

# FC SERIES ELECTRONIC INDICATOR

DATA SHEET

PNJ3

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

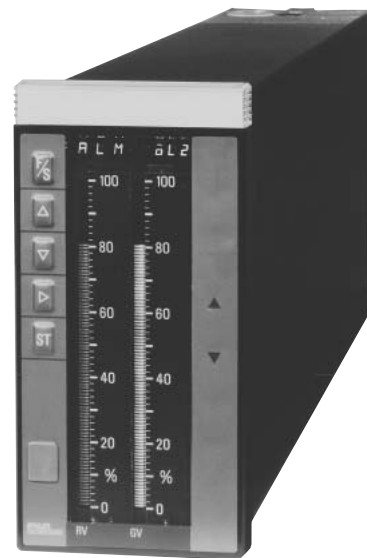
The adoption of a solid state indicator has completely eliminated the need for mechanical moving parts, providing excellent reliability.

### 2. Two-point indicator

This instrument indicates 2 different values at the same time, so a large number of monitoring points can be arranged in a small space, whereby monitoring points influenced by one another can easily be compared and indicated.

### 3. International standards

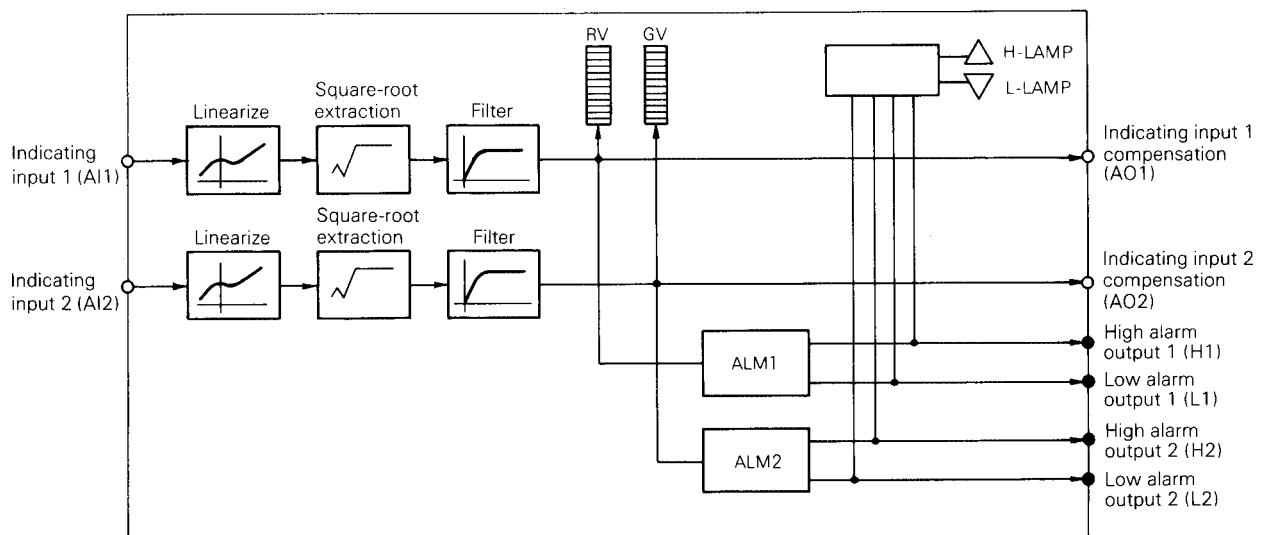
This instrument is compact in size, conforming to the international standards of IEC. It operates on 24V DC power to deliver 1 to 5V DC signals as recommended by IEC standards. 100V and 200V AC power are also available for convenience of operation. It also accepts a thermocouple, a resistance bulb or 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	4 to 20mA DC	24V DC power supplied to transmitter during AC operation	Allow. error ±0.2%/FS
Termocouple 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 -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 (photo-coupler 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
Indication mode	0 to 100% bar graph indication, 0 to 100% reverse bar graph indication, 0 to 100% dot indication	

(2) Numerical value indication/setting

Indicating method:

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

Contents of indication:

Indicating input signal (industrial value), high/low alarm, etc.

Contents of indication select by use of F/S, △, ▽, keys on front panel.

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

(3) Alarm functions

High/low alarm set in industrial values for display of indicating signal.

