 2-point, positioning)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	IP40	CE	BF5B-D1-N
						BF5B-D1-P
OFF, OFF Delay (10ms, 40ms)	Manual sensitivity setting Teaching sensitivity setting (auto-tuning)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	IP40	CE	BF5R-S1-N
						BF5R-S1-P
OFF Delay (40ms)	Manual sensitivity setting	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	—	CE	BF4R
						BF4RP
OFF Delay (40ms)	Manual sensitivity setting	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	—	CE	BF4G
						BF4GP
—	Manual sensitivity setting	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	—	CE	BF4R-E
						BF4G-E
OFF Delay (40ms)	Manual sensitivity setting External input sensitivity setting (SW1, SW2)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	—	CE	BF4R-R
						BF4G-R
—	Built-in VR (coarse adjustment, fine adjustment)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	—	—	BF3RX
—	Built-in VR (coarse adjustment, fine adjustment)	Sunlight : Max. 11,000lx Incandescent lamp : Max. 3,000lx (received illumination)	-10 to 50℃	—	—	BF3RX-P

Application	Ambient Temperature	Protection Structure	Approval	Model
BFC Series makes for 32 units of fiber optic amplifier, BF5 Series, to connect. BFC Series helps for BF5 Series to execute all functions, to set parameters, to monitor real-time data (received light level, output status) via external device (PC, PLC, etc.).	-10 to 50℃	IP40	CE	BFC-N
				BFC-P

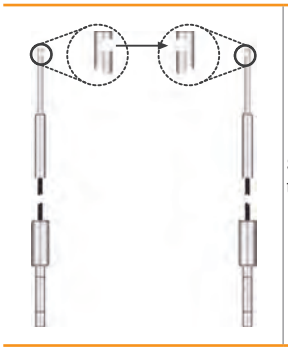
Fiber Optic Sensors

Through-Beam Type

Appearance	Type		Sensing Distance (mm)	Min. Sensing Target (mm)※3	Allowable Bend Radius	Cable Length (m)	Free cut※4	Adapter	Ambient Temperature	Model
	Flexible type	Flat type / Top view	110※1	Ø0.04	R1	1	●	●	-40 to 60℃	FTFU-210-05R
		Flat type / Side view	110※1	Ø0.04	R1	1	●	●	-40 to 60℃	FTFN-210-05R
		Flat type / Flat view	100※1	Ø0.04	R1	1	●	●	-40 to 60℃	FTF-210-05R
		Flat type / Top view+ Side view	110※1	Ø0.04	R1	1	●	●	-40 to 60℃	FTFB-210-05R
		Integrated bracket type (L type) / Top view	500※1	Ø0.06	R1	1	●	—	-40 to 60℃	FTLU-310-10R
			500※1	Ø0.06	R1	1	●	—	-40 to 60℃	FTLU1-310-10R
			500※1	Ø0.06	R1	1	●	—	-40 to 60℃	FTLU2-310-10R
		M3 bolt	110※1	Ø0.3	R1	2	●	●	-40 to 60℃	FT-320-05R
		Ø2 cylinder type	110※1	Ø0.3	R1	2	●	●	-40 to 60℃	FTC-220-05R
		M4 bolt	500※1	Ø0.5	R1	2	●	—	-40 to 60℃	FT-420-10R
	Break-resistant type	M3 bolt	110※2	Ø0.3	R5	2	●	●	-40 to 60℃	FT-320-06B
		Ø1.5 cylinder type	110※2	Ø0.3	R5	2	●	●	-40 to 60℃	FTC-1520-06B
		M4 bolt	400※2	Ø0.6	R5	2	●	—	-40 to 60℃	FT-420-13B
	Heat-resistant type	M4 bolt	300※2	Ø1	R30	2	●	—	-40 to 105℃	FT-420-10H
		M4 bolt	500※2	Ø1	R50	2	●	—	-40 to 150℃	FT-420-15H1
		M4 bolt / glass type※5	400※2	Ø1	R25	2	—	—	-40 to 250℃	GT-420-13H2
	Flexible type	M4 bolt / Right angle	460※1	Ø0.5	R1	1	●	—	-40 to 60℃	FTR-410-10R
	Flexible type	Area type	750※6	Ø0.07	R2	1	●	—	-40 to 60℃	FTW11-210-10R

※1. The sensing distance is based on BF5 Series.
※2. The sensing distance is based on red light of BF4 Series. In case of green light, apply 10% value of the red light value.
In case of BF3 Series, apply 40% of the sensing distance.
※3. Min. sensing target is based on max. sensitivity. The sensing distance is not same with the rated sensing distance.
※4. In case of free-cut type model, the sensing distance may be shorten up to 20% due to fiber cutting side status.
(use the dedicated fiber cutter (FC-3) for free-cut type.)
※5. The glass type model is only for BF5 Series, BF4 Series.
※6. The sensing distance is a standard for BF5 Series, and it is varied by operation mode.
(Ultra Fast mode: 450mm / Fast mode: 750mm / Standard mode: 1400mm / Long distance mode, Ultra long distance mode: 1800mm)

Through-Beam Type

Appearance	Type		Sensing Distance (mm)	Min. Sensing Target (mm)※3	Allowable Bend Radius	Cable Length (m)	Free cut※4	Adapter	Ambient Temperature	Model
	Standard type	Ø2.47 cylinder type / Side view	120※1	Ø0.0125	R15	2	—	—	-40 to 60℃	FTCSN-2520-05
	Standard type	M3 bolt	150※2	Ø0.5	R15	1	●	●	-40 to 70℃	FT-310-05
		M3 bolt	150※2	Ø0.5	R15	2	●	●	-40 to 70℃	FT-320-05
		Ø1.5 cylinder type	150※2	Ø0.5	R15	2	●	●	-40 to 70℃	FTC-1520-05
		Ø2 cylinder type	150※2	Ø0.5	R15	2	●	●	-40 to 70℃	FTC-220-05
		Ø2 cylinder type (SUS type, 15mm)	150※2	Ø0.5	R15 (SUS part 10R)	2	●	●	-40 to 70℃	FTCS-220-05
		M3 bolt (SUS type, 90mm)	150※2	Ø0.5	R15 (SUS part 10R)	2	●	●	-40 to 70℃	FTS-320-05
		M3 bolt (SUS type, 35mm)	150※2	Ø0.5	R15 (SUS part 10R)	2	●	●	-40 to 70℃	FTS1-320-05
		M3 bolt (SUS type, 45mm)	150※2	Ø0.5	R15 (SUS part 10R)	2	●	●	-40 to 70℃	FTS2-320-05
		M4 bolt	500※2	Ø1	R30	2	●	—	-40 to 70℃	FT-420-10
		Ø3 cylinder type	500※2	Ø1	R30	2	●	—	-40 to 70℃	FTC-320-10
		Plastic	500※2	Ø1	R30	2	●	—	-40 to 70℃	FTP-320-10
		M4 bolt (SUS type, 90mm)	500※2	Ø1	R30 (SUS part 10R)	2	●	—	-40 to 70℃	FTS-420-10
		M4 bolt (SUS type, 45mm)	500※2	Ø1	R30 (SUS part 10R)	2	●	—	-40 to 70℃	FTS2-420-10

※1. The sensing distance is based on BF5 Series.
※2. The sensing distance is based on red light of BF4 Series. In case of green light, apply 10% value of the red light value.
In case of BF3 Series, apply 40% of the sensing distance.
※3. Min. sensing target is based on max. sensitivity. The sensing distance is not same with the rated sensing distance.
※4. In case of free-cut type model, the sensing distance may be shorten up to 20% due to fiber cutting side status.
(use the dedicated fiber cutter (FC-3) for free-cut type.)

Fiber Optic Sensors

Diffuse Reflective Type

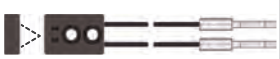
Appearance	Type		Sensing Distance (mm)	Min. Sensing Target (mm)※3	Allowable Bend Radius	Cable Length (m)	Free cut※4	Adapter	Ambient Temperature	Model
	Flexible type	Flat type / Top view	35※1	Ø0.0125	R1	1	●	●	-40 to 60℃	FDFU-210-05R
		Flat type / Side view	30※1	Ø0.0125	R1	1	●	●	-40 to 60℃	FDFN-210-05R
		Flat type / Flat view	30※1	Ø0.0125	R1	1	●	●	-40 to 60℃	FDF-210-05R
		M3 bolt	35※1	Ø0.0125	R1	2	●	●	-40 to 60℃	FD-320-05R
		M4 bolt	35※1	Ø0.0125	R1	2	●	●	-40 to 60℃	FD-420-05R
		M6 bolt	130※1	Ø0.04	R1	2	●	—	-40 to 60℃	FD-620-10R
	Break-resistant type	M3 bolt	35※2	Ø0.0125	R5	2	●	●	-40 to 60℃	FD-320-06B
		Ø3 cylinder type	35※2	Ø0.0125	R5	2	●	●	-40 to 60℃	FDC-320-06B
		M4 bolt	35※2	Ø0.0125	R5	2	●	●	-40 to 60℃	FD-420-06B
		M6 bolt	100※2	Ø0.0125	R5	2	●	—	-40 to 60℃	FD-620-13B
	Coaxial type	M3 bolt	40※2	Ø0.03	R15	2	●	●	-40 to 70℃	FD-320-F
		M3 bolt	60※2	Ø0.03	R15	2	●	●	-40 to 70℃	FD-320-F1
		M6 bolt	120※2	Ø0.03	R30	2	●	—	-40 to 70℃	FD-620-F2
	Heat-resistant type	M6 bolt	120※2	Ø0.03	R30	2	●	—	-40 to 105℃	FD-620-10H
		M6 bolt	160※2	Ø0.03	R50	2	●	—	-40 to 150℃	FD-620-15H1
		M4 bolt / glass type※5	100※2	Ø0.03	R50	2	—	—	-40 to 250℃	GD-420-20H2
		M6 bolt / glass type※5	100※2	Ø0.03	R50	2	—	—	-40 to 250℃	GD-620-20H2
	Flexible type	M6 bolt / Right angle	120※1	Ø0.04	R1	1	●	—	-40 to 60℃	FDR-610-10R

※1. The sensing distance is based on BF5 Series.
※2. The sensing distance is based on red light of BF4 Series. In case of green light, apply 10% value of the red light value.
In case of BF3 Series, apply 40% of the sensing distance.
※3. Min. sensing target is based on max. sensitivity. The sensing distance is not same with the rated sensing distance.
※4. In case of free-cut type model, the sensing distance may be shorten up to 20% due to fiber cutting side status.
(use the dedicated fiber cutter (FC-3) for free-cut type.)
※5. The glass type model is only for BF5 Series, BF4 Series.

Diffuse Reflective Type

Appearance	Type		Sensing Distance (mm)	Min. Sensing Target (mm)※3	Allowable Bend Radius	Cable Length (m)	Free cut※4	Adapter	Ambient Temperature	Model
	Standard type	Ø3 cylinder type / Side view	30※1	Ø0.0125	R15	2	—	—	-40 to 60℃	FDCSN-320-05
	Standard type	M3 bolt	40※2	Ø0.03	R15	1	●	●	-40 to 70℃	FD-310-05
		M3 bolt	40※2	Ø0.03	R15	2	●	●	-40 to 70℃	FD-320-05
		M4 bolt	40※2	Ø0.03	R15	2	●	●	-40 to 70℃	FD-420-05
		Ø3 cylinder type	40※2	Ø0.03	R15	2	●	●	-40 to 70℃	FDC-320-05
		Ø3 cylinder type (SUS type, 15mm)	40※2	Ø0.03	15R (SUS part 10R)	2	●	●	-40 to 70℃	FDCS-320-05
		M3 bolt (SUS type, 90mm)	40※2	Ø0.03	15R (SUS part 10R)	2	●	●	-40 to 70℃	FDS-320-05
		M3 bolt (SUS type, 45mm)	40※2	Ø0.03	15R (SUS part 10R)	2	●	●	-40 to 70℃	FDS2-320-05
		M4 bolt (SUS type, 90mm)	40※2	Ø0.03	15R (SUS part 10R)	2	●	●	-40 to 70℃	FDS-420-05
		M4 bolt (SUS type, 45mm)	40※2	Ø0.03	15R (SUS part 10R)	2	●	●	-40 to 70℃	FDS2-420-05
		M6 bolt	120※2	Ø0.03	R30	2	●	—	-40 to 70℃	FD-620-10
		M6 bolt (SUS type, 90mm)	120※2	Ø0.03	R30 (SUS part 10R)	2	●	—	-40 to 70℃	FDS-620-10
		M6 bolt (SUS type, 45mm)	120※2	Ø0.03	R30 (SUS part 10R)	2	●	—	-40 to 70℃	FDS2-620-10
		Plastic	120※2	Ø0.03	R30	2	●	—	-40 to 70℃	FDP-320-10

Convergent Reflective Type

Appearance	Type	Sensing Distance (mm)	Min. Sensing Target (mm)※3	Allowable Bend Radius	Cable Length (m)	Free cut	Adapter	Ambient Temperature	Model
	Convergent type	8※1	Ø0.0125	R25	2	—	—	-40 to 60℃	FLF-320-10

※1. The sensing distance is based on BF5 Series.
※2. The sensing distance is based on red light of BF4 Series. In case of green light, apply 10% value of the red light value.
In case of BF3 Series, apply 40% of the sensing distance.
※3. Min. sensing target is based on max. sensitivity. The sensing distance is not same with the rated sensing distance.
※4. In case of free-cut type model, the sensing distance may be shorten up to 20% due to fiber cutting side status.
(use the dedicated fiber cutter (FC-3) for free-cut type.)

Door / Area Sensor

Series	Sensing Method	Mounting Height	Light Source	Power Supply	Power Consumption	Control Output
Door Sensor **ADS-A Series**  W224×H60×L26mm	Diffuse Reflective Type	2.0 to 2.7m	Infrared LED (850nm modulated)	24-240VAC 24-240VDC	Max. 4VA (at 240VAC)	Relay (SPST(1a))
				12-24VAC 12-24VDC	Max. 2VA (at 24VAC)	

Series	Sensing Method	Sensing Distance	Light Source	Power Supply	Current Consumption And Power Consumption	Control Output	Sensor Mounting
Door Side Sensor **ADS-SE**  W77×H30×L44mm	Through-beam type	0 to 10m	Infrared LED (850nm modulated)	12-24VAC 12-24VDC	Current Consumption : Max. 2VA Power Consumption : Max. 50mA	Relay (SPST(1a))	2-CH
Economical Door Side Sensor **ADS-SE1/2**  W77×H24×L44mm	Through-beam type	0 to 10m	Infrared LED (850nm modulated)	12-24VAC 12-24VDC	Current Consumption : Max. 2VA Power Consumption : Max. 50mA	Relay (SPST(1a))	1-CH
							2-CH

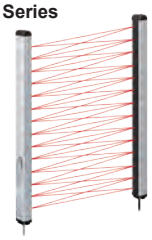
Series	Sensing Method	Sensing Distance	Light Source	Optical Axis Pitch	Number Of Optical Axes	Sensing Height (mm)	Power Supply
Picking Sensor - Plastic Case **BWPK Series**  W30×H10.5×L140mm	Through-beam type (direct beam)	Long distance mode: 0.1 to 3m Short distance mode: 0.05 to 1m	Infrared LED (850nm modulated)	25mm	5	100	12-24VDC

Front Sensing Area	Left/Right Sensing Area	Environment		Protection Structure	Approval	Model
		Ambient Illumination	Ambient Temperature			
7.5°, 14.5°, 21.5°, 28.5° (4-step setting)	Eliminating each (1, 2, 3 -area), (7, 8, 9 -area)	Sunlight/ Incandescent lamp : Max. 3,000lx (receiver illumination)	-20 to 50℃	IP50	—	ADS-AF ADS-AE

Sensitivity Setting	Sensor Cable Length	Environment		Protection Structure	Approval	Model
		Ambient Illumination	Ambient Temperature			
Set by button	10m	Sunlight : Max. 100,000lx (receiver illumination)	-20 to 55℃	IP30	—	ADS-SE
Set by button	5m	Sunlight : Max. 100,000lx (receiver illumination)	-20 to 55℃	IP30	CE	ADS-SE1
Set by button	5m	Sunlight : Max. 100,000lx (receiver illumination)	-20 to 55℃	IP30	CE	ADS-SE2

Control Output	Control Output	Environment		Connection	Protection Structure	Approval	Model
		Ambient Illumination	Ambient Temperature				
NPN open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx Incandescent lamp : Max. 3,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø4, 2m)	IP40	CE	BWPK25-05N
PNP open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx Incandescent lamp : Max. 3,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø4, 2m)	IP40	CE	BWPK25-05P

Door / Area Sensor

Series	Sensing Method	Sensing Distance	Light Source	Optical Axis Pitch	Number Of Optical Axes	Sensing Height / Total Length (mm)	Power Supply
Area Sensor - Plastic Case **BWP Series**  W30×H13×L□mm※	Through-beam type (direct beam)	0.1 to 5m	Infrared LED (850nm modulated)	20mm	8	140 / 190	12-24VDC
					12	220 / 270	12-24VDC
					16	300 / 350	12-24VDC
					20	380 / 430	12-24VDC
※The value of □ is total length.							
Cross-beam Area Sensor - Aluminium Case **BWC Series**  W28.6×H22.6×L□mm※	Through-beam type (cross beam)	1 to 7m	Infrared LED (850nm modulated)	40mm	4	120 / 180	12-24VDC
					10	360 / 420	
					12	440 / 500	
					16	600 / 660	
					18	680 / 740	
					20	760 / 820	
			Infrared LED (850nm modulated)	80mm	14	1040 / 1140	
※The value of □ is total length.							
Area Sensor - Aluminium Case **BW Series**  W28.6×H22.6×L□mm※	Through-beam type (direct beam)	0.1 to 7m	Infrared LED (850nm modulated)	20mm	8	140 / 180	12-24VDC
					12	220 / 260	
					16	300 / 340	
					20	380 / 420	
					24	460 / 500	
					28	540 / 580	
					32	620 / 660	
					36	700 / 740	
					40	780 / 820	
					44	860 / 900	
					48	940 / 980	
				40mm	4	120 / 180	12-24VDC
					6	200 / 260	
					8	280 / 340	
					10	360 / 420	
					12	440 / 500	
					14	520 / 580	
					16	600 / 660	
					18	680 / 740	
					20	760 / 820	
					22	840 / 900	
					24	920 / 980	
※The value of □ is total length.							

Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Connector Cable for Area Sensor BW/BWC (for emitter) **CID Series** 	M12	DC 4-wire	Socket type	PVC	3	CID4-3T
					5	CID4-5T
					7	CID4-7T
					10	CID4-10T

※ Connector cable is sold separately as one set; each of emitter's and receiver's.

Control Output	Control Output	Environment		Connection	Protection Structure	Approval	Model
		Ambient Illumination	Ambient Temperature				
NPN open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-08N
PNP open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-08P
NPN open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-12N
PNP open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-12P
NPN open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-16N
PNP open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-16P
NPN open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-20N
PNP open collector	Light ON/Dark ON (set by switch)	Sunlight: Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable type (Ø3.5, 3m)	IP40	CE	BWP20-20P
NPN open collector	□: Type No-mark: Light ON D: Dark ON	Ambient light : Max. 100,000lx (receiver illumination)	-10 to 55℃	Cable connector type (Ø5, 300mm, M12)	IP65	CE	BWC40-04H□ BWC40-10H□ BWC40-12H□ BWC40-16H□ BWC40-18H□ BWC40-20H□ BWC80-14H□
■: Type No-mark : NPN open collector P: PNP open collector	Light ON	Ambient light : Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable connector type (Ø5, 300mm, M12)	IP65	CE	BW20-08■ BW20-12■ BW20-16■ BW20-20■ BW20-24■ BW20-28■ BW20-32■ BW20-36■ BW20-40■ BW20-44■ BW20-48■
■: Type No-mark : NPN open collector P: PNP open collector	Light ON	Ambient light : Max. 10,000lx (receiver illumination)	-10 to 55℃	Cable connector type (Ø5, 300mm, M12)	IP65	CE	BW40-04■ BW40-06■ BW40-08■ BW40-10■ BW40-12■ BW40-14■ BW40-16■ BW40-18■ BW40-20■ BW40-22■ BW40-24■

Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Connector Cable for Area Sensor BW/BWC (for receiver) **CID Series** 	M12	DC 4-wire	Socket type	PVC	3	CID4-3R
					5	CID4-5R
					7	CID4-7R
					10	CID4-10R

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Cable Type Proximity Sensor **PR Series** <Non-flush>  <Flush> 	AC 2-wire type 100-240VAC	M12	2mm	Shield (flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
						20Hz	Leakage current : Max. 2.5mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
						20Hz	Leakage current : Max. 2.5mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
	DC 2-wire type 12-24VDC	M08	1.5mm	Shield (flush)	8×8×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
			2mm	Non-shield (non-flush)	8×8×1mm (iron)	1kHz	Leakage current : Max. 0.6mA
		M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	350Hz	Leakage current : Max. 0.6mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M08	1.5mm	Shield (flush)	8×8×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
			2mm	Non-shield (non-flush)	8×8×1mm (iron)	1kHz	Current consumption : Max. 10mA
		M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Current consumption : Max. 10mA
							Current consumption : Max. 10mA
							Current consumption : Max. 10mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	350Hz	Current consumption : Max. 10mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Current consumption : Max. 10mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	200Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR12-2A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR12-4A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR18-5A□
							Long body	PRL18-5A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR18-8A□
							Long body	PRL18-8A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR30-10A□
							Long body	PRL30-10A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR30-15A□
							Long body	PRL30-15A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT08-1.5D□
N.O.	Brass (nickel plated)	Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRT08-1.5DO-V
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT08-2D□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT12-2D□
						●	Standard type	PRT12-2X□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT12-4D□
						●	Standard type	PRT12-4X□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT18-5D□
						●	Standard type	PRT18-5X□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT18-8D□
						●	Standard type	PRT18-8X□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT30-10D□
N.O.	Brass (nickel plated)	Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRT30-10DO-V
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	●	Standard type	PRT30-10X□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRT30-15D□
						●	Standard type	PRT30-15X□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR08-1.5D□
							Long body	PRL08-1.5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR08-2D□
							Long body	PRL08-2D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR12-2D□
							Short body	PRS12-2D□
□: Type N: NPN N.O. / P: PNP N.O.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRL12-2D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR12-4D□
							Short body	PRS12-4D□
□: Type N: NPN N.O. / P: PNP N.O.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRL12-4D□
□: Type N: NPN N.O. / P: PNP N.O.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR18-5D□
NPN N.O.	Brass (nickel plated)	Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PR18-5DN-V
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRL18-5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR18-8D□
							Long body	PRL18-8D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR30-10D□
							Long body	PRL30-10D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PR30-15D□
							Long body	PRL30-15D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Cable Connector Type Proximity Sensor PRW Series <Non-flush>  <Flush> 	AC 2-wire type 100-240VAC	M12	2mm	Shield (flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
	DC 2-wire type 12-24VDC	M08	1.5mm	Shield (flush)	8×8×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
			2mm	Non-shield (non-flush)	8×8×1mm (iron)	1kHz	Leakage current : Max. 0.6mA
		M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	350Hz	Leakage current : Max. 0.6mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M08	1.5mm	Shield (flush)	8×8×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
							Current consumption : Max. 10mA
			2mm	Non-shield (non-flush)	8×8×1mm (iron)	1kHz	Current consumption : Max. 10mA
							Current consumption : Max. 10mA
		M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW12-2A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW12-4A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW18-5A□
							Long body	PRWL18-5A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW18-8A□
							Long body	PRWL18-8A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW30-10A□
							Long body	PRWL30-10A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW30-15A□
							Long body	PRWL30-15A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRWT08-1.5D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRWT08-2D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRWT12-2D□-■
						●	Standard type	PRWT12-2X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRWT12-4D□-■
						●	Standard type	PRWT12-4X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRWT18-5D□-■
						●	Standard type	PRWT18-5X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRWT18-8D□-■
						●	Standard type	PRWT18-8X□-■
N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRWT30-10DC-■
N.O.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRWT30-10DO-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	●	Standard type	PRWT30-10X□-■
N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRWT30-15DC-■
N.O.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRWT30-15DO-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	●	Standard type	PRWT30-15X□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRW08-1.5D□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRWL08-1.5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRW08-2D□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRWL08-2D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW12-2D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW12-4D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Cable Connector Type Proximity Sensor **PRW Series** <Non-flush>  <Flush> 	DC 3-wire type 12-24VDC	M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Current consumption : Max. 10mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	350Hz	Current consumption : Max. 10mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Current consumption : Max. 10mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	200Hz	Current consumption : Max. 10mA
Cylindrical, Connector Type Proximity Sensor **PRCM Series** <Non-flush>  <Flush> 	AC 2-wire type 100-240VAC	M12	2mm	Shield (flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
	DC 2-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	350Hz	Leakage current : Max. 0.6mA Leakage current : Max. 0.6mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	400Hz	Leakage current : Max. 0.6mA Leakage current : Max. 0.6mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
			4mm	Non-shield (non-flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Current consumption : Max. 10mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	350Hz	Current consumption : Max. 10mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Current consumption : Max. 10mA
			15mm	Non-shield (non-flush)	45×45×1mm (iron)	200Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW18-5D□
							Long body	PRWL18-5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRW18-8D□
							Long body	PRWL18-8D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRW30-10D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRWL30-10D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRW30-15D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRWL30-15D□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM12-2A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM12-4A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM18-5A□
							Long body	PRCML18-5A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM18-8A□
							Long body	PRCML18-8A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM30-10A□
							Long body	PRCML30-10A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM30-15A□
							Long body	PRCML30-15A□
N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRCMT12-2DC-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRCMT12-4D□-I
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCMT18-5D□
N.O.	Brass (nickel plated)	IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRCMT18-5DO-I
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCMT18-8D□
N.C.	Brass (nickel plated)	IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRCMT18-8DC-I
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRCMT30-10D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRCMT30-15D□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM12-2D□
PNP N.O.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Long body	PRCML12-2DP
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM12-4D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM18-5D□
							Long body	PRCML18-5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM18-8D□
							Long body	PRCML18-8D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM30-10D□
							Long body	PRCML30-10D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRCM30-15D□
							Long body	PRCML30-15D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Long Sensing Distance, Cable Type Proximity Sensor PRD Series <Non-flush>  <Flush> 	DC 2-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	450Hz	Leakage current : Max. 0.6mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	250Hz	Leakage current : Max. 0.6mA
			14mm	Non-shield (non-flush)	40×40×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
			25mm	Non-shield (non-flush)	75×75×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
			8mm	Non-shield (non-flush)	25×25×1mm(Iron	400Hz	Current consumption : Max. 10mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	300Hz	Current consumption : Max. 10mA
			14mm	Non-shield (non-flush)	40×40×1mm (iron)	200Hz	Current consumption : Max. 10mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Current consumption : Max. 10mA
			25mm	Non-shield (non-flush)	75×75×1mm (iron)	100Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDT12-4D□-■
N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	●	Standard type	PRDT12-4XC-■
N.O.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	●	Standard type	PRDT12-4XO
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Long body	PRDLT12-4D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	— ● —	Standard type Standard type Long body	PRDT12-8D□-■ PRDT12-8X□-■ PRDLT12-8D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	— ● — ●	Standard type Standard type Long body Long body	PRDT18-7D□-■ PRDT18-7X□-■ PRDLT18-7D□-■ PRDLT18-7X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	— ● — ●	Standard type Standard type Long body Long body	PRDT18-14D□-■ PRDT18-14X□-■ PRDLT18-14D□-■ PRDLT18-14X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDT30-15D□-■
N.O.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	●	Standard type	PRDT30-15XO-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Long body	PRDLT30-15D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	— ● —	Standard type Standard type Long body	PRDT30-25D□-■ PRDT30-25X□-■ PRDLT30-25D□-■
□: Type N: NPN N.O. / N2: NPN N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	— —	Standard type Long body	PRD12-4D□ PRDL12-4D□
□: Type N: NPN N.O. / N2: NPN N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	— —	Standard type Long body	PRD12-8D□ PRDL12-8D□
□: Type N: NPN N.O. / N2: NPN N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	— —	Standard type Long body	PRD18-7D□ PRDL18-7D□
□: Type N: NPN N.O. / N2: NPN N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	— —	Standard type Long body	PRD18-14D□ PRDL18-14D□
□: Type N: NPN N.O. / N2: NPN N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable Standard cable	-25 to 70℃	IP67	CE	— —	Standard type Long body	PRD30-15D□-■ PRDL30-15D□
□: Type N: NPN N.O. / N2: NPN N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable Standard cable	-25 to 70℃	IP67	CE	— —	Standard type Long body	PRD30-25D□-■ PRDL30-25D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Long Sensing Distance, Cable Connector Type Proximity Sensor **PRDW Series** <Non-flush>  <Flush> 	DC 2-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	450Hz	Leakage current : Max. 0.6mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	250Hz	Leakage current : Max. 0.6mA
			14mm	Non-shield (non-flush)	40×40×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
			25mm	Non-shield (non-flush)	75×75×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	400Hz	Current consumption : Max. 10mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	300Hz	Current consumption : Max. 10mA
			14mm	Non-shield (non-flush)	40×40×1mm (iron)	200Hz	Current consumption : Max. 10mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Current consumption : Max. 10mA
			25mm	Non-shield (non-flush)	75×75×1mm (iron)	100Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDWT12-4D□-■
						●	Standard type	PRDWT12-4X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDWT12-8D□-■
						●	Standard type	PRDWT12-8X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDWT18-7D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	●	Standard type	PRDWT18-7X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Long body	PRDWLT18-7D□-IV
N.O.	Brass (nickel plated)	Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	●	Long body	PRDWLT18-7XO-IV
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDWT18-14D□-■
		■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	●	Standard type	PRDWT18-14X□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDWT30-15D□-■
N.C.	Brass (nickel plated)	Standard cable	-25 to 70℃	IP67	CE	●	Standard type	PRDWT30-15XC
N.O.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	●	Standard type	PRDWT30-15XO-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDWT30-25D□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDW12-4D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRDWL12-4D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDW12-8D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRDWL12-8D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDW18-7D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRDWL18-7D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDW18-14D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRDWL18-14D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDW30-15D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRDWL30-15D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDW30-25D□-■
		Standard cable	-25 to 70℃	IP67	CE	—	Long body	PRDWL30-25D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Long Sensing Distance, Connector Type Proximity Sensor **PRDCM Series** <Non-flush> 	DC 2-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	450Hz	Leakage current : Max. 0.6mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	250Hz	Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
			14mm	Non-shield (non-flush)	40×40×1mm (iron)	200Hz	Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
			25mm	Non-shield (non-flush)	75×75×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
<Flush> 	DC 3-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
			8mm	Non-shield (non-flush)	25×25×1mm (iron)	400Hz	Current consumption : Max. 10mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	300Hz	Current consumption : Max. 10mA
			14mm	Non-shield (non-flush)	40×40×1mm (iron)	200Hz	Current consumption : Max. 10mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Current consumption : Max. 10mA
			25mm	Non-shield (non-flush)	75×75×1mm (iron)	100Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT12-4D□
N.O.	Brass (nickel plated)	IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT12-4DO-I
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT12-8D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT18-7D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Long body	PRDCMLT18-7D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT18-14D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Long body	PRDCMLT18-14D□-■
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT30-15D□-■
N.O.	Brass (nickel plated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Long body	PRDCMLT30-15DO-■
N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Long body	PRDCMLT30-15DC
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDCMT30-25D□-I
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCM12-4D□
						—	Long body	PRDCML12-4D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCM12-8D□
						—	Long body	PRDCML12-8D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCM18-7D□
						—	Long body	PRDCML18-7D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCM18-14D□
						—	Long body	PRDCML18-14D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCM30-15D□
						—	Long body	PRDCML30-15D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (nickel plated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDCM30-25D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Spatter-Resistance, Cable Type Proximity Sensor **PRA Series** 	AC 2-wire type 100-240VAC	M12	2mm	Shield (flush)	12×12×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
	DC 2-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Current consumption : Max. 10mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Current consumption : Max. 10mA
Cylindrical, Spatter-Resistance, Cable Connector Type Proximity Sensor **PRAWT Series** 	DC 2-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
							Leakage current : Max. 0.6mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
Cylindrical, Spatter-Resistance, Connector Type Proximity Sensor **PRACM Series** 	DC 2-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Leakage current : Max. 0.6mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Leakage current : Max. 0.6mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M12	2mm	Shield (flush)	12×12×1mm (iron)	1.5kHz	Current consumption : Max. 10mA
		M18	5mm	Shield (flush)	18×18×1mm (iron)	500Hz	Current consumption : Max. 10mA
		M30	10mm	Shield (flush)	30×30×1mm (iron)	400Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRA12-2A□
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRA18-5A□
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRA30-10A□
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRAT12-2D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	●	Standard type	PRAT12-2X□
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRAT18-5D□
						●	Standard type	PRAT18-5X□
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRAT30-10D□-■
		Standard cable	-25 to 70℃	IP67	CE	●	Standard type	PRAT30-10X□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRA12-2D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRA18-5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRA30- 10D□
N.C.	Brass (teflon coated)	Standard cable	-25 to 70℃	IP67	CE	—	Standard type	PRAWT12-2DC
N.O.	Brass (teflon coated)	IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRAWT12-2DO-I
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRAWT18-5D□-■
						●	Standard type	PRAWT18-5X□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRAWT30-10D□-■
						●	Standard type	PRAWT30-10X□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRACMT12-2D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRACMT18-5D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRACMT30-10D□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRACM12-2D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRACM18-5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRACM30-10D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Installation	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Long Sensing Distance, Spatter-Resistance, Cable Type Proximity Sensor **PRDAT Series** 	DC 2-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	450Hz	Leakage current : Max. 0.6mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	250Hz	Leakage current : Max. 0.6mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
Cylindrical, Long Sensing Distance, Spatter-Resistance, Cable Connector Type Proximity Sensor **PRDAWT Series** 	DC 2-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	450Hz	Leakage current : Max. 0.6mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	250Hz	Leakage current : Max. 0.6mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
Cylindrical, Long Sensing Distance, Spatter-Resistance, Connector Type Proximity Sensor **PRDACM Series** 	DC 2-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	450Hz	Leakage current : Max. 0.6mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	250Hz	Leakage current : Max. 0.6mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	M12	4mm	Shield (flush)	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
		M18	7mm	Shield (flush)	20×20×1mm (iron)	300Hz	Current consumption : Max. 10mA
		M30	15mm	Shield (flush)	45×45×1mm (iron)	100Hz	Current consumption : Max. 10mA

Control Output	Materials	Connection	Ambient Temperature	Protection Structure	Approval	Non-Polarity	Body Length	Model
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDAT12-4D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDAT18-7D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable V: Oil-resistance cable	-25 to 70℃	IP67	CE	—	Standard type	PRDAT30-15D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDAWT12-4D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDAWT18-7D□-■
N.C.	Brass (teflon coated)	■: Type No-mark: Standard cable I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDAWT30-15DC-■
N.O.	Brass (teflon coated)	■: Type No-mark: Standard cable I: IEC standard IV: Oil-resistance cable (IEC standard)	-25 to 70℃	IP67	CE	—	Standard type	PRDAWT30-15DO-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDACMT12-4D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDACMT18-7D□-■
□: Type O: N.O. / C: N.C.	Brass (teflon coated)	■: Type No-mark: Standard connector I: IEC standard	-25 to 70℃	IP67	CE	—	Standard type	PRDACMT30-15D□-■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDACM12-4D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDACM18-7D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Brass (teflon coated)	Standard connector	-25 to 70℃	IP67	CE	—	Standard type	PRDACM30-15D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Size	Sensing Distance	Standard Sensing Target	Response Frequency	Current Specification
Rectangular, Standard Type Proximity Sensor PS/PSN Series	AC 2-wire type 100-240VAC	Frame size 25mm	5mm	25×25×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		Frame size 30mm	10mm	30×30×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
			15mm	45×45×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
		Frame size 40mm	20mm	60×60×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
	DC 2-wire type 12-24VDC	Frame size 17mm	5mm	18×18×1mm (iron)	700Hz	Leakage current : Max. 0.6mA
	DC 3-wire type 12-24VDC	Frame size 12mm	4mm	12×12×1mm (iron)	500Hz	Current consumption : Max. 10mA
		Frame size 17mm	5mm	18×18×1mm (iron)	700Hz	Current consumption : Max. 10mA
			8mm	25×25×1mm (iron)	200Hz	Current consumption : Max. 10mA
		Frame size 25mm	5mm	25×25×1mm (iron)	300Hz	Current consumption : Max. 10mA
		Frame size 30mm	10mm	30×30×1mm (iron)	250Hz	Current consumption : Max. 10mA
			15mm	45×45×1mm (iron)	200Hz	Current consumption : Max. 10mA
		Frame size 40mm	20mm	60×60×1mm (iron)	100Hz	Current consumption : Max. 10mA
		Frame size 50mm	30mm	90×90×1mm (iron)	50Hz	Current consumption : Max. 10mA

