

Isolated Converters

CN-6000 Series
INSTRUCTION MANUAL

TCD210080AD

Autonics

Thank you for choosing our Autonics product.

Read and understand the instruction manual and manual thoroughly before using the product.

For your safety, read and follow the below safety considerations before using.

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

Keep this instruction manual in a place where you can find easily.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Follow Autonics website for the latest information.

Safety Considerations

- Observe all ‘Safety Considerations’ for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

⚠ Warning Failure to follow instructions may result in serious injury or death.

- 01. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime / disaster prevention devices, etc.)
Failure to follow this instruction may result in personal injury, economic loss or fire.
- 02. Do not use the unit in the place where flammable / explosive / corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**
Failure to follow this instruction may result in explosion or fire.
- 03. Install on a device panel to use.**
Failure to follow this instruction may result in fire or electric shock.
- 04. Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in electric shock.
- 05. Do not disassemble or modify the unit.**
Failure to follow this instruction may result in fire or electric shock.
- 06. Check ‘Connections’ before wiring.**
Failure to follow this instruction may result in fire.

⚠ Caution Failure to follow instructions may result in injury or product damage.

- 01. Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or product damage.
- 02. Use a dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in fire.
- 03. Keep the product away from metal chip, dust, and wire residue which flow into the unit.**
Failure to follow this instruction may result in fire.

Cautions during Use

- Follow instructions in ‘Cautions during Use’.
- Otherwise, It may cause unexpected accidents.
- Power supply should be insulated and limited voltage / current or Class 2, SELV power supply device.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Keep away from high voltage lines or power lines to prevent inductive noise.
- In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.
- This unit may be used in the following environments.
 - Indoors / Outdoors
 - Altitude max. 2,000 m
 - Pollution degree 2
 - Installation category II

Ordering Information

This is only for reference, the actual product does not support all combinations.

For selecting the specified model, follow the Autonics website.

CN - 6 ① ② - ③

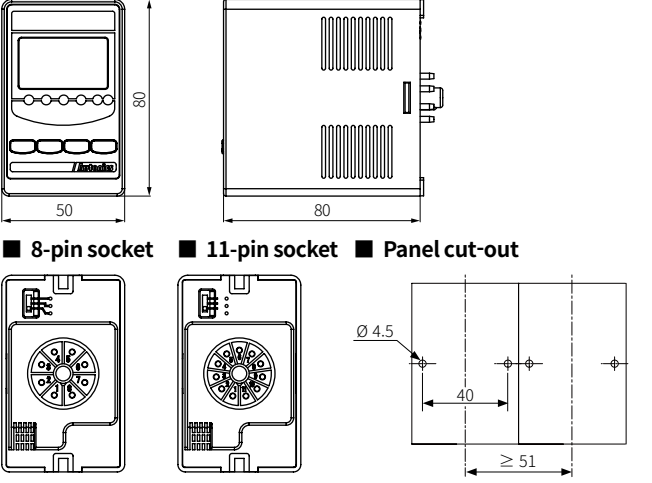
- ① Input**
10: Universal input
40: Pulse input
- ② Power supply**
0: 100 - 240 VAC ± 10 % 50 / 60 Hz
1: 24 VDC ± 10 %
- ③ Output**
C1: Transmission (DC 0 - 20 mA) output × 1
C2: Transmission (DC 0 - 20 mA) output × 2
V1: Transmission (0 - 10 VDC) output × 1
V2: Transmission (0 - 10 VDC) output × 2
R1: Alarm output × 1
R2: Alarm output × 2
R4: Alarm output × 4

Product Components

- Product
- 8-pin socket (output: C1, V1, R1 model)
- Instruction manual
- 11-pin socket (output: C2, V2, R2, R4 model)

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.



Input Type Selection Switch

- Select the input type of the universal input model.
- The pulse input model does not have this input type selection switch.
- After selecting the input type with the switch, set the same input specification in the input type parameter of the program mode.

