Process Indicator

PIC352

OPERATING INSTRUCTIONS

Doc. name: OP INST PIC352 OP3023-V01

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CONTENTS

OVERVIEW

96x96mm

SALIENT FEATURES

- **Universal I/O:**
  Inclusion of all possible inputs and outputs in a single product with high precision sensing & low temperature drift
- **Customized Upper 4 Digit Alpha-Numeric Display:**
  User can edit each digit as per requirements
- **Outputs:**
  0 to 20mA, 4 to 20mA, 0 to 10V & 0 to 5V for Retransmission & Manual output
- **Special Features:**
  - 2 SPDT Relays for Alarm Actuation
  - Programmable backlight as per Alarm
  - 24V, 100mA sensor supply for transmitter modules
  - Single key Auto / Manual switching

Others

- Dual 4 digit display
- Digital filtering
- Sensor break indication
- Sensor error compensation
- Programmable parameter lockouts
- 90 to 270 VAC/DC supply

Optional Features

- RS485 MODBUS communication
- Compliance - CE
- IP65 front panel protection

2. ORDERING CODE

PIC352-11-U-X-1

1	85-270 VAC/DC
2	12-24 VAC/DC

C	RS485 Slave Communication
0	No RS485 Slave Communication

0	LED
1	LCD

0	Standard
1	Precision I/O

PIC352-11-U-C-1

1) Universal Input
2) 2 Number of SPDT Relays
3) Analog Output Current & Voltage
4) RS485 Slave Communication

PIC352-11-U-0-1

1) Universal Input
2) 2 Number of SPDT Relays
3) Analog Output Current & Voltage

1. TECHNICAL SPECIFICATIONS

1. DISPLAY

Display
PIC352 - 96X96- 4 digit Alphanumeric and 4 digit 7-Seg LCD with Selectable Multicolor Backlight as per user requirements.

Led Status Annunciators	OUT1, OUT2, MAN (Manual)

1. TECHNICAL SPECIFICATIONS

1. DISPLAY

Display **PIC352 -** 96X96- 4 digit Alphanumeric and 4 digit 7-Seg LCD with Selectable Multicolor Backlight as per user requirements.

Led Status Annunciators	OUT1, OUT2, MAN (Manual)

2. INPUT

Input	**Thermocouple :** J, K, T, R, S, C, E, B, N, L, U, W, Platinel II. **RTD :** PT100, PT1000 **Signal inputs :** -5 to 90mV,0 to 10VDC,0 to 20mA DC (Programmable scale type)
Sampling time	60 ms.
Resolution	1 / 0.1° for TC / RTD. 1 / 0.1 / 0.01 / 0.001 for Analog input. (Decimal point position)
Indication accuracy	**TC Input :** 0.1% of span at 25°C **R&S Input :** 0.25% of span at 25°C **RTD Input :** 0.1% at 25°C **Voltage :** 0.1% at 25°C **Current :** 0.1% at 25°C
Digital filtering	OFF, 1 to 99 sec.

3. ALARM OUTPUT

Relay contact output	**Relay 1, Relay 2 :** 10A@250VAC or 28VDC **Life expectancy :** 50000 cycles at maximum load rating

3.1. RETRANSMISSION OUTPUT

Resolution	2uV approx for AOV and 2uA approx for A01
Current output	**Range :** 0 / 4-20mA **Action :** Retransmission **Update rate :** 100ms,Maximum output load resistance : 500E
Voltage output	**Range :** 0-5 / 10V **Action :** Retransmission **Update rate :** 100msec **Minimum output load resistance :** 10k

4. FUNCTION

Alarms	Modes : Alarm high, Alarm Low, Band, Serr Hystersis : Programmable Annunciator : Programmable Reset Action : Programmable-Automatic or latched Standby(Hold) : Programmable-Enable or disable Pdly : Power ON delay Rdly : Restart time delay
Auto / Manual Concept	User can switch from manual analog 0/P to retransmission mode by pressing A/M key for 5sec. when in online mode. **NOTE :** User must feed the manual output % in HAND level 3

5. SERIAL COMMUNICATION

Interface standard	RS485
Communication address	1 .... 99, maximum of 32 units per line
Transmission mode	Half duplex
Transmission protocol	MODBUS RTU
Transmission distance	500m maximum
Transmission speed	115200,57600,38400,19200,9600,4800,2400 bits/sec.
Parity	None, Odd, Even
Stop bits	1 or 2
Response time	100ms (max and independent of baud rate)

6. ENVIRONMENTAL CONDITIONS

Operating range	0.....55°C
Storage range	-20.....75°C
Storage humidity	85% max. RH (non condensing) from 0 to 50°C

7. POWER SUPPLY

Power supply	90.....270VAC / DC
Frequency	50 / 60Hz
Power consumption	8VA max

8. ISOLATION BREAKDOWN RATINGS

AC line w.r.t. all inputs and outputs	2500Volts
All other inputs and outputs w.r.t. Relay contacts	2500VAC

9. SAFETY AND EMC STANDARDS

Compliance	CE
LVD	As per BS EN 61010
EMC	As per BS EN 61326
Panel sealing	IP65

WEIGHT : PIC352-11-U-X-1 : 200gms

10. HOUSING : Flame retardant engineering plastic

11. INPUT SENSOR RANGES (for 1°C resolution)

Sensor type	Range
J	-200 to 750°C
K	-200 to 1350°C
T	-200 to 400°C
R	0 to 1750°C
S	0 to 1750°C
C	0 to 2300°C
Platinel II	0 to 1390°C
PT1000	-200 to 850°C

Sensor type	Range
E	-200 to 750°C
B	+149 to 1820°C
N	-200 to 1300°C
L	-200 to 600°C
U	-200 to 900°C
W	0 to 2300°C
PT100	-200 to 850°C

Signal inputs:

Input type	Range
Linear mV	-5 to 90mV
Voltage	0 to 10VDC
Current	0 to 20mA

1. SAFETY INFORMATION

SAFETY SUMMARY

This manual is meant for the personnel involved in wiring, installation, operation, and routine maintenance of the equipment. 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.

