

# USER'S OPERATING MANUAL FOR DIGITAL PROCESS INDICATOR WITH ALARM

## (Models:- PI - 44X / 77X / 88X / 99X)



**PI - 44X**  
(48 X 48)



**PI - 77X**  
(72 X 72)



**PI - 88X**  
(48 X 96)



**PI - 99X**  
(96 X 96)

### SPECIFICATIONS: -

- DISPLAY TYPE** : 4-Digit 7 segment LED (RED)
- | Model no.      | PI-44X | PI-88X | PI-77X | PI-99X |
|----------------|--------|--------|--------|--------|
| Display height | 0.36"  | 0.56"  | 0.56"  | 0.56"  |
- INPUT**
    - Sensor Input : TC-J,K,R,S,N,T,B & RTD (PT-100)
    - Analog Input : 0 - 20mA, 4 - 20mA, 0 - 1VDC, 0 - 5VDC, 0 - 3.3VDC, 0 - 10VDC (Selectable)
    - Range : -1999 to 9999
    - Resolution : 0.001, 0.01, 0.1 & 1°C (Selectable)
    - Digital Filter : 1 to 10 (Selectable)

- OUTPUT** : 2 Nos. Relay / SSR (Need to specify)
  - Relay Output**
    - Contact type : N/O, CM, N/C
    - Contact Rating : 5A @ 250VAC or 30 VDC
    - Life expectancy : > 5,00,000 operations
    - Isolation : Inherent
  - SSR Drive Output**
    - Drive Capacity: 12V @ 30mA.
    - Isolation : Non-Isolated.

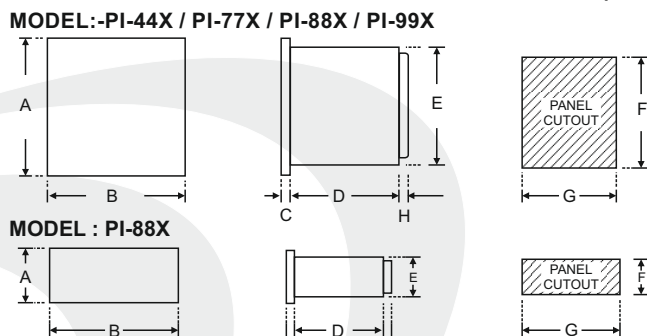
- FUNCTION** : Both output work as Alarm

- ENVIRONMENTAL**
  - Operating Range : 0 ~50°C, 5~90% Rh
  - Storage Humidity : 95% Rh (Non-condensing)

- POWER SUPPLY**
  - Supply Voltage : 90~270VAC, 50/60Hz.
  - Consumption : 4W Maximum.

- PHYSICAL**
  - Housing : ABS Plastic.

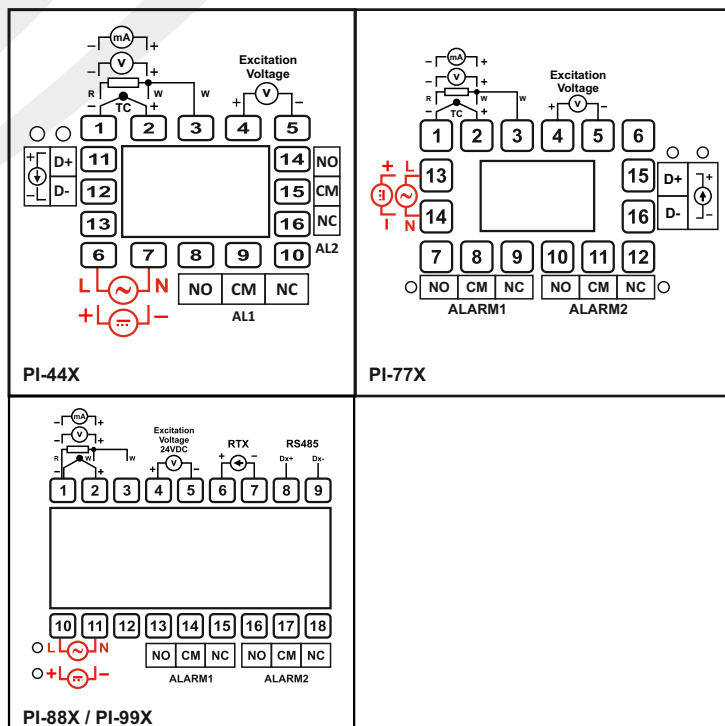
### OVER ALL DIMENSIONS & PANEL CUT OUT (IN MM)