Switch	Input
mA (default)	0 (4) to 20 mA
10V	-1 to 10 VDC≐
TC, RTD, mV, ±1V	Thermocouple, RTD, mV, ± 1 VDC≐

Unit Descriptions



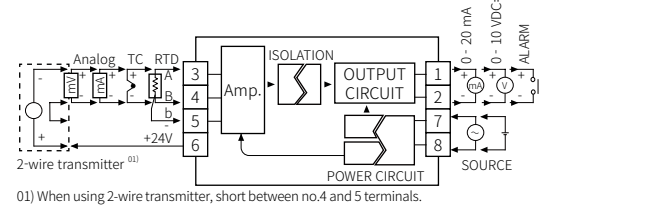
No.	Part name	Name plate	Function
1	Display part (red, green, yellow)	-	Run mode: Displays current measured value. Set mode: Displays parameters. • Color selectable
2	Unit display part (red)	-	-
3	Output scale bar	00000000000000000000	[Transmission output model] Displays output as % by scale bars.
4	Alarm output indicator	00000000000000000000	[Alarm output model] Turns ON when the alarm output is on.
5	MODE key	[MODE]	Used to enter monitoring mode and program mode , move to parameters, save SV and return to RUN mode.
6	Setting key	[◀], [▼], [▲]	Used to change parameter SV.
7	Digital input	D.IN3	Press the [▼] + [▲] keys for 3 sec, it operates the set function at digital input key parameter.
8	Input type display part ⁰¹⁾	-	[Universal input model] Turns ON when checking or changing the setting value.

01) In case of thermocouple type, L, N, U, P types are not displayed.
In case of RTD type, RTD is displayed.

Connections

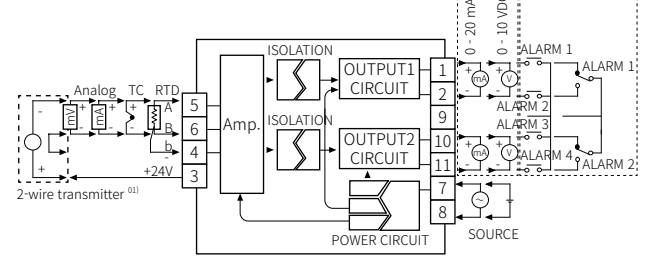
- SOURCE: 100 - 240 VAC~ 50 / 60 Hz 8 VA
24 VDC≐ 3 W

■ Universal input (8-pin)



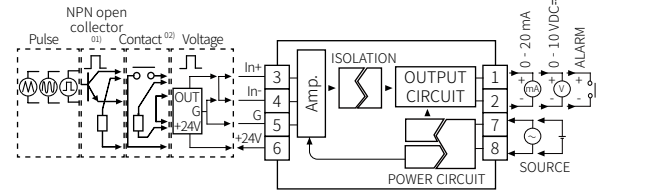
01) When using 2-wire transmitter, short between no.4 and 5 terminals.

■ Universal input (11-pin)



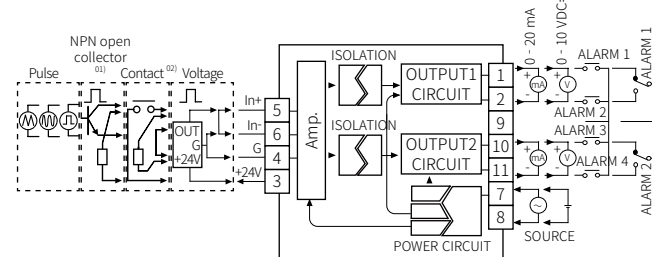
01) When using 2-wire transmitter, short between no.4 and 6 terminals.

■ Pulse input (8-pin)



01) Connect external resistance 10 kΩ (≥ 1/2W) to no.3 and 6 terminals for NPN open collector input.
02) Connect external resistance 10 kΩ (≥ 1/2W) to no.3 and 5 terminals for contact input.

■ Pulse input (11-pin)



01) Connect external resistance 10 kΩ (≥ 1/2W) to no.3 and 5 terminals for NPN open collector input.
02) Connect external resistance 10 kΩ (≥ 1/2W) to no.4 and 5 terminals for contact input.