Control Output	Sensing Method	Materials	Ambient Temperature	Protection Structure	Approval	Different Frequency	Model
□: Type O: N.O. / C: N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN25-5A□
□: Type O: N.O. / C: N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN30-10A□
□: Type O: N.O. / C: N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN30-15A□
□: Type O: N.O. / C: N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN40-20A□
□: Type O: N.O. / C: N.C.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSNT17-5D□■
NPN N.O.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PS12-4DN■
PNP N.O.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PS12-4DP■
NPN N.C.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PS12-4DN2■
□: Type N: NPN N.O. / N2: NPN N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN17-5D□
□: Type N: NPN N.O. / N2: NPN N.C.	Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN17-5D□U
NPN N.O.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	●	PSN17-5DN-F
□: Type P: PNP N.O. / P2: PNP N.C.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN17-5D□■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN17-8D□■
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	●	PSN17-8D□■-F
PNP N.O.	■: Type No-mark: Standard type (front sensing type) U: Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	●	PSN17-8DP■-F
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN25-5D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN30-10D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN30-15D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Standard type (front sensing type)	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PSN40-20D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Upper sensing type	Heat-resistant ABS	-25 to 70℃	IP67	CE	—	PS50-30D□

Proximity Sensors

Series	Wire Type And Power	Sensing Side Size	Sensing Distance	Standard Sensing Target	Response Frequency	Current Specification
Rectangular, Flat Type Proximity Sensor **PFI Series** 	AC 2-wire type 100-240VAC	Frame size 25mm	8mm	25×25×1mm (iron)	20Hz	Leakage current : Max. 2.5mA
	DC 3-wire type 12-24VDC	Frame size 25mm	8mm	25×25×1mm (iron)	200Hz	Current consumption : Max. 10mA
Rectangular, Long Sensing Distance Type Proximity Sensor **AS Series** 	DC 4-wire type 12-48VDC	Frame size 80mm	50mm	150×150×1mm (iron)	30Hz	Current consumption : Max. 20mA

Series	Wire Type And Power	Sensing Side Diameter	Sensing Distance	Standard Sensing Target	Response Frequency	Current Specification
Cylindrical, Capacitive Type Proximity Sensor **CR Series** 	AC 2-wire type 100-240VAC	M18	8mm	50×50×1mm (iron)	20Hz	Leakage current : Max. 2.2mA
		M30	15mm	50×50×1mm (iron)	20Hz	Leakage current : Max. 2.2mA
	DC 3-wire type 12-24VDC	M18	8mm	50×50×1mm (iron)	50Hz	Current consumption : Max.15mA
		M30	15mm	50×50×1mm (iron)	50Hz	Current consumption : Max. 15mA

Series	Sensing Side Diameter	Transmission Distance	Set Transmission Distance	Response Time
Transmission Coupler **PET18-5** 	M18	5mm	1 to 4.5mm	Max. 1ms

Control Output	Sensing Method	Materials	Ambient Temperature	Protection Structure	Approval	Different Frequency	Model
□: Type O: N.O. / C: N.C.	Upper sensing type	PPS	-25 to 70℃	IP67	CE	—	PFI25-8A□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O. / P2: PNP N.C.	Upper sensing type	PPS	-25 to 70℃	IP67	CE	—	PFI25-8D□
□: Type N3: NPN N.O.+N.C. P3: PNP N.O.+N.C.	Upper sensing type	—	-25 to 70℃	IP67	CE	—	AS80-50D□

Control Output	Materials	Ambient Temperature	Protection Structure	Approval	Model
□: Type O: N.O. / C: N.C.	PA6	-25 to 70℃	IP66	CE	CR18-8A□
□: Type O: N.O. / C: N.C.	Brass (nickel plated)	-25 to 70℃	IP65	CE	CR30-15A□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O.	PA6	-25 to 70℃	IP66	CE	CR18-8D□
□: Type N: NPN N.O. / N2: NPN N.C. P: PNP N.O.	Brass (nickel plated)	-25 to 70℃	IP65	CE	CR30-15D□

Materials	Ambient Temperature	Protection Structure	Approval	Model
Brass (nickel plated)	-25 to 70℃	IP67	CE	PET18-5

Pressure Sensors

Series	Applicable Fluid	Pressure Port Direction	Pressure Port	Connection	Pressure Type	Rated Pressure Range	Display Pressure Unit
Pneumatic, Square, Connector Type Digital Pressure Sensor **PSAN Series**  W30×H30×L30.7mm	Air, Non-corrosive gas	Rear fitting	■: Type R1/8 Rc(PT)1/8 NPT1/8	Connector type (connector type cable: 2m)	Standard pressure	0.0 to 100.0kPa	MPa, kPa, kgf/cm^2, bar, psi
						0 to 1,000kPa	MPa, kPa, kgf/cm^2, bar, psi
					Negative pressure	0.0 to -101.3kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O
					Compound pressure	-101.3 to 100.0kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O
Fluid, Square, Connector Type Digital Pressure Sensor **PSAN Series**  W30×H30×L32mm	Air, Non-corrosive gas and fluid that will not corrode SUS316L	Bottom fitting	■: Type R1/8 NPT1/8	Connector type (connector type cable: 2m)	Standard pressure	0.0 to 100.0kPa	MPa, kPa, kgf/cm^2, bar, psi
						0 to 1,000kPa	MPa, kPa, kgf/cm^2, bar, psi
			7/16-20UNF	Connector type (connector type cable: 2m)	Standard pressure	0 to 1,000kPa	MPa, kPa, kgf/cm^2, bar, psi
			■: Type R1/8 NPT1/8	Connector type (connector type cable: 2m)	Negative pressure	0.0 to -101.3kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O
					Compound pressure	-101.3 to 100.0kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O
Fluid, Square, Cable Type Digital Pressure Sensor **PSAN Series**  W30×H30×L42.3mm	Air, Non-corrosive gas and fluid that will not corrode SUS316L	Rear fitting	■: Type R1/8 9/16-18UNF	Cable type (cable type cable: 3m)	Standard pressure	0 to 1,000kPa	MPa, kPa, kgf/cm^2, bar, psi
					Compound pressure	-101.3 to 100.0kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O

※Sold separately: Front cover (PSO-P01), Panel bracket (PSO-B02/B03)

Series	Applicable Fluid	Pressure Port Direction	Pressure Port	Connection	Pressure Type	Rated Pressure Range	Display Pressure Unit
Pneumatic, Square, Cable Type Digital Pressure Sensor **PSA Series**  W30×H30×L38.5mm	Air, Non-corrosive gas	Rear fitting (3-direction)	■ : Type Rc(PT)1/8 NPT1/8	Cable type (cable type cable: 2m)	Standard pressure	0.0 to 100.0kPa	kPa, kgf/cm^2, bar, psi
						0 to 1,000kPa	
					Negative pressure	0.0 to -101.3kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O
					Compound pressure	-100.0 to 100.0kPa	kPa, kgf/cm^2, bar, psi, mmHg, inHg, mmH$_2$O

※Sold separately: Front cover (PSO-02), Panel bracket (PSO-01)

Control Output		Option Input/Output	Power Supply	Current Consumption	Protection Structure	Approval	Model
NPN Open Collector	PNP Open Collector						
●	—	□: Type V: Voltage (1-5VDC) output A: Current (DC4-20mA) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP40	CE	PSAN-01C□-■
—	●						PSAN-01CP□-■
●	—						PSAN-1C□-■
—	●						PSAN-1CP□-■
●	—	□: Type V: Voltage (1-5VDC) output A: Current (DC4-20mA) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP40	CE	PSAN-V01C□-■
—	●						PSAN-V01CP□-■
●	—				IP40	CE	PSAN-C01C□-■
—	●						PSAN-C01CP□-■
●	—	□: Type V: Voltage (1-5VDC) output A: Current (DC4-20mA) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP40	CE	PSAN-L01C□-■
—	●						PSAN-L01CP□-■
●	—	□: Type V: Voltage (1-5VDC) output A: Current (DC4-20mA) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP40	CE	PSAN-L1C□-■
—	●						PSAN-L1CP□-■
●	—	Voltage (1-5VDC) output	12-24VDC		IP40	CE	PSAN-L1CV-7/16-20UNF
●	—	□: Type V: Voltage (1-5VDC) output A: Current (DC 4-20mA) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP40	CE	PSAN-LV01C□-■
—	●						PSAN-LV01CP□-■
●	—	□: Type V: Voltage (1-5VDC) output A: Current (DC4-20mA) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP40	CE	PSAN-LC01C□-■
—	●						PSAN-LC01CP□-■
●	—	□: Type V: Voltage (1-5VDC) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP65	CE	PSAN-B1□-■
—	●						PSAN-B1P□-■
●	—	□: Type V: Voltage (1-5VDC) output H: HOLD/ AUTO SHIFT input	12-24VDC	Voltage output type : Max. 50mA Current output type : Max. 75mA	IP65	CE	PSAN-BC01□-■
—	●						PSAN-BC01P□-■

Control Output		Option Output	Power Supply	Current Consumption	Protection Structure	Approval	Model
NPN Open Collector	PNP Open Collector						
●	—	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSA-01-■
—	●						PSA-01P-■
●	—						PSA-1-■
—	●						PSA-1P-■
●	—	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSA-V01-■
—	●						PSA-V01P-■
●	—	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSA-C01-■
—	●						PSA-C01P-■

Pressure Sensors

Series	Applicable Fluid	Pressure Port Direction	Connection	Pressure Type	Rated Pressure Range	Display Pressure Unit
Pneumatic, Rectangular, Connector Type Digital Pressure Sensor **PSB Series**  W52×H10×L25.5mm	Air, Non-corrosive gas	M5	Connector type (Connector type cable: 3m)	Standard pressure	0.0 to 100.0kPa	kPa, kgf/cm², bar, psi
					0 to 1,000kPa	kPa, kgf/cm², bar, psi
				Negative pressure	0.0 to -101.3kPa	kPa, kgf/cm², bar, psi, mmHg, inHg, mmH_2O
				Compound pressure	-100.0 to 100.0kPa	kPa, kgf/cm², bar, psi, mmHg, inHg, mmH_2O
Pneumatic, Rectangular, Cable Type Digital Pressure Sensor **PSB Series**  W54.2×H10.4×L25mm	Air, Non-corrosive gas	M5	Cable type (cable type cable: 2m)	Standard pressure	0.0 to 100.0kPa	kPa, kgf/cm², bar, psi
					0 to 1,000kPa	
					0.0 to 100.0kPa	kPa, kgf/cm², bar, psi
					0 to 1,000kPa	
				Negative pressure	0.0 to -101.3kPa	kPa, kgf/cm², bar, psi, mmHg, inHg, mmH_2O
				Compound pressure	-100.0 to 100.0kPa	kPa, kgf/cm², bar, psi, mmHg, inHg, mmH_2O

Series	Applicable Fluid	Pressure Port Direction	Connection	Pressure Type	Rated Pressure Range	Display Pressure Unit
Compact, Cable Type Pressure Sensor **PSS Series**  W11.8×H29.3×L24.8mm	Air, Non-corrosive gas	R1/8	Cable type (cable type cable: 3m)	Standard pressure	0.0 to 100.0kPa	—
					0 to 1,000kPa	—
				Negative pressure	0.0 to -101.3kPa	—
				Compound pressure	-101.3 to 100.0kPa	—

※Pressure Conversion Chart

from \ to	Pa	kPa	MPa	kgf/cm²	mmHg	mmH_2O	psi	bar	inHg
1Pa	1	0.001	0.000001	0.000010197	0.007501	0.101972	0.000145038	0.00001	0.0002953
1kPa	1,000.000	1	0.001	0.010197	7.500617	101.971626	0.145038	0.01	0.2953
1MPa	1,000,000	1,000	1	10.197162	7,500.61683	101,971.626	145.038243	10	295.299875
1kgf/cm²	98,066.5	98.0665	0.098067	1	735.55924	10,000.0005	14.223393	0.980665	28.959025
1mmHg	133.322368	0.133322	0.000133	0.001359	1	13.595099	0.019337	0.001333	0.039370
1mmH_2O	9.80665	0.009807	—	0.000099	0.073556	1	0.00142	0.000098	0.002896
1psi	6,894.733	6.89473	0.006895	0.070307	51.714752	703.016716	1	0.068947	2.036014
1bar	100,000.0	100.0000	0.100000	1.019716	750.062	10,197.1626	14.503824	1	29.529988
1inHg	3,386.388	3.386388	0.003386	0.034532	25.40022	345.315507	0.491156	0.033864	1

Control Output		Option Output	Power Supply	Current Consumption	Protection Structure	Approval	Model
NPN Open Collector	PNP Open Collector						
—	●	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-01CP-M5
●	—						PSB-01C-M5
●	—	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-1C-M5
—	●						PSB-1CP-M5
●	—	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-V01C-M5
—	●						PSB-V01CP-M5
—	●	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-C01CP-M5
●	—						PSB-C01C-M5
●	—	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-01-M5
							PSB-1-M5
—	●	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-01P-M5
							PSB-1P-M5
—	●	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-V01P-M5
●	—						PSB-V01-M5
—	●	Voltage (1-5VDC) output	12-24VDC	Max. 50mA	IP40	CE	PSB-C01P-M5
●	—						PSB-C01-M5

Option Output	Power Supply	Current Consumption	Protection Structure	Approval	Model
Voltage (1-5VDC) output	12-24VDC	Max. 15mA	IP40	CE	PSS-01V-R1/8
Current (DC4-20mA) output	12-24VDC	—	IP40	CE	PSS-01A-R1/8
Voltage (1-5VDC) output	12-24VDC	Max. 15mA	IP40	CE	PSS-1V-R1/8
Current (DC4-20mA) output	12-24VDC	—	IP40	CE	PSS-1A-R1/8
Voltage (1-5VDC) output	12-24VDC	Max. 15mA	IP40	CE	PSS-V01V-R1/8
Current (DC4-20mA) output	12-24VDC	—	IP40	CE	PSS-V01A-R1/8
Voltage (1-5VDC) output	12-24VDC	Max. 15mA	IP40	CE	PSS-C01V-R1/8
Current (DC4-20mA) output	12-24VDC	—	IP40	CE	PSS-C01A-R1/8

Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Mark for Incremental Type Model Name-▣: Shaft Outer Diameter/Shaft Inner Diameter, □: Resolution, ▦: Output Phase, ■: Control Output

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø15mm, Shaft Type Rotary Encoder **E15S2-36-2-N-5-R** 	Ø2mm	10kHz	3000rpm	Max. 10gf·cm (max. 0.00098N·m)	36

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø18mm, Shaft Type Rotary Encoder **E18S Series** 	▣: Type 2: Ø2mm 2.5: Ø2.5mm	25kHz	6000rpm	Max. 10gf·cm (max. 0.00098N·m)	□: Type 100, 200, 300, 400

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø20mm, Shaft Type Rotary Encoder **E20S Series** 	Ø2mm	100kHz	6000rpm	Max. 5gf·cm (max. 0.00049N·m)	□: Type 100, 200, 320, 360

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø20mm, Built-in Hollow Shaft Type Rotary Encoder **E20HB Series** 	▣: Type 2: Ø2mm 2.5: Ø2.5mm 3: Ø3mm	100kHz	6000rpm	Max. 5gf·cm (max. 0.00049N·m)	□: Type 100, 200, 320, 360

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 500	To 3000
Incremental, Ø30mm, Shaft Type Rotary Encoder **E30S Series** 	Ø4mm	300kHz	5000rpm	Max. 20gf·cm (max. 0.00196N·m)	100, 200, 360, 500	1000, 1024, 3000

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 50	To 250	To 1000	To 5000
Incremental, Ø40mm, Shaft Type Rotary Encoder **E40S Series** 	▣: Type 6: Ø6mm 8: Ø8mm	300kHz	5000rpm	Max. 40gf·cm (max. 0.00392N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000	1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	NPN open collector	5VDC	Axial cable type	IP50	—	E15S2-36-2-N-5-R

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A	■: Type N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE c UL us	E18S▣-□-1-■-5-R
			Radial cable type	IP50	CE c UL us	E18S▣-□-1-■-5-S

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E20S2-□-3-■-5-R
			Radial cable type	IP50	CE	E20S2-□-3-■-5-S
		12VDC	Axial cable type	IP50	CE	E20S2-□-3-■-12-R
			Radial cable type	IP50	CE	E20S2-□-3-■-12-S
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial cable type	IP50	—	E20S2-□-6-L-5-R
			Radial cable type	IP50	—	E20S2-□-6-L-5-S

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E20HB▣-□-3-■-5-R
			Radial cable type	IP50	CE	E20HB▣-□-3-■-5-S
		12VDC	Axial cable type	IP50	CE	E20HB▣-□-3-■-12-R
			Radial cable type	IP50	CE	E20HB▣-□-3-■-12-S
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial cable type	IP50	—	E20HB▣-□-6-L-5-R
			Radial cable type	IP50	—	E20HB▣-□-6-L-5-S

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E30S4-□-3-■-5
			Axial cable connector type	IP50	CE	E30S4-□-3-■-5-C
		12-24VDC	Axial cable type	IP50	CE	E30S4-□-3-■-24
			Axial cable connector type	IP50	CE	E30S4-□-3-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial cable type	IP50	—	E30S4-□-6-L-5
			Axial cable connector type	IP50	—	E30S4-□-6-L-5-C

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40S▣-□-2-■-5
			Radial cable connector type			E40S▣-□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40S▣-□-2-■-24
			Radial cable connector type			E40S▣-□-2-■-24-C
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Radial cable type	IP50	—	E40S▣-□-4-L-5
			Radial cable connector type			E40S▣-□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40S▣-□-4-L-24
			Radial cable connector type			E40S▣-□-4-L-24-C
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40S▣-□-▦-■-5
			Radial cable connector type			E40S▣-□-▦-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40S▣-□-▦-■-24
			Radial cable connector type			E40S▣-□-▦-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial cable type	IP50	—	E40S▣-□-6-L-5
			Radial cable connector type			E40S▣-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40S▣-□-6-L-24
			Radial cable connector type			E40S▣-□-6-L-24-C

Rotary Encoders

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 50	To 250	To 1000	To 5000
Incremental, Ø40mm, Hollow Shaft Type Rotary Encoder **E40H Series** 	▣: Type 6: Ø6mm 8: Ø8mm 10: Ø10mm 12: Ø12mm	300kHz	5000rpm	Max. 50gf·cm (max. 0.0049N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000	1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000
Incremental, Ø40mm Built-in Hollow Shaft Type Rotary Encoder **E40HB Series** 	▣: Type 6: Ø6mm 8: Ø8mm 10: Ø10mm 12: Ø12mm	300kHz	5000rpm	Max. 50gf·cm (max. 0.0049N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 80, 100, 120, 125, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000	1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40H▣-□-2-■-5
			Radial cable connector type			E40H▣-□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40H▣-□-2-■-24
			Radial cable connector type			E40H▣-□-2-■-24-C
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Radial cable type	IP50	—	E40H▣-□-4-L-5
			Radial cable connector type			E40H▣-□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40H▣-□-4-L-24
			Radial cable connector type			E40H▣-□-4-L-24-C
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40H▣-□-▦-■-5
			Radial cable connector type			E40H▣-□-▦-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40H▣-□-▦-■-24
			Radial cable connector type			E40H▣-□-▦-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial cable type	IP50	—	E40H▣-□-6-L-5
			Radial cable connector type			E40H▣-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40H▣-□-6-L-24
			Radial cable connector type			E40H▣-□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40HB▣-□-2-■-5
			Radial cable connector type			E40HB▣-□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40HB▣-□-2-■-24
			Radial cable connector type			E40HB▣-□-2-■-24-C
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Radial cable type	IP50	—	E40HB▣-□-4-L-5
			Radial cable connector type			E40HB▣-□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40HB▣-□-4-L-24
			Radial cable connector type			E40HB▣-□-4-L-24-C
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40HB▣-□-▦-■-5
			Radial cable connector type			E40HB▣-□-▦-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40HB▣-□-▦-■-24
			Radial cable connector type			E40HB▣-□-▦-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial cable type	IP50	—	E40HB▣-□-6-L-5
			Radial cable connector type			E40HB▣-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40HB▣-□-6-L-24
			Radial cable connector type			E40HB▣-□-6-L-24-C

Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 50	To 256	To 1500	To 8000
Incremental, Ø50mm, Shaft Type Rotary Encoder **E50S Series** 	Ø8mm	300kHz	5000rpm	Max. 70gf·cm (max. 0.00686N·m)	1, 2, 5	—	—	—
					10, 12, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250, 256	300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 4000, 5000, 6000, 8000
				Max. 800gf·cm (max. 0.0784N·m)	1, 2, 5	—	—	—
					10, 12, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250, 256	300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 4000, 5000, 6000, 8000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E50S8-□-2-■-5
			Axial cable connector type	IP50	CE	E50S8-□-2-■-5-C
		12-24VDC	Axial cable type	IP50	CE	E50S8-□-2-■-24
			Axial cable connector type	IP50	CE	E50S8-□-2-■-24-C
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Axial cable type	IP50	—	E50S8-□-4-L-5
			Axial cable connector type	IP50	—	E50S8-□-4-L-5-C
		12-24VDC	Axial cable type	IP50	—	E50S8-□-4-L-24
			Axial cable connector type	IP50	—	E50S8-□-4-L-24-C
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E50S8-□-▦-■-5
			Axial cable connector type	IP50	CE	E50S8-□-▦-■-5-C
		12-24VDC	Axial cable type	IP50	CE	E50S8-□-▦-■-24
			Axial cable connector type	IP50	CE	E50S8-□-▦-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial cable type	IP50	—	E50S8-□-6-L-5
			Axial cable connector type	IP50	—	E50S8-□-6-L-5-C
		12-24VDC	Axial cable type	IP50	—	E50S8-□-6-L-24
			Axial cable connector type	IP50	—	E50S8-□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial connector type	IP65	CE	E50S8-□-2-■-5-CR
			Radial connector type	IP65	CE	E50S8-□-2-■-5-CS
		12-24VDC	Axial connector type	IP65	CE	E50S8-□-2-■-24-CR
			Radial connector type	IP65	CE	E50S8-□-2-■-24-CS
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Axial connector type	IP65	—	E50S8-□-4-L-5-CR
			Radial connector type	IP65	—	E50S8-□ 4-L-5-CS
		12-24VDC	Axial connector type	IP65	—	E50S8-□-4-L-24-CR
			Radial connector type	IP65	—	E50S8-□-4-L-24-CS
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial connector type	IP65	CE	E50S8-□-▦-■-5-CR
			Radial connector type	IP65	CE	E50S8-□-▦-■-5-CS
		12-24VDC	Axial connector type	IP65	CE	E50S8-□-▦-■-24-CR
			Radial connector type	IP65	CE	E50S8-□-▦-■-24-CS
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial connector type	IP65	—	E50S8-□-6-L-5-CR
			Radial connector type	IP65	—	E50S8-□-6-L-5-CS
		12-24VDC	Axial connector type	IP65	—	E50S8-□-6-L-24-CR
			Radial connector type	IP65	—	E50S8-□-6-L-24-CS

Rotary Encoders

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 60	To 300	To 1500	To 8000
Incremental, Ø58mm, Clamping, Shaft Type Rotary Encoder **E58SC Series** 	Ø10mm	300kHz	5000rpm	Max. 40gf·cm (max. 0.00392N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000
Incremental, Ø58mm, Synchro, Shaft Type Rotary Encoder **E58SS Series** 	Ø6mm	300kHz	5000rpm	Max. 40gf·cm (max. 0.00392N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58SC10-□-2-■-5
			Axial cable connector type			E58SC10-□-2-■-5-C
			Axial connector type	IP50	CE	E58SC10-□-2-■-5-CR
			Radial connector type			E58SC10-□-2-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58SC10-□-2-■-24
			Axial cable connector type			E58SC10-□-2-■-24-C
			Axial connector type	IP50	CE	E58SC10-□-2-■-24-CR
			Radial connector type			E58SC10-□-2-■-24-CS
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SC10-□-4-L-5
			Axial cable connector type			E58SC10-□-4-L-5-C
			Axial connector type	IP50	—	E58SC10-□-4-L-5-CR
			Radial connector type			E58SC10-□-4-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58SC10-□-4-L-24
			Axial cable connector type			E58SC10-□-4-L-24-C
			Axial connector type	IP50	—	E58SC10-□-4-L-24-CR
			Radial connector type			E58SC10-□-4-L-24-CS
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58SC10-□-▦-■-5
			Axial cable connector type			E58SC10-□-▦-■-5-C
			Axial connector type	IP50	CE	E58SC10-□-▦-■-5-CR
			Radial connector type			E58SC10-□-▦-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58SC10-□-▦-■-24
			Axial cable connector type			E58SC10-□-▦-■-24-C
			Axial connector type	IP50	CE	E58SC10-□-▦-■-24-CR
			Radial connector type			E58SC10-□-▦-■-24-CS
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SC10-□-6-L-5
			Axial cable connector type			E58SC10-□-6-L-5-C
			Axial connector type	IP50	—	E58SC10-□-6-L-5-CR
			Radial connector type			E58SC10-□-6-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58SC10-□-6-L-24
			Axial cable connector type			E58SC10-□-6-L-24-C
			Axial connector type	IP50	—	E58SC10-□-6-L-24-CR
			Radial connector type			E58SC10-□-6-L-24-CS
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58SS6-□-2-■-5
			Axial cable connector type			E58SS6-□-2-■-5-C
			Axial connector type	IP50	CE	E58SS6-□-2-■-5-CR
			Radial connector type			E58SS6-□-2-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58SS6-□-2-■-24
			Axial cable connector type			E58SS6-□-2-■-24-C
			Axial connector type	IP50	CE	E58SS6-□-2-■-24-CR
			Radial connector type			E58SS6-□-2-■-24-CS
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-4-L-5
			Axial cable connector type			E58SS6-□-4-L-5-C
			Axial connector type	IP50	—	E58SS6-□-4-L-5-CR
			Radial connector type			E58SS6-□-4-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58SS6-□-4-L-24
			Axial cable connector type			E58SS6-□-4-L-24-C
			Axial connector type	IP50	—	E58SS6-□-4-L-24-CR
			Radial connector type			E58SS6-□-4-L-24-CS
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58SS6-□-▦-■-5
			Axial cable connector type			E58SS6-□-▦-■-5-C
			Axial connector type	IP50	CE	E58SS6-□-▦-■-5-CR
			Radial connector type			E58SS6-□-▦-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58SS6-□-▦-■-24
			Axial cable connector type			E58SS6-□-▦-■-24-C
			Axial connector type	IP50	CE	E58SS6-□-▦-■-24-CR
			Radial connector type			E58SS6-□-▦-■-24-CS
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-5
			Axial cable connector type			E58SS6-□-6-L-5-C
			Axial connector type	IP50	—	E58SS6-□-6-L-5-CR
			Radial connector type			E58SS6-□-6-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C
			Axial connector type	IP50	—	E58SS6-□-6-L-24-CR
			Radial connector type			E58SS6-□-6-L-24-CS

Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 60	To 300	To 1500	To 8000
Incremental, Ø58mm, Hollow Shaft Type Rotary Encoder **E58H Series** 	Ø12mm	300kHz	5000rpm	Max. 90gf·cm (max. 0.00882N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000
Incremental, Ø58mm, Built-in Hollow Shaft Type Rotary Encoder **E58HB Series** 	Ø12mm	300kHz	5000rpm	Max. 90gf·cm (max. 0.00882N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E58H12-□-2-■-5
			Radial cable connector type	IP50	CE	E58H12-□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E58H12-□-2-■-24
			Radial cable connector type	IP50	CE	E58H12-□-2-■-24-C
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Radial cable type	IP50	—	E58H12-□-4-L-5
			Radial cable connector type	IP50	—	E58H12-□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E58H12-□-4-L-24
			Radial cable connector type	IP50	—	E58H12-□-4-L-24-C
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E58H12-□-▦-■-5
			Radial cable connector type	IP50	CE	E58H12-□-▦-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E58H12-□-▦-■-24
			Radial cable connector type	IP50	CE	E58H12-□-▦-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial cable type	IP50	—	E58H12-□-6-L-5
			Radial cable connector type	IP50	—	E58H12-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E58H12-□-6-L-24
			Radial cable connector type	IP50	—	E58H12-□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-2-■-5
			Axial cable connector type			E58HB12-□-2-■-5-C
			Axial connector type	IP50	CE	E58HB12-□-2-■-5-CR
			Radial connector type			E58HB12-□-2-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-2-■-24
			Axial cable connector type			E58HB12-□-2-■-24-C
			Axial connector type	IP50	CE	E58HB12-□-2-■-24-CR
			Radial connector type			E58HB12-□-2-■-24-CS
A, $\overline{A}$, B, $\overline{B}$	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58HB12-□-4-L-5
			Axial cable connector type			E58HB12-□-4-L-5-C
			Axial connector type	IP50	—	E58HB12-□-4-L-5-CR
			Radial connector type			E58HB12-□-4-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58HB12-□-4-L-24
			Axial cable connector type			E58HB12-□-4-L-24-C
			Axial connector type	IP50	—	E58HB12-□-4-L-24-CR
			Radial connector type			E58HB12-□-4-L-24-CS
▦: Type 2: A, B 3: A, B, Z 4: A, $\overline{A}$, B, $\overline{B}$	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-▦-■-5
			Axial cable connector type			E58HB12-□-▦-■-5-C
			Axial connector type	IP50	CE	E58HB12-□-▦-■-5-CR
			Radial connector type			E58HB12-□-▦-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-▦-■-24
			Axial cable connector type			E58HB12-□-▦-■-24-C
			Axial connector type	IP50	CE	E58HB12-□-▦-■-24-CR
			Radial connector type			E58HB12-□-▦-■-24-CS
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58HB12-□-6-L-5
			Axial cable connector type			E58HB12-□-6-L-5-C
			Axial connector type	IP50	—	E58HB12-□-6-L-5-CR
			Radial connector type			E58HB12-□-6-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58HB12-□-6-L-24
			Axial cable connector type			E58HB12-□-6-L-24-C
			Axial connector type	IP50	—	E58HB12-□-6-L-24-CR
			Radial connector type			E58HB12-□-6-L-24-CS

Rotary Encoders

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø60mm, Hollow Shaft Type Rotary Encoder **E60H Series** 	Ø20mm	300kHz	6000rpm	Max. 150gf·cm (max. 0.0147N·m)	□: Type 100, 1024, 5000, 8192

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø68mm, Shaft Type Rotary Encoder **E68S Series** 	Ø15mm	180kHz	6500rpm	Max. 1.5Kgf·cm (max. 0.147N·m)	500 600 1024

※Connector standard: MS3102A20-29P

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 500	To 3200
Incremental, Ø80mm, Hollow Shaft Type Rotary Encoder **E80H Series** 	▣: Type 30: Ø30mm 32: Ø32mm	200kHz	3600rpm	Max. 200gf·cm (max. 0.0196N·m)	60, 100, 360, 500	512, 1024, 3200

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø100mm, Hollow Shaft Type Rotary Encoder **E100H Series** 	Ø35mm	300kHz	3600rpm	Max. 300gf·cm (max. 0.0294N·m)	□: Type 512, 1024, 10000

※Sold separately: Connector cable

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 45	To 250	To 1024	To 5000
Incremental, Side Mount, Shaft Type Rotary Encoder **ENA Series** 	Ø10mm	300kHz	5000rpm	Max. 70gf·cm (max. 0.00686N·m)	1, 2, 5	—	—	—
					10, 12, 15, 20, 23, 25, 30, 35, 40, 45	50, 60, 75, 100, 120, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000, 1024	1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000

※Sold separately: Connector cable

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E60H20-□-3-■-5
			Radial cable connector type	IP50	CE	E60H20-□-3-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E60H20-□-3-■-24
			Radial cable connector type	IP50	CE	E60H20-□-3-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial cable type	IP50	—	E60H20-□-6-L-5
			Radial cable connector type	IP50	—	E60H20-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E60H20-□-6-L-24
			Radial cable connector type	IP50	—	E60H20-□-6-L-24-C

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial connector type	IP65	—	E68S15-500-6-L-5
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial connector type	IP65	—	E68S15-600-6-L-5
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial connector type	IP65	—	E68S15-1024-6-L-5

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E80H▣-□-3-■-5
			Radial cable connector type	IP50	CE	E80H▣-□-3-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E80H▣-□-3-■-24
			Radial cable connector type	IP50	CE	E80H▣-□-3-■-24-C
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial cable type	IP50	—	E80H▣-□-6-L-5
			Radial cable connector type	IP50	—	E80H▣-□-6-L-5-C

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial connector type	IP50	CE	E100H35-□-3-■-5
		12-24VDC	Radial connector type	IP50	CE	E100H35-□-3-■-24
A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	Line driver	5VDC	Radial connector type	IP50	—	E100H35-□-6-L-5
		12-24VDC	Radial connector type	IP50	—	E100H35-□-6-L-24

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	12-24VDC	Radial connector type	IP50	CE	ENA-□-2-■-24
▦: Type 2: A, B 3: A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial connector type	IP50	CE	ENA-□-▦-■-5
		12-24VDC	Radial connector type	IP50	CE	ENA-□-▦-■-24

Rotary Encoders

Series	Max. Response Frequency	Max. Allowable Revolution	Output Phase	Wheel Diameter	Gear Ratio	Number Of Pulses
Incremental, Wheel Type Rotary Encoder **ENC Series** 	180kHz	5000rpm	A, B	250mm	1:1	250
					4:1	100
					4:1	1
				228.6mm (0.25yd)	4:1	100
					4:1	10
					4:1	1

Series	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	Output Phase
Incremental, Manual Handle Type Rotary Encoder **ENH Series** 	10kHz	200rpm (Normal), 600rpm (Peak)	Max. 1kgf·cm (max. 0.098N·m)	□: Type 25, 100	A, B
					A, $\overline{A}$, B, $\overline{B}$

Series	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	Output Phase
Incremental, Portable Encoder with Handle Type Rotary Encoder **ENHP Series** 	10kHz	200rpm (Normal), 600rpm (Peak)	Max. 1kgf·cm (max. 0.098N·m)	100	A, B
					A, $\overline{A}$, B, $\overline{B}$
					A, B
					A, $\overline{A}$, B, $\overline{B}$

Min. Measurement Unit (Movement Distance Per 1-Pulse)	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
1mm	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-1-■-5
			Axial cable connector type	IP50	CE	ENC-1-1-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-1-■-24
			Axial cable connector type	IP50	CE	ENC-1-1-■-24-C
1cm	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-2-■-5
			Axial cable connector type	IP50	CE	ENC-1-2-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-2-■-24
			Axial cable connector type	IP50	CE	ENC-1-2-■-24-C
1m	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-3-■-5
			Axial cable connector type	IP50	CE	ENC-1-3-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-3-■-24
			Axial cable connector type	IP50	CE	ENC-1-3-■-24-C
0.01yd	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-4-■-5
			Axial cable connector type	IP50	CE	ENC-1-4-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-4-■-24
			Axial cable connector type	IP50	CE	ENC-1-4-■-24-C
0.1yd	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-5-■-5
			Axial cable connector type	IP50	CE	ENC-1-5-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-5-■-24
			Axial cable connector type	IP50	CE	ENC-1-5-■-24-C
1yd	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-6-■-5
			Axial cable connector type	IP50	CE	ENC-1-6-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-6-■-24
			Axial cable connector type	IP50	CE	ENC-1-6-■-24-C

Click Stopper Position	Control Output	Power Supply	Connection Method	Protection Structure	Approval	Model
Normal "H"	■: Type T: Totem pole V: Voltage	5VDC	Terminal block	IP50	—	ENH-□-1-■-5
Normal “L”		5VDC	Terminal block	IP50	—	ENH-□-2-■-5
Normal “H”	■: Type T: Totem pole V: Voltage	12-24VDC	Terminal block	IP50	—	ENH-□-1-■-24
Normal “L”		12-24VDC	Terminal block	IP50	—	ENH-□-2-■-24
Normal “H”	Line driver	5VDC	Terminal block	IP50	—	ENH-□-1-L-5
Normal “L”		5VDC	Terminal block	IP50	—	ENH-□-2-L-5

Click Stopper Position	Control Output	Power Supply	Connection Method	Protection Structure	Approval	Model
Normal "H"	Totem pole	5VDC	D-SUB connector type	IP67	—	ENHP-100-1-T-5
		12-24VDC	D-SUB connector type	IP67	—	ENHP-100-1-T-24
Normal “H”	Line driver	5VDC	D-SUB connector type	IP67	—	ENHP-100-1-L-5
Normal “L”	Totem pole	5VDC	D-SUB connector type	IP67	—	ENHP-100-2-T-5
		12-24VDC	D-SUB connector type	IP67	—	ENHP-100-2-T-24
Normal “L”	Line driver	5VDC	D-SUB connector type	IP67	—	ENHP-100-2-L-5