⚠ **CAUTION :** Read complete instructions prior to installation and operation of the unit.

⚠ **CAUTION :** Risk of electric shock.

INSTALLATION INSTRUCTION

⚠ **CAUTION :**

1. This equipment, being built-in-type,normally becomes a part of the main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Conductors must not come in contact with the internal circuitry of the equipment 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 an A operator.

⚠ **CAUTION :**

1. The equipment shall not be installed in environmental conditions other than those specified in this manual.
2. Fuse Protection - The equipment does not contain built-in fuse. Installation of external fuse for electrical circuitry is highly recommended. Recommended rating of such fuse shall be 275VAC/1 Amp.
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 safety requirements like BS EN 61326-1 and BS EN 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.

MAINTENANCE

1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Use soft cloth for cleaning. Do not use isopropyl alcohol or any other organic cleaning agent.

WIRING INSTRUCTION

CAUTION :

1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
2. Terminals and electrically charged parts must not be touched when the power is ON.
3. Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.
4. Use lugged terminals to meet M3.5 screws.
5. To eliminate electromagnetic interference use of short wire with adequate ratings and twists of the same in equal size shall be made.
6. Cable used for connection to power source, must have a cross section of 1 or greater. These wires shall have insulation capacity made of at least 1.5KV.

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 of MOV across supply of temperature controller & snubber circuits across loads are recommended. Part number are as follows :
   1. Snubber : APRC-01
B) Use separate shielded wires for inputs.
C) The unit should preferably be shielded from the contactor

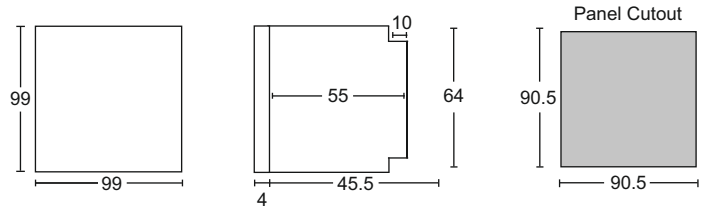
INSTALLATION GUIDELINES

Mechanical Installation :

For installing the controller

1. Prepare the panel cutout with proper dimensions as shown.

OVERALL DIMENSIONS (All dimensions in mm)



2. Remove the clamp from the controller.
3. Push the controller into the panel cutout. Secure the controller in its place by pushing the clamp from the rear side.

CAUTION :

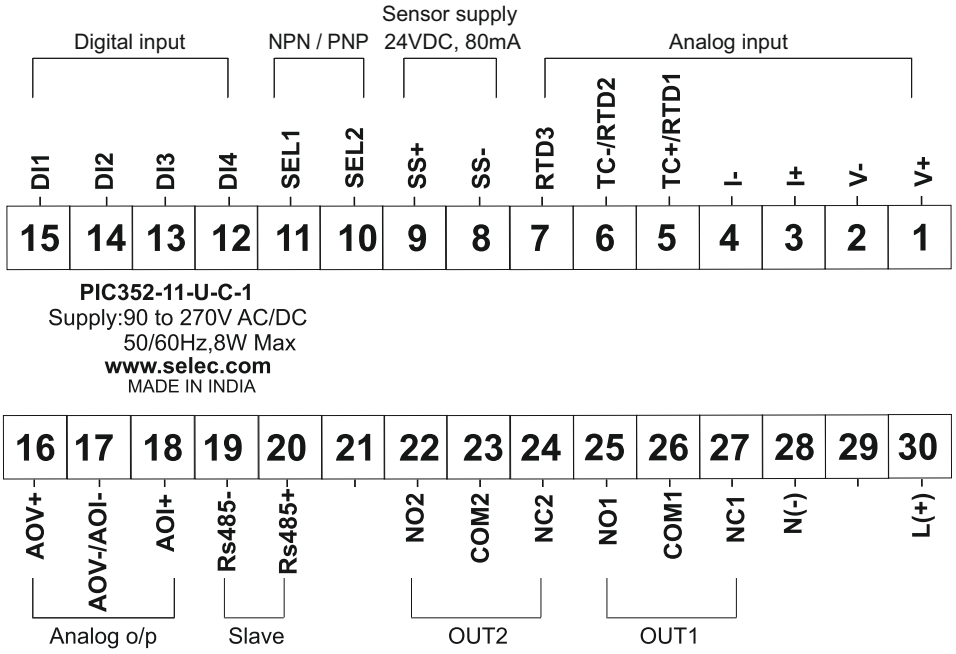
The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, oils, steam, or other unwanted process by-products.

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.

