

PROCESS INDICATOR



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PROCESS INDICATOR

1. General Features

The Process indicator is designed with latest state of art technology. It offers high accuracy and reliability. This next generation Microcontroller based instruments accepts 4-20 mA as Input and shows the corresponding display in window. The process indicator is provided with 3mm red and green LED's to indicate communication status.

The measured informations (i.e process value) are shown in run mode . Four keys are provided on the front panel for programming purpose and to access the measured informations quickly and easily. The front panel is provided with antiglare feature for improved readability.

The Process indicator is very fast. It computes all the parameters and updates them in every one second. The Process indicator is provided with four channel input .

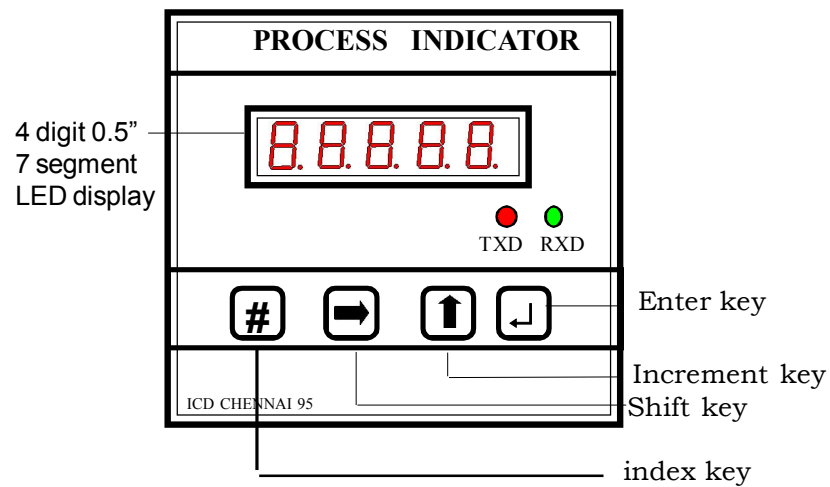
The Process indicator is housed in an ABS plastic case enclosure of size 96(H) x 96(W) x 80(D) mm dimension and is suitable for flush panel mounting.

2. Front & Rear Panel Details

Front Panel

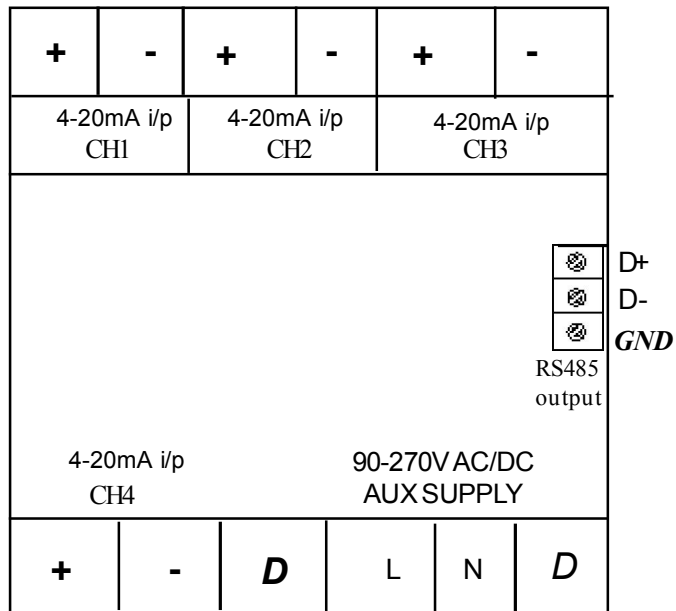
The front panel of the instrument has display window, 1X4 matrix key pad.

1. The 4 digit 0.5" 7 segment red LED display window shows the process value.
2. The 1X4 matrix key pad is designed for setting new pass word & range settings, device id settings.



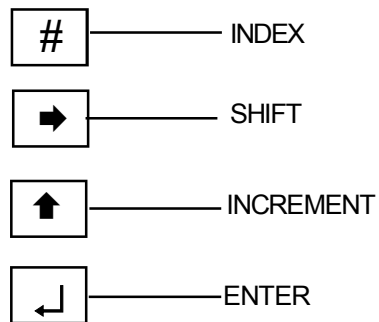
Rear Panel

The rear panel has auxiliary supply terminals marked as 'L N' from 90 - 270 VAC source and 4-20 mA current input terminals marked as '+ -' and RS485 Communication output terminals marked as D+, D- & Gnd.



3. 1*4 Matrix key switches Description

These key switches are provided inside of unit . The four key switches are designated as



1.Index key (#)

The index (#) key operates in Program mode and in run mode . By pressing this key displays the configuration Item display pages.

2. Shift key

The shift (►) key is used to select the digit one by one on pressing it. The selected digit is shown by flashing that digit.

3 .Increment key

The Increment (▲) key is used to Increment the selected digit. The Increment key Increments the digit from 0 to 9 and then wraps down once again.

4. Enter key (↵)

Once the required values are set in the configuration items, press the Enter (↵) key to store it in memory. If the change is accepted the display

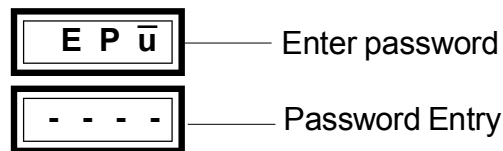
4. Programming Instruction

The meter is to be programmed properly to work in a particular installation. The various items that are to be programmed are given below.