Rotary Encoders

Mark for Absolute Type Model Name-▣: Shaft Outer Diameter/Shaft Inner Diameter, □: Resolution, ▦: Output Code

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 45	To 1024
Absolute, Ø50mm, Shaft Type Rotary Encoder **EP50S Series** 	Ø8mm	35kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	6, 8, 10, 12, 16, 20, 24, 32, 40, 45	48, 64, 90, 128, 180, 256, 360, 512, 720, 1024

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 180	To 1024
Absolute, Ø58mm, Clamping, Shaft Type Rotary Encoder **EP58SC Series** 	Ø10mm	35kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	45, 64, 90, 128, 180	256, 360, 512, 720, 1024
Absolute, Ø58mm, Synchro, Shaft Type Rotary Encoder **EP58SS Series** 	Ø6mm	35kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	45, 64, 90, 128, 180	256, 360, 512, 720, 1024

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
▦: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□-▦F-N-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□-▦F-N-24
		PNP open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□-▦F-P-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□-▦F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□-▦R-N-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□-▦R-N-24
		PNP open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□-▦R-P-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□-▦R-P-24

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
▦: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□-▦F-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□-▦F-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□-▦F-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□-▦F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□-▦R-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□-▦R-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□-▦R-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□-▦R-P-24
▦: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□-▦F-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□-▦F-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□-▦F-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□-▦F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□-▦R-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□-▦R-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□-▦R-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□-▦R-P-24

Rotary Encoders

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 180	To 1024
Absolute, Ø58mm, Built-in Hollow Shaft Type Rotary Encoder **EP58HB Series** 	Ø8mm	35kHz	3000rpm	Max. 90gf·cm (max. 0.00882N·m)	45, 64, 90, 128, 180	256, 360, 512, 720, 1024

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	Output Code
Absolute, Ø60mm, Shaft Type Rotary Encoder **ENP Series** 	Ø10mm	20kHz	3600rpm	Max. 500gf·cm (max. 0.049N·m)	□: Type 6, 8, 12, 16, 24	BCD code
					360	BCD code

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	
					Single-Turn	Multi-Turn
Absolute, Ø50mm, Shaft Type Multi-Turn Rotary Encoder **EPM50 Series** 	Ø8mm	50kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	1024-division	8192-revolution
		—	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	1024-division	8192-revolution

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
▦: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□-▦F-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□-▦F-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□-▦F-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□-▦F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□-▦R-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□-▦R-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□-▦R-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□-▦R-P-24

Output Type	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
Negative logic (NPN)	CW	NPN open collector	12-24VDC	Axial cable type	IP50	—	ENP-101F-□-N
	CCW		12-24VDC	Axial cable type	IP50	—	ENP-101R-□-N
Positive logic (PNP)	CW	PNP open collector	12-24VDC	Axial cable type	IP50	—	ENP-111F-□-P
	CCW		12-24VDC	Axial cable type	IP50	—	ENP-111R-□-P
Negative logic (NPN)	CW	NPN open collector	5VDC	Axial cable type	IP50	—	ENP-100F-360-N
			12-24VDC	Axial cable type	IP50	—	ENP-101F-360-N
	CCW		5VDC	Axial cable type	IP50	—	ENP-100R-360-N
			12-24VDC	Axial cable type	IP50	—	ENP-101R-360-N
Positive logic (PNP)	CW	PNP open collector	5VDC	Axial cable type	IP50	—	ENP-110F-360-P
			12-24VDC	Axial cable type	IP50	—	ENP-111F-360-P
	CCW		5VDC	Axial cable type	IP50	—	ENP-110R-360-P
			12-24VDC	Axial cable type	IP50	—	ENP-111R-360-P

Output Code	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
Binary code	Parallel NPN open collector	12-24VDC	Axial cable type	IP64	CE	EPM50S8-1013-B-PN-24
			Radial cable type	IP50	CE	EPM50S8-1013-B-PN-24-S
Binary code	SSI (synchronous serial interface)	12-24VDC	Axial cable type	IP64	CE	EPM50S8-1013-B-S-24
			Radial cable type	IP50	CE	EPM50S8-1013-B-S-24-S

Rotary Encoders

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 90	To 1024
Magnetic Absolute, Ø50mm, Shaft Type Rotary Encoder **MGA50S Series** 	Ø8mm	30kHz	3000rpm	Max. 70gf·cm (max. 0.00686N·m)	32, 40, 45, 48, 64, 90	128, 180, 256, 360, 512, 720, 1024

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					Single-Turn	Multi-Turn
Magnetic Absolute, Ø50mm, Multi-Turn Shaft Type Rotary Encoder **MGAM50S Series** 	Ø8mm	30kHz	3000rpm	Max. 70gf·cm (max. 0.00686N·m)	1024-division	8192-revolution
		—	3000rpm	Max. 70gf·cm (max. 0.00686N·m)	1024-division	8192-revolution

Series	Connection Type	Material	Max. Allowable Revolution	Max. Torque	Rated Torque
Ø19mm, Flexible Coupling **ERB Series** 	Clamp	Aluminum (AL 7075-T6), Alumite surface	8000rpm	1.2N·m (12.17kgf·cm)	0.6N·m (6.08kgf·cm)
	Set screw	Aluminum (AL 7075-T6), Alumite surface	20000rpm	1.2N·m (12.17kgf·cm)	0.6N·m (6.08kgf·cm)
Ø26mm, Flexible Coupling **ERB Series** 	Clamp	Aluminum (AL 7075-T6), Alumite surface	6000rpm	3.0N·m (30.42kgf·cm)	1.5N·m (15.21kgf·cm)
	Set screw	Aluminum (AL 7075-T6), Alumite surface	15000rpm	3.0N·m (30.42kgf·cm)	1.5N·m (15.21kgf·cm)

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
▦: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	MGA50S8-□-▦F-N-5
			12-24VDC	Axial cable type	IP50	CE	MGA50S8-□-▦F-N-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	MGA50S8-□-▦R-N-5
			12-24VDC	Axial cable type	IP50	CE	MGA50S8-□-▦R-N-24

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
Binary code	CW	Parallel NPN open collector	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-F-PN-24
	CCW	Parallel NPN open collector	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-R-PN-24
Binary code	CW	SSI (synchronous serial interface)	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-F-S-24
	CCW	SSI (synchronous serial interface)	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-R-S-24

Mounting Bolt	Mounting Torque	Min. Allowable Misalignment	Max. Allowable Misalignment	Inner Diameter of Both Ends	Protection Structure	Approval	Model
M2.5	1N·m	Ø4mm	Ø8mm	Ø4mm/Ø4mm	—	—	ERB-A-19C-04/04
				Ø4mm/Ø5mm	—	—	ERB-A-19C-04/05
				Ø4mm/Ø6mm	—	—	ERB-A-19C-04/06
				Ø5mm/Ø5mm	—	—	ERB-A-19C-05/05
				Ø5mm/Ø6mm	—	—	ERB-A-19C-05/06
				Ø6mm/Ø6mm	—	—	ERB-A-19C-06/06
M3	0.7N·m	Ø4mm	Ø8mm	Ø4mm/Ø4mm	—	—	ERB-A-19S-04/04
				Ø4mm/Ø5mm	—	—	ERB-A-19S-04/05
				Ø4mm/Ø6mm	—	—	ERB-A-19S-04/06
				Ø5mm/Ø5mm	—	—	ERB-A-19S-05/05
				Ø5mm/Ø6mm	—	—	ERB-A-19S-05/06
				Ø6mm/Ø6mm	—	—	ERB-A-19S-06/06
				Ø6mm/Ø8mm	—	—	ERB-A-19S-06/08
M3	0.7N·m	Ø5mm	Ø12mm	Ø6mm/Ø6mm	—	—	ERB-A-26C-06/06
				Ø6mm/Ø8mm	—	—	ERB-A-26C-06/08
				Ø8mm/Ø8mm	—	—	ERB-A-26C-08/08
M4	1.7N·m	Ø5mm	Ø12mm	Ø6mm/Ø6mm	—	—	ERB-A-26S-06/06
				Ø6mm/Ø8mm	—	—	ERB-A-26S-06/08
				Ø8mm/Ø8mm	—	—	ERB-A-26S-08/08
				Ø6mm/Ø10mm	—	—	ERB-A-26S-06/10
				Ø6mm/Ø12mm	—	—	ERB-A-26S-06/12

Connectors / Connector Cables/ Sensor Distribution Boxes / Sockets

Series	Number Of Pins	Power Supply	Rated Current	Terminal Retention
Sensor Connector **CNE Series** <Wire mount plug> 	■: Type 03: 3-pin 04: 4-pin	Max. 250VAC/DC	Max. 3.0A	Min. 1.4kgf
Sensor Connector **CNE Series** <Wire mount socket> 	■: Type 03: 3-pin 04: 4-pin	Max. 250VAC/DC	Max. 3.0A	Min. 1.4kgf

Series	Number Of Pins	Power Supply	Rated Current	Terminal Retention
Sensor Connector **CNE Series** <Board mount socket> 	■: Type 03: 3-pin 04: 4-pin	Max. 250VAC/DC	Max. 3.0A	Min. 1.4kgf

Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Connector Cable for Photoelectric Sensor / Proximity Sensor **CID/CLD Series** <CID>  <CLD> 	M12	DC 2-wire type	Socket type	PVC	2	CID2-2
					5	CID2-5
					2	CLD2-2
					5	CLD2-5
		DC 2-wire type (IEC standard)	Socket type	PVC	2	CID2-2-I
					5	CID2-5-I
					2	CLD2-2-I
					5	CLD2-5-I
<CID>  <CLD> 	M12	DC 2-wire type	Plug type	PVC	2	CID2-2P
					5	CID2-5P
					2	CLD2-2P
					5	CLD2-5P
<CID>  <CLD> 	M12	DC 3-wire type	Socket type	PVC	2	CID3-2
					5	CID3-5
					2	CLD3-2
					5	CLD3-5
<CID>  <CLD> 	M12	DC 3-wire type	Plug type	PVC	2	CID3-2P
					2	CLD3-2P

AWG	Nominal Cross Section Area (mm^2)	Cover Diameter (mm)	Cover Color	Model
AWG28-30	0.05 to 0.08	Ø0.6 to 0.8	Transparent	CNE-P■-WT
		Ø0.8 to 1.0	Yellow-Green	CNE-P■-YG
		Ø1.0 to 1.2	Violet	CNE-P■-VT
AWG24-26	0.13 to 0.21	Ø0.8 to 1.0	Red	CNE-P■-RE
		Ø1.0 to 1.2	Yellow	CNE-P■-YW
		Ø1.2 to 1.6	Orange	CNE-P■-OG
AWG20-22	0.32 to 0.5	Ø1.0 to 1.2	Green	CNE-P■-GN
		Ø1.2 to 1.6	Blue	CNE-P■-BL
		Ø1.6 to 2.0	Gray	CNE-P■-GY
AWG28-30	0.05 to 0.08	Ø0.6 to 0.8	Transparent	CNE-S■-WT
		Ø0.8 to 1.0	Yellow-Green	CNE-S■-YG
		Ø1.0 to 1.2	Violet	CNE-S■-VT
AWG24-26	0.13 to 0.21	Ø0.8 to 1.0	Red	CNE-S■-RE
		Ø1.0 to 1.2	Yellow	CNE-S■-YW
		Ø1.2 to 1.6	Orange	CNE-S■-OG
AWG20-22	0.32 to 0.5	Ø1.0 to 1.2	Green	CNE-S■-GN
		Ø1.2 to 1.6	Blue	CNE-S■-BL
		Ø1.6 to 2.0	Gray	CNE-S■-GY

Number Of Lines	PCB	Model
1-line	Fender plated-through hole, Hole diameter: 1.0mm PCB thickness: 1.0 to 2.2mm	CNE-B■
2-line		CNE-B2■
4-line		CNE-B4■

Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Connector Connection Cable for Photoelectric Sensor / Proximity Sensor **C□D/C□A Series** <C1D4/C1A4> 	M12	DC type	Socket-plug type	PVC	2	C1D4-2
					5	C1D4-5
				Oil-resistive PVC	1	C1DH4-1
					3	C1DH4-3
					5	C1DH4-5
					7	C1DH4-7
	M12	AC type	Socket-plug type	PVC	2	C1A4-2
					5	C1A4-5
<C2D4/C2A4> 	M12	DC type	Socket-plug type	PVC	2	C2D4-2
					5	C2D4-5
				Oil-resistive PVC	1	C2DH4-1
					3	C2DH4-3
					5	C2DH4-5
					7	C2DH4-7
	M12	AC type	Socket-plug type	PVC	2	C2A4-2
					5	C2A4-5
<C3D4/C3A4> 	M12	DC type	Socket-plug type	PVC	2	C3D4-2
					5	C3D4-5
				Oil-resistive PVC	1	C3DH4-1
					3	C3DH4-3
					5	C3DH4-5
					7	C3DH4-7
	M12	AC type	Socket-plug type	PVC	2	C3A4-2
					5	C3A4-5

Connectors / Connector Cables/ Sensor Distribution Boxes / Sockets

Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Connector Cable for Photoelectric Sensor / Proximity Sensor **CID/CLD Series** <CID>  <CLD> 	M12	DC 4-wire type	Socket type	Oil-resistive PVC	2	CIDH4-2
					3	CIDH4-3
					5	CIDH4-5
					7	CIDH4-7
					2	CLDH4-2
					3	CLDH4-3
					5	CLDH4-5
					7	CLD H4-7
<CID>  <CLD> 	M12	DC 4-wire type	Plug type	Oil-resistive PVC	2	CIDH4-2P
					3	CIDH4-3P
					5	CIDH4-5P
					7	CIDH4-7P
					2	CLDH4-2P
					3	CLDH4-3P
					5	CLDH4-5P
					7	CLDH4-7P
<CIA>  <CLA> 	M12	AC 2-wire type	Socket type	PVC	2	CIA2-2
					5	CIA2-5
				Oil-resistive PVC	2	CIAH2-2
					5	CIAH2-5
				PVC	2	CLA2-2
					5	CLA2-5
				Oil-resistive PVC	2	CLAH2-2
					5	CLAH2-5
<CIA>  <CLA> 	M12	AC 2-wire type	Plug type	PVC	2	CIA2-2P
					5	CIA2-5P
				Oil-resistive PVC	2	CIAH2-2P
					5	CIAH2-5P
				PVC	2	CLA2-2P
					5	CLA2-5P
				Oil-resistive PVC	2	CLAH2-2P
					5	CLAH2-5P
<CID>  <CLD> 	M8	DC 4-wire type	Socket type	PVC	2	CID408-2
					5	CID408-5
					2	CLD408-2
					5	CLD408-5

Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Connector Connection Cable for Photoelectric Sensor / Proximity Sensor **CID/CLD Series** <C4D4/C4A4> 	M12	DC type	Socket-plug type	PVC	2	C4D4-2
					5	C4D4-5
				Oil-resistive PVC	1	C4DH4-1
					3	C4DH4-3
					5	C4DH4-5
					7	C4DH4-7
	M12	AC type	Socket-plug type	PVC	2	C4A4-2
					5	C4A4-5
<C1D4/C1A4> 	M12	DC type	Plug-plug type	PVC	2	C1D4-2P
					5	C1D4-5P
	M12	AC type	Plug-plug type	PVC	2	C1A4-2P
					5	C1A4-5P

Appearance	Connector Standard	Connection	Number Of Connector Pins	Connection Method	Encoder Output Type	Cable Length (m)	Model
Connector Cable for Encoder **CID Series** 	M12	DC type	6	Socket type	Totem pole, NPN open collector, Voltage output	2	CID6S-2
						5	CID6S-5
						7	CID6S-7
						10	CID6S-10
						15	CID6S-15
			9	Socket type	Line Driver	2	CID9S-2
						5	CID9S-5
						10	CID9S-10
Connector Cable for Encoder **CID Series** 	M12	DC type	13	Socket type	Binary Code, Gray Code	2	CID13S-2
						5	CID13S-5
						10	CID13S-10
Connector Cable for Encoder **CID Series** 	M17	DC type	13	Socket-plug type	CID13S-□ Connection cable	2	CID13P-2-SI
						5	CID13P-5-SI
						10	CID13P-10-SI

Connectors / Connector Cables/ Sensor Distribution Boxes / Sockets

Series	Number Of Ports	Input Logic	Output Type		Power Supply	Rated Current
			1-Signal (DC 3-Wire Type)	1/2-Signal (DC 4-Wire Type)		
M12 5-Pin Connector (Cable Type) Sensor Distribution Box **PT Series** <PT4>  W54×H22.5×L95mm	4	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
		PNP	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
<PT6>  W54×H22.5×L120mm	6	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
		PNP	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
<PT8>  W54×H22.5×L145mm	8	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
		PNP	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)

※1. Sold separately: Mounting protection cover (CAP-PT), Waterproof cover (P96-M12-1)

Series	Number Of Ports	Input Logic	Output Type		Power Supply	Rated Current
			1-Signal (DC 3-Wire Type)	1/2-Signal (DC 4-Wire Type)		
M12 5-Pin Connector (Connector Type) Sensor Distribution Box **PT-C Series** <PT4-C>  W54×H31.5×L95mm	4	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
		PNP	●	—		
			—	●		
<PT6-C>  W54×H31.5×L120mm	6	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
		PNP	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
<PT8-C>  W54×H31.5×L145mm	8	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
		PNP	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		

※1. Sold separately: Mounting protection cover (CAP-PT), Waterproof cover (P96-M12-1)

Rated Current	Connection Life Cycle	Number Of M12 Connector Pins	Cable Length (m)	Protection Structure※1	Model
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-3DN5-5
		5	10		PT4-3DN5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-4DN5-5
		5	10		PT4-4DN5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-3DP5-5
		5	10		PT4-3DP5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-4DP5-5
		5	10		PT4-4DP5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-3DN5-5
		5	10		PT6-3DN5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-4DN5-5
		5	10		PT6-4DN5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-3DP5-5
		5	10		PT6-3DP5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-4DP5-5
		5	10		PT6-4DP5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-3DN5-5
		5	10		PT8-3DN5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-4DN5-5
		5	10		PT8-4DN5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-3DP5-5
		5	10		PT8-3DP5-10
Max. 0.5mA	Min. 200 operations	5	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-4DP5-5
		5	10		PT8-4DP5-10

Rated Current	Connection Life Cycle	Number Of M12 Connector Pins	Protection Structure※1	Model
Max. 0.5mA	Min. 200 operations	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-C3DN5
				PT4-C4DN5
Max. 0.5mA	Min. 200 operations	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-C3DP5
				PT4-C4DP5
Max. 0.5mA	Min. 200 operations	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-C3DN5
				PT6-C4DN5
Max. 0.5mA	Min. 200 operations	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-C3DP5
				PT6-C4DP5
Max. 0.5mA	Min. 200 operations	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-C3DN5
				PT8-C4DN5
Max. 0.5mA	Min. 200 operations	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-C3DP5
				PT8-C4DP5

Connectors / Connector Cables/ Sensor Distribution Boxes / Sockets

Series	Number Of Ports	Input Logic	Output Type		Power Supply	Rated Current
			1-Signal (DC 2-Wire Type)	1-Signal (DC 3-Wire Type)		
M12 4-Pin Connector (Cable Type) Sensor Distribution Box PT Series <PT4>  W50×H27.5×L73mm	4	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
		PNP	—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
<PT6>  W50×H27.5×L98mm	6	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
		PNP	—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)
<PT8>  W50×H27.5×L123mm	8	NPN	●	—	12-24VDC	2A (per signal), 4A (per port), 10A (total)
			—	●		
		PNP	—	●	12-24VDC	2A (per signal), 4A (per port), 10A (total)

※1. Sold separately: Mounting protection cover (CAP-PT), Waterproof cover (P96-M12-1)

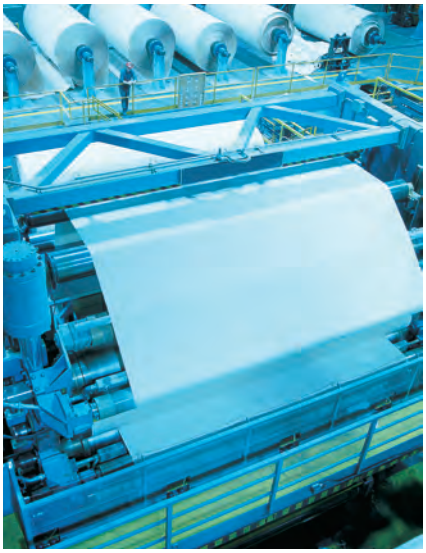
Appearance	Connector Standard	Connection	Connection Method	Cable Material	Cable Length (m)	Model
Sensor Distribution Box (PT-C) M23 Connector Cable CLD Series <CLD> 	M23	DC 3-wire type	Socket type	Oil-resistive PVC	4	CLDH12C-040
					6	CLDH12C-060
					8	CLDH12C-080
		DC 4-wire type	Socket type	Oil-resistive PVC	4	CLDH19C-040
					6	CLDH19C-060
					8	CLDH19C-080

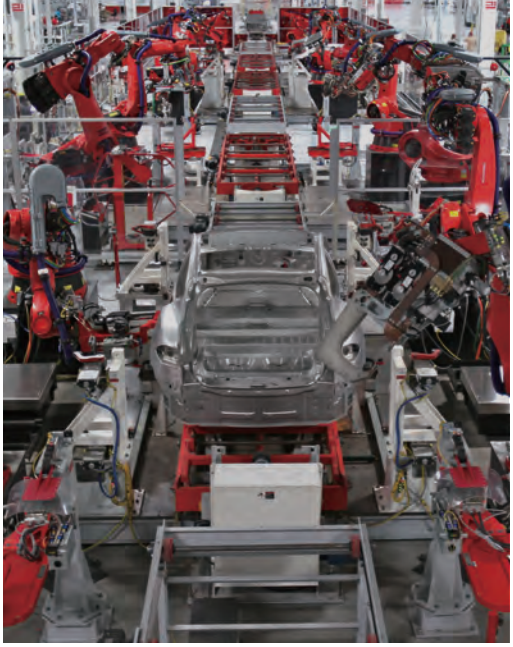
Rated Current	Connection Life Cycle	Number Of M12 Connector Pins	Cable Length (m)	Protection Structure※1	Model
Max. 0.5mA	Min. 200 operations	4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-2D
		4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-3DN
Max. 0.5mA	Min. 200 operations	4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT4-3DP
Max. 0.5mA	Min. 200 operations	4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-2D
		4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-3DN
Max. 0.5mA	Min. 200 operations	4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT6-3DP
Max. 0.5mA	Min. 200 operations	4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-2D
		4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-3DN
Max. 0.5mA	Min. 200 operations	4	5	IP67 (waterproof cover) IP52 (mounting protection cover)	PT8-3DP

Series	Number Of Pins	Rated Voltage	Rated Current	Terminal Fixing Torque	Bolt Standard	Ambient Temperature	Model
Standard Socket for Controllers **PG Series** <8-pin>  W38×H41×L21mm <11-pin>  W45×H43.4×L21mm	8-pin	250VAC	7A (resistive load)	0.8N·m	M3.5	-10 to 55℃	PG-08
	11-pin	250VAC	7A (resistive load)	0.8N·m	M3.5	-10 to 55℃	PG-11
Din Rail and Panel Mount Sockets for Controllers **PS Series** <8-pin>  W50×H70×L23.8mm <11-pin>  W50×H70×L23.8mm <8-pin>  W41×H67.5×L20mm	8-pin	250VAC	7A (resistive load)	0.8N·m	M3.5	-10 to 55℃	PS-08(N)
	11-pin	250VAC	7A (resistive load)	0.8N·m	M3.5	-10 to 55℃	PS-11(N)
	8-pin	250VAC	7A (resistive load)	0.75 to 0.95N·m	M3.5	-10 to 55℃	PS-M8

Autonics

www.autonics.com





CONTROLLERS

Temperature Controllers · SSRs · Power Controllers · Counters · Timers · Panel Meters · Tacho / Speed / Pulse Meters · Display Units · Sensor Controllers · Switching Mode Power Supplies · Graphic / Logic Panels · Field Network Devices

Temperature Controllers

High Performance, General-Purpose · Single Display · Dual Display PID Control Temperature Controller / Board Type, Dual PID Control Temperature Controller / Dual PID Control Temperature Controller / Thumwheel Switch Setting Type Temperature Controller / Temperature Indicator / Temperature · Humidity Sensor / USB 2-CH Temperature Data Logger

Series	Display Method	Control Method		Input Type	Sampling Period
High Performance, General-Purpose, PID Control Temperature Controller **TK4N Series**  W48×H24×L91.8mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
High Performance, General-Purpose, PID Control Temperature Controller **TK4SP Series** **(11-pin plug type)**  W48×H48×L72.2mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling			
		Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling			

※Sold separately: 11-pin socket (PG-11, PS-11(N))

Control Output 1	Control Output 2	Option Input	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4N-14■N
		—	Alarm 1/2				TK4N-24■N
		Digital (DI-1/2)	Alarm 1				TK4N-D4■N
		—	Alarm1, Transmission (DC4-20mA)				TK4N-R4■N
		—	Alarm 1, RS485 comm.				TK4N-T4■N
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	—	Alarm 2	100-240VAC	IP65 (front panel)	CE c UL us	TK4N-14■R
		Digital (DI-1/2)	—				TK4N-D4■R
		—	Transmission (DC4-20mA)				TK4N-R4■R
		—	RS485 comm.				TK4N-T4■R
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	Alarm 2	100-240VAC	IP65 (front panel)	CE c UL us	TK4N-14■C
		Digital (DI-1/2)	—				TK4N-D4■C
		—	Transmission (DC4-20mA)				TK4N-R4■C
		—	RS485 comm.				TK4N-T4■C
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	—	Alarm 1	24VAC, 24-48VDC	IP50 (front panel)	CE c UL us	TK4SP-12■N
	Relay (250VAC 3A)						TK4SP-12■R
	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]						TK4SP-12■C
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	—	Alarm 1	100-240VAC	IP50 (front panel)	CE c UL us	TK4SP-14■N
	Relay (250VAC 3A)						TK4SP-14■R
	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]						TK4SP-14■C

Temperature Controllers

Series	Display Method	Control Method		Input Type	Sampling Period
High Performance, General-Purpose, PID Control Temperature Controller **TK4S Series**  W48×H48×64.5mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms

Control Output 1	Control Output 2	Option Input	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT, Digital (DI-1)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4S-12■N
			Alarm 1/2				TK4S-22■N
			Alarm1, Transmission (DC4-20mA)				TK4S-R2■N
			Alarm 1, RS485 comm.				TK4S-T2■N
			Alarm 1/2, Transmission (DC4-20mA)				TK4S-A2■N
			Alarm 1/2, RS485 comm.				TK4S-B2■N
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	CT, Digital (DI-1)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4S-12■R
			Alarm 1/2				TK4S-22■R
			Alarm1, Transmission (DC4-20mA)				TK4S-R2■R
			Alarm 1, RS485 comm.				TK4S-T2■R
			Alarm 1/2, Transmission (DC4-20mA)				TK4S-A2■R
			Alarm 1/2, RS485 comm.				TK4S-B2■R
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	CT, Digital (DI-1)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4S-12■C
			Alarm 1/2				TK4S-22■C
			Alarm1, Transmission (DC4-20mA)				TK4S-R2■C
			Alarm 1, RS485 comm.				TK4S-T2■C
			Alarm 1/2, Transmission (DC4-20mA)				TK4S-A2■C
			Alarm 1/2, RS485 comm.				TK4S-B2■C
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT, Digital (DI-1)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4S-14■N
			Alarm 1/2				TK4S-24■N
			Alarm1, Transmission (DC4-20mA)				TK4S-R4■N
			Alarm 1, RS485 comm.				TK4S-T4■N
			Alarm 1/2, Transmission (DC4-20mA)				TK4S-A4■N
			Alarm 1/2, RS485 comm.				TK4S-B4■N
		CT, Digital (DI-1/2)	Alarm 1/2				TK4S-D4■N
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	CT, Digital (DI-1)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4S-14■R
			Alarm 1/2				TK4S-24■R
			Alarm1, Transmission (DC4-20mA)				TK4S-R4■R
			Alarm 1, RS485 comm.				TK4S-T4■R
			Alarm 1/2, Transmission (DC4-20mA)				TK4S-A4■R
			Alarm 1/2, RS485 comm.				TK4S-B4■R
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	CT, Digital (DI-1)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4S-14■C
			Alarm 1/2				TK4S-24■C
			Alarm1, Transmission (DC4-20mA)				TK4S-R4■C
			Alarm 1, RS485 comm.				TK4S-T4■C
			Alarm 1/2, Transmission (DC4-20mA)				TK4S-A4■C
			Alarm 1/2, RS485 comm.				TK4S-B4■C

Temperature Controllers

High Performance, General-Purpose · Single Display · Dual Display PID Control Temperature Controller / Board Type, Dual PID Control Temperature Controller / Dual PID Control Temperature Controller / Thumwheel Switch Setting Type Temperature Controller / Temperature Indicator / Temperature · Humidity Sensor / USB 2-CH Temperature Data Logger

Series	Display Method	Control Method		Input Type	Sampling Period
High Performance, General-Purpose, PID Control Temperature Controller **TK4M Series**  W72×H72×L64.5mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
		Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms

Control Output 1	Control Output 2	Option Input	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT, Digital (DI-1)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4M-12■N
			Alarm 1/2				TK4M-22■N
			Alarm1, Transmission (DC4-20mA)				TK4M-R2■N
			Alarm 1, RS485 comm.				TK4M-T2■N
			Alarm 1/2, Transmission (DC4-20mA)				TK4M-A2■N
			Alarm 1/2, RS485 comm.				TK4M-B2■N
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	CT, Digital (DI-1)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4M-12■R
			Alarm 1/2				TK4M-22■R
			Alarm1, Transmission (DC4-20mA)				TK4M-R2■R
			Alarm 1, RS485 comm.				TK4M-T2■R
			Alarm 1/2, Transmission (DC4-20mA)				TK4M-A2■R
			Alarm 1/2, RS485 comm.				TK4M-B2■R
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	CT, Digital (DI-1)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4M-12■C
			Alarm 1/2				TK4M-22■C
			Alarm1, Transmission (DC4-20mA)				TK4M-R2■C
			Alarm 1, RS485 comm.				TK4M-T2■C
			Alarm 1/2, Transmission (DC4-20mA)				TK4M-A2■C
			Alarm 1/2, RS485 comm.				TK4M-B2■C
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT, Digital (DI-1)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4M-14■N
			Alarm 1/2				TK4M-24■N
			Alarm1, Transmission (DC4-20mA)				TK4M-R4■N
			Alarm 1, RS485 comm.				TK4M-T4■N
			Alarm 1/2, Transmission (DC4-20mA)				TK4M-A4■N
			Alarm 1/2, RS485 comm.				TK4M-B4■N
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	CT, Digital (DI-1)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4M-14■R
			Alarm 1/2				TK4M-24■R
			Alarm1, Transmission (DC4-20mA)				TK4M-R4■R
			Alarm 1, RS485 comm.				TK4M-T4■R
			Alarm 1/2, Transmission (DC4-20mA)				TK4M-A4■R
			Alarm 1/2, RS485 comm.				TK4M-B4■R
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	CT, Digital (DI-1)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4M-14■C
			Alarm 1/2				TK4M-24■C
			Alarm1, Transmission (DC4-20mA)				TK4M-R4■C
			Alarm 1, RS485 comm.				TK4M-T4■C
			Alarm 1/2, Transmission (DC4-20mA)				TK4M-A4■C
			Alarm 1/2, RS485 comm.				TK4M-B4■C

Temperature Controllers

Series	Size	Display Method	Control Method		Input Type	Sampling Period
High Performance, General-Purpose, PID Control Temperature Controller **TK4W Series**  W96×H48×L64.5mm **TK4H Series**  W48×H96×L64.5mm **TK4L Series**  W96×H96×L64.5mm	□: Type W: DIN W96×H48mm H: DIN W48×H96mm L: DIN W96×H96mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
				ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
			Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms
				ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nikel 120Ω Analog: 0-100mV, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA	50ms

Control Output 1	Control Output 2	Option Input	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT, Digital (DI-1/2)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4□-12■N
			Alarm 1/2				TK4□-22■N
			Alarm1, Transmission (DC4-20mA)				TK4□-R2■N
			Alarm 1, RS485 comm.				TK4□-T2■N
			Alarm 1/2, Transmission (DC4-20mA)				TK4□-A2■N
			Alarm 1/2, RS485 comm.				TK4□-B2■N
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	CT, Digital (DI-1/2)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4□-12■R
			Alarm 1/2				TK4□-22■R
			Alarm1, Transmission (DC4-20mA)				TK4□-R2■R
			Alarm 1, RS485 comm.				TK4□-T2■R
			Alarm 1/2, Transmission (DC4-20mA)				TK4□-A2■R
			Alarm 1/2, RS485 comm.				TK4□-B2■R
■: Type R: Relay (250VAC 3A) C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	CT, Digital (DI-1/2)	Alarm 1	24VAC, 24-48VDC	IP65 (front panel)	CE c UL us	TK4□-12■C
			Alarm 1/2				TK4□-22■C
			Alarm1, Transmission (DC4-20mA)				TK4□-R2■C
			Alarm 1, RS485 comm.				TK4□-T2■C
			Alarm 1/2, Transmission (DC4-20mA)				TK4□-A2■C
			Alarm 1/2, RS485 comm.				TK4□-B2■C
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	—	CT, Digital (DI-1/2)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4□-14■N
			Alarm 1/2				TK4□-24■N
			Alarm1, Transmission (DC4-20mA)				TK4□-R4■N
			Alarm 1, RS485 comm.				TK4□-T4■N
			Alarm 1/2, Transmission (DC4-20mA)				TK4□-A4■N
			Alarm 1/2, RS485 comm.				TK4□-B4■N
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Relay (250VAC 3A)	CT, Digital (DI-1/2)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4□-14■R
			Alarm 1/2				TK4□-24■R
			Alarm1, Transmission (DC4-20mA)				TK4□-R4■R
			Alarm 1, RS485 comm.				TK4□-T4■R
			Alarm 1/2, Transmission (DC4-20mA)				TK4□-A4■R
			Alarm 1/2, RS485 comm.				TK4□-B4■R
■: Type R: Relay (250VAC 3A) S: SSR drive (11VDC) [ON/OFF, phase, cycle] C: Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	Current (DC0/4-20mA) or SSR drive (11VDC) [ON/OFF]	CT, Digital (DI-1/2)	Alarm 1	100-240VAC	IP65 (front panel)	CE c UL us	TK4□-14■C
			Alarm 1/2				TK4□-24■C
			Alarm1, Transmission (DC4-20mA)				TK4□-R4■C
			Alarm 1, RS485 comm.				TK4□-T4■C
			Alarm 1/2, Transmission (DC4-20mA)				TK4□-A4■C
			Alarm 1/2, RS485 comm.				TK4□-B4■C

Temperature Controllers

Series	Size	Display Method	Control Method		Input Type	Sampling Period
Single Display, PID Control Temperature Controller **TC4S Series**  W48×H48×L64.5mm	□: Type S: DIN W48×H48mm M: DIN W72×H72mm W: DIN W96×H48mm H: DIN W48×H96mm L: DIN W96×H96mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
TC4M Series  W72×H72×L64.5m			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
TC4W Series  W96×H48×L64.5mm			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
TC4H Series  W48×H96×L64.5mm			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
TC4L Series  W96×H96×L64.5mm			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
Single Display, PID Control Temperature Controller **TC4SP Series (11-pin plug type)**  W48×H48×L72.2mm	□: Type SP: DIN W48×H48mm Y: DIN W72×H36mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
TC4Y Series  W72×H36×L77mm			Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), L(IC) RTD: DPt100Ω, Cu50Ω	100ms

※Sold separately: 11-pin socket (PG-11, PS-11(N))

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
Indicator	—	24VAC, 24-48VDC	—	CE cULus	TC4□-N2N
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	—	24VAC, 24-48VDC	—	CE cULus	TC4□-N2R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	Alarm 1	24VAC, 24-48VDC	—	CE cULus	TC4□-12R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	Alarm 1/2	24VAC, 24-48VDC	—	CE cULus	TC4□-22R
Indicator	—	100-240VAC	—	CE cULus	TC4□-N4N
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	—	100-240VAC	—	CE cULus	TC4□-N4R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	Alarm 1	100-240VAC	—	CE cULus	TC4□-14R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	Alarm 1/2	100-240VAC	—	CE cULus	TC4□-24R
Indicator	—	24VAC, 24-48VDC	—	CE cULus	TC4□-N2N
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	—	24VAC, 24-48VDC	—	CE cULus	TC4□-N2R
	Alarm 1	24VAC, 24-48VDC	—	CE cULus	TC4□-12R
Indicator	—	100-240VAC	—	CE cULus	TC4□-N4N
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	—	100-240VAC	—	CE cULus	TC4□-N4R
	Alarm 1	100-240VAC	—	CE cULus	TC4□-14R

Temperature Controllers

Series	Display Method	Control Method		Input Type	Sampling Period
Dual Display, PID Control Temperature Controller **TCN4S Series**  W48×H48×L64.5mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), T(CC), R(PR), S(PR), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
Dual Display, PID Control Temperature Controller **TCN4S-□-P** **(connector-plug type)**  W48×H48×L67.5mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), T(CC), R(PR), S(PR), L(IC) RTD: DPt100Ω, Cu50Ω	100ms

Series	Display Method	Control Method		Input Type	Sampling Period
Dual Display, PID Control Temperature Controller **TCN4M Series**  W72×H72×L64.5mm **TCN4H Series**  W48×H96×L64.5mm **TCN4L Series**  W96×H96×L64.5mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), T(CC), R(PR), S(PR), L(IC) RTD: DPt100Ω, Cu50Ω	100ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), T(CC), R(PR), S(PR), L(IC) RTD: DPt100Ω, Cu50Ω	100ms

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	Alarm 1/2	24VAC, 24-48VDC	—	CE cULus	TCN4S-22R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	Alarm 1/2	100-240VAC	—	CE cULus	TCN4S-24R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	Alarm 1/2	24VAC, 24-48VDC	—	CE cULus	TCN4S-22R-P
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	Alarm 1/2	100-240VAC	—	CE cULus	TCN4S-24R-P

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF]	Alarm 1/2	24VAC, 24-48VDC	—	CE cULus	TCN4M-22R
					TCN4H-22R
					TCN4L-22R
Relay (250VAC 3A) or SSR drive (12VDC) [ON/OFF, phase, cycle]	Alarm 1/2	100-240VAC	—	CE cULus	TCN4M-24R
					TCN4H-24R
					TCN4L-24R

Temperature Controllers

High Performance, General-Purpose · Single Display · Dual Display PID Control Temperature Controller / Board Type, Dual PID Control Temperature Controller / Dual PID Control Temperature Controller / Thumwheel Switch Setting Type Temperature Controller / Temperature Indicator / Temperature · Humidity Sensor / USB 2-CH Temperature Data Logger

Series	Display Method	Control Method		Input Type	Sampling Period
LCD Display PID Control Temperature Controller **TX4S Series**  W48×H48×L45mm	4-digit 11-segment LCD	Heating, Cooling	ON/OFF control, P, PI, PD, PID control	Thermocouple: K(CA), J(IC), T(CC), R(PR), S(PR), L(IC) RTD: DPt100Ω, Cu50Ω	50ms

Series	Display Method	Control Method		Input CH	Input Type	Sampling Period
2-CH Modular Type, PID Control Temperature Controller **TM2 Series**  W30×H100×L84.8mm	Non-display	Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	2-CH	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, JPt100Ω	50ms (2-CH synchronous sampling)
2-CH Modular Type, PID Control Temperature Controller **TM4 Series**  W30×H100×L84.8mm	Non-display	Heating, Cooling Heating& Cooling	ON/OFF control, P, PI, PD, PID control	4-CH	Thermocouple: K(CA), J(IC), E(CR), T(CC), B(PR), R(PR), S(PR), N(NN), C(TT), G(TT), L(IC), U(CC), Platinel II RTD: DPt100Ω, JPt100Ω	100ms (4-CH synchronous sampling)

※1. Expansion units (TM□□-□2□E) of TM2/4 Series (2/4-CH modular type) are available to order separately.