2. TERMINAL CONNECTIONS

PIC352-11-U-C-1



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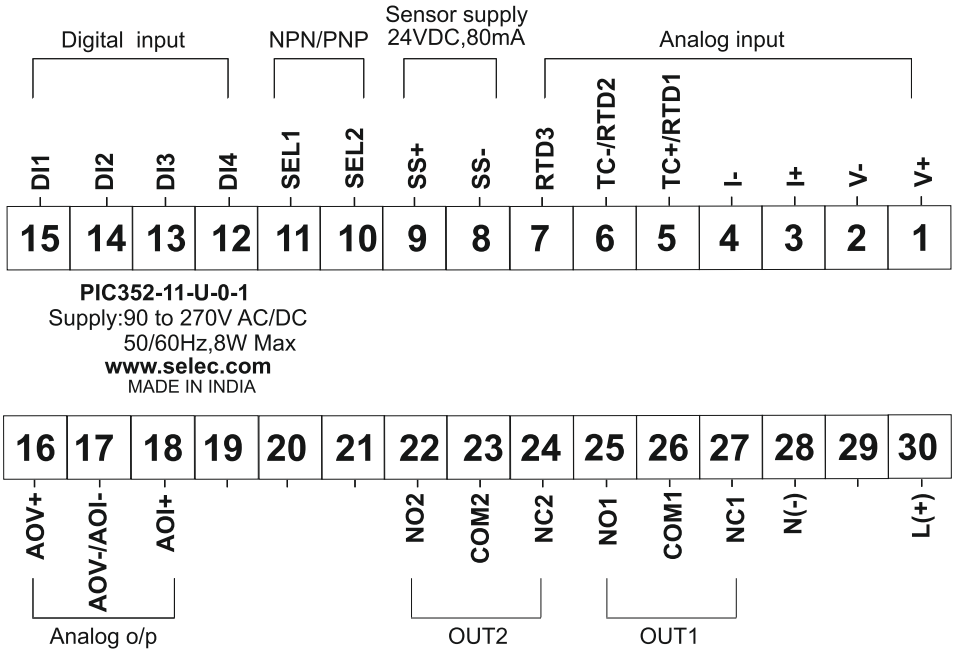
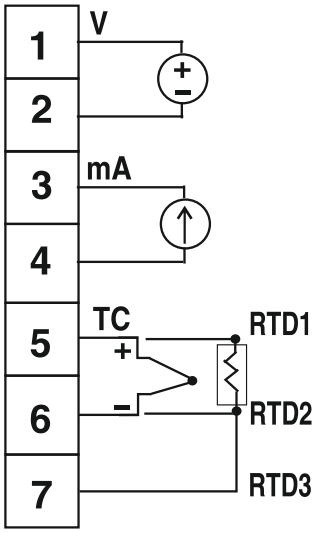


3. SENSOR INPUT WIRING

PIC352-11-U-X-1



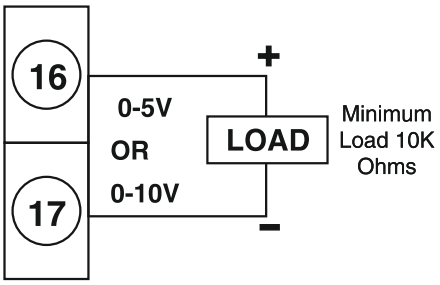
TC - Thermocouple (J, K, T, R, S, C, E, B, N, L, U, W, Platinel II).
V - Voltage Input (0 to 10 V DC).
mA - Current Input (0 to 20mA DC)
RTD - PT100 / PT1000

NOTE : 1) Refer input type selection in level 0 of programming menu.
3) For 2 Wire RTD short terminals 6 & 7.

4. OUTPUT WIRING

Fig 1. Analog Output - Linear voltage

PIC352-11-U-X-1



Analog Output - Linear current

PIC352-11-U-X-1

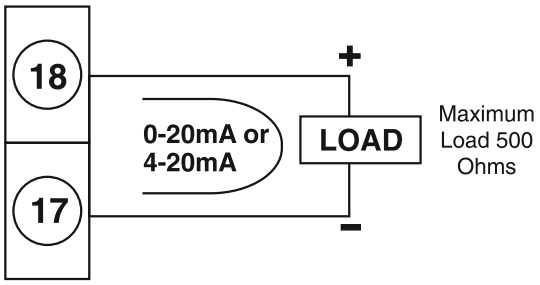
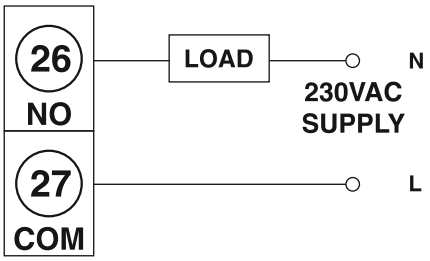


Fig. 2. Alarm Output - Relay to drive contactor (For single phase)

PIC352-11-U-X-1

For Relay Drive



Contactor Drive

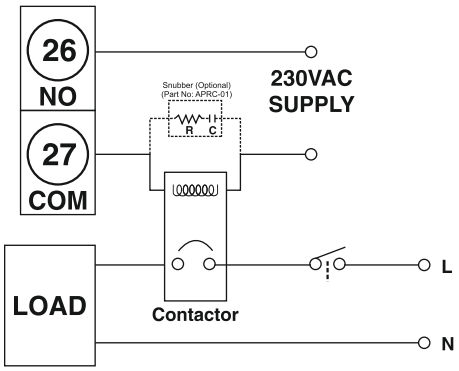
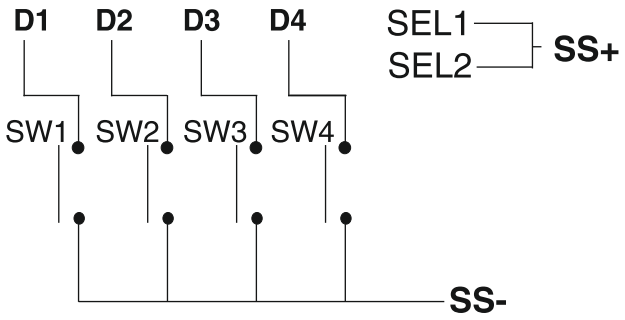


Fig. 3. External Key Connection

PIC352-11-U-X-1



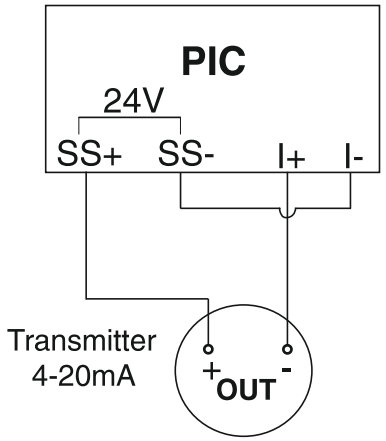
DI1=SET(✔)
DI2=A/M (🔄)
DI3=DEC(⮟)
DI4=INC (⮝)