Specifications

Model	CN-610□-□	CN-640□-□
Input type ⁰¹⁾	Universal - Temperature sensor : RTD, thermocouple - Analog: voltage, current	Pulse
Display method	12-segment (selectable red, green, yellow) LCD (character size: 6.4 × 11.0 mm), Graphic bar and input type / unit display part (red) LCD (character size: 1.4 × 2.75 mm)	
Display accuracy ⁰²⁾	Dependent on the ambient temperature	
25 ± 5°C	± 0.2 % F.S. ± 1 digit	
-10 to 20°C, 30 to 50°C	± 0.3 % F.S. ± 1 digit	
Display cycle ⁰³⁾	-	Same with pulse input cycle
Sampling cycle	Temperature sensor input: 250 ms Analog input: 100 ms	-
Unit weight (packaged)	≈ 160 g (≈ 301 g)	≈ 200 g (≈ 340 g)
Certification	CE, RoHS	

01) For details, refer to the input type and range.
02) Thermocouple, below -100 °C: ± 0.4 % F.S. ± 1 digit
Thermocouple T, U: min. ± 2.0 °C
03) When pulse input cycle is over 10 sec, it is updated by every 10 sec.

Output	Transmission (DC 0 - 20 mA)	Transmission (0 - 10 VDC≐)	Alarm
Load resistance	≤ 600 Ω	≥ 10 k Ω	-
Accuracy	± 0.3 F.S.	-	-
Resolution	8,000	-	-
Contact capacity	-	-	250 VAC~
Contact composition	-	-	5 A, 1a: 1 / 3 A, 1c: 2 / 5 A, 1a: 4 model

Power supply	100 - 240 VAC~ 50 / 60 Hz	24 VDC≐
Permissible voltage range	90 to 110 % of rated voltage	
Power consumption	≤ 8 VA	≤ 3 W
Insulation resistance	≥ 100 M Ω (500 VDC≐ megger)	
Dielectric strength	Between input terminal and power terminal: 2,000 VAC~ 50 / 60 Hz for 1 min	
Vibration	0.75 mm double amplitude at frequency of 5 to 55 Hz in each X, Y, Z direction for 2 hours	
Noise immunity	± 2 kV the square wave noise (pulse width: 1 μs) by the noise simulator	
Memory retention	≈ 10 years (non-volatile semiconductor memory type)	
Ambient temperature	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	

Mode Setting

RUN	[▲] + [▼] 3 sec	→	Digital input ⁰¹⁾	Auto	→	RUN
	[MODE]	→	Monitoring mode	[MODE] 3 sec	→	
	[MODE] 3 sec	→	Program mode	[MODE] 3 sec	→	
	[MODE] + [◀]	→	Reset	[MODE]	→	

01) P1-34, P2-30 Digital input key (HOLD: hold display value or ZERO: remote zero)

Monitoring Mode

- Some parameters are activated / deactivated depending on the model or setting of other parameters. Refer to the description of each parameter.
- If any key is not entered for 30 sec in each parameter, it returns to RUN mode.
- [MODE] key: Saves current setting value and moves to the next parameter.
- [◀] key: Changes setting digits.
- [▲], [▼] key: Changes setting values.

Parameter	Display	Defaults	Setting range	Display condition
M1-1	1 CH output value	0 V E. 1	----	[Transmission output model]
M1-2	2 CH output value	0 V E. 2	----	• Displays output value by each channel.
M1-3	Alarm 1 value	RL 1	1000	[Alarm output model]
M1-4	Alarm 2 value	RL 2	0000	Temperature sensor input : within temperature range Analog input
M1-5	Alarm 3 value	RL 3	1000	: low-limit to high-limit scale
M1-6	Alarm 4 value	RL 4	0000	• Depending on the number of alarm outputs, whether to display alarm 3 / 4 is different.
M1-7	Display max. peak value ⁰¹⁾	HPEK	----	Max. peak value in run mode
M1-8	Display min. peak value ⁰¹⁾	LPEK	----	Min. peak value in run mode

01) Initial max. / min. peak value is saved after 2 sec from supplying the power.
Reset: Press the [▼] + [▲] keys for at least 1 sec