Series	Display Method	Control Method		Input Type	Sampling Period
Board Type, Dual PID Control Temperature Controller **TB42 Series**  [display part: W60×H60mm] [control part: W65×H78mm]	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC) RTD: DPt100Ω, JPt100Ω	500ms

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
Relay (250VAC 3A)	Alarm 1	100-240VAC	IP50 (front panel)		TX4S-14R
SSR drive (12VDC) [ON/OFF, phase, cycle]					TX4S-14S
Current (DC0/4-20mA) or SSR drive (12VDC) [ON/OFF]					TX4S-14C
Relay (250VAC 3A)	Alarm 1/2	100-240VAC	IP50 (front panel)		TX4S-24R
SSR drive (12VDC) [ON/OFF, phase, cycle]					TX4S-24S
Current (DC0/4-20mA) or SSR drive (12VDC) [ON/OFF]					TX4S-24C
Relay (250VAC 3A)	Alarm 1/2, Transmission (DC4-20mA)	100-240VAC	IP50 (front panel)		TX4S-A4R
SSR drive (12VDC) [ON/OFF, phase, cycle]					TX4S-A4S
Current (DC0/4-20mA) or SSR drive (12VDC) [ON/OFF]					TX4S-A4C
Relay (250VAC 3A)	Alarm 1/2, RS485 comm.	100-240VAC	IP50 (front panel)		TX4S-B4R
SSR drive (12VDC) [ON/OFF, phase, cycle]					TX4S-B4S
Current (DC0/4-20mA) or SSR drive (12VDC) [ON/OFF]					TX4S-B4C

Control Output	Option Input	Option Output	Module Type	Power Supply	Protection Structure	Approval	Model
Relay (250VAC 3A)	CT, Digital (DI-1/2)	Alarm 1/2, RS485 comm.	Basic module※1	24VDC	—		TM2-22RB
Current (DC0/4-20mA) or SSR drive (12VDC) [ON/OFF]	CT, Digital (DI-1/2)	Alarm 1/2, RS485 comm.	Basic module※1	24VDC	—		TM2-22CB
Relay (250VAC 3A)	CT, Digital (DI-1/2)	Alarm 1/2/3/4, RS485 comm.	Basic module※1	24VDC	—		TM2-42RB
Current (DC0/4-20mA) or SSR drive (12VDC) [ON/OFF]	CT, Digital (DI-1/2)	Alarm 1/2/3/4, RS485 comm.	Basic module※1	24VDC	—		TM2-42CB
Relay (250VAC 3A)	—	RS485 comm.	Basic module※1	24VDC	—		TM4-N2RB
SSR drive (22VDC) [ON/OFF]	—	RS485 comm.	Basic module※1	24VDC	—		TM4-N2SB

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
Relay (250VAC 3A)	Event 1 (relay)/ Event 2 (LED)	100-240VAC	—		TB42-14R
SSR drive (12VDC) [ON/OFF]	Event 1 (relay)/ Event 2 (LED)	100-240VAC	—		TB42-14S
Current (DC4-20mA)	Event 1 (relay)/ Event 2 (LED)	100-240VAC	—		TB42-14C
PV transmission (DC4-20mA)	Event 2 (LED)	100-240VAC	—		TB42-14N

Temperature Controllers

Series	Display Method	Control Method		Input Type	Sampling Period
Dual PID Control Temperature Controller **TZ4SP Series** **(11-pin plug type)**  W48×H48×L97.3mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
※Sold separately: 11-pin socket (PG-11, PS-11(N))					
Dual PID Control Temperature Controller **TZ4ST Series**  W48×H48×L98.8mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms

Series	Display Method	Control Method		Input Type	Sampling Period
Dual PID Control Temperature Controller **TZ4M Series**  W72×H72×L100mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
TZ4W Series  W96×H48×L100mm		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
TZ4H Series  W48×H96×L100mm		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
TZ4L Series  W96×H96×L100mm		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1	24VAC, 24-48VDC	—	CE	TZ4SP-12■
		100-240VAC	—	CE cULus	TZ4SP-14■

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1	24VAC, 24-48VDC	—	CE	TZ4ST-12■
	Event 1/2				TZ4ST-22■
	Event 1, PV transmission (DC4-20mA)				TZ4ST-R2■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1	100-240VAC	—	CE cULus	TZ4ST-14■
	Event 1/2				TZ4ST-24■
	Event 1, PV transmission (DC4-20mA)				TZ4ST-R4■

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1	100-240VAC	—	CE cULus	TZ4M-14■
					TZ4W-14■
					TZ4H-14■
					TZ4L-14■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1/2	100-240VAC	—	CE cULus	TZ4M-24■
					TZ4W-24■
					TZ4H-24■
					TZ4L-24■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1, PV transmission (DC4-20mA)	100-240VAC	—	CE cULus	TZ4M-R4■
					TZ4W-R4■
					TZ4H-R4■
					TZ4L-R4■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1/2, PV transmission (DC4-20mA)	100-240VAC	—	CE cULus	TZ4M-A4■
					TZ4W-A4■
					TZ4H-A4■
					TZ4L-A4■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1, RS485 comm.	100-240VAC	—	CE cULus	TZ4M-T4■
					TZ4W-T4■
					TZ4H-T4■
					TZ4L-T4■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1/2, RS485 comm.	100-240VAC	—	CE cULus	TZ4M-B4■
					TZ4W-B4■
					TZ4H-B4■
					TZ4L-B4■

Temperature Controllers

Series	Display Method	Control Method		Input Type	Sampling Period
Dual PID Control Temperature Controller **TZN4S Series**  W48×H48×L90mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms

Series	Display Method	Control Method		Input Type	Sampling Period
Dual PID Control Temperature Controller **TZN4M Series**  W72×H72×L73mm	4-digit 7-segment LED	Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
TZN4W Series  W96×H48×L100mm		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
TZN4H Series  W48×H96×L100mm		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms
TZN4L Series  W96×H96×L100mm		Heating, Cooling	ON/OFF control, P, PI, PD, PIDF, PIDS control	Thermocouple: K(CA), J(IC), E(CR), T(CC), R(PR), S(PR), N(NN), W(TT) RTD: DPt100Ω, JPt100Ω Analog: 1-5VDC, 0-10VDC, DC4-20mA	500ms

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
Relay (250VAC 3A)	Event 1	100-240VAC	—	CE cULus	TZN4S-14R
SSR drive (12VDC) [ON/OFF]	Event 1	100-240VAC	—	CE cULus	TZN4S-14S
Current (DC4-20mA)	Event 1	100-240VAC	—	CE cULus	TZN4S-14C

Control Output	Option Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1	100-240VAC	—	CE cULus	TZN4M-14■ TZN4W-14■ TZN4H-14■ TZN4L-14■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1/2	100-240VAC	—	CE cULus	TZN4M-24■ TZN4W-24■ TZN4H-24■ TZN4L-24■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1, PV transmission (DC4-20mA)	100-240VAC	—	CE cULus	TZN4M-R4■ TZN4W-R4■ TZN4H-R4■ TZN4L-R4■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1/2, PV transmission (DC4-20mA)	100-240VAC	—	CE cULus	TZN4M-A4■ TZN4W-A4■ TZN4H-A4■ TZN4L-A4■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1, RS485 comm.	100-240VAC	—	CE cULus	TZN4M-T4■ TZN4W-T4■ TZN4H-T4■ TZN4L-T4■
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Event 1/2, RS485 comm.	100-240VAC	—	CE cULus	TZN4M-B4■ TZN4W-B4■ TZN4W-B4■ TZN4L-B4■

Temperature Controllers

Series	Size	Display Method	Control Method		Input Type	Temperature Unit	Setting Range
Analog, Non-Display, PID Control Temperature Controller **TAS Series (8-pin plug type)**  W48×H48×L66.7mm **TAM Series**  W72×H72×L64.5mm **TAL Series**  W96×H96×L64.5mm	□: Type S: DIN W48×H48mm M: DIN W72×H72mm L: DIN W96×H96mm	Non-display	Heating	ON/OFF control PID control	Thermocouple: K(CA)	℃	0 to 100
							0 to 200
							0 to 400
							0 to 600
							0 to 800
							0 to 1,200
						℉	32 to 212
							32 to 392
							32 to 752
							32 to 1,112
							32 to 1,472
							32 to 2,192
			Heating	ON/OFF control PID control	Thermocouple: J(IC)	℃	0 to 200
							0 to 300
							0 to 400
						℉	32 to 392
							32 to 572
							32 to 752
			Heating	ON/OFF control PID control	RTD: DPt100Ω	℃	-50 to 100
							0 to 100
							0 to 200
							0 to 400
						℉	-58 to 212
							32 to 212
							32 to 392
							32 to 752

※Sold separately: 8-pin socket (PG-8, PS-8(N))

Sampling Period	Control Output	Power Supply	Protection Structure	Approval	Model
100ms	■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	CE cULus	TA□-B4■K1C
					TA□-B4■K2C
					TA□-B4■K4C
					TA□-B4■K6C
					TA□-B4■K8C
					TA□-B4■KCC
100ms	■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	CE cULus	TA□-B4■K1F
					TA□-B4■K2F
					TA□-B4■K4F
					TA□-B4■K6F
					TA□-B4■K8F
					TA□-B4■KCF
100ms	■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	CE cULus	TA□-B4■J2C
					TA□-B4■J3C
					TA□-B4■J4C
100ms	■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	CE cULus	TA□-B4■J2F
					TA□-B4■J3F
					TA□-B4■J4F
100ms	■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	CE cULus	TA□-B4■P0C
					TA□-B4■P1C
					TA□-B4■P2C
					TA□-B4■P4C
100ms	■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	CE cULus	TA□-B4■P0F
					TA□-B4■P1F
					TA□-B4■P2F
					TA□-B4■P4F

Temperature Controllers

Series	Display Method	Control Method		Input Type	Temperature Unit	Setting Range
Analog, Non-Display Type Temperature Controller **TOS Series** **(8-pin plug type)**  W48×H48×L79mm	Non-display	Heating	ON/OFF control, P control	Thermocouple: K(CA)	℃	0 to 100
						0 to 200
						0 to 300
						0 to 400
						0 to 600
						0 to 800
						0 to 1200
					℉	0 to 400
						0 to 600
						0 to 600
						0 to 800
						0 to 1000
		Heating	ON/OFF control, P control	Thermocouple: J(IC)	℃	0 to 100
						0 to 200
						0 to 300
						0 to 400
						0 to 600
					℉	0 to 200
						0 to 400
						0 to 600
						0 to 800
						0 to 1000
		Heating	ON/OFF control, P control	RTD: DPt100Ω	℃	0 to 60
						0 to 100
						0 to 200
						0 to 300
						0 to 400
					℉	0 to 400

※Sold separately: 8-pin socket (PG-8, PS-8(N))

Series	Size	Display Method	Control Method		Input Type	Temperature Unit	Setting Range
Analog, Non-Display Type Temperature Controller **TOM Series**  W72×H72×L112mm	□: Type M: DIN W72×H72mm L: DIN W96×H96mm	Non-display	Heating	ON/OFF control	Thermocouple: K(CA)	℃	0 to 100
							0 to 200
							0 to 300
							0 to 400
							0 to 600
							0 to 800
							0 to 1200
					Thermocouple: J(IC)	℃	0 to 100
							0 to 200
							0 to 300
							0 to 400
					RTD: DPt100Ω	℃	0 to 100
							0 to 200
							0 to 400
TOL Series  W96×H96×L100mm			Heating	P control	Thermocouple: K(CA)	℃	0 to 100
							0 to 200
							0 to 300
							0 to 400
							0 to 600
							0 to 800
							0 to 1200
					Thermocouple: J(IC)	℃	0 to 100
							0 to 200
							0 to 300
							0 to 400
					RTD: DPt100Ω	℃	0 to 100
							0 to 200
							0 to 400

Control Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 2A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	c UL us	TOS-B4■K1C
				TOS-B4■K2C
				TOS-B4■K3C
				TOS-B4■K4C
				TOS-B4■K6C
				TOS-B4■K8C
				TOS-B4■KCC
Relay (250VAC 2A)	100-240VAC	—	c UL us	TOS-B4RK4F
Relay (250VAC 2A)				TOS-B4RK6F
SSR drive (12VDC) [ON/OFF]				TOS-B4SK6F
Relay (250VAC 2A)				TOS-B4RK8F
SSR drive (12VDC) [ON/OFF]				TOS-B4SKAF
■: Type R: Relay (250VAC 2A) S: SSR drive (12VDC) [ON/OFF]	100-240VAC	—	c UL us	TOS-B4■J1C
				TOS-B4■J2C
				TOS-B4■J3C
				TOS-B4■J4C
				TOS-B4■J6C
Relay (250VAC 2A)	100-240VAC	—	c UL us	TOS-B4RJ2F
■: Type R: Relay (250VAC 2A) S: SSR drive (12VDC) [ON/OFF]				TOS-B4■J4F
				TOS-B4■J6F
				TOS-B4■J8F
Relay (250VAC 2A)				TOS-B4RJAF
Relay (250VAC 2A)	100-240VAC	—	c UL us	TOS-B4RPXC
■: Type R: Relay (250VAC 2A) S: SSR drive (12VDC) [ON/OFF]				TOS-B4■P1C
				TOS-B4■P2C
				TOS-B4■P3C
				TOS-B4■P4C
Relay (250VAC 2A)				TOS-B4RP4F

Control Output	Power Supply	Protection Structure	Approval	Model
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	110/220VAC	—	—	TO□-F3■K1C
				TO□-F3■K2C
				TO□-F3■K3C
				TO□-F3■K4C
				TO□-F3■K6C
				TO□-F3■K8C
				TO□-F3■KCC
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	110/220VAC	—	—	TO□-F3■J1C
				TO□-F3■J2C
				TO□-F3■J3C
				TO□-F3■J4C
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	110/220VAC	—	—	TO□-F3■P1C
				TO□-F3■P2C
				TO□-F3■P4C
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	110/220VAC	—	—	TO□-P3■K1C
				TO□-P3■K2C
				TO□-P3■K3C
				TO□-P3■K4C
				TO□-P3■K6C
				TO□-P3■K8C
				TO□-P3■KCC
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	110/220VAC	—	—	TO□-P3■J1C
				TO□-P3■J2C
				TO□-P3■J3C
				TO□-P3■J4C
■: Type R: Relay (250VAC 3A) S: SSR drive (12VDC) [ON/OFF]	110/220VAC	—	—	TO□-P3■P1C
				TO□-P3■P2C
				TO□-P3■P4C

Temperature Controllers

Series	Display Method	Control Method		Input Type	Sampling Period
Thumwheel Switch Setting Type Temperature Controller **T3S Series** **(8-pin plug type)**  W48×H48×L77.8mm	3-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				RTD: DPt100Ω	100ms
※Sold separately: 8-pin socket (PG-8, PS-8(N))					
Thumwheel Switch Setting Type Temperature Controller **T4M Series**  W72×H72×L75mm	4-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				Thermocouple: R(PR)	
				RTD: DPt100Ω	100ms
Thumwheel Switch Setting Type Temperature Controller **T4MA Series**  W72×H72×L75mm	4-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				Thermocouple: R(PR)	
				RTD: DPt100Ω	100ms
Thumwheel Switch Setting Type Temperature Controller **T3H Series**  W48×H96×L70mm	3-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				RTD: DPt100Ω	100ms
Thumwheel Switch Setting Type Temperature Controller **T3HA Series**  W48×H96×L70mm	3-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				RTD: DPt100Ω	100ms

※1. Please contact us for temperature unit °F model.

Setting Range※1	Control Output	Alarm/Sub/Dual Output	Power Supply	Protection Structure	Approval	Model
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T3S-B4■K4C-N
0 to 800℃						T3S-B4■K8C-N
0 to 200℃						T3S-B4■J2C-N
0 to 400℃						T3S-B4■J4C-N
0 to 99.9℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T3S-B4■P1C-N
0 to 200℃						T3S-B4■P2C-N
0 to 400℃						T3S-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T4M-B4■K4C-N
0 to 800℃						T4M-B4■K8C-N
0 to 1200℃						T4M-B4■KCC-N
0 to 400℃						T4M-B4■J4C-N
600 to 1600℃						T4M-B4■RFC-N
-99.9 to 199.9℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T4M-B4■P0C-N
0 to 400℃						T4M-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Alarm output	100-240VAC	—	—	T4MA-B4■K4C-N
0 to 800℃						T4MA-B4■K8C-N
0 to 1200℃						T4MA-B4■KCC-N
0 to 400℃						T4MA-B4■J4C-N
600 to 1600℃						T4MA-B4■RFC-N
-99.9 to 199.9℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Alarm output	100-240VAC	—	—	T4MA-B4■P0C-N
0 to 400℃						T4MA-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T3H-B4■K4C-N
0 to 800℃						T3H-B4■K8C-N
0 to 999℃						T3H-B4■KAC-N
0 to 400℃						T3H-B4■J4C-N
0 to 800℉						T3H-B4■J8F-N
-99 to 199℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T3H-B4■P0C-N
0 to 99.9℃						T3H-B4■P1C-N
0 to 400℃						T3H-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Alarm output	100-240VAC	—	—	T3HA-B4■K4C-N
0 to 800℃						T3HA-B4■K8C-N
0 to 999℃						T3HA-B4■KAC-N
0 to 400℃						T3HA-B4■J4C-N
-99 to 199℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Alarm output	100-240VAC	—	—	T3HA-B4■P0C-N
0 to 400℃						T3HA-B4■P4C-N

Temperature Controllers

Series	Display Method	Control Method		Input Type	Sampling Period
Thumwheel Switch Setting Type Temperature Controller **T3HS Series**  W48×H96×L70mm	3-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				RTD: DPt100Ω	100ms
Thumwheel Switch Setting Type Temperature Controller **T4L Series**  W96×H96×L70mm	4-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				Thermocouple: R(PR)	
				RTD: DPt100Ω	100ms
Thumwheel Switch Setting Type Temperature Controller **T4LA Series**  W96×H96×L70mm	4-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				Thermocouple: R(PR)	
				RTD: DPt100Ω	100ms
Thumwheel Switch Setting Type Temperature Controller **T4LP Series**  W96×H96×L70mm	4-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA)	100ms
				Thermocouple: J(IC)	
				Thermocouple: R(PR)	
				RTD: DPt100Ω	100ms

※1. Please contact us for temperature unit °F model.

Setting Range※1	Control Output	Alarm/Sub/Dual Output	Power Supply	Protection Structure	Approval	Model
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Sub output	100-240VAC	—	—	T3HS-B4■K4C-N
0 to 400℃						T3HS-B4■J4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Sub output	100-240VAC	—	—	T3HS-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T4L-B4■K4C-N
0 to 800℃						T4L-B4■K8C-N
0 to 1200℃						T4L-B4■KCC-N
0 to 400℃						T4L-B4■J4C-N
600 to 1600℃						T4L-B4■RFC-N
-99.9 to 199.9℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	—	100-240VAC	—	—	T4L-B4■P0C-N
0 to 400℃						T4L-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Alarm output	100-240VAC	—	—	T4LA-B4■K4C-N
0 to 800℃						T4LA-B4■K8C-N
0 to 1200℃						T4LA-B4■KCC-N
0 to 400℃						T4LA-B4■J4C-N
600 to 1600℃						T4LA-B4■RFC-N
-99.9 to 199.9℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Alarm output	100-240VAC	—	—	T4LA-B4■P0C-N
0 to 400℃						T4LA-B4■P4C-N
0 to 400℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Dual output	100-240VAC	—	—	T4LP-B4■K4C-N
0 to 800℃						T4LP-B4■K8C-N
0 to 1200℃						T4LP-B4■KCC-N
0 to 400℃						T4LP-B4■J4C-N
600 to 1600℃						T4LP-B4■RFC-N
0 to 200.0℃	■: Type R: Relay (250VAC 5A) S: SSR drive (12VDC) [ON/OFF] C: Current (DC4-20mA)	Dual output	100-240VAC	—	—	T4LP-B4■P2C-N
0 to 400℃						T4LP-B4■P4C-N

Temperature Controllers

High Performance, General-Purpose · Single Display · Dual Display PID Control Temperature Controller / Board Type, Dual PID Control Temperature Controller / Dual PID Control Temperature Controller / Thumwheel Switch Setting Type Temperature Controller / Temperature Indicator / Temperature · Humidity Sensor / USB 2-CH Temperature Data Logger

Series	Display Method	Input Type	Sampling Period	Control Output
Temperature Indicator **T3NI Series**  W48×H24×L48mm	3-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		RTD: DPt100Ω	100ms	Indicator
Temperature Indicator **T3SI Series** **(8-pin plug type)**  W48×H48×L77.8mm	3-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		RTD: DPt100Ω	100ms	Indicator
※Sold separately: 8-pin socket (PG-8, PS-8(N))				
Temperature Indicator **T4MI Series**  W72×H72×L75mm	4-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		Thermocouple: R(PR)		
		RTD: DPt100Ω	100ms	Indicator
Temperature Indicator **T4YI Series**  W72×H36×L93mm	4-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		RTD: DPt100Ω	100ms	Indicator
Temperature Indicator **T4WI Series**  W96×H36×L100mm	4-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		RTD: DPt100Ω	100ms	Indicator

※1. Please contact us for temperature unit °F model.

Display Range※1	Power Supply	Protection Structure	Approval	Model
0 to 200℃	12-24VDC	—	—	T3NI-NXNK2C-N
0 to 400℃				T3NI-NXNK4C-N
0 to 800℃				T3NI-NXNK8C-N
0 to 999℃				T3NI-NXNKAC-N
0 to 200℃				T3NI-NXNJ2C-N
0 to 400℃				T3NI-NXNJ4C-N
0 to 500℃				T3NI-NXNJ5C-N
-99.9 to 99.9℃	12-24VDC	—	—	T3NI-NXNP0C-N
0 to 99.9℃				T3NI-NXNP1C-N
0 to 200℃				T3NI-NXNP2C-N
0 to 400℃				T3NI-NXNP4C-N
0 to 800℃	100-240VAC	—	—	T3SI-N4NK8C-N
0 to 400℃				T3SI-N4NJ4C-N
0 to 99.9℃	100-240VAC	—	—	T3SI-N4NP1C-N
0 to 400℃				T3SI-N4NP4C-N
0 to 800℃	100-240VAC	—	—	T4MI-N4NK8C-N
0 to 1200℃				T4MI-N4NKCC-N
0 to 400℃				T4MI-N4NJ4C-N
600 to 1600℃				T4MI-N4NRFC-N
-99.9 to 199.9℃	100-240VAC	—	—	T4MI-N4NP0C-N
0 to 400℃				T4MI-N4NP4C-N
0 to 1200℃	100-240VAC	—	—	T4YI-N4NKCC-N
0 to 500℃				T4YI-N4NJ5C-N
-99.9 to 199.9℃	100-240VAC	—	—	T4YI-N4NP0C-N
0 to 400℃				T4YI-N4NP4C-N
0 to 1200℃	100-240VAC	—	—	T4WI-N4NKCC-N
0 to 500℃				T4WI-N4NJ5C-N
-99.9 to 199.9℃	100-240VAC	—	—	T4WI-N4NP0C-N
0 to 400℃				T4WI-N4NP4C-N

Temperature Controllers

High Performance, General-Purpose · Single Display · Dual Display PID Control Temperature Controller / Board Type, Dual PID Control Temperature Controller / Dual PID Control Temperature Controller / Thumwheel Switch Setting Type Temperature Controller / Temperature Indicator / Temperature · Humidity Sensor / USB 2-CH Temperature Data Logger

Series	Display Method	Input Type	Sampling Period	Control Output
Temperature Indicator **T3HI Series**  W48×H96×L70mm	3-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		RTD: DPt100Ω	100ms	Indicator
Temperature Indicator **T4LI Series**  W96×H96×L70mm	4-digit 7-segment LED	Thermocouple: K(CA)	100ms	Indicator
		Thermocouple: J(IC)		
		Thermocouple: R(PR)		
		RTD: DPt100Ω	100ms	Indicator

※1. Please contact us for temperature unit ℉ model.

Series	Display Method	Input CH	Input Type	Control Output
5-CH Temperature Indicator **T4WM Series**  W96×H48×L100mm	4-digit 7-segment LED	5-CH	Thermocouple: K(CA)	Indicator
			Thermocouple: J(IC)	
			RTD: DPt100Ω	Indicator

Series	Display Method	Control Method		Input Type	Sampling Period	Input Range
Refrigeration Temperature Controller **TC3YF Series**  W72×H36×L77mm	3-digit 7-segment LED	Cooling	ON/OFF control	Thermistor(NTC)※1: 5kΩ	500ms	-40.0 to 99.9℃ -40.0 to 212℉
				Thermistor(NTC)※1: 5kΩ	500ms	-40.0 to 99.9℃ -40.0 to 212℉
			ON/OFF control	RTD※2: DPt100Ω	500ms	-99.9 to 99.9℃ -148 to 212℉
				RTD※2: DPt100Ω	500ms	-99.9 to 99.9℃ -148 to 212℉

※1. Accessory: Thermistor (NTC)
※2. Sold separately: RTD

Series	Display Method	Control Method		Input Type	Sampling Period
Simple Operation Type Temperature Controller **TC3YT Series**  W72×H36×L77mm	3-digit 7-segment LED	Heating	ON/OFF control, P control	Thermocouple: K(CA), J(IC) RTD: DPt100Ω	500ms

Display Range※1	Power Supply	Protection Structure	Approval	Model
0 to 999℃	100-240VAC	—	—	T3HI-N4NKAC-N
0 to 400℃				T3HI-N4NJ4C-N
-99 to 199℃	100-240VAC	—	—	T3HI-N4NP0C-N
0 to 400℃				T3HI-N4NP4C-N
0 to 800℃	100-240VAC	—	—	T4LI-N4NK8C-N
0 to 1200℃				T4LI-N4NKCC-N
0 to 400℃				T4LI-N4NJ4C-N
600 to 1600℃				T4LI-N4NRFC-N
-99.9 to 199.9℃	100-240VAC	—	—	T4LI-N4NP0C-N
0 to 400℃				T4LI-N4NP4C-N

Display Range	Power Supply	Protection Structure	Approval	Model
0 to 1200℃	110/220VAC	—	—	T4WM-N3NKCC
0 to 500℃				T4WM-N3NJ5C
-99.9 to 199.9℃	110/220VAC	—	—	T4WM-N3NP0C
0 to 399℃				T4WM-N3NP4C

Control Output			Power Supply	Protection Structure	Approval	Model
Compressor	Defrost	Evaporator-fan				
Relay (250VAC 5A)	—	—	12-24VDC	IP65 (front panel)	—	TC3YF-11R
Relay (250VAC 5A)	Relay (250VAC 10A)	—				TC3YF-21R
Relay (250VAC 5A)	Relay (250VAC 10A)	Relay (250VAC 5A)				TC3YF-31R
Relay (250VAC 5A)	—	—	100-240VAC	IP65 (front panel)	c UL us	TC3YF-14R
Relay (250VAC 5A)	Relay (250VAC 10A)	—				TC3YF-24R
Relay (250VAC 5A)	Relay (250VAC 10A)	Relay (250VAC 5A)				TC3YF-34R
Relay (250VAC 5A)	—	—	12-24VDC	IP65 (front panel)	—	TC3YF-11R
Relay (250VAC 5A)	Relay (250VAC 10A)	—				TC3YF-21R
Relay (250VAC 5A)	Relay (250VAC 10A)	Relay (250VAC 5A)				TC3YF-31R
Relay (250VAC 5A)	—	—	100-240VAC	IP65 (front panel)	c UL us	TC3YF-14R
Relay (250VAC 5A)	Relay (250VAC 10A)	—				TC3YF-24R
Relay (250VAC 5A)	Relay (250VAC 10A)	Relay (250VAC 5A)				TC3YF-34R

Control Output	Power Supply	Protection Structure	Approval	Model
Relay (3A)	100-240VAC	IP65 (front panel)	c UL us	TC3YT-B4R3
Relay (16A)				TC3YT-B4R16

Temperature Controllers

High Performance, General-Purpose · Single Display · Dual Display PID Control Temperature Controller / Board Type, Dual PID Control Temperature Controller / Dual PID Control Temperature Controller / Thumwheel Switch Setting Type Temperature Controller / Temperature Indicator / Temperature · Humidity Sensor / USB 2-CH Temperature Data Logger

Series	Display Method	Measured Range		Output	
		Temperature	Humidity	Temperature	Humidity
Room Type Temperature/Humidity Sensor **THD-R Series**  W60×H80×L30.5mm	Non-display	-19.9 to 60.0℃	—	DPt100Ω resistance value	—
	Non-display	-19.9 to 60.0℃	0.0 to 99.9%RH (recommended : 0.0 to 90.0%)	DPt100Ω resistance value	Current (DC4-20mA)
				Current (DC4-20mA)	Current (DC4-20mA)
				Voltage (1-5VDC)	Voltage (1-5VDC)
				RS485 comm.	RS485 comm.
Wall Mount Type Temperature/Humidity Sensor **THD-W Series**  W72×H85×L34.5mm (except sensor pole)	Non-display	-19.9 to 60.0℃	0.0 to 99.9%RH	Current (DC4-20mA)	Current (DC4-20mA)
				Voltage (1-5VDC)	Voltage (1-5VDC)
				RS485 comm.	RS485 comm.
	3-digit 7-segment LED	-19.9 to 60.0℃	0.0 to 99.9%RH	Current (DC4-20mA)	Current (DC4-20mA)
				Voltage (1-5VDC)	Voltage (1-5VDC)
				RS485 comm.	RS485 comm.
Duct Mount Type Temperature/Humidity Sensor **THD-D Series**  W72×H85×L34.5mm (except sensor pole)	Non-display	-19.9 to 60.0℃	0.0 to 99.9%RH	Current (DC4-20mA)	Current (DC4-20mA)
				Voltage (1-5VDC)	Voltage (1-5VDC)
				RS485 comm.	RS485 comm.
	3-digit 7-segment LED	-19.9 to 60.0℃	0.0 to 99.9%RH	Current (DC4-20mA)	Current (DC4-20mA)
				Voltage (1-5VDC)	Voltage (1-5VDC)
				RS485 comm.	RS485 comm.

Sampling Period	Sensor Pole Length	Power Supply	Protection Structure	Approval	Model
—	—	—	IP10	CE	THD-R-PT
500ms	—	24VDC	IP10	CE	THD-R-PT/C
				CE	THD-R-C
				CE	THD-R-V
				CE	THD-R-T
500ms	100m	24VDC	IP65 (except sensor part)	CE	THD-W1-C
	200m				THD-W2-C
	100m			CE	THD-W1-V
	200m				THD-W2-V
	100m			CE	THD-W1-T
	200m				THD-W2-T
500ms	100m	24VDC	IP65 (except sensor part)	CE	THD-WD1-C
	200m				THD-WD2-C
	100m			CE	THD-WD1-V
	200m				THD-WD2-V
	100m			CE	THD-WD1-T
	200m				THD-WD2-T
500ms	100m	24VDC	IP65 (except sensor part)	CE	THD-D1-C
	200m				THD-D2-C
	100m			CE	THD-D1-V
	200m				THD-D2-V
	100m			CE	THD-D1-T
	200m				THD-D2-T
500ms	100m	24VDC	IP65 (except sensor part)	CE	THD-DD1-C
	200m				THD-DD2-C
	100m			CE	THD-DD1-V
	200m				THD-DD2-V
	100m			CE	THD-DD1-T
	200m				THD-DD2-T

SSRs / Power Controllers

Series	Control Phase	Heatsink	Mounting	Input Voltage	Load Voltage	Dielectric Strength
Single-Phase, Detachable Heatsink Type SSR **SR1 Series**  W44×H58×L28.3mm	1-phase	—	Panel	4-30VDC	24-240VAC	4,000VAC
					48-480VAC	4,000VAC
				90-240VAC	24-240VAC	4,000VAC
					48-480VAC	4,000VAC
Single-Phase, Slim, Detachable Heatsink Type SSR **SRC1 Series**  W22.5×H98×L33.5mm	1-phase	—	Panel	4-30VDC	24-240VAC	4,000VAC
					48-480VAC	4,000VAC
					48-480VAC	4,000VAC
				90-240VAC	24-240VAC	4,000VAC
					48-480VAC	4,000VAC
Single-Phase, Heatsink Integrated Type SSR **SRH1 Series** <Rated load current: 15A/20A>  W22.5×H100×L100mm	1-phase	●	Panel, DIN rail	4-30VDC	24-240VAC	4,000VAC
					48-480VAC	4,000VAC
<Rated load current: 30A/40A>  W45×H100×L100mm					48-480VAC	4,000VAC
				24VAC	24-240VAC	4,000VAC
<Rated load current: 60A>  W110×H100×L100mm					48-480VAC	4,000VAC
				90-240VAC	24-240VAC	4,000VAC

※1. Rated load current capacity is varied by ambient temperature. Refer to “SSR Derating Curve” of Autonics’ total catalogue.