This function is available when **keys** is selected in DIN (Digital input) in level 3

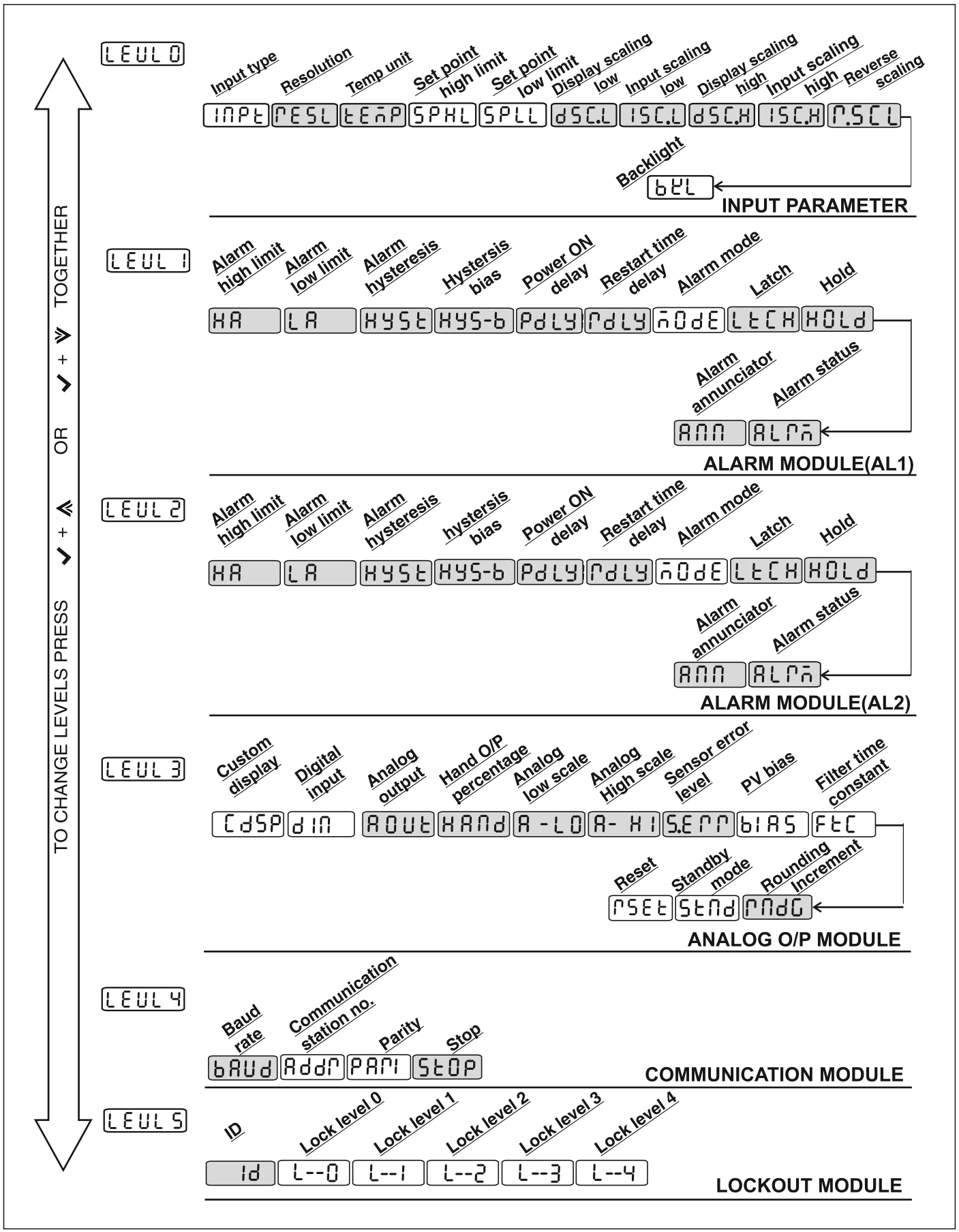
NOTE: Use snubber as shown above to increase life of internal relay of temperature controller.

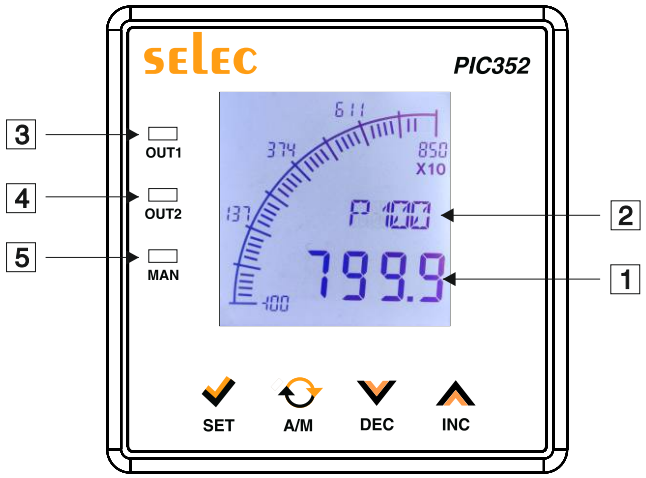
Fig. 4. Transmitter input wiring

PIC352-11-U-X-1



1. FUNCTIONS MENU





2. KEY DESCRIPTION

Functions	Key press
To enter or exit program mode	∧ + ∨ together for 3 seconds
To change levels	∧ + ∨ till Level is displayed. ✓ + ∧ / ∨ to increase or decrease the level number.
To view function on the same level and to display the current option.	∧ or ∨ key once to view the next / previous function.
To increase or decrease the value of a particular function.	✓ + ∧ to increase and ✓ + ∨ to decrease the function value.
For switching from manual analog 0/P to retransmission mode	Press A/M key for 5sec
Alarm acknowledgement	Press + ∧ / + ∨ to select Alarm1or 2 then Press ✓ + ∧ or ✓ + ∨ to acknowledge

NOTE : The unit will auto exit program mode after 30 seconds of inactivity.