Program Mode				
• Some parameters are activated / deactivated depending on the model or setting of other parameters. Refer to the description of each parameter. • If any key is not entered for 30 sec in each parameter, it returns to RUN mode. • [MODE] key: Saves current setting value and moves to the next parameter. • [◀] key: Changes setting digits. • [▲], [▼] key: Changes setting values. ■ Universal input				
Parameter	Display	Defaults	Setting range	Display condition
P1-1 Input type	<i>i N - P</i>	<i>RMRZ</i>	• Refer to Input Type and Range	-
P1-2 Temperature unit ⁰¹⁾	<i>UNI t</i>	<i>°C</i>	°C, °F	P1-1 Input type: Temp. sensor
P1-3 Display unit	<i>dUNt</i>	<i>° / o</i>	% , OFF, mV, V, mA, A, °C, °F	P1-1 Input type: Analog
P1-4 Low-limit input value	<i>L - RG</i>	<i>0.000</i>	Within input type range • Low-limit input value + 20 % F.S. < High-limit input value	
P1-5 High-limit input value	<i>H - RG</i>	<i>20000</i>		
P1-6 Decimal point position	<i>dP</i>	<i>00</i>	0.0, 0.00, 0.000, 0 • Set the decimal point position of the high / low-limit scale.	
P1-7 Low-limit scale	<i>L - 5C</i>	<i>00000</i>	-1999 to 9999	
P1-8 High-limit scale	<i>H - 5C</i>	<i>10000</i>		
P1-9 Input correction	<i>i N - b</i>	<i>000</i>	-999 to 999	-
P1-10 Low-limit value of transmission output 1	<i>L.oR i</i>	<i>0.400</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>00.00</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P1-11 High-limit value of transmission output 1	<i>H.oR i</i>	<i>2000</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>1000</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P1-12 Low-limit value of transmission output 2	<i>L.oRZ</i>	<i>0.400</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>00.00</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P1-13 High-limit value of transmission output 2	<i>H.oRZ</i>	<i>2000</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>1000</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P1-14 Bar display CH	<i>bRR</i>	<i>oUt i</i>	[Transmission output model] OUT1, OUT2	P1-37 User level: HIGH
P1-15 Low-limit scale value of transmission output 1	<i>L.oU i</i>	<i>0000</i>	[Transmission output model] Temperature sensor input : within temperature range Analog input : low-limit to high-limit scale	-
P1-16 High-limit scale value of transmission output 1	<i>H.oU i</i>	<i>1000</i>		
P1-17 Low-limit scale value of transmission output 2	<i>L.oUZ</i>	<i>0000</i>		
P1-18 High-limit scale value of transmission output 2	<i>H.oUZ</i>	<i>1000</i>		
P1-19 Input and transmission output extension ⁰²⁾	<i>E xI o</i>	<i>SP</i>	[Transmission output model] 5P: output DC 3.2 - 20.8 mA, 0 - 10.5 VDC≡ out of 5 % of analog input range 10P: output DC 2.4 - 21.6 mA, 0 - 11 VDC≡ out of 10 % of analog input range 0P: output DC 4 - 20 mA, 0 - 10 VDC≡ in the analog input range	P1-1 Input type: Analog & P1-37 User level: HIGH
P1-20 Alarm 1 operation	<i>RL - i</i>	<i>Rt iR</i> □□□■	[Alarm output model] □□□ AT1: Absolute high limit alarm, AT2: Absolute low limit alarm, SBA: sensor break alarm, AT0: no alarm output	-
			[Alarm output model] ■ A: standard alarm, B: alarm latch, C: standby sequence, D: alarm latch and standby sequence • Enter alarm option setting mode : Operate in 'Alarm 1 operation' mode select AT1 or AT2 and input [◀] key	-
P1-21 Alarm 1 option				-
P1-22 Alarm 2 operation	<i>RL - Z</i>	<i>RtZR</i> □□□■	[Alarm output model] Same as 'P1-20 / 21 Alarm 1 operation / option' • Depending on the number of alarm outputs, whether to display alarm 3 / 4 is different.	-
P1-23 Alarm 2 option				
P1-24 Alarm 3 operation	<i>RL - 3</i>	<i>Rt iR</i> □□□■		
P1-25 Alarm 3 option				
P1-26 Alarm 4 operation	<i>RL - 4</i>	<i>RtZR</i> □□□■		
P1-27 Alarm 4 option				
P1-28 Alarm output hysteresis	<i>R - HY</i>	<i>00 i</i>	[Alarm output model] 001 to 999	P1-20 to 27 Alarm operation / option: AT1A, AT2A

01) When changing the setting value, input type, high / low-limit scale, high / low-limit scale value of transmission output 1 / 2, and AL1 to 4 are reset.
02) 0 mA, 0 VDC≡ or less cannot be expanded. 1 VDC≡, 10 VDC≡ input are available to extend only 5 %.