Rated Load Current (□: type)								Function		Ambient Temperature※1	Approval	Model
15: 15A, 20: 20A, 25: 25A, 30: 30A, …. 75: 75A								Zero Cross Turn-On	Random Turn-On			
15A	20A	25A	30A	40A	50A	60A	75A					
●	—	●	—	●	●	—	●	●	—	-30 to 80℃		SR1-12□
●	—	●	—	●	●	—	●	●	—	-30 to 80℃		SR1-14□
●	—	●	—	●	●	—	●	—	●			SR1-14□R
●	—	●	—	●	●	—	●	●	—	-30 to 80℃		SR1-42□
●	—	●	—	●	●	—	●	●	—	-30 to 80℃		SR1-44□
●	●	—	●	—	—	—	—	●	—	-30 to 80℃		SRC1-12□
—	●	—	—	—	—	—	—	●	—	-30 to 80℃		SRC1-1420
—	●	—	—	—	—	—	—	—	●	-30 to 80℃		SRC1-1420R
●	●	—	●	—	—	—	—	●	—	-30 to 80℃		SRC1-42□
—	●	—	—	—	—	—	—	●	—	-30 to 80℃		SRC1-4420
●	●	—	●	●	—	●	—	●	—	-30 to 80℃		SRH1-12□
—	●	—	●	—	—	●	—	●	—	-30 to 80℃		SRH1-14□
—	●	—	●	—	—	●	—	—	●	-30 to 80℃		SRH1-14□R
●	●	—	●	●	—	●	—	●	—	-30 to 80℃		SRH1-22□
—	●	—	●	—	—	●	—	●	—	-30 to 80℃		SRH1-24□
●	●	—	●	●	—	●	—	●	—	-30 to 80℃		SRH1-42□

SSRs / Power Controllers

Series	Control Phase	Heatsink	Mounting	Input Current	Load Voltage	Dielectric Strength
Single-Phase, Analog Input Type SSR **SRPH1 Series** <Rated load current: 20A/30A>  W45×H100×L100mm <Rated load current: 60A>  W110×H100×L100mm	1-phase	●	Panel, DIN rail	Analog input 4-20mA	100-240VAC	4,000VAC
					100-240VAC	4,000VAC
					100-240VAC	4,000VAC
					200-480VAC	4,000VAC
					200-480VAC	4,000VAC
					200-480VAC	4,000VAC

※1. Operation mode is selectable by jumper pin of the unit and factory default is phase control (power equality division method).
※2. Rated load current capacity is varied by ambient temperature. Refer to “SSR Derating Curve” of Autonics’ total catalogue.

Series	Control Phase	Socket	Input Voltage	Load Voltage	Dielectric Strength
Single-Phase, Socket Type SSR **SRS1-A Series** <Rated load current: 1A/2A/3A>  W13×H29×L28mm <Rated load current: 5A>  W13×H29×L38mm	1-phase	Autonics Socket SK-G05	4-24VDC	24-240VAC	2,500VAC
				5-100VDC	2,500VAC
				5-200VDC	2,500VAC
				5-240VAC/5-200VDC	2,500VAC
Single-Phase, Socket Type SSR **SRS1-B Series**  W21×H27×L34.5mm	1-phase	General LY2 socket	4-30VDC	90-240VAC	2,500VAC
				90-240VAC	2,500VAC

※1. Rated load current capacity is varied by ambient temperature. Refer to “SSR Derating Curve” of Autonics’ total catalogue.

Rated Load Current			Operation Mode※1	Ambient Temperature※2	Approval	Model
20A	30A	60A				
●	—	—	Cycle control (variable cycle/fixed cycle) Phase control (phase equality division method/power equality division method)	-20 to 70℃		SRPH1-A220
—	●	—	Cycle control (variable cycle/fixed cycle) Phase control (phase equality division method/power equality division method)	-20 to 70℃		SRPH1-A230
—	—	●	Cycle control (variable cycle/fixed cycle) Phase control (phase equality division method/power equality division method)	-20 to 70℃		SRPH1-A260
●	—	—	Cycle control (variable cycle/fixed cycle) Phase control (phase equality division method/power equality division method)	-20 to 70℃		SRPH1-A420
—	●	—	Cycle control (variable cycle/fixed cycle) Phase control (phase equality division method/power equality division method)	-20 to 70℃		SRPH1-A430
—	—	●	Cycle control (variable cycle/fixed cycle) Phase control (phase equality division method/power equality division method)	-20 to 70℃		SRPH1-A460

Rated Load Current (□: type)				Function		Number Of Output Circuits	Ambient Temperature※1	Approval	Model
01: 1A, 02: 2A, 03: 3A, 05: 5A				Zero Cross Turn-On	Random Turn-On				
1A	2A	3A	5A						
—	●	●	●	●	—	1	-20 to 70℃		SRS1-A12□
—	●	●	●	—	●	1	-20 to 70℃		SRS1-A12□R
●	●	—	—	—	—	1	-20 to 70℃		SRS1-A1D1□
●	—	—	—	—	—	1	-20 to 70℃		SRS1-A1D201
●	—	—	—	—	—	1	-20 to 70℃		SRS1-A1X201
—	●	—	—	●	—	2	-20 to 80℃		SRS1-B1202-2
—	●	—	—	—	●				SRS1-B1202R-2
—	—	●	●	●	—	1	-20 to 80℃		SRS1-B12□-1
—	—	●	●	—	●				SRS1-B12□R-1

SSRs / Power Controllers

Series	Control Phase	Control Method	Power Supply	Applied Load
Single-Phase, Power Controller **SPC1 Series**  W94.6×H124.8×L92mm	1-phase	Phase control Cycle control (zero cross turn-on) - Control period: 0.5 sec, 2 sec, 10 sec ON/OFF control (zero cross turn-on)	220VAC	Resistance load (min. load: over 5% of rated current)

Load Voltage	Rated Load Current	Control Input	Function	Ambient Temperature	Approval	Model
220VAC	35A	DC4-20mA, 1-5VDC, External 24VDC, External VR (1kΩ), External contact (ON/OFF)	Output limit (0 to 100%), Soft Start (0 to 50 sec), Output display, 50/60Hz automatic recognition	0 to 50℃	—	SPC1-35
	50A	DC4-20mA, 1-5VDC, External 24VDC, External VR (1kΩ), External contact (ON/OFF)	Output limit (0 to 100%), Soft Start (0 to 50 sec), Output display, 50/60Hz automatic recognition	0 to 50℃	—	SPC1-50

Counters

Compact, LCD Display Counter (Indicator Only) / Programmable Counter / Up · Down Counter (Indicator Only) / Thumbwheel Switch Setting Type 8-Pin Plug Counter / Thumbwheel Switch Setting Type Up · Down Measure Counter

Series	Display Method	Operation Method	Terminal	Power Supply	External Power Supply	Input Method	
						Signal	Reset
Compact, LCD Display Counter (Indicator Only) **LA8N Series**  W48×H24×L54mm	8-digit 7-segment LCD	Count up	Terminal block	Built-in battery (over 7 years)	—	No-voltage input (NPN)	No-voltage input (NPN)
		Count up, Count down, Count up/down					
		Count up	Terminal block	Built-in battery (over 7 years)	—	Voltage input (PNP)	Voltage input (PNP)
		Count up, Count down, Count up/down					
		Count up	Terminal block	Built-in battery (over 7 years)	—	Free voltage input	No-voltage input (NPN)

Series	Display Method	Operation Method	Terminal	Power Supply	External Power Supply	Signal Input Method	Max. Counting Speed [cps]
Programmable Counter (Timer) **CT4S Series**  W48×H48×L90mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	24VAC, 24-48VDC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
				100-240VAC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
Programmable Counter (Timer) **CT6S Series**  W48×H48×L90mm	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	24VAC, 24-48VDC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
				100-240VAC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
Programmable Counter (Timer) **CT6Y Series**  W72×H36×L77mm	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	24VAC, 24-48VDC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
				100-240VAC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
Programmable Counter (Timer) **CT6M Series**  W72×H72×L85mm	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	24VAC, 24-48VDC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k
				100-240VAC	12VDC Max. 100mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 1k, 5k, 10k

Max. Counting Speed [cps]	Min. Signal Width	Control Output	Backlight	Protection Structure	Approval	Model
1, 30, 1k	20ms	Indicator	●	IP66 (front panel)		LA8N-BN-L
			—			LA8N-BN
1, 30, 1k	20ms	Indicator	●	IP66 (front panel)		LA8N-BV-L
			—			LA8N-BV
20	20ms	Indicator	—	IP66 (front panel)		LA8N-BF

Min. Signal Width	Control Output			Communication Output	Protection Structure	Approval	Model
	Type	Relay	NPN Open Collector				
1ms/20ms	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT4S-2P2
			—	RS485			CT4S-2P2T
	1-stage preset	SPDT (1c): 1	1	—	IP65 (front panel)		CT4S-1P2
			—	RS485			CT4S-1P2T
1ms/20ms	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT4S-2P4
			—	RS485			CT4S-2P4T
	1-stage preset	SPDT (1c): 1	1	—	IP65 (front panel)		CT4S-1P4
			—	RS485			CT4S-1P4T
1ms/20ms	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT6S-2P2
			—	RS485			CT6S-2P2T
	1-stage preset	SPDT (1c): 1	1	—	IP65 (front panel)		CT6S-1P2
			—	RS485			CT6S-1P2T
	Indicator	—	—	—	IP65 (front panel)		CT6S-I2
				RS485			CT6S-I2T
1ms/20ms	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT6S-2P4
			—	RS485			CT6S-2P4T
	1-stage preset	SPDT (1c): 1	1	—	IP65 (front panel)		CT6S-1P4
			—	RS485			CT6S-1P4T
	Indicator	—	—	—	IP65 (front panel)		CT6S-I4
				RS485			CT6S-I4T
1ms/20ms	2-stage preset	SPST (1a): 1, SPDT (1c): 1	1	—	IP65 (front panel)		CT6Y-2P2
		SPST (1a): 2	—	RS485			CT6Y-2P2T
	1-stage preset	SPDT (1c): 1	1	—	IP65 (front panel)		CT6Y-1P2
				RS485			CT6Y-1P2T
	Indicator	—	—	—	IP65 (front panel)		CT6Y-I2
				RS485			CT6Y-I2T
1ms/20ms	2-stage preset	SPST (1a): 1, SPDT (1c): 1	1	—	IP65 (front panel)		CT6Y-2P4
		SPST (1a): 2	—	RS485			CT6Y-2P4T
	1-stage preset	SPDT (1c): 1	1	—	IP65 (front panel)		CT6Y-1P4
				RS485			CT6Y-1P4T
	Indicator	—	—	—	IP65 (front panel)		CT6Y-I4
				RS485			CT6Y-I4T
1ms/20ms	2-stage preset	SPST (1a): 1, SPDT (1c): 1	3	—	IP65 (front panel)		CT6M-2P2
			2	RS485			CT6M-2P2T
	1-stage preset	SPDT (1c): 1	2	—	IP65 (front panel)		CT6M-1P2
				RS485			CT6M-1P2T
	Indicator	—	—	—	IP65 (front panel)		CT6M-I2
				RS485			CT6M-I2T
1ms/20ms	2-stage preset	SPST (1a): 1, SPDT (1c): 1	3	—	IP65 (front panel)		CT6M-2P4
			2	RS485			CT6M-2P4T
	1-stage preset	SPDT (1c): 1	2	—	IP65 (front panel)		CT6M-1P4
				RS485			CT6M-1P4T
	Indicator	—	—	—	IP65 (front panel)		CT6M-I4
				RS485			CT6M-I4T

Counters

Compact, LCD Display Counter (Indicator Only) / Programmable Counter / Up · Down Counter (Indicator Only) / Thumbwheel Switch Setting Type 8-Pin Plug Counter / Thumbwheel Switch Setting Type Up · Down Measure Counter

Series	Display Method	Operation Method	Terminal	Power Supply	External Power Supply	Signal Input Method	Max. Counting Speed [cps]
Up·Down Counter (Indicator Only) (Timer) **FXY Series**  W72×H36×L93mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
Compact, Thumbwheel Switch Setting Type Up·Down Counter (Timer) **FXS Series**  W48×H48×L91mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
	5digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
Thumbwheel Switch Setting Type Up·Down Counter (Timer) **FX Series**  W72×H72×L112.3mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC			1, 30, 2k, 5k
				100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC			1, 30, 2k, 5k
				100-240VAC			1, 30, 2k, 5k
	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC			1, 30, 2k, 5k
				100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC			1, 30, 2k, 5k
Thumbwheel Switch Setting Type Up·Down Counter (Timer) **FXH Series**  W48×H96×L100mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
Thumbwheel Switch Setting Type Up·Down Counter (Timer) **FXL Series**  W144×H72×L112mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k

Min. Signal Width	Control Output			Protection Structure	Approval	Model
	Type	Relay	NPN Open Collector			
20ms	Indicator	—	—	—	c UL us	FX4Y-I
20ms	Indicator	—	—	—	c UL us	FX4Y-I
20ms	Indicator	—	—	—	c UL us	FX6Y-I
20ms	Indicator	—	—	—	c UL us	FX6Y-I
20ms	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4S
20ms	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4S
20ms	Indicator	—	—	—	c UL us	FX5S-I
20ms	Indicator	—	—	—	c UL us	FX5S-I
20ms	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX4-2P
20ms	2-stage preset	SPDT (1c): 2	2	—	—	FX4-2P
20ms	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4
20ms	1-stage preset	SPDT (1c): 1	1	—	—	FX4
20ms	Indicator	—	—	—	c UL us	FX4-I
20ms	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX6-2P
20ms	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX6
20ms	1-stage preset	SPDT (1c): 1	1	—	—	FX6
20ms	Indicator	—	—	—	c UL us	FX6-I
20ms	Indicator	—	—	—	—	FX6-I
20ms	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX4H-2P
	1-stage preset	SPDT (1c): 1	1	—		FX4H
	Indicator	—	—	—		FX4H-I
20ms	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX4L-2P
20ms	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX6L-2P
	Indicator	—	—	—	c UL us	FX6L-I

Counters

Compact, LCD Display Counter (Indicator Only) / Programmable Counter / Up · Down Counter (Indicator Only) /
Thumbwheel Switch Setting Type 8-Pin Plug Counter / Thumbwheel Switch Setting Type Up · Down Measure Counter

Series	Display Method	Operation Method	Terminal	Power Supply	External Power Supply	Signal Input Method	Max. Counting Speed [cps]
Thumbwheel Switch Setting Type 8-Pin Plug Counter **FS Series**  W48×H48×L85mm	4-digit 7-segment LED	Count up, Count down	8-pin plug	100-240VAC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
	5digit 7-segment LED	Count up, Count down	8-pin plug	100-240VAC	12VDC Max. 50mA	No-voltage input (NPN)	1, 30, 2k, 5k
※Sold separately: 8-pin socket (PG-08, PS-08(N))							
Thumbwheel Switch Setting Type Up·Down Counter **F Series**  W72×H72×L112mm	8-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
Thumbwheel Switch Setting Type Up·Down Counter **L Series**  W144×H72×L112mm	8-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
Thumbwheel Switch Setting Type Up·Down Measure Counter **FM Series**  W72×H72×L112mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				12-24VAC, 12-24VDC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
				100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
Thumbwheel Switch Setting Type Up·Down Measure Counter **LM Series**  W144×H72×L112mm	4-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k
	6-digit 7-segment LED	Count up, Count down, Count up/down	Terminal block	100-240VAC	12VDC Max. 50mA	Voltage input (PNP), No-voltage input (NPN)	1, 30, 2k, 5k

Min. Signal Width	Control Output			Protection Structure	Approval	Model
	Type	Relay	NPN Open Collector			
20ms	1-stage preset	SPST (1a): 1	—	—	—	FS4A
20ms	1-stage preset	SPST (1a): 1	—	—	—	FS4A
20ms	Indicator	—	—	—	—	FS5B
20ms	1-stage preset	SPDT (1c): 1	1	—	—	F8A
	Indicator	—	—	—	—	F8B
20ms	1-stage preset	SPDT (1c): 1	1	—	—	L8A
20ms	1-stage preset	SPDT (1c): 1	1	—	—	L8A
20ms	Indicator	—	—	—	—	L8B
20ms	2-stage preset	SPST (1a): 2	2	—	—	F4AM-2P
20ms	1-stage preset	SPDT (1c): 1	1	—	—	F4AM
20ms	1-stage preset	SPDT (1c): 1	1	—	—	F4AM
20ms	Indicator	—	—	—	—	F4BM
20ms	2-stage preset	SPST (1a): 2	2	—	—	F6AM-2P
20ms	1-stage preset	SPDT (1c): 1	1	—	—	F6AM
	Indicator	—	—	—	—	F6BM
20ms	2-stage preset	SPDT (1c): 2	2	—	—	L4AM-2P
	Indicator	—	—	—	—	L4BM
20ms	2-stage preset	SPDT (1c): 2	2	—	—	L6AM-2P
	Indicator	—	—	—	—	L6BM

Timers

Compact, LCD Display Timer (Indicator Only) / Programmable Timer / Timer (Indicator Only) /
Thumbwheel Switch Setting Type 8-Pin Plug Up · Down Timer / Thumbwheel Switch Setting Type LCD Display Timer / LCD Display Timer /
Multi Function · ⅄-△ · Power OFF Delay · General-Purpose Analog Timer

Series	Display Method	Operation Method	Output Operation	Time Operation	Terminal	Power Supply	External Power Supply	Memory Protection
Compact LCD Display Timer (Indicator Only) **LE8N Series**  W48×H24×L54mm	8-digit 7-segment LCD	Count up	—	POWER ON START	Terminal block	Built-in battery (over 10 years)	—	—

Series	Display Method	Operation Method	Output Operation	Time Operation	Terminal	Power Supply	External Power Supply	Memory Protection
Programmable Timer (Counter) **CT4S Series**  W48×H48×L90mm	4-digit 7-segment LED	Count up, Count down	SIGNAL ON DELAY, POWER ON DELAY, FLICKER, INTERVAL, SIGNAL OFF DELAY, ON-OFF DELAY, INTEGRATION TIME	POWER ON START, SIGNAL ON START	Terminal block	24VAC, 24-48VDC	Max. 12VDC 100mA	Approx. 10 years
						100-240VAC	Max. 12VDC 100mA	Approx. 10 years
Programmable Timer (Counter) **CT6S Series**  W48×H48×L90mm	6-digit 7-segment LED	Count up, Count down	SIGNAL ON DELAY, POWER ON DELAY, FLICKER, INTERVAL, SIGNAL OFF DELAY, ON-OFF DELAY, INTEGRATION TIME	POWER ON START, SIGNAL ON START	Terminal block	24VAC, 24-48VDC	Max. 12VDC 100mA	Approx. 10 years
						100-240VAC	Max. 12VDC 100mA	Approx. 10 years
Programmable Timer (Counter) **CT6Y Series**  W72×H36×L77mm	6-digit 7-segment LED	Count up, Count down	SIGNAL ON DELAY, POWER ON DELAY, FLICKER, INTERVAL, SIGNAL OFF DELAY, ON-OFF DELAY, INTEGRATION TIME	POWER ON START, SIGNAL ON START	Terminal block	24VAC, 24-48VDC	Max. 12VDC 100mA	Approx. 10 years
						100-240VAC	Max. 12VDC 100mA	Approx. 10 years
Programmable Timer (Counter) **CT6M Series**  W72×H72×L85mm	6-digit 7-segment LED	Count up, Count down	SIGNAL ON DELAY, POWER ON DELAY, FLICKER, INTERVAL, SIGNAL OFF DELAY, ON-OFF DELAY, INTEGRATION TIME	POWER ON START, SIGNAL ON START	Terminal block	24VAC, 24-48VDC	Max. 12VDC 100mA	Approx. 10 years
						100-240VAC	Max. 12VDC 100mA	Approx. 10 years

Setting Range	Input Method		Control Output	Backlight	Protection Structure	Approval	Model
	Signal	Reset					
0.01 sec to 9999 hour 59 min 59 sec, 0.1 min to 99999 hour 59.9 min, 1 min to 999999 hour 59 min, 1 min to 9999 day 23 hour 59 min, 0.1 hour to 9999 day 23.9 hour, 1 sec to 99999999 sec, 0.1 min to 9999 hour 59.9 min, 1 min to 99999 hour 59 min, 0.1 hour to 999999.9 hour	Free voltage input	No-voltage input (NPN)	Indicator	—	IP66 (front panel)		LE8N-BF
	No-voltage input (NPN)	No-voltage input (NPN)	Indicator	●	IP66 (front panel)		LE8N-BN-L
				—			LE8N-BN
	Voltage input (PNP)	Voltage input (PNP)	Indicator	●	IP66 (front panel)		LE8N-BV-L
				—			LE8N-BV

Setting Range	Signal Input Method	Control Output			Comm. Output	Protection Structure	Approval	Model
		Type	Relay	NPN Open Collector				
0.001 sec to 9.999 sec, 0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 9999 min, 1 min to 99 hour 59 min, 1 hour to 9999 hour	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT4S-2P2
				—	RS485			CT4S-2P2T
		1-stage preset	SPDT (1c): 1	1	—			CT4S-1P2
				—	RS485			CT4S-1P2T
	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT4S-2P4
				—	RS485			CT4S-2P4T
		1-stage preset	SPDT (1c): 1	1	—			CT4S-1P4
				—	RS485			CT4S-1P4T
0.001 sec to 999.999 sec, 0.01 sec to 9999.99 sec, 0.1 sec to 99999.9 sec, 1 sec to 999999 sec, 0.01 sec to 99 min 59.99 sec, 0.1 sec to 999 min 59.9 sec, 1 sec to 9999 min 59 sec, 0.1 min to 99999.9 min, 1 min to 999999 min, 1 min to 99 hour 59 min 59 sec, 1 min to 9999 hour 59 min, 0.1 hour to 99999.9 hour	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT6S-2P2
				—	RS485			CT6S-2P2T
		1-stage preset	SPDT (1c): 1	1	—			CT6S-1P2
				—	RS485			CT6S-1P2T
		Indicator	—	—	—			CT6S-I2
					RS485			CT6S-I2T
	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 2	1	—	IP65 (front panel)		CT6S-2P4
				—	RS485			CT6S-2P4T
		1-stage preset	SPDT (1c): 1	1	—			CT6S-1P4
				—	RS485			CT6S-1P4T
		Indicator	—	—	—			CT6S-I4
					RS485			CT6S-I4T
0.001 sec to 999.999 sec, 0.01 sec to 9999.99 sec, 0.1 sec to 99999.9 sec, 1 sec to 999999 sec, 0.01 sec to 99 min 59.99 sec, 0.1 sec to 999 min 59.9 sec, 1 sec to 9999 min 59 sec, 0.1 min to 99999.9 min, 1 min to 999999 min, 1 min to 99 hour 59 min 59 sec, 1 min to 9999 hour 59 min, 0.1 hour to 99999.9 hour	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 1, SPDT (1c): 1	1	—	IP65 (front panel)		CT6Y-2P2
			SPST (1a): 2	—	RS485			CT6Y-2P2T
		1-stage preset	SPDT (1c): 1	1	—			CT6Y-1P2
					RS485			CT6Y-1P2T
		Indicator	—	—	—			CT6Y-I2
					RS485			CT6Y-I2T
	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 1, SPDT (1c): 1	1	—	IP65 (front panel)		CT6Y-2P4
			SPST (1a): 2	—	RS485			CT6Y-2P4T
		1-stage preset	SPDT (1c): 1	1	—			CT6Y-1P4
					RS485			CT6Y-1P4T
		Indicator	—	—	—			CT6Y-I4
					RS485			CT6Y-I4T
0.001 sec to 999.999 sec, 0.01 sec to 9999.99 sec, 0.1 sec to 99999.9 sec, 1 sec to 999999 sec, 0.01 sec to 99 min 59.99 sec, 0.1 sec to 999 min 59.9 sec, 1 sec to 9999 min 59 sec, 0.1 min to 99999.9 min, 1 min to 999999 min, 1 min to 99 hour 59 min 59 sec, 1 min to 9999 hour 59 min, 0.1 hour to 99999.9 hour	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 1, SPDT (1c): 1	3	—	IP65 (front panel)		CT6M-2P2
				2	RS485			CT6M-2P2T
		1-stage preset	SPDT (1c): 1	2	—			CT6M-1P2
					RS485			CT6M-1P2T
		Indicator	—	—	—			CT6M-I2
					RS485			CT6M-I2T
	Voltage input (PNP), No-voltage input (NPN)	2-stage preset	SPST (1a): 1, SPDT (1c): 1	3	—	IP65 (front panel)		CT6M-2P4
				2	RS485			CT6M-2P4T
		1-stage preset	SPDT (1c): 1	2	—			CT6M-1P4
					RS485			CT6M-1P4T
		Indicator	—	—	—			CT6M-I4
					RS485			CT6M-I4T

Timers

Compact, LCD Display Timer (Indicator Only) / Programmable Timer / Timer (Indicator Only) /
Thumbwheel Switch Setting Type 8-Pin Plug Up · Down Timer / Thumbwheel Switch Setting Type LCD Display Timer / LCD Display Timer /
Multi Function · ⅄-△ · Power OFF Delay · General-Purpose Analog Timer

Series	Display Method	Operation Method	Output Operation	Time Operation	Terminal	Power Supply	External Power Supply	Memory Protection
Timer (Indicator Only) (Counter) **FXY Series**  W72×H36×L93mm	4-digit 7-segment LED	Count up, Count down	—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
	6-digit 7-segment LED	Count up, Count down	—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
Compact, Thumbwheel Switch Setting Type Up·Down Timer (Counter) **FXS Series**  W48×H48×L91mm	4-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
	5-digit 7-segment LED	Count up, Count down	—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
Thumbwheel Switch Setting Type Up·Down Timer (Counter) **FX Series**  W72×H72×L112.3mm	4-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
						100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
			—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
	6-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years
			—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
						12-24VAC, 12-24VDC	12VDC Max. 50mA	Approx. 10 years

Setting Range	Signal Input Method	Control Output			Protection Structure	Approval	Model
		Type	Relay	NPN Open Collector			
0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 99 hour 59 min, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX4Y-I
	No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX4Y-I
0.1 sec to 99999.9 sec, 1 sec to 999999 sec, 0.01 sec to 99 min 59.99 sec, 0.1 sec to 999 min 59.9 sec, 0.1 sec to 99999.9 min, 1 sec to 99 hour 59 min 59 sec, 1 min to 9999 hour 59 min, 0.1 hour to 99999.9 hour	No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX6Y-I
	No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX6Y-I
0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 99 hour 59 min, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	Voltage input (PNP) No-voltage input (NPN)	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4S
	Voltage input (PNP) No-voltage input (NPN)	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4S
0.1 sec to 9999.9 sec, 1 sec to 99999 sec, 0.01 sec to 9 min 59.99 sec, 0.1 sec to 99 min 59.9 sec, 0.1 min to 9999.9 min, 1 sec to 9 hour 59 min 59 sec, 1 min 999 hour 59 min, 0.1 hour to 9999.9 hour	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX5S-I
	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX5S-I
0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 99 hour 59 min, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	Voltage input (PNP) No-voltage input (NPN)	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX4-2P
	Voltage input (PNP) No-voltage input (NPN)	2-stage preset	SPDT (1c): 2	2	—	—	FX4-2P
	Voltage input (PNP) No-voltage input (NPN)	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4
	Voltage input (PNP) No-voltage input (NPN)	1-stage preset	SPDT (1c): 1	1	—	—	FX4
	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX4-I
0.1 sec to 99999.9 sec, 1 sec to 999999 sec, 0.01 sec to 99 min 59.99 sec, 0.1 sec to 999 min 59.9 sec, 0.1 sec to 99999.9 min, 1 sec to 99 hour 59 min 59 sec, 1 min to 9999 hour 59 min, 0.1 hour to 99999.9 hour	Voltage input (PNP) No-voltage input (NPN)	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX6-2P
	Voltage input (PNP) No-voltage input (NPN)	1-stage preset	SPDT (1c): 1	1	—	c UL us	FX6
	Voltage input (PNP) No-voltage input (NPN)	1-stage preset	SPDT (1c): 1	1	—	—	FX6
	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX6-I
	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	—	FX6-I

Timers

Compact, LCD Display Timer (Indicator Only) / Programmable Timer / Timer (Indicator Only) /
Thumbwheel Switch Setting Type 8-Pin Plug Up · Down Timer / Thumbwheel Switch Setting Type LCD Display Timer / LCD Display Timer /
Multi Function · ⅄-△ · Power OFF Delay · General-Purpose Analog Timer

Series	Display Method	Operation Method	Output Operation	Time Operation	Terminal	Power Supply	External Power Supply	Memory Protection
Thumbwheel Switch Setting Type Up·Down Timer (Counter) FXH Series  W48×H96×L100mm	4-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
			—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
Thumbwheel Switch Setting Type Up·Down Timer (Counter) FXL Series  W144×H72×L112mm	4-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
	6-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
			—	POWER ON START	Terminal block	100-240VAC	12VDC Max. 50mA	Approx. 10 years
Thumbwheel Switch Setting Type 8-Pin Plug Timer FSE Series  W48×H48×L85mm	4-digit 7-segment LED	Count up, Count down	POWER ON DELAY, FLICKER	POWER ON START	8-pin plug	100-240VAC	—	Approx. 10 years
						12-24VAC, 12-24VDC	—	Approx. 10 years
	5-digit 7-segment LED	Count up, Count down	—	POWER ON START	8-pin plug	100-240VAC	—	Approx. 10 years
						12-24VAC, 12-24VDC	—	Approx. 10 years

※Sold separately: 8-pin socket (PG-08, PS-08(N))

Series	Display Method	Operation Method	Output Operation	Time Operation	Terminal	Power Supply	External Power Supply	Memory Protection
Thumbwheel Switch Setting Type LCD Display Timer LE3S Series  W48×H48×L67mm	3-digit 7-segment LCD	Count up, Count down	POWER ON DELAY	POWER ON START	8-pin plug	24-240VAC, 24-240VDC	—	—
			ON DELAY, INTERVAL DELAY, FLICKER, ONE-SHOT OUT FLICKER, ON-OFF DELAY, OFF DELAY, INTEGRATION TIME	SIGNAL ON START	8-pin plug	24-240VAC, 24-240VDC	—	—

※Sold separately: 8-pin socket (PG-08, PS-08(N))

Setting Range	Signal Input Method	Control Output			Protection Structure	Approval	Model
		Type	Relay	NPN Open Collector			
0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 99 hour 59 min, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	Voltage input (PNP) No-voltage input (NPN)	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX4H-2P
		1-stage preset	SPDT (1c): 1	1	—	c UL us	FX4H
	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX4H-I
0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 99 hour 59 min, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	Voltage input (PNP) No-voltage input (NPN)	2-stage preset	SPDT (1c): 2	2	—	c UL us	FX4L-2P
0.1 sec to 99999.9 sec, 1 sec to 999999 sec, 0.01 sec to 99 min 59.99 sec, 0.1 sec to 999 min 59.9 sec, 0.1 sec to 99999.9 min, 1 sec to 99 hour 59 min 59 sec, 1 min to 9999 hour 59 min, 0.1 hour to 99999.9 hour	Voltage input (PNP) No-voltage input (NPN)	2-stage preset	SPDT (1c): 2	2	—	—	FX6L-2P
	Voltage input (PNP) No-voltage input (NPN)	Indicator	—	—	—	c UL us	FX6L-I
0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 99 hour 59 min, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	No-voltage input (NPN)	1-stage preset	Time-limit SPDT (1c): 1	—	—	—	FS4E
	No-voltage input (NPN)	1-stage preset	Time-limit SPDT (1c): 1	—	—	—	FS4E
0.1 sec to 9999.9 sec, 1 sec to 99999 sec, 0.01 sec to 9 min 59.99 sec, 0.1 sec to 99 min 59.9 sec, 0.1 min to 9999.9 min, 1 sec to 9 hour 59 min 59 sec, 1 min to 999 hour 59 min, 0.1 hour to 9999.9 hour	No-voltage input (NPN)	Indicator	—	—	—	—	FS5EI
	No-voltage input (NPN)	Indicator	—	—	—	—	FS5EI

Setting Range	Signal Input Method	Control Output		Backlight	Protection Structure	Approval	Model
		Relay	NPN Open Collector				
0.01 sec to 9.99 sec, 0.1 sec to 99.9 sec, 1 sec to 999 sec, 0.1 min to 99.9 min, 1 min to 999 min, 0.1 hour to 99.9 hour, 1 hour to 999 hour, 10 hour to 9990 hour, 0 min 01 sec to 9 min 59 sec, 0 hour 01 min to 9 hour 59 min	—	Time-limit SPDT (1c): 2	—	—	—	CE c UL us	LE3SA
		Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	CE c UL us	LE3SB
	No-voltage input (NPN)	Time-limit SPDT (1c): 1	—	—	—	CE c UL us	LE3S

Timers

Compact, LCD Display Timer (Indicator Only) / Programmable Timer / Timer (Indicator Only) /
Thumbwheel Switch Setting Type 8-Pin Plug Up · Down Timer / Thumbwheel Switch Setting Type LCD Display Timer / LCD Display Timer /
Multi Function · ⅄-△ · Power OFF Delay · General-Purpose Analog Timer

Series	Display Method	Operation Method	Output Operation	Time Operation	Terminal	Power Supply	External Power Supply	Memory Protection
LCD Display Timer **LE4S Series**  W48×H48×L70mm	4-digit 7-segment LCD	Count up, Count down	ON DELAY, INTERVAL, FLICKER, STAR-DELTA, TWIN	POWER ON START	8-pin plug	24-240VAC, 24-240VDC	—	—
			ON DELAY, INTERVAL, FLICKER, ON-OFF DELAY, OFF DELAY	SIGNAL ON START	8-pin plug	24-240VAC, 24-240VDC	—	—

※Sold separately: 8-pin socket (PG-08, PS-08(N))

Series	Number Of Setting Steps	Operation Method	Output Operation	Terminal	Power Supply	External Power Supply
Weekly/Yearly Timer **LE7M-2**  W72×H72×L60mm	Weekly 48 steps, Yearly 24 steps	Time setting	ON/OFF, CYCLE, PULSE	Terminal block	100-240VAC	—
Weekly/Yearly Timer **LE365S-41**  W48×H48×L60mm	Weekly 48 steps, Yearly 24 steps	Time setting	ON/OFF, CYCLE, PULSE	Terminal block	100-240VAC	—

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
Miniature Analog Timer **ATM Series**  W21.5×H28×L59.3mm	Time setting	POWER ON DELAY	POWER ON START	14-pin plug	■: Type 2: 24VDC 5: 220VAC 6: 110VAC

※Sold separately: My socket

Compact Multi-Function Analog Timer **ATS8 Series**  W38×H42×L83.5mm	Time setting	POWER ON DELAY, FLICKER, INTERVAL	POWER ON START	8-pin plug	12VDC
					24VAC, 24VDC
					100-240VAC, 24-240VDC
					12VDC
					24VAC, 24VDC
					100-240VAC, 24-240VDC

※Sold separately: 8-pin socket (PG-08, PS-08(N), MS-08)

Setting Range	Signal Input Method	Control Output		Backlight	Protection Structure	Approval	Model
		Relay	NPN Open Collector				
0.01 sec to 9.999 sec, 0.01 sec to 99.99 sec, 0.1 sec to 999.9 sec, 1 sec to 9999 sec, 0 min 1 sec to 99 min 59 sec, 0.1 min to 999.9 min, 1 min to 9999 min, 0 hour 1 min to 99 hour 59 min, 0.01 hour to 99.99 hour, 0.1 hour to 999.9 hour, 1 hour to 9999 hour	—	Time-limit SPDT (1c): 2 or Time-limit SPDT (1c): 1 + Instantaneous SPDT (1c): 1 depending on output operation mode	—	●	—		LE4SA
	No-voltage input (NPN)	Time-limit SPDT (1c): 1	—	●	—		LE4S

Memory Protection	Signal Input Method	Control Output		Time/Month Deviation	Protection Structure	Approval	Model
		Relay	NPN Open Collector				
Approx. 5 years	—	SPDT (1c): 2	—	±15 sec/month	—	—	LE7M-2
Approx. 5 years	—	SPST (1a): 1	—	±15 sec/month	—	—	LE365S-41

Setting Range	Signal Input Method	Control Output		Protection Structure	Approval	Model
		Relay	NPN Open Collector			
0.1 to 1 sec	—	SPDT (1c): 4	—	—	CE	ATM4-■1S
0.5 to 5 sec	—	SPDT (1c): 4	—	—	CE	ATM4-■5S
1 to 10 sec	—	SPDT (1c): 4	—	—	CE	ATM4-■10S
3 to 30 sec	—	SPDT (1c): 4	—	—	CE	ATM4-■30S
6 to 60 sec	—	SPDT (1c): 4	—	—	CE	ATM4-■60S
0.3 to 3 min	—	SPDT (1c): 4	—	—	CE	ATM4-■3M
0.5 to 5 min	—	SPDT (1c): 4	—	—	CE	ATM4-■5M
1 to 10 min	—	SPDT (1c): 4	—	—	CE	ATM4-■10M
3 to 30 min	—	SPDT (1c): 4	—	—	CE	ATM4-■30M
6 to 60 min	—	SPDT (1c): 4	—	—	CE	ATM4-■60M
0.3 to 3 hour	—	SPDT (1c): 4	—	—	CE	ATM4-■3H

