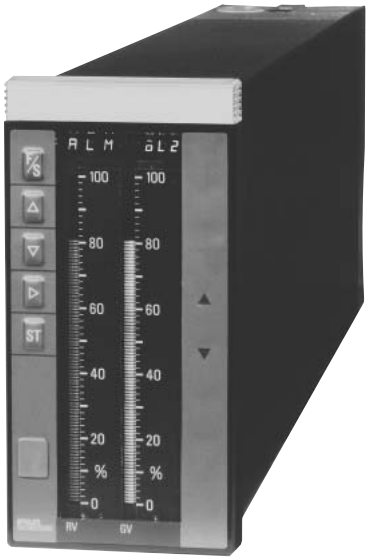
FC SERIES ELECTRONIC INDICATOR

DATA SHEET

PNJ1

The FC series electronic indicator uses a solid state indicator as an indicating element, completely eliminating the need for mechanical moving parts and provides high reliability.

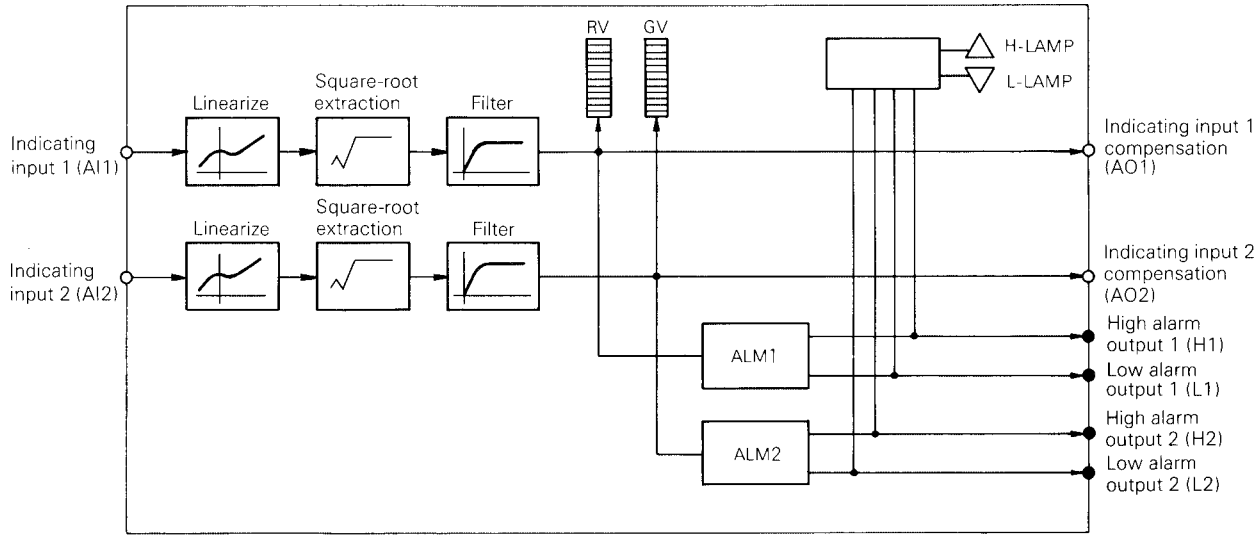
Use of two indicating elements has enabled arrangement of many monitoring points in a limited space, which is useful to compare monitoring points influenced by one another.



FEATURES

1. Outstanding reliability
   The adoption of a solid state indicator has completely eliminated the need for mechanical moving parts, providing excellent reliability.
2. Two-point indicator
   This instrument indicates 2 different values at the same time, so a large number of mounting points can be arranged in a small space, whereby monitoring points influenced by one another can easily be compared and indicated.
3. International standards
   This instrument is compact in size, conforming to the international standards of IEC. It operates on 24V DC power to deliver 1 to 5V DC signals as recommened by IEC standards. 100V and 200V AC power are also available for convenience of operation. It also accepts a thermocouple, a resistance bulb or a 4 to 20mA DC input converter optionally.
4. Digital indication/setting function
   Input signals can be read accurately from the digital indicator on the front panel. Various parameters can also be set on the front of the panel.

FUNCTIONAL DIAGRAM



SPECIFICATIONS

1. Input signal

(1) Analog input signal: 2 points

Indicating input 1*	AI1	1 to 5V DC	Input resistance, 1MΩ or more Allow. error ±0.2%/FS
Indicating input 2*	AI2		

* Indicating input 1 select from the following inputs.