INDICATIONS AND DISPLAY

1	Process-value (PV)	Display the process temperature value.
2	Custom display	User selectable display
3	OUT1	Indication for Alarm 1
4	OUT2	Indication for Alarm 2
5	MAN	Indication for Manual output

PROGRAMMING OF LEVELS

3. LEVEL 0 - INPUT PARAMETERS

Display	Name & Description	Range	Display condition	Default value
INPt	Input type Select input type as Thermocouples : J, K, T, R, S, C, E, B, N, L,U,W. Platinel II. RTD : PT100, PT1000 Signal Inputs : Linear mV (-5 to 56mV), Voltage (0 to 10V), Current (4 to 20mA). Refer table on page 6 for input ranges.	J / K / t / r / S / C / E / b / n / L / U / y / PtnL P100/Pt1K 10U / 5U/ 20mA	——	J
rESL	Resolution	TC */ RTD 1 / 0.1 Analog input 1 / 0.1 / 0.01/0.001	Not prompted for R, S, and B type thermocouple	1
tEmP	Temperature unit	°C / °F	TC / RTD inputs	°C
SPHL	Set point high limit	Set point low limit to max. sensor range value. set Point low limit To 9999 for Analog input.	——	750
SPLL	Set point low limit	Min. range of sensor to Set point high Limit.-1999 to Set point high limit for Analog input.	——	-199
dSCL	Display value scaling point1[#1] Feed the value of the display required at the lower value of analog input	-1999 To Display value scaling point 2	Analog Input	0
ISCL	Input value scaling point1 Feed the lower value of the analog input signal.	0.0 mA / -5.0 mV / 0.0 V to Input value scaling point 2	Analog Input	As per input type selected.
dSCH	Display value scaling point2[#1] Feed the value of display required at the higher value of Analog input.	Display value scaling point 1 to 9999	Analog Input	9999
ISCH	Input value scaling point2 Feed the higher value of the analog input signal.	Input value scaling point 1 to 20.00 mA / 90 mV / 10.00 V	Analog Input	As per input type selected.
rSCL	Reverse scaling Display scaling points can be reversed.	no / yES	Analog Input	no

Fixed 1°C resolution for R, S, B type thermocouple.

Display	Name & Description	Range	Display condition	Default value
bUL	Backlight	Red / Green / Orange / White / light green / Clr / Ann	———	White
bL-n	Backlight Normal	———	ANN	White
bL-H	Backlight High	———	ANN	Orange
bL-L	Backlight Low	———	ANN	Green

Note : 1. Whenever resolution is changed from 1 to 0.1 SPLL and SPHL is limited to -199 and 999 respectively.
2. #1- Display is with fixed 1° resolution for TC / RTD and as per decimal point selected for analog input.

PARAMETER EXPLANATION :

- **Temperature Unit :**

The temperature unit is selectable between °C and °F. when temperature unit is changed, the temperature ranges will also be changed according to the present selection of unit. if changed, be sure to check all parameter.

- **Resolution :**

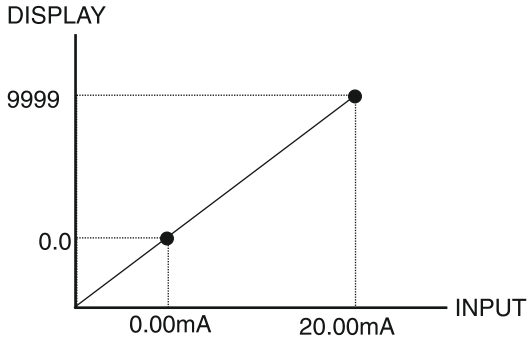
The resolution is selectable between 1 and 0.1 for TC and RTD inputs whereas it is Selectable between 1, 0.1, 0.01, 0.001 for analog inputs. If changed, be sure to check all parametres.

- **SCALING FOR ANALOG INPUT :**

To scale the controller, two scaling points are necessary. Each scaling point has a coordinate pair of Display Values and Input Values. It is recommended that the two scaling points be at the low and high ends of the input signal being measured. Process value scaling will be linear between and continue past the entered points to the limits of the input range. (Factory settings example will display 0.0 at 0 mA input and display 9999 at 20.00 mA input.)

Reverse acting indication can be accomplished by setting **reverse scaling** parameter as YES. In this case **referring the above eg.** for 0.00 mA input the display will show 9999 and 20.00 mA input the display will show 0.0

NOTE : This change will not be visible in the programming menu.



ISC.L = 0.00 DSC.L = 0.0 RSCL = no	ISC.H = 20.00 DSC.H = 9999

- **SET POINT LIMIT VALUES :**

The controller has programmable high and low set point limit values to restrict the setting range of the set point. Set the limit values so that the temperature set point value cannot be set outside the safe operating area of the process.

