

Etsilon



PROCESS INDICATOR PI631-VI

Features

- ▶ 4 digits, 7 segment LED white display
- ▶ Scalable analog input
- ▶ Voltage / Current Input type
- ▶ 85 to 270V AC/DC supply
- ▶ 24 VDC optional
- ▶ Size 48 x 96mm
- ▶ IP65 for faceplate
- ▶ CE certified

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A) SAFETY PRECAUTIONS

⚠ SAFETY SUMMARY

All safety related modifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not handled in a manner specified by the manufacturer it might impair the protection provided by the equipment.

- Read complete instructions prior to installation and operation of the unit.

⚠ WARNING: Risk of electric shock.

INSTALLATION GUIDELINES

⚠ INSTALLATION GUIDELINES:

1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation the product or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between power source and supply terminals to facilitate power 'ON' or 'OFF' function. However this switch or breaker must be installed in a convenient position normally accessible to the operator.
4. Use and store the process indicator within the specified ambient temperature and humidity ranges as mentioned in this manual.

⚠ CAUTION:

1. When powering up for the first time, disconnect the output connections.
2. Fuse protection: The unit is normally supplied without a power switch and fuses. Make wiring so that the fuse is placed between the mains power supply switch and the controller. (2 pole breaker fuse-rating: 275V AC, 1A for electrical circuitry is highly recommended)
3. Since this is a built-in-type equipment (finds place in main control panel), its output terminals get connected to host equipment. Such equipment shall also comply with basic EMI/EMC and other safety requirements like BSEN61326-1 and BSEN61010 respectively.
4. Thermal dissipation of equipment is met through ventilation holes provided on chassis of equipment. Such ventilation holes shall not be obstructed else it can lead to a safety hazard.
5. The output terminals shall be strictly loaded to the manufacturer specified values/range.

ELECTRICAL PRECAUTIONS DURING USE

Electrical noise generated by switching of inductive loads can create momentary disruption, erratic display, latch up, data loss or permanent damage to the instrument.

To reduce noise:

- a) Use separate shielded wires for inputs.

B) OVERVIEW

SPECIFICATIONS

1. DISPLAY

Display	4 digits white display: 0.56" 7 segment digital display
Keys	3 keys for digital setting

2. INPUT

Input	Voltage: 0-10V DC
	Current: 0-20mA DC, 4-20mA DC
Sampling time	250ms
Input filter (FTC)	0.2 to 9.9 sec
Resolution	Decimal point position selectable: 1/0.1/0.01/0.001
Indication accuracy	±0.5% of F.S., ±1 digit (F.S.=Full Scale)

3. POWER SUPPLY

Supply voltage	90 to 270V AC/DC, 50/60Hz, 5VA max
Temperature	Operating: 0 to 50 °C, Storage: -20 to 75 °C
Humidity	95% RH (non-condensing)
Weight	100gm (0.220 lbs)
Protection level	IP65 for faceplate

KEYS DESCRIPTION

Functions	Key press
Programming mode	
To view configuration Level	⬆ + ⬇ Keys for 3 sec.
To view parameters on the same level	⬆ Key once to register/view the next function in operational menu.
To set parameter ranges	⬆ Key to scroll through the function ranges (ranging 0 to 9)
To select digit	➡ Key to select digit from MSD to LSD

NOTE: The unit will auto exit programming mode after 30 seconds of inactivity. **OR** By pressing the ⬆ key for 3 seconds.

Error	Meaning
OVER	Sensor break / Over range condition
REUR	Sensor reverse / Under range condition

MECHANICAL INSTALLATION

1. Prepare the panel cutout with proper dimensions as shown above.
2. Fit the unit into the panel (self locking mechanism).
3. The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, oils, steam or other unwanted process by-products.
4. Do not connect anything to unused terminals.
5. Use minus type screw driver to remove unit from the panel. Put screw driver in the cavity of clamp and gently push outside.

PANEL THICKNESS

0.5mm (minimum) and 2.5mm (maximum)

EMC Guidelines:

1. Use proper input power cables with shortest connections and twisted type.
2. Layout of connecting cables shall be away from any internal EMI source.

Outline dimension (in mm)	Panel cutout dimension (in mm)

C) WIRING GUIDELINES

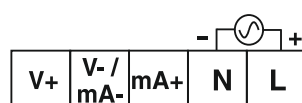
⚠ WARNING

1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
2. To eliminate electromagnetic interference use short wire with adequate ratings; twists of the same in equal size shall be made. For the input and output signal lines, be sure to use shielded wires and keep them away from each other.
3. Cable used for connection to power source, must have a cross section of 1mm² or greater. These wires shall have insulation capacity made of at least 1.5kV.
4. A better anti-noise effect can be expected by using standard power supply cable for the instruments.

MAINTENANCE

1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Clean the equipment with a clean soft cloth. Do not use Isopropyl alcohol or any other cleaning agent.

TERMINAL CONNECTIONS

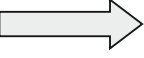


D) PROGRAMMING

PRESS + KEY FOR 3 SECONDS

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	DISPLAY CONDITION
CODE	Lock code	0000	Factory Set = 0085	—
INP t	Input type	4 mA	0-20mA, 4-20mA, 0-10V	—
PE SL	Decimal point selectable	I	1/0.1/0.01/0.001	—
d.SCL	Display scaling point low	0000	-1999 to DSCH	—
I.SCL	Input scaling point low	4.00	0.0/4.0mA or 0V to ISCH	—
d.SCLH	Display scaling point high	9999	DSCL to 9999	—
I.SCLH	Input scaling point high	20.00	ISCL to 20.00mA/10.00V	—
PEU	Reverse scaling	NO	NO / YES	—
F t C	Filter time constant	1.0	0.2 to 9.9 sec.	—
PSY d	Password	UNLK	UNLK / LOCK	—
PS t	Factory default (Reset all)	NO	NO / YES	—

NOTE :

- 1) For MSD by pressing  key the values are scrolled from 0 to 9 and then '-' and '-1' then return to 0. Rest all the digit are scrolled between 0 to 9.
- 2) If in configuration menu **PSUD** is selected as **LOCE** then the **CODE** will prompted at power ON.
- 3) To reset the parameters to factory default, select **RSE** as **YES** Press  Key  **DONE** Press  key again to move to next parameter **INPE**
- 4) For Invalid setting the parameter will prompt again with last valid setting. Applicable for parameters such as **FEC**, **d.SCL**, **d.SCH**, **I.SCL** & **I.SCH**

E) CALIBRATION CERTIFICATE

Model No: PI631-VI
Claimed accuracy: $\pm 0.5\%$ of F.S., ± 1 digit (F.S.=Full Scale)
Standard used for calibration of product is traceable to NABL

The calibration of this unit has been verified at the following values:

SENSOR	CALIBRATION VALUE (0.1 Resolution)	DISPLAY VALUE
Voltage (V DC)	0.0	0.0
	10.0	10.0
Current (mA)	0.0/4.0	0.0/4.0
	20.0	20.0

Unit is accepted as accuracy is within the specified limit of claimed accuracy and certificate is valid up to one year from the date of issue.

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