1. New pass word (0000 - 9999)
2. Range set -1,2,3,&4 (0000-9999)programmable
3. Device Id (0-255)

The meter is provided with password facility to prevent alteration of configuration items by unauthorised persons. The configuration items can be changed by following the procedure given below,

With power applied to the meter hold the ► and ▲ keys together for 3 seconds, the display indicates enter password, where user has to enter the valid password.



The valid password is set in the configuration item. New password has to be entered by using Shift (►), Incr (▲) and Enter (↵) Keys or else display will show 'Err' (Error). After the valid password is entered the unit enters into program mode by showing it in display



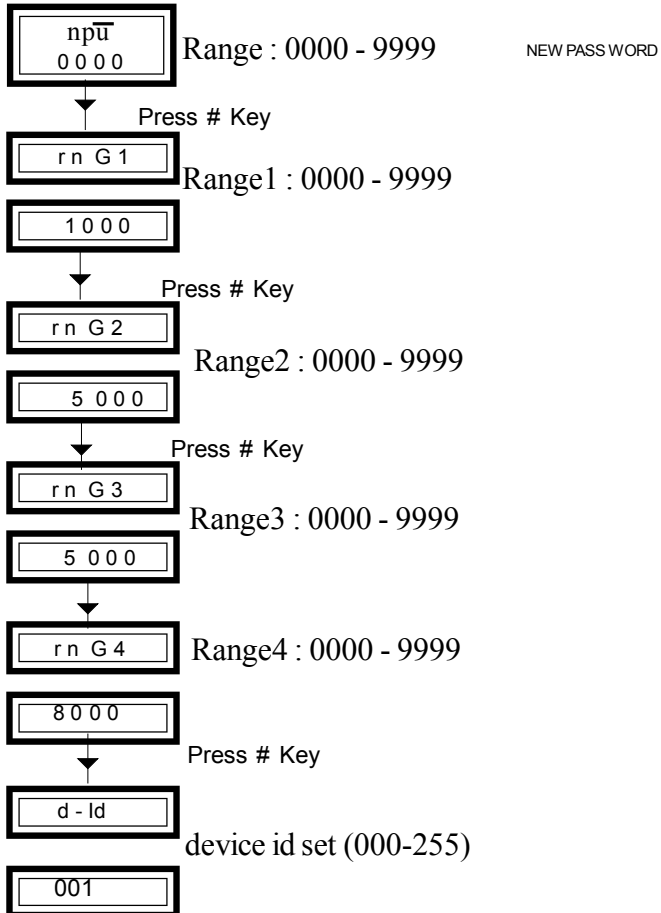
Special Note:

If the user enters the 'enter password' for the first time or if the user fails to remember the password entered in 'New password', the default password of '0386' can be entered.

Special Note:

If the user enters the 'enter pass word' for the first time or if the user fails to remember the pass word entered in 'New pass word' ,the default pass word of 0386 can be entered.

In program mode, the configuration items can be selected by using Index (#) key. The heading displays are used to differentiate various configuration items. The heading displays for various configuration items are given below,

PROGRAM MODE DISPLAY PAGES:

*Again pressing the index key displays the above display pages.
Press shift and increment keys together to get into run mode.*

Special Note: The decimal point can be changed by pressing shift button for five times the decimal point starts to flash. Now press increment button to change the place of decimal point as need and press enter button to save.

RUN MODE DISPLAY PAGES:

*Without input condition the display shows open.
By pressing of index key selecting auto / Manual mode.*

OPEn

Press # Key

AUtO

it indicates Auto mode

Press # Key

nAn

It indicates manual mode

CH - 1

Press ↓ Key (Steady in channel selection)

Auto Scrolling

OPEN

5. Communication Port Details

The Process indicator is provided with a optically Isolated **RS 485** communication Port. It is an optional Feature and has to be specified at the time of ordering. The communication protocol used is **MOD BUS - RTU** Type. Using the communication Port, the meters can be connected in multi drop network and datas can be collected in a centralised control room using any standard **SCADA** Software.

The communication settings are,

Protocol	:	MOD BUS RTU
Baudrate	:	9600
Data bit	:	8
Stop bit	:	1
Parity	:	None
Communicating mode	:	Half Duplex
No of elements	:	4

The address of the parameters are,

DATA	ADDRESS	RESOLUTION	ELEMENT
Channel -1 value	40001	Programmable	1
Channel -2 value	40002	Programmable	1
Channel -3 value	40003	Programmable	1
Channel -4value	40004	Programmable	1

6. Technical Specification

Type : ICD Make Microcontroller Based
"PROCESS INDICATOR"

Input : 4-20 mA DC

No of Inputs : 4

Range : 0000 to 9999 (Programmable)

Resolution : Selectable

Accuracy : $\pm 0.5\%$ OFS

Display : 4 digit 0.5" 7 segment Red LED

Others

Parameter setting : Through key Switch
(Index, Shift, Increment & Enter Keys)

Parameter Storage : In Non-volatile memory

Aux. Supply : 90-270 VAC /DC

Enclosure : ABS Plastics Enclosure

Box Dimension : 96(H) x 96(W) x 80(D) mm

Mounting : Panel

communication : RS 485 communication output.