• BKL (Backlight) :

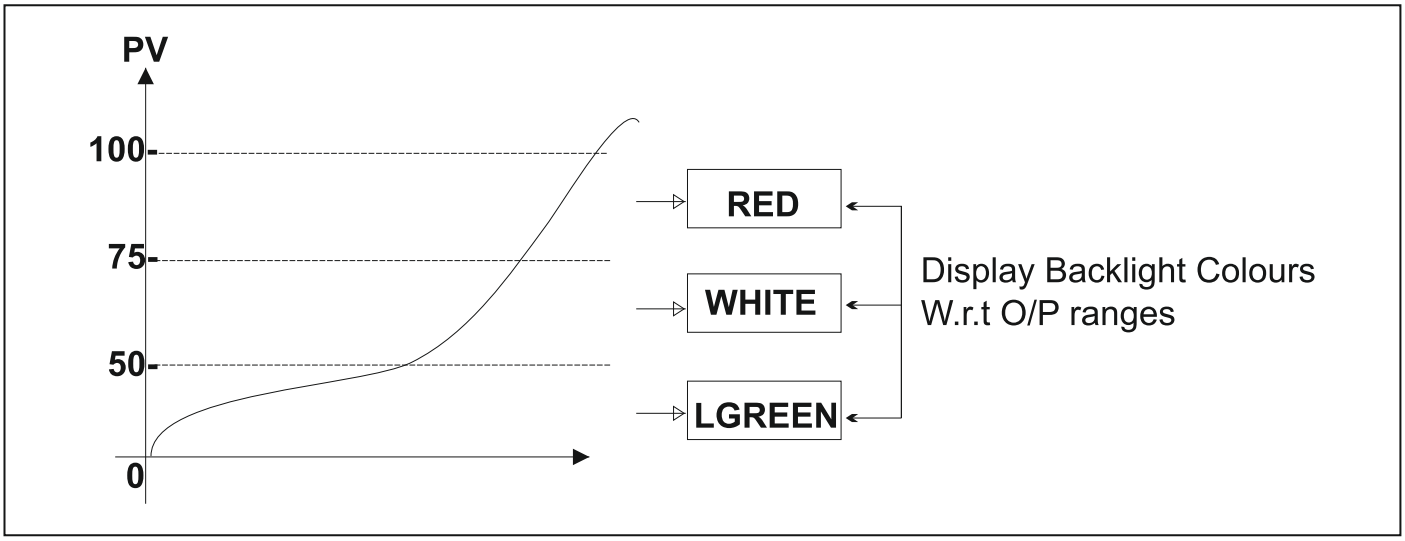
It's an special function where user can select his desired colour display else clear display (no colour)

Here user can assign specific Annunciator colour for the following ranges High, Low, Normal.
NOTE : This application can be used only during ANN

BL--N : Backlight Normal
BL--H : Backlight High
BL--L : Backlight Low

Ann : It's an special function where user can assign a specific colour for both High/Low range which are displayed at it's respective o/p ranges.
For Eg : If, BL--H = Red
BL--N = White
BL--L = Lgreen
Then If, PV≥HA DSPBKL=BL--H
PV≤LA DSPBKL=BL--L
PV is in between HA & LA then DSP=BKL-N

• ALARM DISPLAY WITH ACTIVE BACKLIGHT



4. LEVEL1 & LEVEL 2 - ALARM MODULE

Display	Name & Description	Range	Display condition	Default value
HA	High Alarm	LA to SPHL (Band Mode) SPLL to SPHL (HA Mode)	This parameter is not prompted If alarm mode is off	75
LA	Low Alarm	SPLL to HA (Band Mode) SPLL to SPHL (LA Mode)		-199
HYST	Hystersis	0.1 to 99.9 (For TC/RTD); 0.1 to 99.9 (For Analog Input)		
HYS.b	Hystersis bias	TC / RTD: -9.9 to 9.9 Analog I / P: -9.9 to 99 As per decimal point	———	0.0

Display	Name & Description	Range	Display condition	Default value
PdLY	Power ON delay	0.00 to 99.59min	———	0.00
rdLY	Restart time delay	0.00 to 99.59min	———	0.00
AodE	Alarm Mode	OFF/HA/LA bAnd/S.brK	———	HA
LtCH	Alarm latch	OFF/ON	This parameter is not prompted If alarm mode is off	OFF
HOLd	Hold Alarm	OFF/ON		OFF
ALrA	Relay status for Alarm1	En/dEn		En
AnnC	Alarm Annunciator	OFF/ON		OFF

PARAMETER EXPLANATIONS :

• ALARM MODE :

HIGH ALARM :

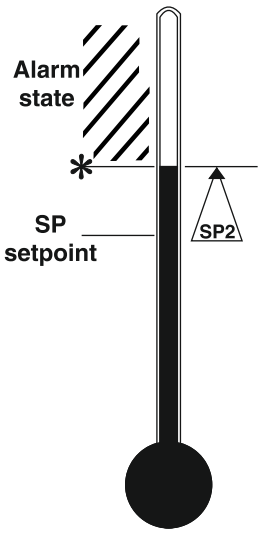


Fig. A

LOW ALARM :

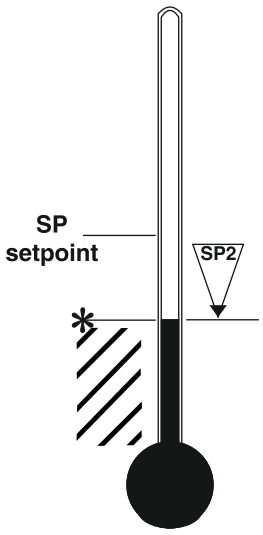


Fig. B

BAND ALARM :

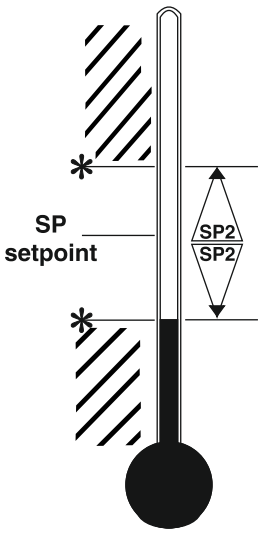


Fig. C

- **HIGH ALARM** : The alarm is turned ON when PV falls below Preset value.
- **LOW ALARM** : The alarm is turned ON when PV falls below Preset value.
- **BAND ALARM** : The alarm is turned ON when PV rises above or Falls below a preset value.