Parameter	Display	Defaults	Setting range	Display condition
P1-29 Input special function	<i>i NSF</i>	<i>L i N</i>	LIN: output the input value, ROOT: output the square root of the input value, SQAR: output the square of the input value, TUF: Two Unit Function ⁰¹⁾	P1-1 Input type: Analog
P1-30 Atmospheric pressure	<i>0.PSi</i>	<i>0000</i>	Low-limit to high-limit input value	P1-1 Input type: Analog & P1-29 Input special function: TUF
P1-31 Span correction	<i>SPRN</i>	<i>1000</i>	0.900 to 1.100	P1-1 Input type: Analog & P1-37 User level: HIGH
P1-32 Normal average digital filter	<i>RV:F</i>	<i>0 i</i>	01 (OFF) to 16	P1-37 User level: HIGH
P1-33 Moving average digital filter	<i>MRV:F</i>	<i>0 4</i>		
P1-34 Digital input key	<i>di - K</i>	<i>HoL d</i>	HOLD: hold display value, ZERO: remote zero, AL.RE: alarm reset ⁰²⁾ • Press the [◀] + [▲] keys for 3 sec to operates with the set function.	-
P1-35 Display part color ⁰³⁾	<i>C oLR</i>	<i>GRN</i>	GRN: green / green, YEL0: yellow / yellow, RED: red / red, R-G: red / green, G-R: green / red • Display: normal / error occur	-
P1-36 Sensor disconnection alarm output	<i>bURN</i>	<i>oN</i>	ON, OFF • Refer to the error.	P1-1 Input type: Temp. sensor
P1-37 User level	<i>USER</i>	<i>StNd</i>	STND, HIGH	-
P1-38 Lock	<i>L oLK</i>	<i>oFF</i>	OFF: program / monitoring mode - enable to check and setting LOC1 : program mode - enable to check, monitoring mode - enable to check and setting LOC2 : program mode - disable to check and setting, monitoring mode - enable to check	-

01) Pressure of pressure sensor < atmospheric pressure: display of vacuum degree in mmHg unit
Pressure of pressure sensor > atmospheric pressure: display of positive pressure in kg/cm²
02) In the alarm output model, AL.RE displayed when the setting value of P1-21, 23, 25, 27 Alarm1 ~ 4 options are alarm latch or alarm latch and standby sequence.
03) The color of the display part in monitoring mode and program mode is red.

Parameter	Display	Defaults	Setting range	Display condition
P2-1 Input type	<i>i N - P</i>	<i>SDKH</i>	• Refer to Input Type and Range	-
P2-2 Display unit	<i>dUNt</i>	<i>KHz</i>	kHz, Hz, %, OFF	-
P2-3 Low-limit input value	<i>L - RG</i>	<i>0000</i>	Within input type range • Low-limit input value + 20 % F.S. < High-limit input value	-
P2-4 High-limit input value	<i>H - RG</i>	<i>5000</i>		
P2-5 Decimal point position	<i>dP</i>	<i>000</i>	0.0, 0.00, 0.000, 0 • Set the decimal point position of the high / low-limit scale.	-
P2-6 Low-limit scale	<i>L - 5C</i>	<i>0000</i>	-1999 to 9999	-
P2-7 High-limit scale	<i>H - 5C</i>	<i>5000</i>		
P2-8 Input correction	<i>i N - b</i>	<i>000</i>	-999 to 999	-
P2-9 Low-limit value of transmission output 1	<i>L.oR i</i>	<i>0.400</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>00.00</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P2-10 High-limit value of transmission output 1	<i>H.oR i</i>	<i>2000</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>1000</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P2-11 Low-limit value of transmission output 2	<i>L.oRZ</i>	<i>0.400</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>00.00</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P2-12 High-limit value of transmission output 2	<i>H.oRZ</i>	<i>2000</i>	[Transmission (DC 0 - 20 mA) output model] DC 0 - 20 mA	-
		<i>1000</i>	[Transmission (0 - 10 VDC≡) output model] 0 - 10 VDC≡	
P2-13 Bar display CH	<i>bRR</i>	<i>oUt i</i>	[Transmission output model] OUT1, OUT2	P2-32 User level: HIGH