Current input signal	I_+ I_0 I_-	4 to 20mA DC	24V DC power supplied to transmitter during AC operation	Allow. error ±0.2%/FS
Thermocouple input		Type J:0 to 600°C K:0 to 1200°C E:0 to 800°C R:0 to 1600°C	10mV DC span or more Basic contact compensating function	Allow. error ±0.5%/FS
Resistance bulb input		Pt100/Pt100 –50 to 500°C	50°C span or more	Allow. error ±0.5%/FS

2. Output signal

(1) Analog output signal: 2 points

Indicating input 1 compensation	AO1	1 to 5V DC	Output resistance, 1Ω or less Allow. error ± 0.2%/FS
Indicating input 2 compensation	AO2		

(2) Digital output signal: 5 points

Fault output	FLT	Open-collector output (photocoupler insulation)	Output rating, 30V x 0.1A DC, max.
High alarm output 1	H1		
Low alarm output 1	L1		
High alarm output 2	H2		
Low alarm output 2	L2		

3. Indication, alarm, setting, functions

(1) Bar graph indication

	PV indicator	GV indicator
Indication method	LED (red)	LED (green)
No. of indicating segments	101 + 2	101 + 2
Indication range	0 to 100% linear	0 to 100%, linear
Indication resolution	1 %/FS	1%/FS
Scale length	100mm	100mm
Indicating mode	0 to 100% bar graph indication, 0 to 100% reverse bar graph indication, 0 to 100% dot indication	

(2) Numerical value indication/setting

Indication method:
LED (red), name in 3 digits + numerical value in 5 digits (negative code included)

Contens of indication:
Indicating input signal (engineering unit), high/low alarm, etc.
Contents of indication select by use of F/S, △ , ▽, keys on front panel.

Setting method: By using of F/S, △, ▽, ▷, ST keys on front panel.

(3) Alarm functions

High/low alarm set in engineering unit for display of indicating signal.

Indicating method:
Two LED lamps (red) on front panel
△ ..... High alarm lamp
▽ ..... Low alarm lamp

4. Power failure processing functions

Power failure detection:
Alarm output "OFF" at power failure detection.

During power failure:
Data backed up by capacitor within 5 minutes. Alarm set data stored in non-volatile memory (more than 10 years at ambient temperature of 50°C or less).

Power failure recovery:
Initial or continuous start set within 5 minutes of power failure.
Recovery from power failure exceeding 5 minutes is initial.

5. Self-diagnosis functions

Input signal abnormality:
FLT lamp lights, FLT contact output "ON".

Indication of abnormal contents:
Cause of abnormality indicated in numerical values on front panel.

6. Other functions

Data protective function by pass code

7. Operating conditions

Power supply: Select from 3 types
24V DC (20 to 30V DC)
100V AC (85 to 132V/47 to 63Hz AC)
200V AC (187 to 264V/47 to 63Hz AC)

Power consumption:
Approx. 11W (DC)
Approx. 20VA (AC)

Dielectric strength:
1500V AC, 1 min.

Insulation resistance:
500V DC, 100MΩ or more

Ambient temperature:
0 to 50°C

Ambient humidity:
90% RH or less

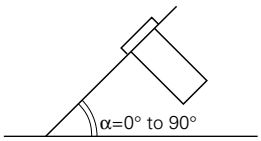
Enclosure: Steel case

Name plate: 100 (H) x 72 (W) mm, white acryl

Dimensions: 144 (H) x 72 (W) x 391 (D) mm, IEC (DIN) standards

Mass {weight}: Approx. 2.9kg

Mounting method:
Flush in door mounting; vertical mounting. Mountable on tilted surface, angle "α"



Finish color: Munsell N1.5 for both front panel and case

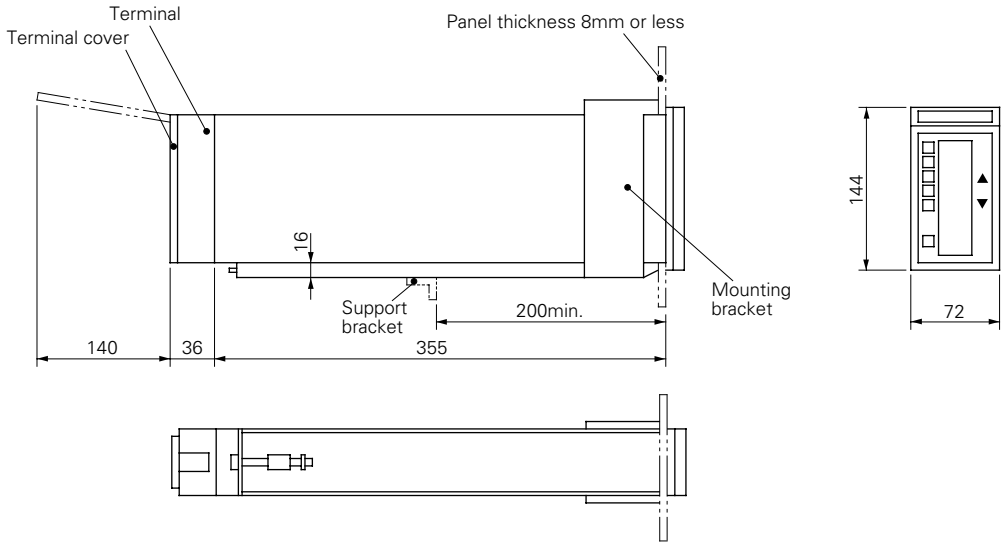
Range of delivery: Electronic indicator and mounting bracket

