Isolated Converters

CN-6000 Series
CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Multi-input
  - CN-610☐-☐ : Thermocouple 12 types, RTD 5 types, Analog (mV, V, mA) 6 types
  - CN-640☐-☐ : 0 to 50.00kHz
- Improved visibility with negative LCD
  : 12 segment, 3 colors (selectable red, green, yellow)
- Displays input type and unit on display part
- Various outputs
  - Alarm output: 1 EA / 2 EA / 4 EA
  - 0 - 20 mA transmission output (adjustable insulation, output range), 0 - 10 VDC voltage output (adjustable insulation, output range)
- Various functions
  - High / Low peak input monitoring
  - Alarm output (upper / lower, sensor break)
  - Transmission output / display scale
  - Digital input key (DI), etc.
- Built-in power supply for sensor / transmitter (24 VDC)

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	❶	❷	-	❸

❶ Input
10: Universal input
40: Pulse input

❷ Power supply
0: 100 - 240 VAC∼ ± 10 % 50 / 60 Hz
1: 24 VDC⎓ ± 10 %

❸ 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)

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)
Approval	CE EHC	

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 kΩ	-
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∼ ± 10 % 50 / 60 Hz	24 VDC⎓ ± 10 %
Power consumption	≤ 8 VA	≤ 3 W
Insulation resistance	≥ 100 MΩ (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 (for 1 minute) 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)	

CE EHC

Input Type and Using Range

■ Universal input

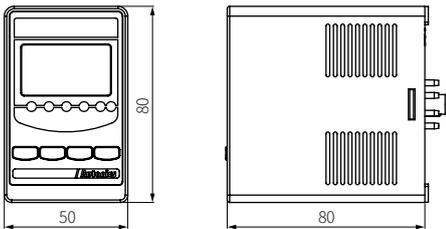| Input type		Display	Using range (°C)	Using range (°F)
RTD	Cu50 Ω	Cu.50	-199.9 to 200.0	-199.9 to 392.0
	Cu100 Ω	Cu.10	-199.9 to 200.0	-199.9 to 392.0
	JPt100 Ω	JPt.1	-199.9 to 600.0	-328 to 1112
	DPt50 Ω	dPt.5	-199.9 to 600.0	-328 to 1112
	DPt100 Ω	dPt.1	-199.9 to 850.0	-328 to 1530
Thermocouple	K (CA)	tC.K1	-200 to 1350	-328 to 2462
		tC.K2	-199.9 to 999.9	-328 to 1832
	J (IC)	tC-J	-199.9 to 800.0	-328 to 1472
	E (CR)	tC-E	-199.9 to 800.0	-328 to 1472
	T (CC)	tC-t	-199.9 to 400.0	-199.9 to 752.0
	B (PR)	tC-b	400 to 1800	752 to 3272
	R (PR)	tC-R	0 to 1750	32 to 3182
	S (PR)	tC-S	0 to 1750	32 to 3182
	N (NN)	tC-N	-200 to 1300	-328 to 2372
	C (W5)	tC-C	0 to 2300	32 to 4172
	L (IC)	tC-L	-199.9 to 900.0	-328 to 1652
	U (CC)	tC-U	-199.9 to 400.0	-199.9 to 752.0
	Platinel II	tC-P	0 to 1390	32 to 2534
Analog	0.00 - 20.00 mA	A.mA1	-1999 to 9999 • The using range varies depending on the decimal point position.	
	4.00 - 20.00 mA	A.mA2		
	-50.0 - 50.0 mVDC⎓	A.mV1		
	-199.9 - 200.0 mVDC⎓	A.mV2		
	-1.000 - 1.000 VDC⎓	A-V1		
	-1.00 - 10.00 VDC⎓	A-V2		

■ 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.
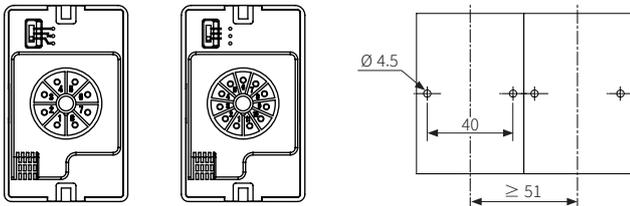
Input type		Measuring cycle	Display	Using range
Pulse	0 to 9.999 Hz	≤ 10 sec	10H	-1999 to 9999 • The using range varies depending on the decimal point position.
	0 to 99.99 Hz	≤ 10 sec	100H	
	0 to 999.9 Hz	≤ 10 sec	1KH	
	0 to 9.999 kHz	≤ 1 sec	10KH	
	0 to 50.00 kHz	≤ 0.1 sec	50KH	

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		[Transmission output model] Displays output as % by scale bars.
	Alarm output indicator		[Alarm output model] Turns ON when the alarm output is on.
4	MODE key	[MODE]	Used to enter monitoring mode and program mode , move to parameters, save SV and return to RUN mode.
5	Setting key	[◄], [▼], [▲]	Used to change parameter SV.
6	Digital input	D.IN3	Press the [▼] + [▲] keys for 3 sec, it operates the set function at digital input key parameter.
7	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.

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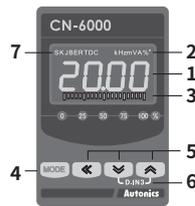
- Unit: mm, For the detailed drawings, follow the Autonics website.

■ 8-pin socket   ■ 11-pin socket   ■ Panel cut-out