Indicating method:

Two LED lamps (red) on front panel

△ ..... High alarm indicator

▽ ..... Low alarm indicator

## 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

Nameplate: 100 (H) x 70 (W) mm, white acryl

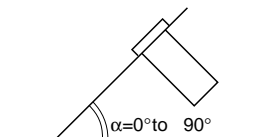
Dimensions: 144 (H) x 72 (W) x 407 (D) mm, IEC

(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

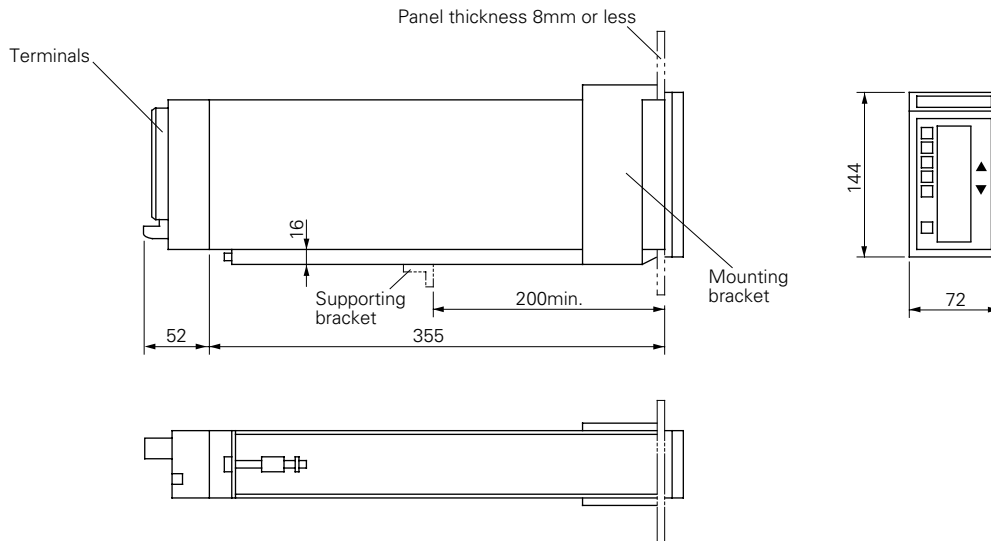
1	2	3	4	5	6	7	8	Description
P	N	J	3				5	
A								<b>Indicating input 1</b> 1 to 5V DC
B								4 to 20mA DC with 24V DC power supply
C								J thermocouple } 10mV DC span or K thermocouple } more
D								E thermocouple } Basic contact com- R thermocouple } pensating function
E								
F								
G								Resistance bulb, Pt100, 3-wire, 50°C span or more
<b>Indicating input 2</b>								
A								1 to 5V DC
C								4 to 20mA DC with 24V DC power supply
<b>Power supply</b>								
1								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)

The product conforms to the requirements of the Electromagnetic compatibility Directive 89/336/EEC as detailed within the technical construction file number TN510402. The applicable standards used to demonstrate compliance are :-

EN 55011 : 1991 CLASS A Conducted and Radiated emissions

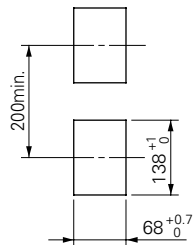
EN 50082-1 :-1992 Radiated immunity, ESD and FBT