### Over all Dimensions:-

Dim / Model	A	B	C	D	E	F	G	H
PI-44X	48	48	8	85	43	44	44	9
PI-77X	72	72	10	65	66	68	68	9
PI-99X	96	96	10	53	89	92	92	9
PI-88X	48	96	10	53	43	44	92	9

### TERMINAL DIAGRAM :-



# PROGRAMMING



Press and Hold SET & UP Key Simultaneously for 3 Sec.

Press and Hold SET & DOWN Key Simultaneously for 3 Sec.

Press and Hold Shift Key Simultaneously for 3 Sec.

Press SET Key Once in Run Mode

Configuration			
Display	Default	Parameter Name	Range
LOCY	15	Lock Code	1 ~ 9999
INPt	J	Input Type	Ref Table 1
rES	0	Resolution	Ref Table 1
ALLO	0	Analog Input Low Value	Ref Table 2
ALHI	1200	Analog Input High Value	Ref Table 2
LSPL	0	Lower Setpoint Limit	Refer Table 1
HSPL	400	Higher Setpoint Limit	Refer Table 1
ALLG	d lr	Analog Input Logic	Direct, Reverse
OFSt	0	Process Value Offset	Refer Table 2
FLtr	6	Input Filter	0 ~ 10
ēnR	0-20	mA Output Type	0-20 ~ 4-20 mA
rēdl	d lr	Re-Tx Direction	Direct, Reverse
rELo	0	Re-Tx Low Value	-1999 ~ rE.HI
rEH,	1200	Re-Tx High Value	rE.Lo ~ 9999
rēEr	USLo	Re-Tx Error	US.Lo, US.HI, SI.Lo, SI.HI
Id-1	1	Device ID Number 1	1 ~ 9999
bRUD	9600	Baud Rate	9600, 1920, 3125, 3840, 7680
PAR	o_81	Parity	n_81, n_82, o_81, o_82, E_81, E_82
Cntv	1	RS 485 Response Interval	(1-50) * 20ms
ULOC	15	User Lock Code	15

Control List			
Display	Default	Parameter Name	Range
ALLP	15	Alarm Lock Code	1 ~ 9999
ALtY	LOy	Alarm 1 Type	Low, High, Band
ALLG	d lr	Alarm 1 Logic	Direct, Reverse
ALIH	n0	Alarm 1 Inhibit	Yes, No
ALAR	RUt0	Alarm 1 ACK.	Auto, Manual, Both
ALHY	2	Alarm 1 Hysterisis	Refer Table 2
ALSP	EnbL	Alarm 1 Setpoint	Enable, Disable
ALtY	LOy	Alarm 2 Type	Low, High, LO.DV, HI.DV, Band
ALLG	d lr	Alarm 2 Logic	Direct, Reverse
ALIH	n0	Alarm 2 Inhibit	Yes, No
ALAR	RUt0	Alarm 2 ACK.	Auto, Manual, Both
ALHY	02	Alarm 2 Hysterisis	Refer Table 2
ALSP	EnbL	Alarm 2 Set Point	Enable, Disable