Parameter	Display	Defaults	Setting range	Display condition
P2-14 Low-limit scale value of transmission output 1	<i>L.oU i</i>	<i>0000</i>	[Transmission output model] Low-limit to high-limit scale	-
P2-15 High-limit scale value of transmission output 1	<i>H.oU i</i>	<i>5000</i>		
P2-16 Low-limit scale value of transmission output 2	<i>L.oUZ</i>	<i>0000</i>		
P2-17 High-limit scale value of transmission output 2	<i>H.oUZ</i>	<i>5000</i>		
P2-18 Input and transmission output extension	<i>E xI o</i>	<i>SP</i>	[Transmission output model] 5P: output DC 3.2 - 20.8 mA, 0 - 10.5 VDC≡ out of 5 % of analog input range 10P: output DC 2.4 - 21.6 mA, 0 - 11 VDC≡ out of 10 % of analog input range 0P: output DC 4 - 20 mA, 0 - 10 VDC≡ in the analog input range	P2-32 User level: HIGH
P2-19 Alarm 1 operation	<i>RL - i</i>	<i>Rt iR</i> □□□■	[Alarm output model] □□□ AT1: Absolute high limit alarm, AT2: Absolute low limit alarm, SBA: sensor break alarm, AT0: no alarm output	-
			[Alarm output model] ■ A: standard alarm, B: alarm latch, C: standby sequence, D: alarm latch and standby sequence • Enter alarm option setting mode : Operate in 'Alarm 1 operation' mode select AT1 or AT2 and input [◀] key	-
P2-20 Alarm 1 option				-
P2-21 Alarm 2 operation	<i>RL - Z</i>	<i>RtZR</i> □□□■	[Alarm output model] Same as 'P2-19 / 20 Alarm 1 operation / option' • Depending on the number of alarm outputs, whether to display alarm 3 / 4 is different.	-
P2-22 Alarm 2 option				
P2-23 Alarm 3 operation	<i>RL - 3</i>	<i>Rt iR</i> □□□■		
P2-24 Alarm 3 option				
P2-25 Alarm 4 operation	<i>RL - 4</i>	<i>RtZR</i> □□□■		
P2-26 Alarm 4 option				
P2-27 Alarm output hysteresis	<i>R - HY</i>	<i>00 i</i>	[Alarm output model] 001 to 999	P2-19 to 26 Alarm operation / option: AT1A, AT2A
P2-28 Span correction	<i>SPRN</i>	<i>1000</i>	0.900 to 1.100	P2-32 User level: HIGH
P2-29 Moving average digital filter	<i>MRV:F</i>	<i>0 4</i>	01 (OFF) to 16	
P2-30 Digital input key	<i>di - K</i>	<i>HoL d</i>	HOLD: hold display value, ZERO: remote zero, AL.RE: alarm reset ⁰¹⁾ • Press the [◀] + [▲] keys for 3 sec to operates with the set function.	-
P2-31 Display part color	<i>C oLR</i>	<i>GRN</i>	GRN: green / green, YEL0: yellow / yellow, RED: red / red, R-G: red / green, G-R: green / red • Display: normal / error occur	-
P2-32 User level	<i>USER</i>	<i>StNd</i>	STND, HIGH	-
P2-33 Lock	<i>L oLK</i>	<i>oFF</i>	OFF: program / monitoring mode - enable to check and setting LOC1 : program mode - enable to check, monitoring mode - enable to check and setting LOC2 : program mode - disable to check and setting, monitoring mode - enable to check	-

01) It can be applied when the setting value of the alarm option is alarm latch or alarm latch and standby sequence.