CODE SYMBOLS

1	2	3	4	5	6	7	8	Description
P	N	J	1		A		5	
				A				Indicating input 1 1 to 5V DC
				B				4 to 20mA DC
				C				J thermocouple (10mV DC span or more)
				D				K thermocouple (10mV DC span or more)
				E				E thermocouple (10mV DC span or more)
				F				R thermocouple (Basic contact compensating function)
				G				Resistance bulb, JPt100, 3-wire, 50°C span or more
				W				Resistance bulb, Pt100, 3-wire, 50°C span or more
					1			Power supply 24V DC (20 to 30V DC)
					2			100V AC (85 to 132V/47 to 63Hz AC)
					3			200V AC (187 to 264V/47 to 63Hz AC)

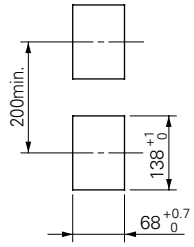
Note: Symbols of resistance bulbs are as follows.
JPt100 ..... JIS C 1604-1981
Pt100 ..... IEC Pub751-1983
(JPt/Pt changeover is possible with front key.)

OUTLINE DIAGRAM (Unit:mm)

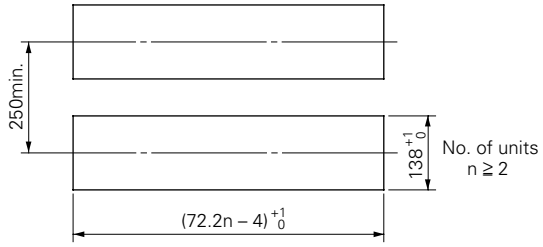


Panel cutout

When mounting 1 unit

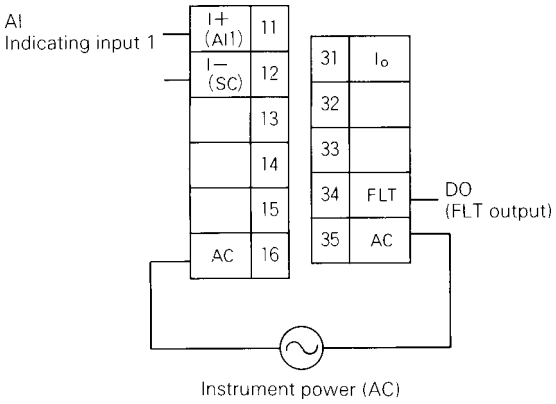


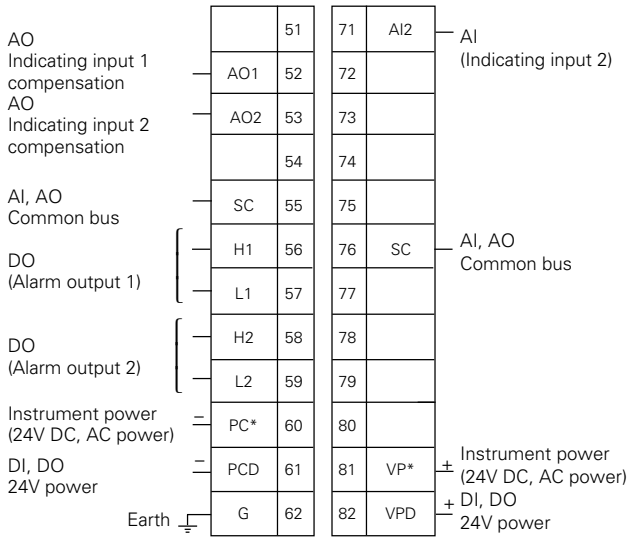
When mounting "n" units



CONNECTION DIAGRAM

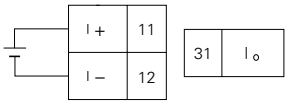
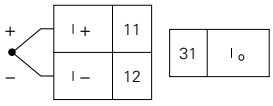
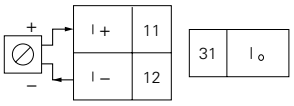
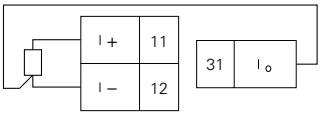
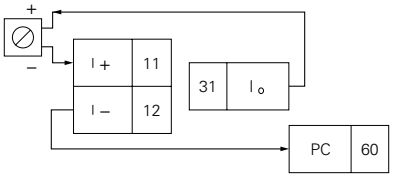
Block terminals (M4 screws)





Note: * Symbols for AC instrument power are VPO, PCO, approx. 24V DC (0.1A max.) output

Connections for indicating input 1 terminals

1 to 5V DC The 5th digit of code symbols "A"		Thermocouple The 5th digit of code symbols C,D,E,F	
4 to 20mA DC The 5th digit of code symbols "B"		Resistance bulb The 5th digit of code symbols G,W	
4 to 20mA DC power supply The 5th digit of code symbols "B"			

⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

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