0.1 to 1 sec, 1 to 10 sec, 0.1 to 1 min, 1 to 10 min, 0.1 to 1 hour, 1 to 10 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1+ Time-limit SPDT (1c): 1 depending on output operation mode	—	—		ATS8-11
						ATS8-21
						ATS8-41
0.3 to 3 sec, 3 to 30 sec, 0.3 to 3 min, 3 to 30 min, 0.3 to 3 hour, 3 to 30 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1+ Time-limit SPDT (1c): 1 depending on output operation mode	—	—		ATS8-13
						ATS8-23
						ATS8-43

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
Compact Multi-Function Analog Timer **ATS11 Series**  W38×H42×L83.5mm	Time setting	SIGNAL ON DELAY, SIGNAL OFF DELAY, SIGNAL ON-OFF DELAY, FLICKER, INTERVAL	SIGNAL ON START	11-pin plug	12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC 12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC 12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC 12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC
※Sold separately: 11-pin socket (PG-11, PS-11(N))					
Compact ⅄-△ Analog Timer **ATS8SD-4**  W38×H42×L83.5mm	Time setting	STAR-DELTA	POWER ON START	8-pin plug	100-240VAC, 24-240VDC
※Sold separately: 8-pin socket (PG-08, PS-08(N))					
Compact Power OFF Delay Analog Timer **ATS8P Series**  W38×H42×L75.5mm	Time setting	POWER OFF DELAY	POWER OFF START	8-pin plug	24VAC, 24VDC 200-240VAC 100-120VAC 24VAC, 24VDC 200-240VAC 100-120VAC
※Sold separately: 8-pin socket (PG-08, PS-08(N), MS-08)					
Compact Twin Analog Timer **ATS8W Series**  W38×H42×L75.5mm	Time setting	FLICKER	POWER ON START	8-pin plug	12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC 12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC
※Sold separately: 8-pin socket (PG-08, PS-08(N), MS-08)					
Compact Twin Analog Timer **ATS11W Series**  W38×H42×L75.5mm	Time setting	FLICKER	POWER ON START	11-pin plug	12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC 12VDC 24VAC, 24VDC 100-240VAC, 24-240VDC
※Sold separately: 11-pin socket (PG-11, PS-11(N))					

Setting Range	Signal Input Method	Control Output		Protection Structure	Approval	Model
		Relay	NPN Open Collector			
0.1 to 1 sec, 1 to 10 sec, 0.1 to 1 min, 1 to 10 min, 0.1 to 1 hour, 1 to 10 hour	No-voltage input (NPN)	Time-limit SPDT (1c): 2	—	—		ATS11-11D
						ATS11-21D
						ATS11-41D
0.3 to 3 sec, 3 to 30 sec, 0.3 to 3 min, 3 to 30 min, 0.3 to 3 hour, 3 to 30 hour	No-voltage input (NPN)	Time-limit SPDT (1c): 2	—	—		ATS11-13D
						ATS11-23D
						ATS11-43D
0.1 to 1 sec, 1 to 10 sec, 0.1 to 1 min, 1 to 10 min, 0.1 to 1 hour, 1 to 10 hour	No-voltage input (NPN)	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—		ATS11-11E
						ATS11-21E
						ATS11-41E
0.3 to 3 sec, 3 to 30 sec, 0.3 to 3 min, 3 to 30 min, 0.3 to 3 hour, 3 to 30 hour	No-voltage input (NPN)	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—		ATS11-13E
						ATS11-23E
						ATS11-43E
0.5 to 5 sec, 1 to 10 sec, 5 to 50 sec, 10 to 100 sec	—	STAR contact: SPST (1a): 1, DELTA contact: SPST (1a): 1	—	—		ATS8SD-4
0.1 to 1 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		ATS8P-2S
0.1 to 1 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		ATS8P-5S
0.1 to 1 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		ATS8P-6S
0.1 to 1 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		ATS8P-2M
0.1 to 1 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		ATS8P-5M
0.1 to 1 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		ATS8P-6M
0.1 to 1 sec, 1 to 10 sec, 0.1 to 1 min, 1 to 10 min, 0.1 to 1 hour, 1 to 10 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1+ Time-limit SPDT (1c): 1 depending on output operation mode	—	—		ATS8W-11
	—		—	—		ATS8W-21
	—		—	—		ATS8W-41
0.3 to 3 sec, 3 to 30 sec, 0.3 to 3 min, 3 to 30 min, 0.3 to 3 hour, 3 to 30 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1+ Time-limit SPDT (1c): 1 depending on output operation mode	—	—		ATS8W-13
	—		—	—		ATS8W-23
	—		—	—		ATS8W-43
0.1 to 1 sec, 1 to 10 sec, 0.1 to 1 min, 1 to 10 min, 0.1 to 1 hour, 1 to 10 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1+ Time-limit SPDT (1c): 1 depending on output operation mode	—	—		ATS11W-11
	—		—	—		ATS11W-21
	—		—	—		ATS11W-41
0.3 to 3 sec, 3 to 30 sec, 0.3 to 3 min, 3 to 30 min, 0.3 to 3 hour, 3 to 30 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1+ Time-limit SPDT (1c): 1 depending on output operation mode	—	—		ATS11W-13
	—		—	—		ATS11W-23
	—		—	—		ATS11W-43

Timers

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
Multi Function Analog Timer **AT8N Series**  W48×H48×L64.5mm	Time setting	POWER ON DELAY, FLICKER, INTERVAL	POWER ON START	8-pin plug	12VDC
					24VAC, 24V DC
					100-240VAC, 24-240VDC
※Sold separately: 8-pin socket (PG-08, PS-08(N))					
Multi Function Analog Timer **AT11DN Series**  W48×H48×L64.5mm	Time setting	SIGNAL ON DELAY, SIGNAL OFF DELAY, SIGNAL ON-OFF DELAY, FLICKER, INTERVAL	SIGNAL ON START	11-pin plug	12VDC
					24VAC, 24VDC
					100-240VAC, 24-240VDC
※Sold separately: 11-pin socket (PG-11, PS-11(N))					
Multi Function Analog Timer **AT11EN Series**  W48×H48×L64.5mm	Time setting	SIGNAL ON DELAY, SIGNAL OFF DELAY, SIGNAL ON-OFF DELAY, FLICKER, INTERVAL	SIGNAL ON START	11-pin plug	12VDC
					24VAC, 24VDC
					100-240VAC, 24-240VDC
※Sold separately: 11-pin socket (PG-11, PS-11(N))					

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
⅄-△ Analog Timer **AT8SDN**  W48×H48×L64.5mm	Time setting	STAR-DELTA	POWER ON START	8-pin plug	100-240VAC, 24-240VDC
※Sold separately: 8-pin socket (PG-08, PS-08(N))					

Setting Range	Signal Input Method	Control Output		Protection Structure	Approval	Model
		Relay	NPN Open Collector			
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec, 0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min, 0.05 to 0.5 hour, 0.1 to 1 hour, 0.5 to 5 hour, 1 to 10 hour, 5 to 50 hour, 10 to 100 hour	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1 + Time-limit SPDT (1c): 1 depending on output operation mode	—	—		AT8N-1
	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1 + Time-limit SPDT (1c): 1 depending on output operation mode	—	—		AT8N-2
	—	Time-limit SPDT (1c): 2 or Instantaneous SPDT (1c): 1 + Time-limit SPDT (1c): 1 depending on output operation mode	—	—		AT8N
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec, 0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min, 0.05 to 0.5 hour, 0.1 to 1 hour, 0.5 to 5 hour, 1 to 10 hour, 5 to 50 hour, 10 to 100 hour	No-voltage input (NPN)	Time-limit SPDT (1c): 2	—	—		AT11DN-1
	No-voltage input (NPN)	Time-limit SPDT (1c): 2	—	—		AT11DN-2
	No-voltage input (NPN)	Time-limit SPDT (1c): 2	—	—		AT11DN
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec, 0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min, 0.05 to 0.5 hour, 0.1 to 1 hour, 0.5 to 5 hour, 1 to 10 hour, 5 to 50 hour, 10 to 100 hour	No-voltage input (NPN)	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—		AT11EN-1
	No-voltage input (NPN)	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—		AT11EN-2
	No-voltage input (NPN)	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—		AT11EN

Setting Range	Signal Input Method	Control Output		Protection Structure	Approval	Model
		Relay	NPN Open Collector			
0.5 to 5 sec, 1 to 10 sec, 5 to 50 sec, 10 to 100 sec	—	STAR contact: SPST (1a): 1, DELTA contact: SPST (1a): 1	—	—		AT8SDN

Timers

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
Power OFF Delay Analog Timer **AT8PSN Series**  W48×H48×L64.5mm	Time setting	POWER OFF DELAY	POWER OFF START	8-pin plug	24VAC, 24VDC
					100-120VAC
					100/110VDC
					200-240VAC

※Sold separately: 8-pin socket (PG-08, PS-08(N))

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
Power OFF Delay Analog Timer **AT8PMN Series**  W48×H48×L64.5mm	Time setting	POWER OFF DELAY	POWER OFF START	8-pin plug	24VAC, 24VDC
					100-120VAC
					100/110VDC
					200-240VAC

※Sold separately: 8-pin socket (PG-08, PS-08(N))

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
General-Purpose, Analog Timer **ATE Series**  W48×H48×L80mm	Time setting	POWER ON DELAY	POWER ON START	8-pin plug	110VAC, 220VAC

※Sold separately: 8-pin socket (PG-08, PS-08(N)), Fixing bracket (PGB48-W)

Setting Range	Signal Input Method	Control Output		Protection Structure	Approval	Model
		Relay	NPN Open Collector			
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		AT8PSN-2
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		AT8PSN-6
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		AT8PSN-7
0.05 to 0.5 sec, 0.1 to 1 sec, 0.5 to 5 sec, 1 to 10 sec	—	Time-limit SPDT (1c): 2	—	—		AT8PSN
0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		AT8PMN-2
0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		AT8PMN-6
0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		AT8PMN-7
0.05 to 0.5 min, 0.1 to 1 min, 0.5 to 5 min, 1 to 10 min	—	Time-limit SPDT (1c): 2	—	—		AT8PMN

Setting Range	Control Output		Protection Structure	Approval	Model
	Relay	NPN Open Collector			
0.1 to 1 sec	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-1S
0.3 to 3 sec	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-3S
0.6 to 6 sec	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-6S
1 to 10 sec	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-10S
3 to 30 sec	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-30S
0.6 to 60 sec	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-60S
0.3 to 3 min	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-3M
0.6 to 6 min	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-6M
1 to 10 min	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-10M
3 to 30 min	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-30M
0.6 to 60 min	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-60M
0.3 to 3 hour	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-3H
0.6 to 6 hour	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-6H
1.2 to 12 hour	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-12H
2.4 to 24 hour	Time-limit SPDT (1c): 1, Instantaneous SPST(1a): 1	—	—	—	ATE-24H

Timers

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
General-Purpose, Analog Timer **ATE1 Series**  W48×H48×L80mm	Time setting	POWER ON DELAY	POWER ON START	8-pin plug	220VAC 220VAC 24VDC 220VAC 220VAC 110VAC 24VDC 110VAC 220VAC 110VAC 24VDC 220VAC 110VAC 24VDC 220VAC 220VAC 24VDC 220VAC

※Sold separately: 8-pin socket (PG-08, PS-08(N)), Fixing bracket (PGB48-W)

Series	Operation Method	Output Operation	Time Operation	Terminal	Power Supply
General-Purpose, Analog Timer **ATE2 Series**  W48×H48×L80mm	Time setting	POWER ON DELAY	POWER ON START	8-pin plug	220VAC 220VAC 24VDC 220VAC 220VAC 24VDC 220VAC 24VDC 220VAC 24VDC 220VAC

※Sold separately: 8-pin socket (PG-08, PS-08(N)), Fixing bracket (PGB48-W)

Setting Range	Control Output		Protection Structure	Approval	Model
	Relay	NPN Open Collector			
0.1 to 1 sec	Time-limit SPDT (1c): 2	—	—	—	ATE1-1S
0.3 to 3 sec	Time-limit SPDT (1c): 2	—	—	—	ATE1-3S
					ATE1-3S
0.6 to 6 sec	Time-limit SPDT (1c): 2	—	—	—	ATE1-6S
1 to 10 sec	Time-limit SPDT (1c): 2	—	—	—	ATE1-10S
					ATE1-10S
					ATE1-10S
					ATE1-10S
3 to 30 sec	Time-limit SPDT (1c): 2	—	—	—	ATE1-30S
					ATE1-30S
					ATE1-30S
6 to 60 sec	Time-limit SPDT (1c): 2	—	—	—	ATE1-60S
					ATE1-60S
					ATE1-60S
0.3 to 3 min	Time-limit SPDT (1c): 2	—	—	—	ATE1-3M
0.6 to 6 min	Time-limit SPDT (1c): 2	—	—	—	ATE1-6M
1 to 10 min	Time-limit SPDT (1c): 2	—	—	—	ATE1-10M
					ATE1-10M
3 to 30 min	Time-limit SPDT (1c): 2	—	—	—	ATE1-30M
6 to 60 min	Time-limit SPDT (1c): 2	—	—	—	ATE1-60M
0.3 to 3 hour	Time-limit SPDT (1c): 2	—	—	—	ATE1-3H
0.6 to 6 hour	Time-limit SPDT (1c): 2	—	—	—	ATE1-6H
1.2 to 12 hour	Time-limit SPDT (1c): 2	—	—	—	ATE1-12H
2.4 to 24 hour	Time-limit SPDT (1c): 2	—	—	—	ATE1-24H
0.1 to 1 sec	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-1S
0.3 to 3 sec	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-3S
					ATE2-3S
0.6 to 6 sec	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-6S
1 to 10 sec	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-10S
					ATE2-10S
3 to 30 sec	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-30S
					ATE2-30S
6 to 60 sec	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-60S
					ATE2-60S
0.3 to 3 min	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-3M
0.6 to 6 min	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-6M
1 to 10 min	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-10M
3 to 30 min	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-30M
6 to 60 min	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-60M
0.3 to 3 hour	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-3H
0.6 to 6 hour	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-6H
1.2 to 12 hour	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-12H
2.4 to 24 hour	Time-limit SPDT (1c): 1, Instantaneous SPDT (1c): 1	—	—	—	ATE2-24H

Panel Meters

Series	Display Method	Character Height	Max. Display Range	Measurement	Input Specification	AC Measurement
Compact Multi Panel Meter **M4NN Series**  W48×H24×L56.3mm	4digit 7-segment LED	11mm	-1999 to 9999	DC voltage	-600-600V, -200-200V, -100-100V, -20-20V, -10-10V, -2-2V, -1-1V, -200-200mV	—
				AC voltage, Frequency	0-600V, 0-250V, 0-110V, 0-50V, 0-20V, 0-10V, 0-2V, 0-1V	Average value (AVG)
				DC current	-5-5A, -2-2A, -1-1A, -200-200mA, -100-100mA, -20-20mA, 4-20mA, -10-10mA, -2-2mA	—
				AC current, Frequency	0-5A, 0-2.5A, 0-1A, 0-500mA, 0-250mA, 0-100mA, 0-50mA	Average value (AVG)
Compact Panel Meter **M4N Series**  W48×H24×L59mm	3½digit 7-segment LED	10mm	0 to 1999	DC voltage	0-199.9mV	—
					0-1.999V	
					0-19.99V	
					0-199.9V	
					Option	
				DC current	0-199.9μA	—
					0-1.999mA	
					0-19.99mA	
					0-199.9mA	
					Option	
				Digital scaling	DC4-20mA (1-5VDC)	—
Loop Powered Scaling Meter **M4NS**  W48×H24×L48mm	4digit 7-segment LED	10mm	-1999 to 9999	Digital scaling	DC4-20mA	—
Loop Powered Scaling Meter **M4YS**  W72×H36×L77mm	4digit 7-segment LED	14mm	-1999 to 9999	Digital scaling	DC4-20mA	—
Graphic Panel Meter **M4V**  W75×H25×L93mm	4digit 7-segment LED	14mm	-999 to 9999	DC voltage	0-2V, 1-5V, 0-10V	—
				DC current	0-1mA, 4-20mA	—

Power Factor Display	Power Supply	Output		Approval	Model
		Main Output (Comparative Value)	Sub Output (Display Value)		
●	5-24VDC	Indicator	—	CE	M4NN-DV-1N
		NPN open collector (OUT1, GO, OUT2)	—		M4NN-DV-11
		PNP open collector (OUT1, GO, OUT2)	—		M4NN-DV-12
—	5-24VDC	Indicator	—	CE	M4NN-AV-1N
		NPN open collector (OUT1, GO, OUT2)	—		M4NN-AV-11
		PNP open collector (OUT1, GO, OUT2)	—		M4NN-AV-12
●	5-24VDC	Indicator	—	CE	M4NN-DA-1N
		NPN open collector (OUT1, GO, OUT2)	—		M4NN-DA-11
		PNP open collector (OUT1, GO, OUT2)	—		M4NN-DA-12
—	5-24VDC	Indicator	—	CE	M4NN-AA-1N
		NPN open collector (OUT1, GO, OUT2)	—		M4NN-AA-11
		PNP open collector (OUT1, GO, OUT2)	—		M4NN-AA-12
—	5VDC	Indicator	—	—	M4N-DV-01
	12-24VDC				M4N-DV-11
	5VDC	Indicator	—	—	M4N-DV-02
	12-24VDC				M4N-DV-12
	5VDC	Indicator	—	—	M4N-DV-03
	12-24VDC				M4N-DV-13
	5VDC	Indicator	—	—	M4N-DV-04
	12-24VDC				M4N-DV-14
	5VDC	Indicator	—	—	M4N-DV-0X
	12-24VDC				M4N-DV-1X
—	5VDC	Indicator	—	—	M4N-DA-01
	12-24VDC				M4N-DA-11
	5VDC	Indicator	—	—	M4N-DA-02
	12-24VDC				M4N-DA-12
	5VDC	Indicator	—	—	M4N-DA-03
	12-24VDC				M4N-DA-13
	5VDC	Indicator	—	—	M4N-DA-04
	12-24VDC				M4N-DA-14
	5VDC	Indicator	—	—	M4N-DA-0X
	12-24VDC				M4N-DA-1X
—	5VDC	Indicator	—	—	M4N-DI-0X
	12-24VDC				M4N-DI-1X
—	Loop power	Indicator	—	—	M4NS-NA
—	Loop power	Indicator	—	—	M4YS-NA
—	12-24VDC	Indicator	—	—	M4V
—	12-24VDC	Indicator	—	—	

Panel Meters

Series	Display Method	Character Height	Max. Display Range	Measurement	Input Specification	AC Measurement
Multi Panel Meter **MT4N Series**  W48×H24×L83mm	4digit 7-segment LCD	9mm	-1999 to 9999	DC voltage	0-50V, 0-10V, 0-5V, 0-1V, 0-250mV, 0-50mV	—
				AC voltage, Frequency	0-250V, 0-125V, 0-50V, 0-25V, 0-5V, 0-2.5V	Average value (AVG), Root mean square value (RMS)
				DC current	0-500mA, 0-200mA, 0-50mA, 4-20mA, 0-5mA, 0-2mA	—
				AC current, Frequency	0-5A, 0-2.5A, 0-500mA, 0-250mA, 0-100mA, 0-50mA	Average value (AVG), Root mean square value (RMS)
Multi Panel Meter **MT4Y Series**  W72×H36×L77mm	4digit 7-segment LED	14.2mm	-1999 to 9999	DC voltage	0-500V, 0-100V, 0-50V, 0-10V, 0-5V, 0-1V, 0-250mV, 0-50mV	—
				AC voltage, Frequency	0-500V, 0-250V, 0-110V, 0-50V, 0-20V, 0-10V, 0-2V, 0-1V	Average value (AVG), Root mean square value (RMS)
				DC current	0-5A, 0-2A, 0-500mA, 0-200mA, 0-50mA, 4-20mA, 0-5mA, 0-2mA	—
				AC current, Frequency	0-5A, 0-2.5A, 0-1A, 0-500mA, 0-250mA, 0-100mA, 0-50mA	Average value (AVG), Root mean square value (RMS)

※1. Sold separately: Hirose connector socket (HIF3BA-14D-2.54R)

Power Factor Display	Power Supply	Output		Approval	Model
		Main Output (Comparative Value)	Sub Output (Display Value)		
—	■: Type E: 12-24VDC/AC 4: 100-240VAC	Indicator	—	CE (12-24VDC/AC)	MT4N-DV-■N
		Relay (OUT1, OUT2)	—		MT4N-DV-■0
		NPN open collector (OUT1, GO, OUT2)	—		MT4N-DV-■1
		PNP open collector (OUT1, GO, OUT2)	—		MT4N-DV-■2
		Relay (OUT1)	PV transmission (DC4-20mA)		MT4N-DV-■3
		Relay (OUT1)	RS485 communication		MT4N-DV-■4
		Relay (OUT1, OUT2)	PV transmission (DC4-20mA)		MT4N-DV-■5
—	■: Type E: 12-24VDC/AC 4: 100-240VAC	Indicator	—	CE (12-24VDC/AC)	MT4N-AV-■N
		Relay (OUT1, OUT2)	—		MT4N-AV-■0
		NPN open collector (OUT1, GO, OUT2)	—		MT4N-AV-■1
		PNP open collector (OUT1, GO, OUT2)	—		MT4N-AV-■2
		Relay (OUT1)	PV transmission (DC4-20mA)		MT4N-AV-■3
		Relay (OUT1)	RS485 communication		MT4N-AV-■4
		Relay (OUT1, OUT2)	PV transmission (DC4-20mA)		MT4N-AV-■5
—	■: Type E: 12-24VDC/AC 4: 100-240VAC	Indicator	—	CE (12-24VDC/AC)	MT4N-DA-■N
		Relay (OUT1, OUT2)	—		MT4N-DA-■0
		NPN open collector (OUT1, GO, OUT2)	—		MT4N-DA-■1
		PNP open collector (OUT1, GO, OUT2)	—		MT4N-DA-■2
		Relay (OUT1)	PV transmission (DC4-20mA)		MT4N-DA-■3
		Relay (OUT1)	RS485 communication		MT4N-DA-■4
		Relay (OUT1, OUT2)	PV transmission (DC4-20mA)		MT4N-DA-■5
—	■: Type E: 12-24VDC/AC 4: 100-240VAC	Indicator	—	CE (12-24VDC/AC)	MT4N-AA-■N
		Relay (OUT1, OUT2)	—		MT4N-AA-■0
		NPN open collector (OUT1, GO, OUT2)	—		MT4N-AA-■1
		PNP open collector (OUT1, GO, OUT2)	—		MT4N-AA-■2
		Relay (OUT1)	PV transmission (DC4-20mA)		MT4N-AA-■3
		Relay (OUT1)	RS485 communication		MT4N-AA-■4
		Relay (OUT1, OUT2)	PV transmission (DC4-20mA)		MT4N-AA-■5
—	100-240VAC	Indicator	—	CE c UL us	MT4Y-DV-4N
		Relay (HI, GO, LO)	—		MT4Y-DV-40
		NPN open collector (HI, GO, LO)	—		MT4Y-DV-41
		PNP open collector (HI, GO, LO)	—		MT4Y-DV-42
		Relay (LO)	PV transmission (DC4-20mA)		MT4Y-DV-43
		Relay (LO)	RS485 communication		MT4Y-DV-44
		—	BCD dynamic		MT4Y-DV-45※1
		—	Low speed serial		MT4Y-DV-46
—	100-240VAC	Indicator	—	CE c UL us	MT4Y-AV-4N
		Relay (HI, GO, LO)	—		MT4Y-AV-40
		NPN open collector (HI, GO, LO)	—		MT4Y-AV-41
		PNP open collector (HI, GO, LO)	—		MT4Y-AV-42
		Relay (LO)	PV transmission (DC4-20mA)		MT4Y-AV-43
		Relay (LO)	RS485 communication		MT4Y-AV-44
		—	BCD dynamic		MT4Y-AV-45※1
		—	Low speed serial		MT4Y-AV-46
—	100-240VAC	Indicator	—	CE c UL us	MT4Y-DA-4N
		Relay (HI, GO, LO)	—		MT4Y-DA-40
		NPN open collector (HI, GO, LO)	—		MT4Y-DA-41
		PNP open collector (HI, GO, LO)	—		MT4Y-DA-42
		Relay (LO)	PV transmission (DC4-20mA)		MT4Y-DA-43
		Relay (LO)	RS485 communication		MT4Y-DA-44
		—	BCD dynamic		MT4Y-DA-45※1
		—	Low speed serial		MT4Y-DA-46
—	100-240VAC	Indicator	—	CE c UL us	MT4Y-AA-4N
		Relay (HI, GO, LO)	—		MT4Y-AA-40
		NPN open collector (HI, GO, LO)	—		MT4Y-AA-41
		PNP open collector (HI, GO, LO)	—		MT4Y-AA-42
		Relay (LO)	PV transmission (DC4-20mA)		MT4Y-AA-43
		Relay (LO)	RS485 communication		MT4Y-AA-44
		—	BCD dynamic		MT4Y-AA-45※1
		—	Low speed serial		MT4Y-AA-46

Panel Meters

Series	Display Method	Character Height	Max. Display Range	Measurement	Input Specification	AC Measurement
Multi Panel Meter **MT4W Series**※1  W96×H48×L100mm	4digit 7-segment LED	14.2mm	-1999 to 9999	DC voltage	0-500V, 0-100V, 0-50V, 0-10V, 0-5V, 0-1V, 0-250mV, 0-50mV	—
				AC voltage, Frequency	0-500V, 0-250V, 0-110V, 0-50V, 0-20V, 0-10V, 0-2V, 0-1V	Average value (AVG), Root mean square value (RMS)
				DC current	0-5A, 0-2A, 0-500mA, 0-200mA, 0-50mA, 4-20mA, 0-5mA, 0-2mA	—
				AC current, Frequency	0-5A, 0-2.5A, 0-1A, 0-500mA, 0-250mA, 0-100mA, 0-50mA	Average value (AVG), Root mean square value (RMS)

※1. Rear size of MT4W Series is based on indicator model. In case of output model, rear size may be longer due to output hirose connector.
※2. Sold separately: Hirose connector socket (HIF3BA-20D-2.54R)

Power Factor Display	Power Supply	Output		Approval	Model
		Main Output (Comparative Value)	Sub Output (Display Value)		
—	12-24VDC	Indicator	—	CE	MT4W-DV-1N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DV-10
		Relay (HI, GO, LO)	—		MT4W-DV-11
	100-240VAC	Indicator	—	CE cULus	MT4W-DV-4N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DV-40
		Relay (HI, GO, LO)	—		MT4W-DV-41
		NPN open collector (HI, GO, LO)	BCD dynamic		MT4W-DV-42※2
		PNP open collector (HI, GO, LO)	BCD dynamic		MT4W-DV-43※2
		NPN open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DV-44※2
		PNP open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DV-45※2
		NPN open collector (HI, GO, LO)	Low speed serial		MT4W-DV-46※2
		PNP open collector (HI, GO, LO)	Low speed serial		MT4W-DV-47※2
		NPN open collector (HI, GO, LO)	RS485 communication		MT4W-DV-48※2
		PNP open collector (HI, GO, LO)	RS485 communication		MT4W-DV-49※2
—	12-24VDC	Indicator	—	CE	MT4W-AV-1N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AV-10
		Relay (HI, GO, LO)	—		MT4W-AV-11
	100-240VAC	Indicator	—	CE cULus	MT4W-AV-4N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AV-40
		Relay (HI, GO, LO)	—		MT4W-AV-41
		NPN open collector (HI, GO, LO)	BCD dynamic		MT4W-AV-42※2
		PNP open collector (HI, GO, LO)	BCD dynamic		MT4W-AV-43※2
		NPN open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AV-44※2
		PNP open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AV-45※2
		NPN open collector (HI, GO, LO)	Low speed serial		MT4W-AV-46※2
		PNP open collector (HI, GO, LO)	Low speed serial		MT4W-AV-47※2
		NPN open collector (HI, GO, LO)	RS485 communication		MT4W-AV-48※2
		PNP open collector (HI, GO, LO)	RS485 communication		MT4W-AV-49※2
—	12-24VDC	Indicator	—	CE	MT4W-DA-1N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DA-10
		Relay (HI, GO, LO)	—		MT4W-DA-11
		NPN open collector (HI, GO, LO)	RS485 communication		MT4W-DA-18※2
	100-240VAC	Indicator	—	CE cULus	MT4W-DA-4N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DA-40
		Relay (HI, GO, LO)	—		MT4W-DA-41
		NPN open collector (HI, GO, LO)	BCD dynamic		MT4W-DA-42※2
		PNP open collector (HI, GO, LO)	BCD dynamic		MT4W-DA-43※2
		NPN open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DA-44※2
		PNP open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-DA-45※2
		NPN open collector (HI, GO, LO)	Low speed serial		MT4W-DA-46※2
		PNP open collector (HI, GO, LO)	Low speed serial		MT4W-DA-47※2
		NPN open collector (HI, GO, LO)	RS485 communication		MT4W-DA-48※2
		PNP open collector (HI, GO, LO)	RS485 communication		MT4W-DA-49※2
—	12-24VDC	Indicator	—	CE	MT4W-AA-1N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AA-10
		Relay (HI, GO, LO)	—		MT4W-AA-11
	100-240VAC	Indicator	—	CE cULus	MT4W-AA-4N
		Relay (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AA-40
		Relay (HI, GO, LO)	—		MT4W-AA-41
		NPN open collector (HI, GO, LO)	BCD dynamic		MT4W-AA-42※2
		PNP open collector (HI, GO, LO)	BCD dynamic		MT4W-AA-43※2
		NPN open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AA-44※2
		PNP open collector (HI, GO, LO)	PV transmission (DC4-20mA)		MT4W-AA-45※2
		NPN open collector (HI, GO, LO)	Low speed serial		MT4W-AA-46※2
		PNP open collector (HI, GO, LO)	Low speed serial		MT4W-AA-47※2
		NPN open collector (HI, GO, LO)	RS485 communication		MT4W-AA-48※2
		PNP open collector (HI, GO, LO)	RS485 communication		MT4W-AA-49※2

Panel Meters

Series	Display Method	Character Height	Measurement	Input Specification	Max. Display Range
Digital Panel Meter **M4Y Series**  W72×H36×L93mm	3½digit 7-segment LED	14mm	DC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				300V	0 to 300
				Option	0 to 1999
			AC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				400V	0 to 400
				Option	0 to 1999
			DC current	199.9μA	0 to 199.9
				1.999mA	0 to 1.999
				19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/50mV (shunt)	0 to 19.99
				200A/50mV (shunt)	0 to 199.9
				2000A/50mV (shunt)	0 to 1999
				Option	0 to 1999
			AC current	19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/5A (CT)	0 to 19.99
				200A/5A (CT)	0 to 199.9
				2000A/5A (CT)	0 to 1999
				Option	0 to 1999
			AC electric power	199.9W※1	0 to 199.9
				1.999kW※1	0 to 1.999
				19.99kW※1	0 to 19.99
				199.9kW※1	0 to 199.9
				Option	0 to 1999
			Rotation	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
				AC INPUT option	0 to 1999
			Speed	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 1999

※1. Max. display value when output specification 0-10VDC of power transducer as display specification.

AC Measurement	Power Supply (Option)	Output	Approval	Model
—	100-240VAC (24-70VDC)	Indicator	—	M4Y-DV-1
				M4Y-DV-2
				M4Y-DV-3
				M4Y-DV-4
				M4Y-DV-5
				M4Y-DV-XX
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AV-1
Average value (AVG)	100-240VAC			M4Y-AV-2
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AV-3
Root mean square value (RMS)	100-240VAC (5VDC)			M4Y-AVR-3
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AV-4
Root mean square value (RMS)	100-240VAC (5VDC)			M4Y-AVR-4
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AV-6
Root mean square value (RMS)	100-240VAC (5VDC)			M4Y-AVR-6
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AV-XX
Root mean square value (RMS)	100-240VAC (5VDC)			M4Y-AVR-XX
—	100-240VAC	Indicator	—	M4Y-DA-1
				M4Y-DA-2
				M4Y-DA-3
				M4Y-DA-4
				M4Y-DA-5
				M4Y-DA-6
				M4Y-DA-7
				M4Y-DA-8
				M4Y-DA-XX
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-1
Root mean square value (RMS)				M4Y-AAR-1
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-2
Root mean square value (RMS)				M4Y-AAR-2
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-3
Root mean square value (RMS)				M4Y-AAR-3
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-4
Root mean square value (RMS)				M4Y-AA4-4
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-5
Root mean square value (RMS)				M4Y-AAR-5
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-6
Root mean square value (RMS)				M4Y-AAR-6
Average value (AVG)	100-240VAC	Indicator	—	M4Y-AA-XX
Root mean square value (RMS)				M4Y-AAR-XX
—	100-240VAC	Indicator	—	M4Y-W-1
				M4Y-W-2
				M4Y-W-3
				M4Y-W-4
				M4Y-W-XX
—	100-240VA	Indicator	—	M4Y-T-1
Average value (AVG)				M4Y-T-2
—				M4Y-T-DX
Average value (AVG)				M4Y-T-AX
—	100-240VAC	Indicator	—	M4Y-S-1
Average value (AVG)				M4Y-S-2
Root mean square value (RMS)				M4Y-SR-2
—				M4Y-S-DX
—	100-240VAC (24-70VDC)	Indicator	—	M4Y-DI-XX

Panel Meters

Series	Display Method	Character Height	Measurement	Input Specification	Max. Display Range
Digital Panel Meter **M5W Series**  W96×H48×L104mm	4½digit 7-segment LED	14mm	DC voltage	199.99mV	0 to 199.99
				1.9999V	0 to 1.9999
				19.999V	0 to 19.999
				199.99V	0 to 199.99
				300V	0 to 300
				Option	0 to 19999
			AC voltage	199.99mV	0 to 199.99
				1.9999V	0 to 1.9999
				19.999V	0 to 19.999
				199.99V	0 to 199.99
				400V	0 to 400
				Option	0 to 19999
			DC current	199.99μA	0 to 199.99
				1.9999mA	0 to 1.9999
				19.999mA	0 to 19.999
				199.99mA	0 to 199.99
				1.9999A	0 to 1.9999
				20A/50mV (shunt)	0 to 19.999
				200A/50mV (shunt)	0 to 199.99
				2000A/50mV (shunt)	0 to 1999.9
				Option	0 to 19999
			AC current	19.999mA	0 to 19.999
				199.99mA	0 to 199.99
				1.9999A	0 to 1.9999
				20A/5A (CT)	0 to 19.999
				200A/5A (CT)	0 to 199.99
				2000A/5A (CT)	0 to 1999.9
				Option	0 to 19999
			AC electric power	199.99W※1	0 to 199.99
				1.9999kW※1	0 to 1.9999
				19.999kW※1	0 to 19.999
				199.99kW※1	0 to 199.99
				1999.9kW※1	0 to 1999.9
				Option	0 to 19999
			Rotation	0-10VDC	0 to 1999.9
				0-10VAC	0 to 1999.9
				AC INPUT option	0 to 19999
			Speed	0-10VDC	0 to 1999.9
				0-10VAC	0 to 1999.9
				AC INPUT option	0 to 19999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 19999

※1. Max. display value when output specification 0-10VDC of power transducer as display specification.

AC Measurement	Power Supply	Output	Approval	Model
—	100-240VAC	Indicator	—	M5W-DV-1
				M5W-DV-2
				M5W-DV-3
				M5W-DV-4
				M5W-DV-5
				M5W-DV-XX
Root mean square value (RMS)	100-240VAC	Indicator	—	M5W-AV-1
				M5W-AV-2
				M5W-AV-3
				M5W-AV-4
				M5W-AV-5
				M5W-AV-XX
—	100-240VAC	Indicator	—	M5W-DA-1
				M5W-DA-2
				M5W-DA-3
				M5W-DA-4
				M5W-DA-5
				M5W-DA-6
				M5W-DA-7
				M5W-DA-8
				M5W-DA-XX
Root mean square value (RMS)	100-240VAC	Indicator	—	M5W-AA-1
				M5W-AA-2
				M5W-AA-3
				M5W-AA-4
				M5W-AA-5
				M5W-AA-6
				M5W-AA-XX
—	100-240VAC	Indicator	—	M5W-W-1
				M5W-W-2
				M5W-W-3
				M5W-W-4
				M5W-W-5
				M5W-W-XX
—	100-240VAC	Indicator	—	M5W-S-1
Root mean square value (RMS)				M5W-S-2
				M5W-S-AX
—	100-240VAC	Indicator	—	M5W-T-1
Root mean square value (RMS)				M5W-T-2
				M5W-T-AX
—	100-240VAC	Indicator	—	M5W-DI-XX

Panel Meters

Series	Display Method	Character Height	Measurement	Input Specification	Max. Display Range
Digital Panel Meter **M4W Series**  W96×H48×L104mm	3½digit 7-segment LED	14mm	DC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				300V	0 to 300
				Option	0 to 1999
			AC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				400V	0 to 400
				Option	0 to 1999
			DC current	199.9μA	0 to 199.9
				1.999mA	0 to 1.999
				19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/50mV (shunt)	0 to 19.99
				200A/50mV (shunt)	0 to 199.9
				2000A/50mV (shunt)	0 to 1999
				Option	0 to 1999
			AC current	19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/5A (CT)	0 to 19.99
				200A/5A (CT)	0 to 199.9
				2000A/5A (CT)	0 to 1999
				Option	0 to 1999
			AC electric power	199.9W※1	0 to 199.9
				1.999kW※1	0 to 1.999
				19.99kW※1	0 to 19.99
				199.9kW※1	0 to 199.9
				1999kW※1	0 to 1999
				Option	0 to 1999
			Rotation	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
			Speed	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
				AC INPUT option	0 to 1999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 1999
			Power factor	DC4-20mA (power factor transducer option)	-0.50 to 1.00 to +0.50

※1. Max. display value when output specification 0-10VDC of power transducer as display specification.