- **SENSOR BREAK ALARM :**
  The alarm is turned ON in case of :
  A) Measurement value exceeds range
  B) Sensor reverse condition (applicable for TC/RTD)

- **POWER ON DELAY :**
  Power ON delay is a delay that allows the main controller in a panel to synchronise the system without the indicator sounding an alarm.
- **RESTART TIME DELAY :**
  The Restart Time delay is the time it takes to reactivate internal relays once they have been deactivated.
- **ALARM LATCH :**
  When Latch is ON, the alarm once activated remains activated even when the error is removed. to deactivate the alarm, it has to be acknowledged by selecting AL-NO from the front online options and pressing ✔ + ⩓ .
- **HOLD ALARM :**
  When HOLD is ON, in any alarm mode, it prevents an alarm signal On power-up. the alarm is enabled only if the process temperature is within the alarm range.
- **ALARM ANNUNCIATOR :**
  The annunciator can be disabled by selecting function ANN as OFF.
  Backlight blinks at the rate of 0.2sec.
  BKL blinking : Display flashing b/w PV and message at 1sec.

5. LEVEL 3 - ANALOG O/P AND SPECIAL FUNCTION MODULE

Display	Name & Description	Range	Display condition	Default value
CdSP	Custom display	MANL, Temp, °C, °F, PSI, Amps, Volt Watt, Kg, GMS, Hz, DB, Blank	———	tEmP
dIN	Digital input	None/Keys	———	NONE
A-OUt	Analog output	4-20; 0-20; 0-5V; 0-10;	———	4-20
HAMd	Hand percentage	OFF/ 0 .00 to 100.0%	———	OFF
A-LO	Analog low scaling	-999 to 9999	This parameter is not prompted Only if manual Is OFF	0
A-HI	Analog High scaling	-999 to 9999		1000
S.ERR	Sensor error level Incase of sensor failure. The output can be set to high or low value of range	HIGH/LOW	———	HIGH
bIAS	PV bias (Display Offset)	-999 To +999 for TC(RTD) & -999 To +999 for AIN models decimal point as per selected.	———	0.0
FtC	Filter time constant	OFF,1 to 99 seconds	———	1
RNdG	Rounding	0.1 to 10.0 for TC / RTD display As per decimal Point selected For analog input	TC / RTD with resolution = 1°C or Analog	1.0

Display	Name & Description	Range	Display condition	Default value
StNd	Standby mode	nO/YES	———	nO
rSEt	Reset	nO/YES	———	nO

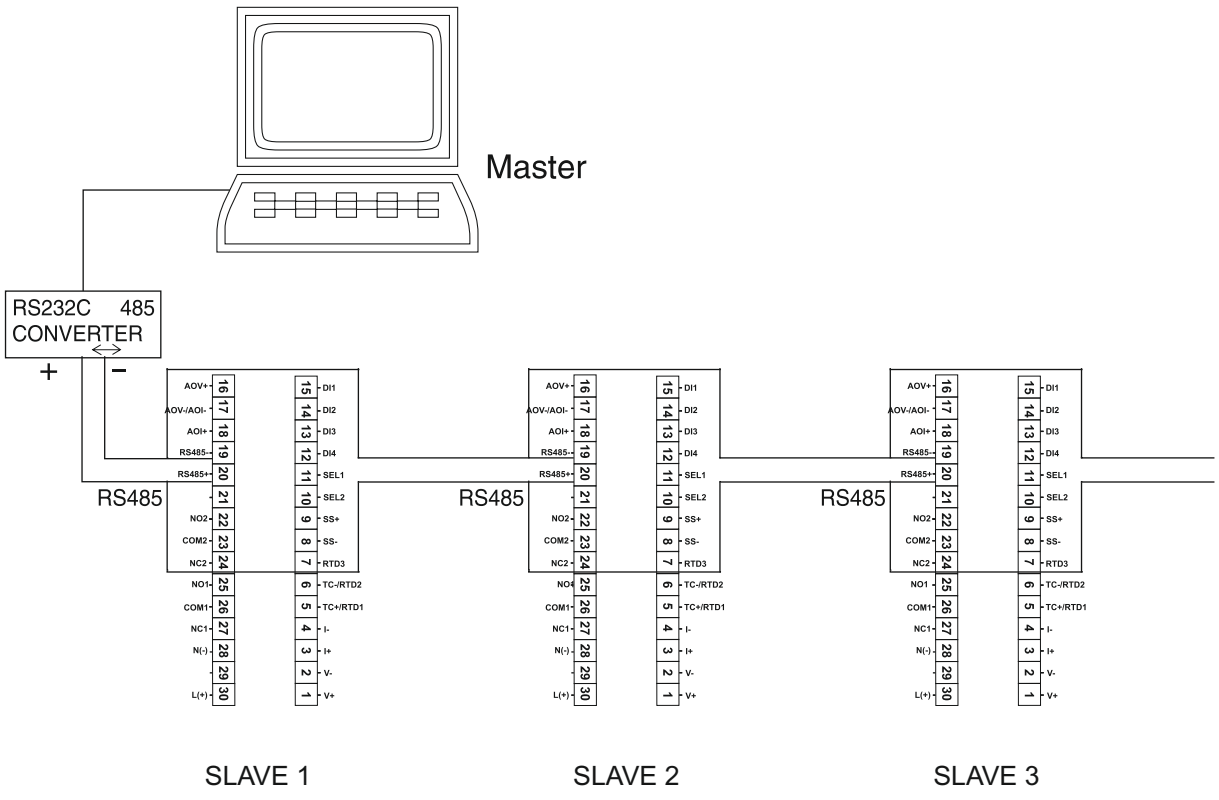
PARAMETER EXPLANATIONS :