# OUTLINE DIAGRAM (Unit:mm)

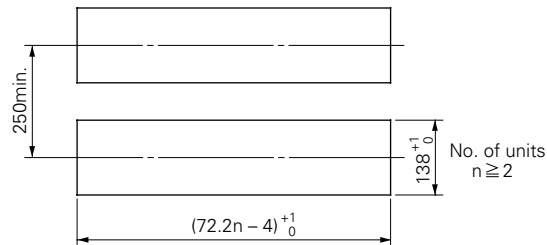


## Panel cutout

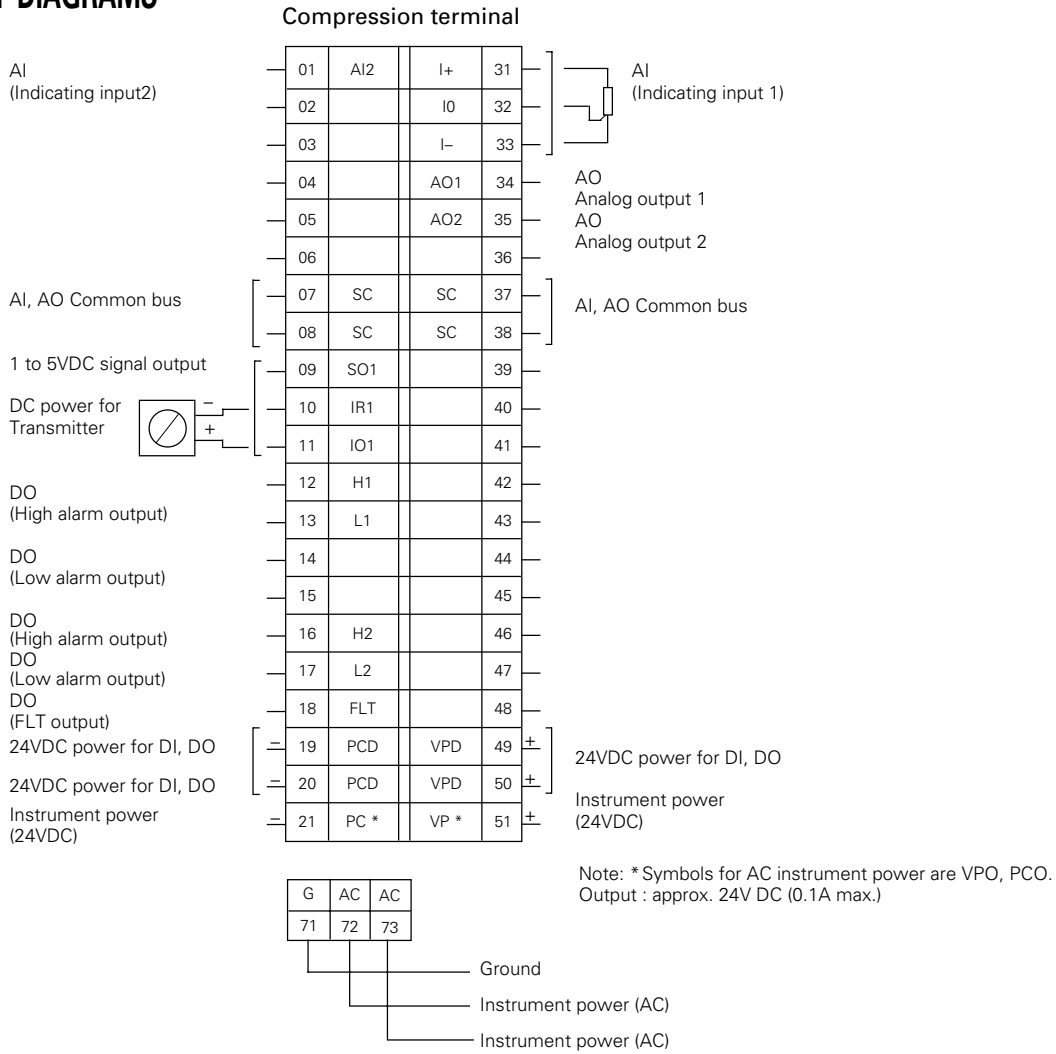
When mounting 1 unit



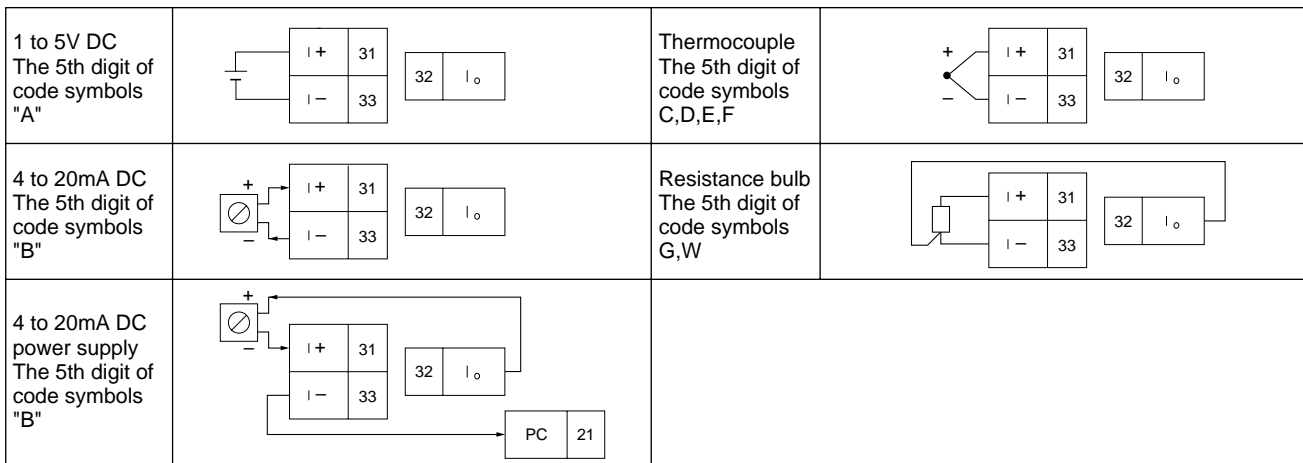
When mounting "n" units



# CONNECTION DIAGRAMS



## Connections for indicating input 1 terminals



⚠ Caution on Safety

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

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