AC Measurement	Power Supply (Option)	Output	Approval	Model
—	110/220VAC (100-240VAC)	Indicator	—	M4W-DV-1
				M4W-DV-2
				M4W-DV-3
				M4W-DV-4
				M4W-DV-5
				M4W-DV-XX
Average value (AVG)	110/220VAC	Indicator	—	M4W-AV-1
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AVR-1
Average value (AVG)	110/220VAC	Indicator	—	M4W-AV-2
Average value (AVG)	110/220VAC	Indicator	—	M4W-AV-3
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AVR-3
Average value (AVG)	110/220VAC	Indicator	—	M4W-AV-4
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AVR-4
Average value (AVG)	110/220VAC	Indicator	—	M4W-AV-6
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AVR-6
Average value (AVG)	110/220VAC	Indicator	—	M4W-AV-XX
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AVR-XX
—	110/220VAC	Indicator	—	M4W-DA-1
				M4W-DA-2
				M4W-DA-3
				M4W-DA-4
				M4W-DA-5
				M4W-DA-6
				M4W-DA-7
				M4W-DA-8
				M4W-DA-XX
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-1
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-2
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AAR-2
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-3
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AAR-3
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-4
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AAR-4
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-5
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AAR-5
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-6
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AAR-6
Average value (AVG)	110/220VAC	Indicator	—	M4W-AA-XX
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W-AAR-XX
—	110/220VAC	Indicator	—	M4W-W-1
				M4W-W-2
				M4W-W-3
				M4W-W-4
				M4W-W-5
				M4W-W-XX
—	110/220VAC (24-70VDC, 100-240VAC)	Indicator	—	M4W-T-1
Average value (AVG)	110/220VAC			M4W-T-2
—	110/220VAC (24-70VDC, 100-240VAC)			M4W-T-DX
—	110/220VAC (100-240VAC)	Indicator	—	M4W-S-1
Average value (AVG)	110/220VAC			M4W-S-2
—	110/220VAC (24-70VDC, 100-240VAC)			M4W-S-DX
Average value (AVG)	110/220VAC			M4W-S-AX
—	110/220VAC (100-240VAC)	Indicator	—	M4W-DI-XX
—	110/220VAC	Indicator	—	M4W-P

Panel Meters

Series	Display Method	Character Height	Measurement	Input Specification	Max. Display Range
Digital Panel Meter **M4W1P Series**  W96×H48×L104mm	3½digit 7-segment LED	10mm	DC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				300V	0 to 300
				Option	0 to 1999
			AC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				400V	0 to 400
				Option	0 to 1999
			DC current	199.9μA	0 to 199.9
				1.999mA	0 to 1.999
				19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/50mV (shunt)	0 to 19.99
				200A/50mV (shunt)	0 to 199.9
				2000A/50mV (shunt)	0 to 1999
				Option	0 to 1999
			AC current	19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/5A (CT)	0 to 19.99
				200A/5A (CT)	0 to 199.9
				2000A/5A (CT)	0 to 1999
				Option	0 to 1999
			AC electric power	199.9W※1	0 to 199.9
				19.99kW※1	0 to 19.99
				199.9kW※1	0 to 199.9
				1999kW※1	0 to 1999
			Rotation	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
				AC INPUT option	0 to 1999
			Speed	0-10VDC	0 to 1999
				DC INPUT option	0 to 1999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 1999

※1. Max. display value when output specification 0-10VDC of power transducer as display specification.

AC Measurement	Power Supply (Option)	Output	Approval	Model
—	110/220VAC (24-70VDC, 100-240VAC)	Relay (HI)	—	M4W1P-DV-1
				M4W1P-DV-2
				M4W1P-DV-3
				M4W1P-DV-4
				M4W1P-DV-5
				M4W1P-DV-XX
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AV-1
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W1P-AVR-1
Root mean square value (RMS)	110/220VAC (100-240VAC)	Relay (HI)	—	M4W1P-AVR-2
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AV-3
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W1P-AVR-3
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AV-4
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W1P-AVR-4
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AV-6
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W1P-AVR-6
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AV-XX
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W1P-AVR-XX
—	110/220VAC	Relay (HI)	—	M4W1P-DA-1
				M4W1P-DA-2
				M4W1P-DA-3
				M4W1P-DA-4
				M4W1P-DA-5
				M4W1P-DA-6
				M4W1P-DA-7
				M4W1P-DA-8
				M4W1P-DA-XX
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-1
Root mean square value (RMS)				M4W1P-AAR-1
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-2
Root mean square value (RMS)				M4W1P-AAR-2
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-3
Root mean square value (RMS)				M4W1P-AAR-3
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-4
Root mean square value (RMS)				M4W1P-AAR-4
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-5
Root mean square value (RMS)				M4W1P-AAR-5
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-6
Root mean square value (RMS)				M4W1P-AAR-6
Average value (AVG)	110/220VAC	Relay (HI)	—	M4W1P-AA-XX
Root mean square value (RMS)				M4W1P-AAR-XX
—	110/220VAC	Relay (HI)	—	M4W1P-W-1
				M4W1P-W-3
				M4W1P-W-4
				M4W1P-W-5
—	110/220VAC	Relay (HI)	—	M4W1P-T-1
Average value (AVG)	(100-240VAC)			M4W1P-T-2
Root mean square value (RMS)				M4W1P-TR-2
—	(100-240VAC)			M4W1P-T-DX
Root mean square value (RMS)	(24-70VDC)			M4W1P-TR-AX
—	110/220VAC (100-240VAC)	Relay (HI)	—	M4W1P-S-1
	(100-240VAC)			M4W1P-S-DX
—	110/220VAC	Relay (HI)	—	M4W1P-DI-XX

Panel Meters

Series	Display Method	Character Height	Measurement	Input Specification	Max. Display Range
Digital Panel Meter **M4W2P Series**  W96×H48×L104mm	3½digit 7-segment LED	10mm	DC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				300V	0 to 300
				Option	0 to 1999
			AC voltage	199.9mV	0 to 199.9
				1.999V	0 to 1.999
				19.99V	0 to 19.99
				199.9V	0 to 199.9
				400V	0 to 400
				Option	0 to 1999
			DC current	199.9μA	0 to 199.9
				1.999mA	0 to 1.999
				19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/50mV (shunt)	0 to 19.99
				200A/50mV (shunt)	0 to 199.9
				2000A/50mV (shunt)	0 to 1999
				Option	0 to 1999
			AC current	19.99mA	0 to 19.99
				199.9mA	0 to 199.9
				1.999A	0 to 1.999
				20A/5A (CT)	0 to 19.99
				200A/5A (CT)	0 to 199.9
				2000A/5A (CT)	0 to 1999
				Option	0 to 1999
			AC electric power	199.9W※1	0 to 199.9
				1.999kW※1	0 to 1.999
				199.9kW※1	0 to 199.9
				Option	0 to 1999
			Rotation	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
				AC INPUT option	0 to 1999
			Speed	0-10VDC	0 to 1999
				0-10VAC	0 to 1999
				DC INPUT option	0 to 1999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 1999

※1. Max. display value when output specification 0-10VDC of power transducer as display specification.

AC Measurement	Power Supply (Option)	Output	Approval	Model
—	110/220VAC (24-70VDC, 100-240VAC)	Relay (HI, LOW)	—	M4W2P-DV-1
				M4W2P-DV-2
				M4W2P-DV-3
				M4W2P-DV-4
				M4W2P-DV-5
				M4W2P-DV-XX
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AV-1
Root mean square value (RMS)				M4W2P-AVR-1
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AV-2
Root mean square value (RMS)				M4W2P-AVR-2
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AV-3
Root mean square value (RMS)				M4W2P-AVR-3
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AV-4
Root mean square value (RMS)				M4W2P-AVR-4
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AV-6
Root mean square value (RMS)				M4W2P-AVR-6
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AV-XX
Root mean square value (RMS)				M4W2P-AVR-XX
—	110/220VAC (100-240VAC)	Relay (HI, LOW)	—	M4W2P-DA-1
				M4W2P-DA-2
				M4W2P-DA-3
				M4W2P-DA-4
				M4W2P-DA-5
				M4W2P-DA-6
				M4W2P-DA-7
				M4W2P-DA-8
				M4W2P-DA-XX
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-1
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-2
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W2P-AAR-2
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-3
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W2P-AAR-3
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-4
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W2P-AAR-4
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-5
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W2P-AAR-5
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-6
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W2P-AAR-6
Average value (AVG)	110/220VAC	Relay (HI, LOW)	—	M4W2P-AA-XX
Root mean square value (RMS)	110/220VAC (100-240VAC)			M4W2P-AAR-XX
—	110/220VAC	Relay (HI, LOW)	—	M4W2P-W-1
				M4W2P-W-2
				M4W2P-W-4
				M4W2P-W-XX
—	110/220VAC	Relay (HI, LOW)	—	M4W2P-T-1
Average value (AVG)				M4W2P-T-2
—	(100-240VAC)			M4W2P-T-DX
Average value (AVG)	110/220VAC			M4W2P-T-AX
—	110/220VAC (100-240VAC)	Relay (HI, LOW)	—	M4W2P-S-1
Root mean square value (RMS)	110/220VAC			M4W2P-SR-2
—	(100-240VAC)			M4W2P-S-DX
—	110/220VAC	Relay (HI, LOW)	—	M4W2P-DI-XX

Panel Meters

Series	Display Method	Character Height	Measurement	Input Specification	Max. Display Range
Digital Panel Meter **M4M Series**  W72×H72×L113mm	3½digit 7-segment LED	10mm	DC voltage	19.99V	0 to 19.99
				Option	0 to 1999
			AC voltage	400V	0 to 400
			AC current	200A/5A (CT)	0 to 199.9
				Option	0 to 1999
Digital Panel Meter **M4M1P Series**  W72×H72×L113mm	3½digit 7-segment LED	10mm	DC voltage	199.9mV	0 to 199.9
				199.9V	0 to 199.9
				Option	0 to 1999
			AC voltage	Option	0 to 1999
			AC current	200A/5A (CT)	0 to 199.9
				Option	0 to 1999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 1999
Digital Panel Meter **M4M2P Series**  W72×H72×L113mm	3½digit 7-segment LED	10mm	DC voltage	19.99V	0 to 19.99
				300V	0 to 300
				Option	0 to 1999
			AC voltage	19.99V	0 to 19.99
				400V	0 to 400
				Option	0 to 1999
			DC current	1.999A	0 to 1.999
			AC current	20A/5A (CT)	0 to 19.99
				200A/5A (CT)	0 to 199.9
				Option	0 to 1999
			Digital scaling	DC4-20mA (1-5VDC)	0 to 1999

AC Measurement	Power Supply (Option)	Output	Approval	Model
—	110/220VAC	Indicator	—	M4M-DV-3
				M4M-DV-XX
Average value (AVG)	110/220VAC	Indicator	—	M4M-AV-6
Root mean square value (RMS)				M4M-AVR-6
Average value (AVG)	110/220VAC	Indicator	—	M4M-AA-5
Average value (AVG)				M4M-AA-XX
—	110/220VAC	Relay (HI)	—	M4M1P-DV-1
				M4M1P-DV-4
				M4M1P-DV-XX
Average value (AVG)	110/220VAC	Relay (HI)	—	M4M1P-AV-XX
Average value (AVG)	110/220VAC	Relay (HI)	—	M4M1P-AA-5
Average value (AVG)				M4M1P-AA-XX
Root mean square value (RMS)				M4M1P-AAR-XX
—	110/220VAC	Relay (HI)	—	M4M1P-DI-XX
—	110/220VAC	Relay (HI, LOW)	—	M4M2P-DV-3
				M4M2P-DV-5
				M4M2P-DV-XX
Root mean square value (RMS)	110/220VAC	Relay (HI, LOW)	—	M4M2P-AVR-3
Root mean square value (RMS)				M4M2P-AVR-6
Average value (AVG)				M4M2P-AV-XX
—	110/220VAC	Relay (HI, LOW)	—	M4M2P-DA-5
Average value (AVG)	110/220VAC (24-70VDC, 100-240VAC)	Relay (HI, LOW)	—	M4M2P-AA-4
Average value (AVG)				M4M2P-AA-5
Root mean square value (RMS)				M4M2P-AAR-5
Average value (AVG)				M4M2P-AA-XX
—	110/220VAC	Relay (HI, LOW)	—	M4M2P-DI-XX

Tacho / Speed / Pulse Meters

Series	Display Method	Character Height	Display Range	Measurement	Measurement Range	Input Method
Compact LCD Display Pulse Meter **LR5N-B**  W48×H24×L54mm	4½-digit 7-segment LCD	8.7mm	0 to 10000	Frequency, Revolutions	1 to 10000RPM, 0.1 to 1000.0RPM, 1 to 1000RPS, 1 to 1000Hz, 0.1 to 100.0Hz	Voltage input (PNP), No-voltage input (NPN)
Pulse Meter **MP5S Series**  W48×H48×L90mm	5-digit 7-segment LED	8mm	-19999 to 99999	16 operation modes: Frequency, Revolutions, Speed, Cycle, Time, Ratio, Density, Error, Length measurement, Interval, Accumulation, Addition/Subtraction, etc.	0.0005Hz to 50kHz, 0.01 to max. of each time range, 0 to 99999, -19999 to 99999	Voltage input (PNP), No-voltage input (NPN)
Pulse Meter **MP5Y Series**※1  W72×H36×L100mm	5-digit 7-segment LED	14mm	-19999 to 99999	16 operation modes: Frequency, Revolutions, Speed, Cycle, Time, Ratio, Density, Error, Length measurement, Interval, Accumulation, Addition/Subtraction, etc.	0.0005Hz to 50kHz, 0.01 to max. of each time range, 0 to 99999, -19999 to 99999	Voltage input (PNP), No-voltage input (NPN)
Pulse Meter **MP5W Series**※1  W96×H48×L100mm	5-digit 7-segment LED	14mm	-19999 to 99999	16 operation modes: Frequency, Revolutions, Speed, Cycle, Time, Ratio, Density, Error, Length measurement, Interval, Accumulation, Addition/Subtraction, etc.	0.0005Hz to 50kHz, 0.01 to max. of each time range, 0 to 99999, -19999 to 99999	Voltage input (PNP), No-voltage input (NPN)
Thumbwheel Switch Setting Type Pulse Meter **MP5M Series**  W72×H72×L75mm	5-digit 7-segment LED	8mm	-19999 to 99999	14 operation modes: Frequency, Revolutions, Speed, Cycle, Time, Ratio, Density, Length measurement, Interval, Accumulation, Addition/Subtraction, etc.	0.0005Hz to 50kHz, 0.01 to max. of each time range, 0 to 99999, -19999 to 99999	Voltage input (PNP), No-voltage input (NPN)

※1. Rear size of MP5Y/MP5W is based on indicator model. In case of output model, rear size may be longer due to output hirose connector or output terminal block.
※2. Sold separately: Hirose connector socket (HIF3BA-10D-2.54R)
※3. Sold separately: Hirose connector socket (HIF3BA-20D-2.54R)

Power Supply	External Power Supply	Output		Approval	Model
		Main Output (Comparative Value)	Sub Output (Display Value)		
Built-in battery (over 3 years)	—	Indicator	—	—	LR5N-B
24VAC, 24-48VDC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5S-2N
100-240VAC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5S-4N
24VAC, 24-48VDC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5Y-2N
		NPN open collector (HH, H, GO, L, LL)	—		MP5Y-21※2
		PNP open collector (HH, H, GO, L, LL)	—		MP5Y-22※2
		—	BCD dynamic		MP5Y-23※2
		—	PV transmission (DC0-20mA, DC4-20mA)		MP5Y-24※2
		—	RS485 communication		MP5Y-25※2
		Relay (H, GO, L)	—		MP5Y-26
100-240VAC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5Y-4N
		NPN open collector (HH, H, GO, L, LL)	—		MP5Y-41※2
		PNP open collector (HH, H, GO, L, LL)	—		MP5Y-42※2
		—	BCD dynamic		MP5Y-43※2
		—	PV transmission (DC0-20mA, DC4-20mA)		MP5Y-44※2
		—	RS485 communication		MP5Y-45※2
		Relay (H, GO, L)	—		MP5Y-46
24VAC, 24-48VDC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5W-2N
		Relay (HH, H, GO, L, LL)	—		MP5W-2A
		Relay (H, GO, L)	—		MP5W-21
		NPN open collector (HH, H, GO, L, LL)	BCD dynamic		MP5W-22※3
		NPN open collector (HH, H, GO, L, LL)	PV transmission (DC0-20mA, DC4-20mA)		MP5W-24※3
		PNP open collector (HH, H, GO, L, LL)	PV transmission (DC0-20mA, DC4-20mA)		MP5W-25※3
		NPN open collector (HH, H, GO, L, LL)	RS485 communication		MP5W-28※3
		PNP open collector (HH, H, GO, L, LL)	RS485 communication		MP5W-29※3
100-240VAC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5W-4N
		Relay (HH, H, GO, L, LL)	—		MP5W-4A
		Relay (H, GO, L)	—		MP5W-41
		NPN open collector (HH, H, GO, L, LL)	BCD dynamic		MP5W-42※3
		NPN open collector (HH, H, GO, L, LL)	PV transmission (DC0-20mA, DC4-20mA)		MP5W-44※3
		PNP open collector (HH, H, GO, L, LL)	PV transmission (DC0-20mA, DC4-20mA)		MP5W-45※3
		NPN open collector (HH, H, GO, L, LL)	RS485 communication		MP5W-48※3
		PNP open collector (HH, H, GO, L, LL)	RS485 communication		MP5W-49※3
24VAC, 24-48VDC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5M-2N
		Relay (H)+NPN open collector	—		MP5M-21
		Relay (H, L)+NPN open collector	—		MP5M-22
100-240VAC	Max. 12VDC 80mA	Indicator	—	CE cULus	MP5M-4N
		Relay (H)+NPN open collector	—		MP5M-41
		Relay (H, L)+NPN open collector	—		MP5M-42

Display Units

Intelligent Display Unit / 7-Segment Display Unit / 16-Segment Display Unit / Panel Mount Type 5-Digit Display Unit

Series	Input Method	Input Logic	Display Method	Display Color	Display Characters
Intelligent Display Unit **DS/DA Series**※1 <DS16>  W16×H24×L39.5mm	Serial input	Positive logic (PNP), Negative logic (NPN)	■: Type S: 7-segment LED A: 16-segment LED	Red	Displays 64 types of character and sign (0 to 9, A to Z, 27 signs, dot)
				Green	Displays 64 types of character and sign (0 to 9, A to Z, 27 signs, dot)
<DS22/DA22>  W20×H33×L31.5mm	Parallel (dynamic parallel 1/2) input	Positive logic (PNP), Negative logic (NPN)	■: Type S: 7-segment LED A: 16-segment LED	Red	Displays 64 types of character and sign (0 to 9, A to Z, 27 signs, dot)
				Green	Displays 64 types of character and sign (0 to 9, A to Z, 27 signs, dot)
<DS40/DA40>  W40×H60×L17mm	RS485 communication input	—	■: Type S: 7-segment LED A: 16-segment LED	Red	Displays 64 types of character and sign (0 to 9, A to Z, 27 signs, dot)
				Green	Displays 64 types of character and sign (0 to 9, A to Z, 27 signs, dot)
<DS60/DA60>  W60×H96×L17mm	Pt temperature sensor input (DPt100Ω, JPt100Ω)	—	7-segment LED	Red	-50℃ to 400.0℃ or -58.0 to 752.0℉ (display accuracy ±5.0% F.S.)
	Pt temperature sensor input (DPt100Ω, JPt100Ω) +RS485 communication input	—	7-segment LED	Red	-50℃ to 400.0℃ or -58.0 to 752.0℉ (display accuracy ±5.0% F.S.)
	RS485 communication input (synchronous time display type)	—	7-segment LED	Red	World local time 12/24hour (supports summer time)
				Green	World local time 12/24hour (supports summer time)

※1. Expansion units and Unit-display unit (DU16, DU22) are available to order separately.

7-Segment Display Unit **D1SC-N**  W72×H96×L25.7mm	Serial input or Parallel (static/dynamic parallel) input	Positive logic (PNP), Negative logic (NPN)	7-segment LED	Red	Decimal: 0 to 9, dot, minus Hexadecimal: 0 to 9, A to F, dot, minus (set by switch)
7-Segment Display Unit **D1SA Series**※  W20×H33×L54mm	Serial input or Parallel (static/dynamic parallel) input	Positive logic (PNP), Negative logic (NPN)	7-segment LED	Red	Decimal: 0 to 9, dot Hexadecimal: 0 to 9, A to F, dot (set by switch)
				Green	Decimal: 0 to 9, dot Hexadecimal: 0 to 9, A to F, dot (set by switch)
16-Segment Display Unit **D1AA Series**※  W20×H33×L54mm	Serial input or Parallel (static/dynamic parallel) input	Positive logic (PNP), Negative logic (NPN)	16-segment LED	Red	61 characters and symbols (0 to 9, A to Z, 24 symbols, dot)
				Green	61 characters and symbols (0 to 9, A to Z, 24 symbols, dot)

※Accessory: Connector (CT-10S)
Sold separately: Right/Left fixing caps (D1□A-RN: DAR(L)-R, D1□A-GN: DAR(L)-BL)

Character Size (mm)	Current Consumption	Max. Multi Connections	Power Supply	Approval	Model
W9×H16	Max. 20mA	24	12-24VDC	CE	DS16-RS
W11.2×H22.5	Max. 25mA				D■22-RS
W22.4×H40	Max. 55mA				D■40-RS
W33.6×H60	Max. 65mA				D■60-RS
W9×H16	Max. 15mA	24	12-24VDC	CE	DS16-GS
W11.2×H22.5	Max. 20mA				D■22-GS
W22.4×H40	Max. 40mA				D■40-GS
W33.6×H60	Max. 45mA				D■60-GS
W11.2×H22.5	Max. 25mA	Dynamic parallel 1 (4-bit): 6 Dynamic parallel 1 (6-bit): 4 Dynamic parallel 2 (6-bit): 24	12-24VDC	CE	D■22-RP
W22.4×H40	Max. 55mA				D■40-RP
W33.6×H60	Max. 65mA				D■60-RP
W11.2×H22.5	Max. 20mA	Dynamic parallel 1 (4-bit): 6 Dynamic parallel 1 (6-bit): 4 Dynamic parallel 2 (6-bit): 24	12-24VDC	CE	D■22-GP
W22.4×H40	Max. 40mA				D■40-GP
W33.6×H60	Max. 45mA				D■60-GP
W9×H16	Max. 20mA	24	12-24VDC	CE	DS16-RT
W11.2×H22.5	Max. 25mA				D■22-RT
W22.4×H40	Max. 55mA				D■40-RT
W33.6×H60	Max. 65mA				D■60-RT
W9×H16	Max. 15mA	24	12-24VDC	CE	DS16-GT
W11.2×H22.5	Max. 20mA				D■22-GT
W22.4×H40	Max. 40mA				D■40-GT
W33.6×H60	Max. 45mA				D■60-GT
W11.2×H22.5	Max. 40mA	4	12-24VDC	CE	DS22-RR
W22.4×H40	Max. 55mA				DS40-RR
W33.6×H60	Max. 65mA				DS60-RR
W22.4×H40	Max. 55mA	4	12-24VDC	CE	DS40-RRT
W33.6×H60	Max. 65mA				DS60-RRT
W11.2×H22.5	Max. 25mA	10	12-24VDC	CE	DS22-RC
W22.4×H40	Max. 55mA				DS40-RC
W33.6×H60	Max. 65mA				DS60-RC
W11.2×H22.5	Max. 20mA	10	12-24VDC	CE	DS22-GC
W22.4×H40	Max. 40mA				DS40-GC
W33.6×H60	Max. 45mA				DS60-GC
W32×H57	Max. 70mA	∞	12-24VDC	—	D1SC-N
W11×H22	Max. 35mA	∞	12-24VDC	—	D1SA-RN
W11×H22	Max. 35mA	∞	12-24VDC	—	D1SA-GN
W11×H22	Max. 32mA	∞	12-24VDC	—	D1AA-RN
W11×H22	Max. 32mA	∞	12-24VDC	—	D1AA-GN

Display Units

Series	Input Method	Input Logic	Display Method	Display Color	Display Characters
Panel Mount Type 5-Digit Display Unit **D5Y**※  W72×H36×L91mm	Serial input or Parallel (static/dynamic parallel) input	Positive logic (PNP), Negative logic (NPN)	5-digit 7-segment LED	Red	4-digit: -9999 to 9999 5-digit: 0 to 99999 (set by switch)
Panel Mount Type 5-Digit Display Unit **D5W Series**※  W96×H48×L99.5mm	Serial input or Parallel (static/dynamic parallel) input	Positive logic (PNP), Negative logic (NPN)	5-digit 7-segment LED	Red	4-digit: -9999 to 9999 5-digit: 0 to 99999 (set by switch)

※Sold separately: Hirose connector socket (HIF3BA-26D-2.54R)

Character Size (mm)	Power Consumption	Power Supply	Approval	Model
W7×H14	Max. 1.1W	12-24VDC	—	D5Y-M
W7×H14	Max. 1.1W	12-24VDC	—	D5W-M
	Max. 2VA	110/220VAC	—	D5W-MX

Sensor Controllers

Multi, High Performance · General-Purpose Sensor Controller

Series	Input Logic	Number Of Connected Sensors	Power For External Sensor	Power Supply	Power Consumption
Multi, High Performance Sensor Controller **PA10 Series**  W38×H76×L82mm	NPN open collector	2 units	12VDC (approx. 200mA)	100-240VAC	Max.10VA
	NPN open collector & NPN universal	2 units	12VDC (approx. 200mA)	100-240VAC	Max. 10VA
	PNP open collector & PNP universal	2 units	12VDC (approx. 200mA)	100-240VAC	Max. 10VA
	NPN open collector & NPN universal	2 units	12VDC (approx. 200mA)	100-240VAC	Max. 10VA
	PNP open collector & PNP universal	2 units	12VDC (approx. 200mA)	100-240VAC	Max. 10VA
8-Pin Plug Type General-Purpose, Sensor Controller **PA-12 Series**  W50×H80×L70mm	NPN open collector & NPN universal / PNP open collector & PNP universal (set by switch)	1 unit	12VDC (approx. 50mA)	110/220VAC (set by switch)	Max. 4VA
	NPN open collector & NPN universal	1 unit	12VDC (approx. 30mA)	110/220VAC	Max. 4VA
	PNP open collector & PNP universal	1 unit	12VDC (approx. 30mA)	110/220VAC	Max. 4VA

※ Sold separately: 8-pin socket(PG-08, PS-08(N))

Input Operation	Operation Mode	Control Output	Ambient Temperature	Model
Input signal reverse, OR/AND, IN2 derivative action	11 (ON delay mode, OFF delay mode, one-shot delay mode, flicker mode, flicker one-shot mode, low-speed detection mode, high-speed detection mode, ON/OFF delay mode, normal mode, flip-flop mode, encoder mode)	Relay SPDT(1c): 1, NPN open collector: 2	-10 to 55℃	PA10-U
Input signal reverse, AND operation	—	Relay SPDT(1c): 1 NPN open collector: 1	-10 to 55℃	PA10-V
Input signal reverse, AND operation	—	Relay SPDT(1c): 1 NPN open collector: 1	-10 to 55℃	PA10-VP
Input signal reverse, Individual operation	—	Relay SPDT(1c): 2	-10 to 55℃	PA10-W
Input signal reverse, Individual operation	—	Relay SPDT(1c): 2	-10 to 55℃	PA10-WP
—	—	Relay SPDT(1c): 1	-10 to 50℃	PA-12
—	—	NPN open collector: 1	-10 to 50℃	PA-12-PG
—	—	PNP open collector: 1	-10 to 50℃	PA-12-PGP

Switching Mode Power Supplies

General-Purpose SMPS / DIN Rail Mount Type SMPS

Series	Output Power	Input Voltage	Permissible Voltage	Output		Mounting	
				Voltage	Current	DIN Rail	Using Bolts
General-Purpose SMPS **SPA Series** <SPA-030/050>	30W	100-240VAC	85-264VAC	5VDC	6A	—	●
				12VDC	2.5A		
				24VDC	1.5A		
	50W	100-240VAC	85-264VAC	5VDC	10A	—	●
				12VDC	4.2A		
				24VDC	2.1A		
W97×H40×L120mm <SPA-075/100>	75W	100-120/200-240VAC	85-132/170-264VAC	5VDC	15A	—	●
				12VDC	6.3A		
				24VDC	3.2A		
	100W	100-120/200-240VAC	100-132/190-264VAC	5VDC	20A	—	●
			85-132/170-264VAC	12VDC	8.5A		
W97×H42×L160mm				24VDC	4.2A		
DIN Rail Mount Type SMPS **SPB Series** <SPB-030> W30×H90×L90mm	15W	100-240VAC	85-264VAC/120-370VDC	5VDC	3A	●	—
	15.6W	100-240VAC	85-264VAC/120-370VDC	12VDC	1.3A	●	—
				24VDC	0.65A	●	—
<SPB-015> W22.5×H90×L90mm	25W	100-240VAC	85-264VAC/120-370VDC	5VDC	5A	●	—
	30W	100-240VAC	85-264VAC/120-370VDC	12VDC	2.5A	●	—
<SPB-120> W50×H115×L110mm	31.2W	100-240VAC	85-264VAC/120-370VDC	24VDC	1.3A	●	—
	60W	100-240VAC	85-264VAC/120-370VDC	12VDC	5A	●	—
				24VDC	2.5A	●	—
<SPB-060> W36×H100×L110mm	62.4W	100-240VAC	85-264VAC/120-370VDC	48VDC	1.3A	●	—
	96W	100-240VAC	85-264VAC/120-370VDC	12VDC	8A	●	—
<SPB-240>	120W	100-240VAC	85-264VAC/120-370VDC	24VDC	5A	●	—
				48VDC	2.5A	●	—
	240W	100-240VAC	85-264VAC/120-370VDC	12VDC	20A	●	—
				24VDC	10A	●	—
W80×H115×L110mm				48VDC	5A	●	—
DIN Rail Mount Type SMPS **SP Series**	3W	100-240VAC	85-264VAC	5VDC	0.6A	●	●
				12VDC	0.25A	●	●
W37.5×H75×L65mm				24VDC	0.13A	●	●

Protection							Approval	Model
Over-Current	Over-Voltage	Inrush Current	Output Short-Circuit	Output Low-Voltage Indicate	Power Factor Correction	Terminal Cover		
●	—	●	●	—	—	—	—	SPA-030-05
							CE	SPA-030-12
								SPA-030-24
●	—	●	●	—	—	—	—	SPA-050-05
							CE	SPA-050-12
								SPA-050-24
●	●	●	●	—	—	—	—	SPA-075-05
								SPA-075-12
								SPA-075-24
●	●	●	●	—	—	—	—	SPA-100-05
								SPA-100-12
								SPA-100-24
●	—	●	●	●	—	—	CE	SPB-015-05
●	—	●	●	●	—	—	CE	SPB-015-12
●	—	●	●	●	—	—	CE	SPB-015-24
●	—	●	●	●	—	—	CE	SPB-030-05
●	—	●	●	●	—	—	CE	SPB-030-12
●	—	●	●	●	—	—	CE	SPB-030-24
●	—	●	●	●	—	●	CE	SPB-060-12
●	—	●	●	●	—	●	CE	SPB-060-24
●	—	●	●	●	—	●	CE	SPB-060-48
●	●	●	●	●	●	●	CE	SPB-120-12
●	●	●	●	●	●	●	CE	SPB-120-24
●	●	●	●	●	●	●	CE	SPB-120-48
●	●	●	●	●	●	●	CE	SPB-240-12
●	●	●	●	●	●	●	CE	SPB-240-24
●	●	●	●	●	●	●	CE	SPB-240-48
●	—	—	●	—	—	—	—	SP-0305
●	—	—	●	—	—	—	—	SP-0312
●	—	—	●	—	—	—	—	SP-0324

Graphic / Logic Panels

4.4 inch, STN LCD (Mono) Graphic Panel / 5.7 inch, STN LCD (Mono) Graphic Panel /

Series	Display Specifications				Graphic Drawing Memory	Touch Method
	LCD Type	Resolution	Display Area	Color		
4.4 inch, STN LCD (Mono) Graphic Panel **GP-S044 Series**  W145×H75×L38mm	4.4 inch STN Blue Negative	240×80 pixel	112.8×37.6mm	MONO (blue, white)	512KB	Pressure sensitive type
5.7 inch, STN LCD (Mono) Graphic Panel **GP-S057 Series**  W156×H132×L35.5mm	5.7 inch STN Blue Negative	320×240 pixel	119×91mm	MONO (blue, white)	512KB	Pressure sensitive type
7 inch, TFT LCD (Color) Graphic Panel **GP-S070 Series**  W194×H134×L35mm	7 inch TFT Color LCD	800×480 pixel	152.4×91.44mm	16,777,216 colors	16MB	Pressure sensitive type

※1. Ethernet communication is available only for data upload/download of the dedicated software.

Series	Display Specifications				Graphic Drawing Memory	Touch Method	Control Performance			I/O Configuration
	LCD Type	Resolution	Display Area	Color			Program Capacity	Processing Time	Command	
4.4 inch, STN LCD (Mono) Logic Panel **LP-S044 Series**  W145×H75×L54.5mm	4.4 inch STN Blue Negative	240×80 pixel	112.8×37.6mm	MONO (blue, white)	384KB	Pressure sensitive type	8K steps	Average: 6 to 7μs/ steps	Basic command : 28 Application command : 220	NPN input : 16-point NPN output : 16-point
7 inch, TFT LCD (Color) Logic Panel **LP-S070 Series**  W194×H134×L35mm	7 inch TFT Color LCD	800×480 pixel	152.4×91.44mm	16,777,216 colors	16MB	Pressure sensitive type	8K steps	Average: 2μs/ steps	Basic command : 28 Application command : 233	NPN input : 16-point NPN output : 16-point

※1. Ethernet communication is available only for data upload/download of the dedicated software.