- **CUSTOM DISPLAY :**
  User can select any of the default Upper Display contents or can create its own 4 digit customized upper Display.
- **HAND OUTPUT PERCENTAGE :**
  This parameter can be used when a fixed percentage of output is desired. For eg. if 4-20mA analog output is being used and the desired output is 12mA,the hand percentage can be programmed as 50%.this will ensure that the analog output available is fixed 12mA i.e. 50%.
  NOTE : if Hand Output % is set as OFF Unit is in Retransmission Mode.
- **ANALOG RETRANSMISSION :**
  In case of analog retransmission only the following parameters will be promoted :
  1) A-LO : Analog low scaling.
  2) A-HI : Analog high scaling.
  3) S.ERR : Sensor error level.
  Display is with fixed 1° resolution for TC / RTD and as per decimal point selected for analog input.
- **SENSOR ERROR LEVEL :**
  This parameter determines the analog retransmission output level in case sensor failure. For eg : In case of 4-20mA retransmission output, if the sensor error level is set to High, 20mA will be Available at the output at all times incase of input sensor failure.
- **PV BIAS :** (DISPLAY OFFSET) This function is used to adjust the PV value in cases where it is necessary for PV value to agree with another recorder or indicator or when the sensor cannot be Mounted in correct location.
- **FILTER TIME CONSTANT :** The filter is an adaptive digital filter that discriminates between measurement noise and actual process changes.if the input signal is increasing too greatly due to measurement noise, increse the filter value.if accurate control is desired,increse the filter time constant whereas if the fastest controller response is required,decrese the filter time constant.
- **ROUNDING INCREMENT :** This feature can be used to round off the display to a higher value than "1" in cases Where the process input and in turn the display is fluctuating. Rounding selections other than 1 cause the process value to round to the nearest rounding selected. For Example: A rounding increment value of 5 causes 122 to round to 120 & 123 to round to 125.This parameter is not applicable when the resolution is 0.1(forTC/RTD) Set point values, set point limits, Alarnn values, input scalling values, and Analog scalling values are not affected by rounding. The rounding increment is for controller Display only and does not affect(improve or degrade)the control accuracy of the unit.
- **STANDBY MODE :** This feature is useful during machine wiring. if standby mode is selected as YES, the Following condition exist :
  a. All displays are OFF.
  b. All outputs are OFF i.e.OUT1,OUT2,MAN & LED's are OFF.
  c. Analog output is limited to the lower range.
  d. All front keys are disabled.
  e. Access to configuration enabled.
  The STND status is preserved on power OFF.

LEVEL 4 - COMMUNICATION MODULE

Display	Name & Description	Range	Display condition	Default value
bAUd	Baud Rate	2400/4800/9600/19200/ 38400/57600/115200	——	9600
Add	Communication station No.	0 to 247	——	1
PAr1	Parity	NONE/EUEN Odd		NONE
StOP	Stop bit	1/2		1

CONNECTION DIAGRAM



Note :
1. Maximum 32 slave controllers can be connected to the master
2. The total cable length should not exceed 500 meters
3. Use shielded twisted -pair cables for RS485 connections
4. Use terminators having a resistance of 100ohm (1/2 watt).

RS485-RS232 Converter
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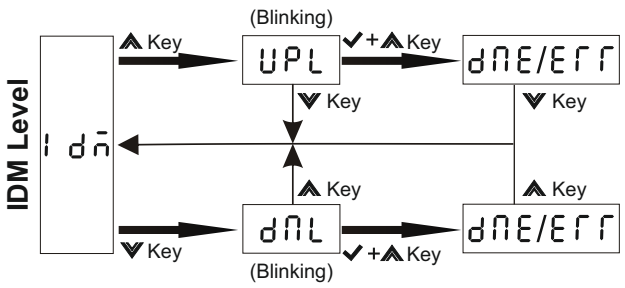
LEVEL 5 - LOCK LEVEL :

Display	Name & Description	Range	Display condition	Default value
Id	User ID	0000 to 9999	——	0000
L-- 0	Lock Level 0	UNLK/READ/LOCK	——	UNLK
L-- 1	Lock Level 1	UNLK/READ/LOCK	——	UNLK
L-- 2	Lock Level 2	UNLK/READ/LOCK	——	UNLK
L-- 3	Lock Level 3	UNLK/READ/LOCK	——	UNLK
L-- 4	Lock Level 4	UNLK/READ/LOCK	——	UNLK

NOTE :
UNLK - Full access to the particular level / parameter.
READ - Particular level / parameter can be read but not edited.
LOCK - No access to the particular level / parameter.

IDM Level



Display	Parameter Description
Idn	Independent Downloader Module
UPL	Upload from product to IDM
dNL	Download from IDM to product
dNE	Operation Successful
ErR	Operation Unsuccessful

Note :
1) IDM Level - IDM should be connected before powering on the unit to enter in IDM level
2) Long press ∧ or ∨ key for 3 sec to exit from IDM mode.

Caution : After Downloading, switch of the unit and then remove the IDM

CALIBRATION CERTIFICATE

Model No : PIC352-11-U-X-1

Claimed Accuracy : ± 0.1 % of full scale ±1 digit (After 20min warmup time)

Standard used for calibration of the product is traceable to NABL

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

SENSOR	CALIBRATION TEMP (°C) (0.1 resolution)	DISPLAY VALUE (°C)	SENSOR	CALIBRATION VALUE (0.1 resolution)	DISPLAY VALUE
K	35.0	35.0	Voltage (VDC)	0.0	0.0
	700.0	700.0		10.0	10.0
	1350	1350			
PT100 / PT1000	0.0	0.0	Current (mA)	0.0	0.0
	500.0	500.0		20.0	20.0
	800.0	800.0			

The thermocouple / RTD curves are linearised in this microprocessor based product, and hence the values interpolated between the readings shown above are also equally accurate, at every point in the curve.

Unit is accepted as accuracy is withing the specified limit of claimed accuracy and certificate is valid upto one year from the date of issue.