User List			
Display	Default	Parameter Name	Range
ALSP	0	Alarm 1 Setpoint	LSPL ~ HSPL 2 ~ 99 °C
ALbd	0	Alarm 1 Band	Refer Table 2
AL2SP	0	Alarm2 Setpoint	LSPL ~ HSPL 2 ~ 99 °C
AL2bd	0	Alarm 2 Band	Refer Table 2

User Calibration			
Display	Default	Parameter Name	Range
UCLP	7	User Calibration Lock	1 ~ 9999
IQtY	1P	Calibratin Type	-1999
LCAL	0	Low Calibration	0 ~ 9999
HCRAL	9999	High Calibration Ration	-1999 ~ 9999
dEF	YES	Factory Default	Yes, No
CL0	16.70	mA Low Calibration	0 ~ 99.99
CH0	85.50	mA High Calibration	0 ~ 99.99
dēR	YES	mA Default	Yes, No

Parameter will display according to below symbols	
⚙️	Input Type = Analog
■	Factory mA Re-Tx
➤	Factory Set RS-485 Given
◆	Alarm 1 Type = Band
▲	Alarm 2 Type = Band

**Table 1 :- Range of Different Sensor Types.**

Sensor Type	Range	Resolution
Fe-k(J) T/C	0 ~ 760°C	1°C
Cr-AL(K) T/C	-99 ~ 1300°C	1°C
(R) T/C	0 ~ 1700°C	1°C
(S) T/C	0 ~ 1700°C	1°C
TC - N	-99 ~ 1300°C	1°C
TC - T	-99 ~ 400°C	1°C
TC - B	0 ~ 1800°C	1°C
Pt-100 (RTD)	-100 ~ 450°C	1°C
Pt-100 (RTD 0.1)	-100.0 ~ 450.0°C	0.1°C
0 ~ 1 V	-1999 ~ 9999	0.000
0 ~ 3.3 V		00.00
0 ~ 5 V		000.0
0 ~ 10 V		0000
0 ~ 20 mA		(Selectable)
4 ~ 20 mA		

**Table 2 :- Range as per Resolution.**

Resolution	Analog Input Low Value	Analog Input High Value	Process Value Offset	Alarm 1 Band	Alarm 2 Band	ALARM 1 Hysterisis	ALARM 2 Hysterisis
0000	-1999 to 9999	-1999 to 9999	-25 to 25	-50 to 50	-50 to 50	1 to 25	1 to 25
000.0	-199.9 to 999.9	-199.9 to 999.9	-25.0 to 25.0	-50.0 to 50.0	-50.0 to 50.0	0.1 to 25.0	0.1 to 25.0
00.00	-19.99 to 99.99	-19.99 to 99.99	-15.00 to 25.00	-19.00 to 50.00	-19.00 to 50.00	0.01 to 25.00	0.01 to 25.00
0.000	-1.999 to 9.999	-1.999 to 9.999	-1.500 to 2.500	-1.900 to 5.000	-1.900 to 5.000	0.001 to 2.500	0.001 to 2.500

**Error Message:-**

Display Message	Selected Input	Descriptions
“OPEN”	TC-J,K,R,S,N,B or RTD	Open Circuit of Control Sensor
“HHHH”	TC-J,K,R,S,N,B or RTD	If input is above HSPL it will display “HHHH” message.
“HHHH”	0 ~ 20 / 4 ~ 20 / 0 ~ 10	If input is above range it will display “HHHH” message.
“LLLL”	TC - J,K,R,S,N,B or RTD	If input is below LSPL it will display “LLLL” message.
“LLLL”	0 ~ 20 / 0 ~ 10	If input is below ‘0’ it will display “LLLL” message.
“LLLL”	4 ~ 20	If input is below “3.8mA” and above “3.2mA” it will display “LLLL” message.
“L.BRK”	4 ~ 20	If input is less than “3.2mA” it will display “L.BRK” (Loop Break) message.
“C.E.R.R.”	Any Input Selected	The device is out of calibration and need to be sent to factory for re-calibration.



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