Input Type and Using Range				
■ Universal input				
Input type		Display	Using range (°C)	Using range (°F)
RTD	Cu50 Ω	C u50	-199.9 to 200.0	-199.9 to 392.0
	Cu100 Ω	C u. 10	-199.9 to 200.0	-199.9 to 392.0
	JPt100 Ω	J P t. i	-199.9 to 600.0	-328 to 1112
	DPt50 Ω	d P t.5	-199.9 to 600.0	-328 to 1112
	DPt100 Ω	d P t. i	-199.9 to 850.0	-328 to 1530
Thermocouple	K (CA)	t C.k i	-200 to 1350	-328 to 2462
		t C.k Z	-199.9 to 999.9	-328 to 1832
	J (IC)	t C - J	-199.9 to 800.0	-328 to 1472
	E (CR)	t C - E	-199.9 to 800.0	-328 to 1472
	T (CC)	t C - t	-199.9 to 400.0	-199.9 to 752.0
	B (PR)	t C - b	400 to 1800	752 to 3272
	R (PR)	t C - R	0 to 1750	32 to 3182
	S (PR)	t C - S	0 to 1750	32 to 3182
	N (NN)	t C - N	-200 to 1300	-328 to 2372
	C (W5)	t C - C	0 to 2300	32 to 4172
	L (IC)	t C - L	-199.9 to 900.0	-328 to 1652
	U (CC)	t C - U	-199.9 to 400.0	-199.9 to 752.0
Platinel II	t C - P	0 to 1390	32 to 2534	
Analog	0.00 - 20.00 mA	RMR i	-1999 to 9999 • The using range varies depending on the decimal point position.	
	4.00 - 20.00 mA	RMR Z		
	-50.0 - 50.0 mVDC≡	RMV i		
	-199.9 - 200.0 mVDC≡	RMV Z		
	-1.000 - 1.000 VDC≡	R - V i		
	-1.00 - 10.00 VDC≡	R - V Z		
■ Pulse input				
• Non-contact: 0 to 50 kHz / contact: 0 to 45 kHz Displays 0 for below 0.1 Hz				
• Input Low Level: 0 - 1 VDC≡ / Input High Level: 5 - 24 VDC≡				
• Duty ratio: 30 to 70 %				
• Since the response speed is slower in the low-speed pulse, 0 Hz is displayed if no pulse is input for more than 2 sec to prevent the slow response speed at 0 Hz.				
Input type	Measuring cycle	Display	Using range	
Pulse	0 to 9.999 Hz	≤ 10 sec	10H	-1999 to 9999 • The using range varies depending on the decimal point position.
	0 to 99.99 Hz	≤ 10 sec	100H	
	0 to 999.9 Hz	≤ 10 sec	1KH	
	0 to 9.999 kHz	≤ 1 sec	10KH	
	0 to 50.00 kHz	≤ 0.1 sec	50KH	
Reset				
01. Press the [MODE] + [◀] keys in run mode, parameter INIT is displayed.				
02. Displays the setting value as NO by pressing the [MODE] key.				
03. Change the setting value as YES by pressing the [▲] or [▼] keys.				
04. Press the [MODE] key to reset all parameter values as default and to return to run mode.				
• Reset is possible when the lock parameter of the program mode is set to OFF.				
Error				
Display	Description		Troubleshooting	
L L L L	Flashes when measurement input is lower than the using range		Error display is released automatically when it is in the measured and using range.	
H H H H	Flashes when measurement input is higher than the using range			
bURN ^{01) 02)}	Flashes when the temperature sensor is disconnected		Check the input sensor status.	
ERR	Flashes when setting value error		Resetting after checking the setting conditions.	
ERRZ ⁰¹⁾	Flashes when the parameter setting of the input type and the selection switch setting do not match.		Check the input type.	
01) Applicable to universal input model only.				
02) Transmission output and alarm output according to P1-36 sensor disconnection alarm output parameter setting.				
Sensor disconnection alarm output	Transmission output (DC 4 - 20 mA)	Alarm output		
		Absolute High-limit alarm	Absolute Low-limit alarm	
ON	20 mA	ON	OFF	
OFF	4 mA	OFF	ON	
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