Interface					Power Supply	Protection Structure	Dedicated Software	Approval	Model
RS232C	RS422	USB (Host)	USB (Device)	Ethernet※1					
1	1	—	—	—	24VDC	IP65F (front panel)	GP Editor (drawing program)	CE	GP-S044-S1D0
2	—	—	—	—	24VDC	IP65F (front panel)	GP Editor (drawing program)	CE	GP-S044-S1D1
1	1	—	—	—	24VDC	IP65F (front panel)	GP Editor (drawing program)	CE	GP-S057-S1D0
2	—	—	—	—	24VDC	IP65F (front panel)	GP Editor (drawing program)	CE	GP-S057-S1D1
1	1	1	1	1	24VDC	IP65F (front panel)	GP Editor (drawing program)	CE	GP-S070-T9D6
2	—	1	1	1	24VDC	IP65F (front panel)	GP Editor (drawing program)	CE	GP-S070-T9D7

Interface					I/O Connector Type		Power Supply	Protection Structure	Dedicated Software	Approval	Model
RS232C	RS422	USB (Host)	USB (Device)	Ethernet※1	Terminal Block	Ribbon Cable					
1	1	—	—	—	●	—	24VDC	IP65F (front panel)	GP Editor (drawing program) SmartStudio (logic program)	CE	LP-S044-S1D0-C5T-A
					—	●					LP-S044-S1D0-C5R-A
2	—	—	—	—	●	—	24VDC	IP65F (front panel)	GP Editor (drawing program) SmartStudio (logic program)	CE	LP-S044-S1D1-C5T-A
					—	●					LP-S044-S1D1-C5R-A
1	1	1	1	1	●	—	24VDC	IP65F (front panel)	GP Editor (drawing program) SmartStudio (logic program)	CE	LP-S070-T9D6-C5T
					—	●					LP-S070-T9D6-C5R
2	—	1	1	1	●	—	24VDC	IP65F (front panel)	GP Editor (drawing program) SmartStudio (logic program)	CE	LP-S070-T9D7-C5T
					—	●					LP-S070-T9D7-C5R

Field Network Devices

DeviceNet Digital Remote I/O, Standard Terminal Block · Sensor Connector Type /
USB ↔ RS485 · RS232C↔RS485 · USB↔Serial Converter

Series	Network	Type		Number Of I/Os	
		Digital	Analog	Input	Output
DeviceNet Digital Remote I/O Standard Terminal Block **ARD-D Series**  W105×H52×L38.5mm	DeviceNet	●	—	8-point (AC voltage)	—
				16-point (NPN)	—
				16-point (PNP)	—
	DeviceNet	●	—	—	8-point (relay)
				—	8-point (SSR)
				—	16-point (NPN)
				—	16-point (PNP)
	DeviceNet	●	—	8-point (NPN)	8-point (NPN)
				8-point (PNP)	8-point (PNP)
DeviceNet Digital Remote I/O Sensor Connector Type **ARD-D Series**  W26×H76×L54mm	DeviceNet	●	—	8-point (NPN)	—
				8-point (PNP)	—
	DeviceNet	●	—	—	8-point (NPN)
				—	8-point (PNP)
DeviceNet Analog Remote I/O Standard Terminal Block **ARD-A Series**  W105×H52×L38.5mm	DeviceNet	—	●	4-CH (switchable DC voltage / current)	—
	DeviceNet	—	●	—	4-CH (DC voltage 2-CH, DC current 2-CH)
Modbus Digital Remote I/O Sensor Connector Type **ARM Series**  W26×H76×L54mm	Modbus	●	—	8-point (NPN)	—
				8-point (PNP)	—
	Modbus	●	—	—	8-point (NPN)
				—	8-point (PNP)

※1. Expansion units (ARD-D□□□E) of ARD-D Series (digital, terminal block type) are available to order separately.

※2. Expansion units (ARX-D□□□-4S) of ARD-D Series (digital, sensor connector type) are available to order separately.

※3. Expansion units (ARX-D□□□-4S) of ARM Series (digital, sensor connector type) are available to order separately.

I/O Specifications	Structure	Power Supply	Protection Structure	Approval	Model
Voltage: 75-250VAC Current: 13mA/point	Basic unit※1	24VDC	IP20	DeviceNet	ARD-DI08A
Voltage: 10-28VDC Current: 10mA/point				CE DeviceNet	ARD-DI16N
Voltage: 10-28VDC Current: 10mA/point				CE DeviceNet	ARD-DI16P
Normally open (N.O.) 250VAC 2A 1a	Basic unit※1	24VDC	IP20	DeviceNet	ARD-DO08R
Voltage: 30-250VAC Current: 1A/point				DeviceNet	ARD-DO08S
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: 0.5A/point (leakage current: max. 0.5mA)				CE DeviceNet	ARD-DO16N
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: 0.5A/point (leakage current: max. 0.5mA)				CE DeviceNet	ARD-DO16P
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: Input 10mA, Output 0.5A/point (leakage current: max. 0.5mA)	Basic unit※1	24VDC	IP20	CE DeviceNet	ARD-DX16N
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: Input 10mA, Output 0.5A/point (leakage current:max. 0.5mA)				CE DeviceNet	ARD-DX16P
Voltage: 10-28VDC Current: 10mA/point (sensor supplied current: 150mA/point)	Basic unit※2	24VDC	IP20	CE DeviceNet	ARD-DI08N-4S
Voltage: 10-28VDC Current: 10mA/point (sensor supplied current: 150mA/point)					ARD-DI08P-4S
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: 0.3A/point (leakage current: max. 0.5mA)	Basic unit※2	24VDC	IP20	CE DeviceNet	ARD-DO08N-4S
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: 0.3A/point (leakage current: max. 0.5mA)					ARD-DO08P-4S
Voltage: 0-10VDC, -10-10VDC, 0-5VDC, 1-5VDC, -5-5VDC (input impedance: max. 1MΩ) Current: DC4-20mA, DC0-20mA (input impedance: 250Ω)	Basic unit	24VDC	IP20	CE DeviceNet	ARD-AI04
Voltage: 0-10VDC, -10-10VDC, 0-5VDC, 1-5VDC, -5-5VDC (load resistance: max. 1kΩ) Current: DC4-20mA, DC0-20mA (load resistance: 600Ω)	Basic unit	24VDC	IP20	CE, DeviceNet compatible	ARD-AO04
Voltage: 10-28VDC Current: 10mA/point (sensor supplied current: 150mA/point)	Basic unit※3	24VDC	IP20	CE	ARM-DI08N-4S
Voltage: 10-28VDC Current: 10mA/point (sensor supplied current: 150mA/point)					ARM-DI08P-4S
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: 0.3A/point (leakage current: max. 0.5mA)	Basic unit※3	24VDC	IP20	CE	ARM-DO08N-4S
Voltage: 10-28VDC (voltage drop: max. 0.5V) Current: 0.3A/point (leakage current: max. 0.5mA)					ARM-DO08P-4S

Field Network Devices

DeviceNet Digital Remote I/O, Standard Terminal Block · Sensor Connector Type /
USB ↔ RS485 · RS232C↔RS485 · USB↔Serial Converter

Series	Converting Signal	Available Communication Distance	Insulation	
			Insulated	Non-Insulated
USB/RS485 Converter **SCM-US48I**  W39×H23.5×L75.5mm	USB ↔ RS485	USB: Max. 1m ± 30% RS485: Max. 1.2km	●	—
RS232C/RS485 Converter **SCM-38I**  W39×H23.5×L75.5mm	RS232C ↔ RS485	RS485: Max. 1.2km	●	—
USB/Serial Converter **SCM-US**  W52×H18×L8mm	USB ↔ Serial	1.5m (not extended)	—	●

Connection Method	Power Supply	Protection Structure	Approval	Model
USB: B type connector RS485: 4-wire screw terminal (2-wire communication method)	5VDC USB bus power	—	CE	SCM-US48I
RS232C: D-sub 9-pin RS485: 4-wire screw terminal (2-wire communication method)	12-24VDC	—	CE	SCM-38I
USB: A type connector Earphone-jack (4-stereo phone plug)	5VDC USB bus power	—	CE	SCM-US

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MOTION DEVICES

Stepper Motors · Stepper Motor Drivers · Motion Controllers

Stepper Motors

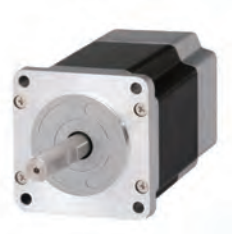
Frame Size 24mm·42mm·60mm·85mm·Shaft Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Shaft+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Geared+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 60mm Rotary Actuator+Built-in Brake Type·5-Phase Stepper Motor /

Series	Basic Step Angle [FULL/HALF]	Max. Holding Torque [kgf·cm]	Rotor Moment Of Inertia [g·cm^2]	Winding Resistance [Ω]	Rated Current [A/Phase]
Frame Size 24mm, Shaft Type, 5-Phase Stepper Motor **K Series** 	0.72º/0.36º	0.18	4.2	1.1	0.75
		0.28	8.2	1.7	0.75
Frame Size 42mm, Shaft Type, 5-Phase Stepper Motor **AK Series** 	0.72º/0.36º	1.3	35	1.7	0.75
					1.4
		1.8	54	2.2	0.75
					1.4
		2.4	68	2.2	0.75
					1.4

Motor Length [mm]	Shaft Type	Wire Connection	Protection Structure	Approval	Model
30.5	Single shaft	Pentagon	IP30	CE	02K-S523
	Dual shaft	Pentagon	IP30	CE	02K-S523W
46.5	Single shaft	Pentagon	IP30	CE	04K-S525
	Dual shaft	Pentagon	IP30	CE	04K-S525W
33	Single shaft	Pentagon	IP30	CE	A1K-S543
	Dual shaft	Pentagon	IP30	CE	A1K-S543W
	Single shaft	Standard	IP30	CE	A1K-S543-S
	Dual shaft	Standard	IP30	CE	A1K-S543W-S
33	Single shaft	Pentagon	IP30	CE	A1K-M543
	Dual shaft	Pentagon	IP30	CE	A1K-M543W
39	Single shaft	Pentagon	IP30	CE	A2K-S544
	Dual shaft	Pentagon	IP30	CE	A2K-S544W
	Single shaft	Standard	IP30	CE	A2K-S544-S
	Dual shaft	Standard	IP30	CE	A2K-S544W-S
39	Single shaft	Pentagon	IP30	CE	A2K-M544
	Dual shaft	Pentagon	IP30	CE	A2K-M544W
47	Single shaft	Pentagon	IP30	CE	A3K-S545
	Dual shaft	Pentagon	IP30	CE	A3K-S545W
	Single shaft	Standard	IP30	CE	A3K-S545-S
	Dual shaft	Standard	IP30	CE	A3K-S545W-S
47	Single shaft	Pentagon	IP30	CE	A3K-M545
	Dual shaft	Pentagon	IP30	CE	A3K-M545W

Stepper Motors

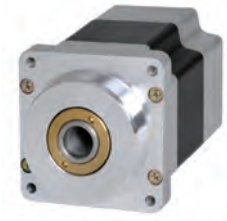
Frame Size 24mm·42mm·60mm·85mm·Shaft Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Shaft+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Geared+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 60mm Rotary Actuator+Built-in Brake Type·5-Phase Stepper Motor /

Series	Basic Step Angle [FULL/HALF]	Max. Holding Torque [kgf·cm]	Rotor Moment Of Inertia [g·cm^2]	Winding Resistance [Ω]	Rated Current [A/Phase]
Frame Size 60mm, Shaft Type, 5-Phase Stepper Motor **AK Series** 	0.72º/0.36º	4.2	175	2.6	0.75
				0.8	1.4
				0.26	2.8
		8.3	280	4	0.75
				1.1	1.4
				0.35	2.8
		16.6	560	1.8	1.4
				0.56	2.8
Frame Size 85mm, Shaft Type, 5-Phase Stepper Motor **AK Series** 	0.72º/0.36º	21	1400	1.76	1.4
				0.4	2.8
		41	2700	2.6	1.4
				0.58	2.8
		63	4000	3.92	1.4
				0.86	2.8

Motor Length [mm]	Shaft Type	Wire Connection	Protection Structure	Approval	Model
48.5	Single shaft	Pentagon	IP30	CE	A4K-S564
	Dual shaft	Pentagon	IP30		A4K-S564W
	Single shaft	Standard	IP30	CE	A4K-S564-S
	Dual shaft	Standard	IP30		A4K-S564W-S
	Single shaft	Pentagon	IP30	CE	A4K-S564H
	Dual shaft	Pentagon	IP30		A4K-S564HW
48.5	Single shaft	Pentagon	IP30	CE	A4K-M564
	Dual shaft	Pentagon	IP30		A4K-M564W
	Single shaft	Standard	IP30	CE	A4K-M564-S
	Dual shaft	Standard	IP30		A4K-M564W-S
	Single shaft	Pentagon	IP30	CE	A4K-M564H
	Dual shaft	Pentagon	IP30		A4K-M564HW
48.5	Single shaft	Pentagon	IP30	CE	A4K-G564
	Dual shaft	Pentagon	IP30		A4K-G564W
59.5	Single shaft	Pentagon	IP30	CE	A8K-S566
	Dual shaft	Pentagon	IP30		A8K-S566W
	Single shaft	Standard	IP30	CE	A8K-S566-S
	Dual shaft	Standard	IP30		A8K-S566W-S
	Single shaft	Pentagon	IP30	CE	A8K-S566H
	Dual shaft	Pentagon	IP30		A8K-S566HW
59.5	Single shaft	Pentagon	IP30	CE	A8K-M566
	Dual shaft	Pentagon	IP30		A8K-M566W
	Single shaft	Standard	IP30	CE	A8K-M566-S
	Dual shaft	Standard	IP30		A8K-M566W-S
	Single shaft	Pentagon	IP30	CE	A8K-M566H
	Dual shaft	Pentagon	IP30		A8K-M566HW
59.5	Single shaft	Pentagon	IP30	CE	A8K-G566
	Dual shaft	Pentagon	IP30		A8K-G566W
89	Single shaft	Pentagon	IP30	CE	A16K-M569
	Dual shaft	Pentagon	IP30		A16K-M569W
	Single shaft	Standard	IP30	CE	A16K-M569-S
	Dual shaft	Standard	IP30		A16K-M569W-S
	Single shaft	Pentagon	IP30	CE	A16K-M569H
	Dual shaft	Pentagon	IP30		A16K-M569HW
89	Single shaft	Pentagon	IP30	CE	A16K-G569
	Dual shaft	Pentagon	IP30		A16K-G569W
	Single shaft	Standard	IP30	CE	A16K-G569-S
	Dual shaft	Standard	IP30		A16K-G569W-S
	Single shaft	Pentagon	IP30	CE	A16K-G569H
	Dual shaft	Pentagon	IP30		A16K-G569HW
68	Single shaft	Pentagon	IP30	CE	A21K-M596
	Dual shaft	Pentagon	IP30		A21K-M596W
	Single shaft	Standard	IP30	CE	A21K-M596-S
	Dual shaft	Standard	IP30		A21K-M596W-S
68	Single shaft	Pentagon	IP30	CE	A21K-G596
	Dual shaft	Pentagon	IP30		A21K-G596W
	Single shaft	Standard	IP30	CE	A21K-G596-S
	Dual shaft	Standard	IP30		A21K-G596W-S
98	Single shaft	Pentagon	IP30	CE	A41K-M599
	Dual shaft	Pentagon	IP30		A41K-M599W
	Single shaft	Standard	IP30	CE	A41K-M599-S
	Dual shaft	Standard	IP30		A41K-M599W-S
98	Single shaft	Pentagon	IP30	CE	A41K-G599
	Dual shaft	Pentagon	IP30		A41K-G599W
	Single shaft	Standard	IP30	CE	A41K-G599-S
	Dual shaft	Standard	IP30		A41K-G599W-S
128	Single shaft	Pentagon	IP30	CE	A63K-M5913
	Dual shaft	Pentagon	IP30		A63K-M5913W
	Single shaft	Standard	IP30	CE	A63K-M5913-S
	Dual shaft	Standard	IP30		A63K-M5913W-S
128	Single shaft	Pentagon	IP30	CE	A63K-G5913
	Dual shaft	Pentagon	IP30		A63K-G5913W
	Single shaft	Standard	IP30	CE	A63K-G5913-S
	Dual shaft	Standard	IP30		A63K-G5913W-S

Stepper Motors

Frame Size 24mm·42mm·60mm·85mm·Shaft Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Shaft+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Geared+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 60mm Rotary Actuator+Built-in Brake Type·5-Phase Stepper Motor /

Series	Basic Step Angle [FULL/HALF]	Max. Holding Torque [kgf·cm]	Rotor Moment Of Inertia [g·cm^2]	Winding Resistance [Ω]	Rated Current [A/Phase]
Frame Size 42mm, Hollow Shaft Type, 5-Phase Stepper Motor **AHK Series** 	0.72º/0.36º	1.3	35	1.7	0.75
		1.8	54	2.2	0.75
		2.4	68	2.2	0.75
Frame Size 60mm, Hollow Shaft Type, 5-Phase Stepper Motor **AHK Series** 	0.72º/0.36º	4.2	175	2.6	0.75
				0.8	1.4
		8.3	280	4	0.75
				1.1	1.4
		16.6	560	1.8	1.4
				0.56	2.8
Frame Size 85mm, Hollow Shaft Type, 5-Phase Stepper Motor **AHK Series** 	0.72º/0.36º	21	1400	1.76	1.4
				0.4	2.8
		41	2700	2.6	1.4
				0.58	2.8
		63	4000	3.92	1.4
				0.86	2.8

Series	Basic Step Angle [FULL/HALF]	Max. Holding Torque [kgf·cm]	Rotor Moment Of Inertia [g·cm^2]	Winding Resistance [Ω]	Rated Current [A/Phase]
Frame Size 42mm, Shaft+Built-in Brake Type, 5-Phase Stepper Motor **AK-B Series** 	0.72º/0.36º	1.3	35	1.7	0.75
		1.8	54	2.2	0.75
		2.4	68	2.2	0.75
Frame Size 60mm, Shaft+Built-in Brake Type, 5-Phase Stepper Motor **AK-B Series** 	0.72º/0.36º	4.2	175	2.6	0.75
				0.8	1.4
		8.3	280	4	0.75
				1.1	1.4
		16.6	560	1.8	1.4
				0.56	2.8
Frame Size 85mm, Shaft+Built-in Brake Type, 5-Phase Stepper Motor **AK-B Series** 	0.72º/0.36º	21	1400	1.76	1.4
				0.4	2.8
		41	2700	2.6	1.4
				0.58	2.8
		63	4000	3.92	1.4
				0.86	2.8

Motor Length [mm]	Shaft Type	Wire Connection	Protection Structure	Approval	Model
33	Single shaft	Pentagon	IP30	CE	AH1K-S543
39	Single shaft	Pentagon	IP30	CE	AH2K-S544
47	Single shaft	Pentagon	IP30	CE	AH3K-S545
48.5	Single shaft	Pentagon	IP30	CE	AH4K-S564
		Standard	IP30		AH4K-S564-S
	Dual shaft	Pentagon	IP30		AH4K-S564W
48.5	Single shaft	Pentagon	IP30	CE	AH4K-M564
	Dual shaft	Pentagon	IP30		AH4K-M564W
59.5	Single shaft	Pentagon	IP30	CE	AH8K-S566
	Dual shaft	Pentagon	IP30		AH8K-S566W
59.5	Single shaft	Pentagon	IP30	CE	AH8K-M566
	Dual shaft	Pentagon	IP30		AH8K-M566W
89	Single shaft	Pentagon	IP30	CE	AH16K-M569
	Dual shaft	Pentagon	IP30		AH16K-M569W
89	Single shaft	Pentagon	IP30	CE	AH16K-G569
	Dual shaft	Pentagon	IP30		AH16K-G569W
68	Single shaft	Pentagon	IP30	CE	AH21K-M596
	Dual shaft	Pentagon	IP30		AH21K-M596W
68	Single shaft	Pentagon	IP30	CE	AH21K-G596
	Dual shaft	Pentagon	IP30		AH21K-G596W
98	Single shaft	Pentagon	IP30	CE	AH41K-M599
	Dual shaft	Pentagon	IP30		AH41K-M599W
98	Single shaft	Pentagon	IP30	CE	AH41K-G599
	Dual shaft	Pentagon	IP30		AH41K-G599W
128	Single shaft	Pentagon	IP30	CE	AH63K-M5913
	Dual shaft	Pentagon	IP30		AH63K-M5913W
128	Single shaft	Pentagon	IP30	CE	AH63K-G5913
	Dual shaft	Pentagon	IP30		AH63K-G5913W

Motor Length [mm]	Shaft Type	Wire Connection	Protection Structure	Approval	Model
56	Single shaft	Pentagon	IP30	CE	A1K-S543-B
62	Single shaft	Pentagon	IP30	CE	A2K-S544-B
70	Single shaft	Pentagon	IP30	CE	A3K-S545-B
75	Single shaft	Pentagon	IP30	CE	A4K-S564-B
		Standard	IP30		A4K-S564-SB
75	Single shaft	Pentagon	IP30	CE	A4K-M564-B
		Standard	IP30		A4K-M564-SB
86	Single shaft	Pentagon	IP30	CE	A8K-S566-B
		Standard	IP30		A8K-S566-SB
86	Single shaft	Pentagon	IP30	CE	A8K-M566-B
		Standard	IP30		A8K-M566-SB
		Pentagon	IP30		A8K-M566H-B
115.5	Single shaft	Pentagon	IP30	CE	A16K-M569-B
		Standard	IP30		A16K-M569-SB
115.5	Single shaft	Pentagon	IP30	CE	A16K-G569-B
		Standard	IP30		A16K-G569-SB
103	Single shaft	Pentagon	IP30	CE	A21K-M596-B
		Standard	IP30		A21K-M596-SB
103	Single shaft	Pentagon	IP30	CE	A21K-G596-B
		Standard	IP30		A21K-G596-SB
133	Single shaft	Pentagon	IP30	CE	A41K-M599-B
		Standard	IP30		A41K-M599-SB
133	Single shaft	Pentagon	IP30	CE	A41K-G599-B
		Standard	IP30		A41K-G599-SB
163	Single shaft	Pentagon	IP30	CE	A63K-M5913-B
		Standard	IP30		A63K-M5913-SB
163	Single shaft	Pentagon	IP30	CE	A63K-G5913-B
		Standard	IP30		A63K-G5913-SB

Stepper Motors

Frame Size 24mm·42mm·60mm·85mm·Shaft Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Shaft+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Geared+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 60mm Rotary Actuator+Built-in Brake Type·5-Phase Stepper Motor /

Series	Basic Step Angle [FULL/HALF]	Max. Allowable Torque [kgf·cm]	Rotor Moment Of Inertia [g·cm^2]	Winding Resistance [Ω]	Rated Current [A/Phase]
Frame Size 42mm, Geared Type, 5-Phase Stepper Motor **AK-G Series** 	0.72º/0.36º	10	68	2.2	0.75
		15	68	2.2	0.75
Frame Size 60mm, Geared Type, 5-Phase Stepper Motor **AK-G Series** 	0.72º/0.36º	35	280	1.1	1.4
		40	280	1.1	1.4
		50	280	1.1	1.4
Frame Size 85mm, Shaft+Built-in Brake Type 5-Phase Stepper Motor **AK-G Series** 	0.72º/0.36º	140	2700	2.6	1.4
				0.58	2.8
		200	2700	2.6	1.4
				0.58	2.8
				2.6	1.4
				0.58	2.8
Frame Size 42mm, Geared+Built-in Brake Type, 5-Phase Stepper Motor **AK-GB Series** 	0.72º/0.36º	3	68	2.2	0.75
		10	68	2.2	0.75
		15	68	2.2	0.75
Frame Size 60mm, Geared+Built-in Brake Type, 5-Phase Stepper Motor **AK-GB Series** 	0.72º/0.36º	35	280	1.1	1.4
		40	280	1.1	1.4
		50	280	1.1	1.4
Frame Size 85mm, Geared+Built-in Brake Type, 5-Phase Stepper Motor **AK-GB Series** 	0.72º/0.36º	140	2700	2.6	1.4
				0.58	2.8
		200	2700	2.6	1.4
				0.58	2.8
				2.6	1.4
				0.58	2.8
Frame Size 60mm, Rotary Actuator Type, 5-Phase Stepper Motor **AK-R Series** 	0.72º/0.36º	35	280	1.1	1.4
		40	280	1.1	1.4
		50	280	1.1	1.4

Motor Length [mm]	Shaft Type	Gear Ratio	Wire Connection	Protection Structure	Approval	Model
74.5	Single shaft	1 : 5	Pentagon	IP30	CE	A10K-S545-G5
	Dual shaft	1 : 5	Pentagon	IP30	CE	A10K-S545W-G5
74.5	Single shaft	1 : 7.2	Pentagon	IP30	CE	A15K-S545-G7.2
	Dual shaft	1 : 7.2	Pentagon	IP30	CE	A15K-S545W-G7.2
	Single shaft	1 : 10	Pentagon	IP30	CE	A15K-S545-G10
	Dual shaft	1 : 10	Pentagon	IP30	CE	A15K-S545W-G10
94.5	Single shaft	1 : 5	Pentagon	IP30	CE	A35K-M566-G5
	Dual shaft	1 : 5	Pentagon	IP30	CE	A35K-M566W-G5
94.5	Single shaft	1 : 7.2	Pentagon	IP30	CE	A40K-M566-G7.2
	Dual shaft	1 : 7.2	Pentagon	IP30	CE	A40K-M566W-G7.2
94.5	Single shaft	1 : 10	Pentagon	IP30	CE	A50K-M566-G10
	Dual shaft	1 : 10	Pentagon	IP30	CE	A50K-M566W-G10
145	Single shaft	1 : 5	Pentagon	IP30	CE	A140K-M599-G5
	Dual shaft	1 : 5	Pentagon	IP30	CE	A140K-M599W-G5
145	Single shaft	1 : 5	Pentagon	IP30	CE	A140K-G599-G5
	Dual shaft	1 : 5	Pentagon	IP30	CE	A140K-G599W-G5
145	Single shaft	1 : 7.2	Pentagon	IP30	CE	A200K-M599-G7.2
	Dual shaft	1 : 7.2	Pentagon	IP30	CE	A200K-M599W-G7.2
145	Single shaft	1 : 7.2	Pentagon	IP30	CE	A200K-G599-G7.2
	Dual shaft	1 : 7.2	Pentagon	IP30	CE	A200K-G599W-G7.2
145	Single shaft	1 : 10	Pentagon	IP30	CE	A200K-M599-G10
	Dual shaft	1 : 10	Pentagon	IP30	CE	A200K-M599W-G10
145	Single shaft	1 : 10	Pentagon	IP30	CE	A200K-G599-G10
	Dual shaft	1 : 10	Pentagon	IP30	CE	A200K-G599W-G10
97.5	Single shaft	1 : 10	Pentagon	IP30	CE	A3K-S545-GB10
97.5	Single shaft	1 : 5	Pentagon	IP30	CE	A10K-S545-GB5
97.5	Single shaft	1 : 7.2	Pentagon	IP30	CE	A15K-S545-GB7.2
		1 : 10	Pentagon	IP30	CE	A15K-S545-GB10
121	Single shaft	1 : 5	Pentagon	IP30	CE	A35K-M566-GB5
121	Single shaft	1 : 7.2	Pentagon	IP30	CE	A40K-M566-GB7.2
121	Single shaft	1 : 10	Pentagon	IP30	CE	A50K-M566-GB10
180	Single shaft	1 : 5	Pentagon	IP30	CE	A140K-M599-GB5
180	Single shaft	1 : 5	Pentagon	IP30	CE	A140K-G599-GB5
180	Single shaft	1 : 7.2	Pentagon	IP30	CE	A200K-M599-GB7.2
180	Single shaft	1 : 7.2	Pentagon	IP30	CE	A200K-G599-GB7.2
180	Single shaft	1 : 10	Pentagon	IP30	CE	A200K-M599-GB10
180	Single shaft	1 : 10	Pentagon	IP30	CE	A200K-G599-GB10
93.5	Single shaft	1 : 5	Pentagon	IP30	CE	A35K-M566-R5
	Dual shaft	1 : 5	Pentagon	IP30	CE	A35K-M566W-R5
93.5	Single shaft	1 : 7.2	Pentagon	IP30	CE	A40K-M566-R7.2
	Dual shaft	1 : 7.2	Pentagon	IP30	CE	A40K-M566W-R7.2
93.5	Single shaft	1 : 10	Pentagon	IP30	CE	A50K-M566-R10
	Dual shaft	1 : 10	Pentagon	IP30	CE	A50K-M566W-R10

Stepper Motors

Frame Size 24mm·42mm·60mm·85mm·Shaft Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Shaft+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 42mm·60mm·85mm Geared+Built-in Brake Type·5-Phase Stepper Motor /
Frame Size 60mm Rotary Actuator+Built-in Brake Type·5-Phase Stepper Motor /

Series	Basic Step Angle [FULL/HALF]	Max. Allowable Torque [kgf·cm]	Rotor Moment Of Inertia [g·cm^2]	Winding Resistance [Ω]	Rated Current [A/Phase]
Frame Size 60mm Rotary Actuator+ Built-in Brake Type, 5-Phase Stepper Motor **AK-RB Series** 	0.72º/0.36º	35	280	1.1	1.4
		40	280	1.1	1.4
		50	280	1.1	1.4

Motor Length [mm]	Shaft Type	Gear Ratio	Wire Connection	Protection Structure	Approval	Model
120	Single shaft	1 : 5	Pentagon	IP30	CE	A35K-M566-RB5
120	Single shaft	1 : 7.2	Pentagon	IP30	CE	A40K-M566-RB7.2
120	Single shaft	1 : 10	Pentagon	IP30	CE	A50K-M566-RB10

Stepper Motor Drivers

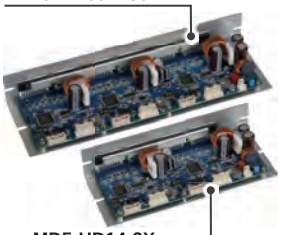
1.4A/Phase, DC Type, 5-Phase Stepper Motor Driver / 1.4A/Phase, AC Type, 5-Phase Stepper Motor Driver/
1.4A/Phase, DC Type, Multi-Axis Board Type, 5-Phase Stepper Motor Driver /

Series	Operation Method	Applied Motor	Resolution
1.4A/Phase, DC Type, 5-Phase Stepper Motor Driver **MD5-HD14**  W39.5×H105×L86mm	Bipolar constant current pentagon drive	5-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division), Micro STEP (4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250-division)
1.4A/Phase, AC Type, 5-Phase Stepper Motor Driver **MD5-HF14 Series**  W42×H170×L133.5mm	Bipolar constant current pentagon drive	5-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division), Micro STEP (4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250-division)
2.8A/Phase, AC Type, 5-Phase Stepper Motor Driver **MD5-HF28**  W49×H211.5×L146mm	Bipolar constant current pentagon drive	5-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division), Micro STEP (4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250-division)
1.5A/Phase, DC Type, 5-Phase Stepper Motor Driver **MD5-ND14**  W32×H93×L55.5mm	Bipolar constant current pentagon drive	5-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division)

Power Supply	Max. Run Current [A/Phase]	Max. Current Consumption [A]	Output	Number Of Axes	Protection Structure	Approval	Model
20-35VDC	1.4	3	Zero point excitation	1-axis	—	CE	MD5-HD14
100-220VAC	1.4	3	Zero point excitation	1-axis	—	CE	MD5-HF14
			Alarm	1-axis	—	CE	MD5-HF14-AO
100-220VAC	2.8	5	Zero point excitation	1-axis	—	CE	MD5-HF28
20-35VDC	1.5	3	—	1-axis	—	CE	MD5-ND14

Stepper Motor Drivers

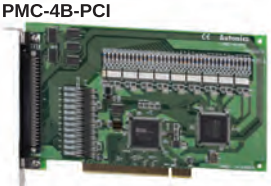
1.4A/Phase, DC Type, 5-Phase Stepper Motor Driver / 1.4A/Phase, AC Type, 5-Phase Stepper M otor Driver/
1.4A/Phase, DC Type, Multi-Axis Board Type, 5-Phase Stepper Motor Driver /

Series	Operation Method	Applied Motor	Resolution
1.4A/Phase, DC Type, Multi-Axis Board Type 5-Phase Stepper Motor Driver **MD5-HD14-3X** W40×H260×L80mm  **MD5-HD14-2X** W40×H190×L80mm	Bipolar constant current pentagon drive	5-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division), Micro STEP (4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250-division)
	Bipolar constant current pentagon drive	5-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division), Micro STEP (4, 5, 8, 10, 16, 20, 25, 40, 50, 80, 100, 125, 200, 250-division)
Unipolar 2-Phase Stepper Motor Driver **MD2U-MD20**  W39.5×H105×L86mm	Unipolar constant current drive	2-phase stepper motor	FULL STEP (1-division), HALF STEP (2-division), Micro STEP (4, 5, 8, 10, 16, 20-division)
Intelligent Unipolar 2-Phase Stepper Motor Driver **MD2U-ID20**  W39.5×H105×L86mm	Unipolar constant current drive	2-phase stepper motor	Intelligent type※1

※1: Intelligent driver which is not required motion controller operates speed changing, AC motor drive characteristics, for stepper motor.
The unit supports start/drive speed, acceleration/deceleration drive.
Various functions are available by easy operation (Switch, Volume).

Power Supply	Max. Run Current [A/Phase]	Max. Current Consumption [A]	Output	Number Of Axes	Protection Structure	Approval	Model
20-35VDC	1.4	5	—	2-axis	—	CE	MD5-HD14-2X
20-35VDC	1.4	7	—	3-axis	—	CE	MD5-HD14-3X
			Zero point excitation	3-axis	—	CE	MD5-HD14-3X(Z OUT)
24-35VDC	2	3	—	1-axis	—	CE	MD2U-MD20
24-35VDC	2	3	—	1-axis	—	CE	MD2U-ID20

Motion Controllers

Series	Number Of Axes	Type	Main Features	Input/Output Contact	Interpolations	Operation Mode
High-Speed, 1-Axis·2-Axis Motion Controller **PMC-1HS/2HS Series**  W35.5×H90×L64mm	1-axis	Independent type	—	Parallel I/F: 13/4 X-axis: 8/5 (general: 0/1) Y-axis: 8/5 (general: 0/1)	—	INDEX, PROGRAM (64-step), JOG, CONTINUOUS
	2-axis	Independent type	—	Parallel I/F: 13/4 X-axis: 8/6 (general: 2/2) Y-axis: 8/6 (general: 2/2)	—	INDEX, PROGRAM (64-step), JOG, CONTINUOUS
※1: Connection port is RS232C or USB. Refer to the model name.						
General-Purpose, High-Speed, 2-Axis, Interpolation Type **PMC-2HSN/2HSP Series**  W35.5×H90×L64mm	2-axis	Independent type	S-shaped acceleration/ deceleration	Parallel I/F: 13/4 X-axis: 8/6 (general: 2/2) Y-axis: 8/6 (general: 2/2)	—	INDEX, PROGRAM (200-step), JOG, CONTINUOUS
					2-axis linear interpolation, circle interpolation, arc interpolation	INDEX, PROGRAM (200-step), JOG, CONTINUOUS
4-Axis, Board Type, Motion Controller **PMC-4B-PCI**  W174.6×H106.7mm	4-axis	Board type	S-shaped acceleration/ deceleration, Constant linear velocity, Synchronized operation	X, Y, Z, U-axis: 15/8 (general: 0/4)	2/3-axis linear interpolation, arc interpolation, 2/3-axis bit pattern interpolation, constant interpolation	User programming

In-Position Setting	Drive Speed	Connection	Communication Protocol	Applied Library	Power Supply	Approval	Model
ABSOLUTE, INCREMENTAL	1pps to 4Mpps	RS232C	Autonics protocol	—	24VDC	CE	PMC-1HS-232
		RS232C, USB	Autonics protocol	—	24VDC	CE	PMC-1HS-USB
ABSOLUTE, INCREMENTAL	1pps to 4Mpps	RS232C	Autonics protocol	—	24VDC	CE	PMC-2HS-232
		RS232C, USB	Autonics protocol	—	24VDC	CE	PMC-2HS-USB
ABSOLUTE, INCREMENTAL	1pps to 4Mpps	RS485	Modbus RTU	C programming language (provided DLL)	24VDC	CE	PMC-2HSN-485
		USB	Modbus RTU	C programming language (provided DLL)	24VDC	CE KC	PMC-2HSN-USB
ABSOLUTE, INCREMENTAL	1pps to 4Mpps	RS485	Modbus RTU	C programming language (provided DLL)	24VDC	CE	PMC-2HSP-485
		USB	Modbus RTU	C programming language (provided DLL)	24VDC	CE KC	PMC-2HSP-USB
ABSOLUTE, INCREMENTAL	1pps to 4Mpps	PCI Slot	PCI bus	C programming language (provided DLL), LabView	24VDC	CE KC	PMC-4B-PCI

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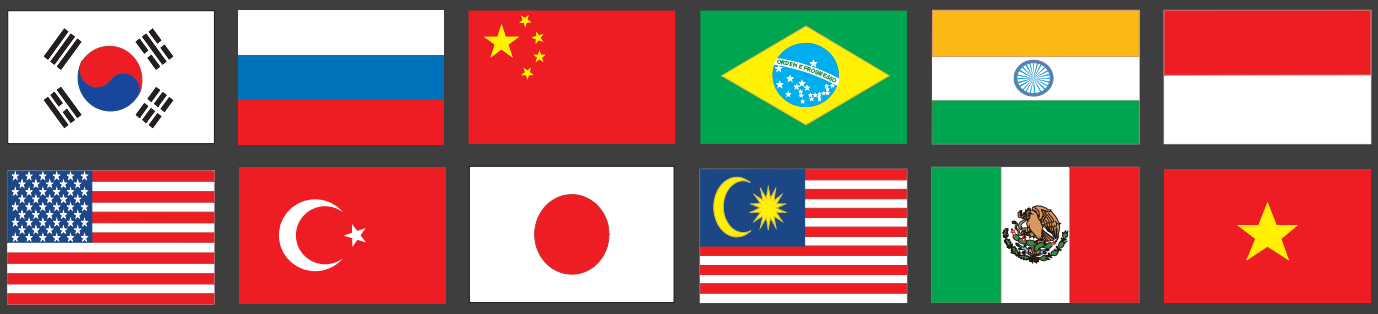

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· Control Switches / Lamps / Buzzers · Field Network Devices · Tachometer / Pulse (Rate) Meters
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※ The dimensions or specifications on this selection guide may change and some models may be discontinued without notice.

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