OP3137-V01

selec

PIC111A-VI
Operating Instructions



48 x 96

PARAMETERS	SPECIFICATIONS
Display	4 digits (Red) Red Display:- 0.56" 7 segment digital display
Keys	3 keys for digital setting
INPUT SPECIFICATIONS	
Input Signal	Voltage : 0 - 10V DC Current : 0 - 20mA DC 4 - 20mA DC
Sampling time	250 msec
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)
POWER SUPPLY SPECIFICATIONS	
Supply Voltage	90 to 270V AC / DC (AC : 50 / 60 Hz)
Power Consumption	5 VA max@270V AC
Alarm Output (Relay Output)	3A @ 250V AC or 24V DC Alarm modes : Alarm High Alarm Low
Sensor Supply	24V DC supply to power the sensor (30mA)
Temperature	Operating : 0 to 50°C Storage : -20 to 75°C
Humidity	95% RH (non-condensing)
Isolation Breakdown Rating	AC line with respect to inputs and Output : 2000 Volts All other inputs and output with respect to relay contacts : 2000V AC
Connection	Wire clamping screw terminals
Weight	200 gms (0.440 lbs)

SAFETY PRECAUTIONS

All safety related codifications, 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.

WIRING GUIDLINES

CAUTION:

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 1mm^2 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 instrument.

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.

INSTALLATION GUIDELINES

CAUTION

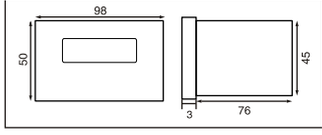
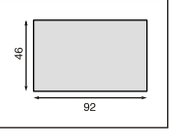
1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and Internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the 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 temperature controller 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 indicator. (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 BSEN 61010 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.

MECHANICAL INSTALLATION

For installing the Indicator
Prepare the panel cutout with proper dimensions as shown (in mm) below

Outline Dimensions (in mm)	Panel Cutout (in mm)
	

1. Prepare the panel cutout with proper dimensions as shown above.
2. 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.
3. Use the specified size of crimp terminals (M3.5 screws) to wire the terminal block. Tighten the screws on the terminal block using the tightening toque with in the range of 1.2 N.m.
4. Do not connect anything to unused terminals.

EMC GUIDELINES

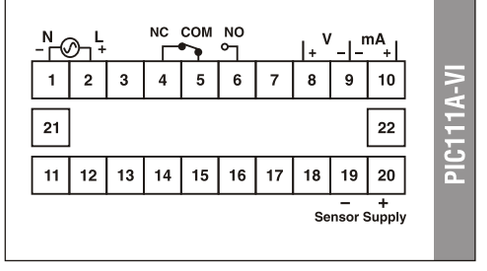
1. Use proper input power cables with shortest connections and twisted type.
2. Layout of connecting cables shall be away from any internal EMI source.

ELECTRICAL PRECAUTIONS DURING USE

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

To reduce noise :
A) Use separate shielded wires for inputs

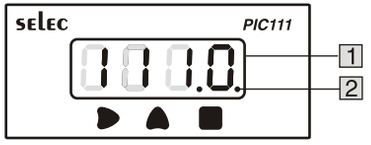
TERMINAL CONNECTIONS



TERMINAL CONNECTIONS

TERMINAL	SYMBOL	DESCRIPTION
1	N(-)	Neutral
2	L(+)	Live
4	NC	NC of Relay
5	COM	COM of Relay
6	NO	NO of Relay
8	V+	Signal I/P 0 to 10V
9	V-/mA-	Signal I/P -
10	mA+	Signal I/P 0/4 to 20mA
19	Sensor Supply (-)	-Ve Sensor Supply
20	Sensor Supply (+)	+Ve Sensor Supply

FRONT PANEL DESCRIPTION



1 Process-value (PV)/ Parameter name display	1) Displays a process value (PV). 2) Displays the parameter symbols at parameter setting mode for 1 sec. and then parameter values. 3) Displays PV error conditions.
2 Alarm output indication	The LED is lite when the Alarm output is ON

FRONT KEYS DESCRIPTION

Functions	Key press
Programming Mode	
To view Configuration Level	Press ▲ keys for 3 seconds.
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 30sec. of inactivity.
OR By pressing the ■ keys for 3 seconds.

When an error has occured, the display indicates error codes as given below.

Error	Meaning
OVER	Over range condition
UNDR	Under range condition

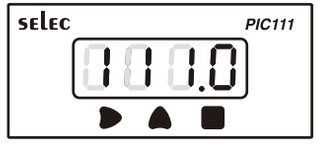
CONFIGURATION INSTRUCTIONS

KEY FUNCTIONS

- ▲ → Press once to scroll parameter ranges
- Press for 3 sec to enter Configuration menu (from online)
- ▶ → Press to shift the digit
- ■ → Press to set parameter value and move to next parameter
- Press for 3 sec. to exit the Configuration menu

OPERATIONAL MENU

POWER ON



Display (for 1sec.)	Description	Default Value	Range	Display Condition
CodE	Lock code	0000	Factory Set = 0085	For PSWD = LOCK
InPt	Input type	4mA	0-20 mA / 4-20 mA 0-10 V	—
PESL	Decimal point selectable	1	1/0.1/0.01/0.001	—
HA	High Alarm selectable	9999	LA to 9999	—
LA	Low Alarm selectable	0000	-1999 to HA	—
d.SCL	Display scaling point low[1]	0000	-1999 to DSCH	—
I.SCL	Input scaling point low	4.00	0.0/4.0 mA OR 0V to ISCH	—
d.SCH	Display scaling point high	9999	DSCL to 9999	—
I.SCH	Input scaling point high	20.00	ISCL to 20.00mA/ 10.00V	—
PEU	Reverse scaling	no	NO / YES	—
FtC	Filter time constant	1.0	0.2 to 9.9 sec.	—
PSwd	Password[2]	UNLK	UNLK/LOCK	—
rSt	Factory default[3] (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 PSwd is selected as LOCK then the CodE will prompted at power ON.
3) To reset the parameters to factory default , select rSt as YES → Press ■ Key → donE
   Press ■ key again to move to next parameter InPt
4) For Invalid setting the parameter will prompt again with last valid setting.
   Applicable for parameters such as FtC , d.SCL , d.SCH , I.SCL & I.SCH

CALIBRATION CERTIFICATE

Model No : PIC111A-VI

Claimed Accuracy : ±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 (0.1Resolution)	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

CHECKED BY :

(Specifications subject to change as development is a continuous process.)

Selec Controls Pvt. Ltd., India

Factory Address :
EL-27/1, Electronic Zone, TTC Industrial Area,
MIDC, Mahape, Navi Mumbai - 400 710, INDIA.
Tel. No. : +91-22-28476443 / 1882
Fax No. : +91-22-28471733 I Toll free : 1800 227 353
Website: www.selec.com I Email: sales@selec.com