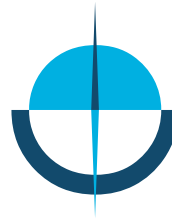


ScaneX



PPI
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Linearised Multi-Channel Temperature Controller

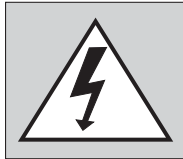


User Manual

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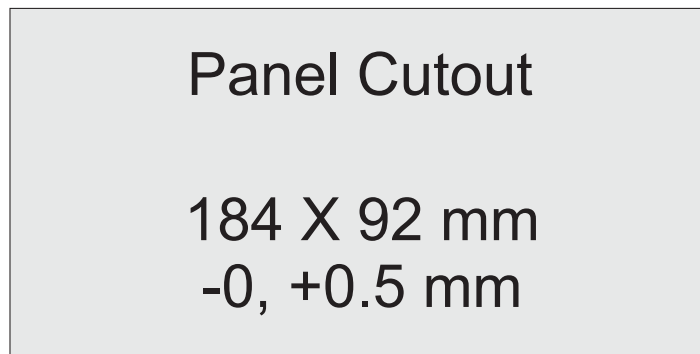
Section 1 PANEL MOUNTING AND ELECTRICAL CONNECTIONS



WARNING
MISHANDLING / NEGLIGENCE CAN
RESULT IN PERSONAL DEATH OR
SERIOUS INJURY.

PANEL CUTOUT

Figure 1.1



PANEL MOUNTING

Follow the steps below for mounting the instrument on panel :

1. Prepare a cutout to the size shown in Figure 1.1
2. Remove the Panel Mounting Clamp from the instrument Enclosure.
3. Insert the rear of the enclosure through the panel cutout from the front of the mounting panel.
4. Fix the mounting clamp pair such that it ensures secured mounting of the enclosure against the panel wall.

ELECTRICAL CONNECTIONS

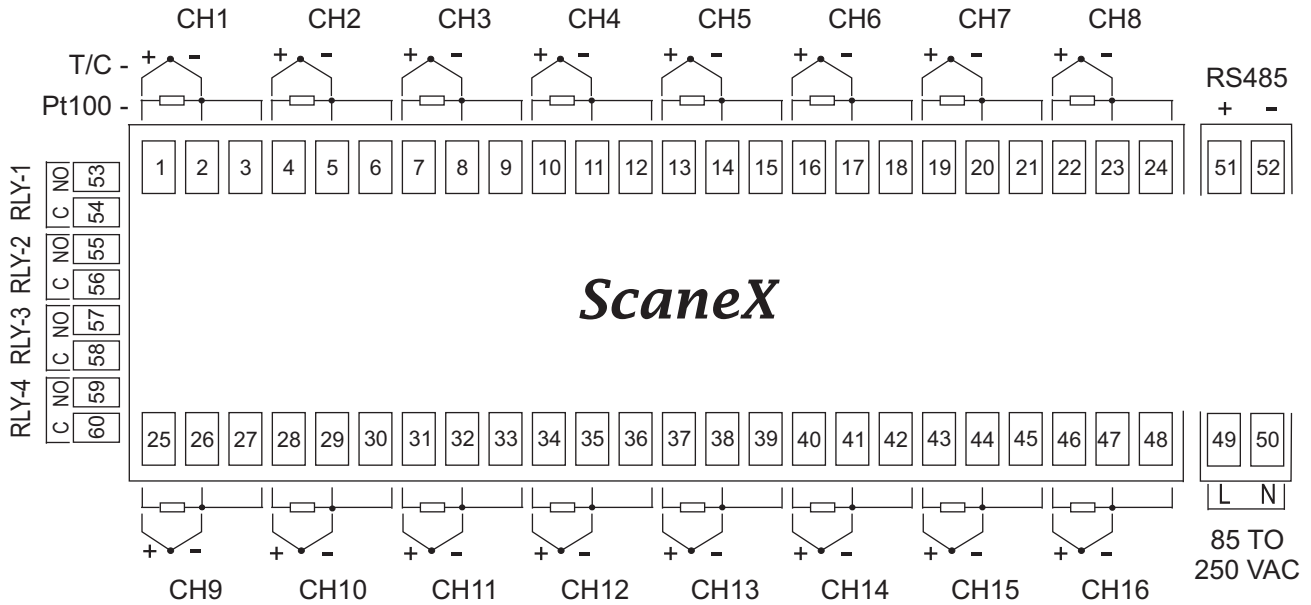
Observe the followings while making electrical connections.

1. Run power supply cables separated from Sensor (Thermocouple / RTD) cables. If the cables are run through conduits, use separate conduits for power supply cable and sensor cables.
2. Use appropriate fuses and switches, wherever necessary, for driving the high voltage loads to protect the instrument from any possible damage due to high voltage surges of extended duration or short-circuits on loads.
3. Do not over-tighten the terminal screws while making connections.
4. Switch-off the power supply while making / removing any connections.

The Figure 1.2 shows the **Old** terminals viewed from the rear side with the scanner label upright.

(1) Old Version

Figure 1.2



DESCRIPTIONS

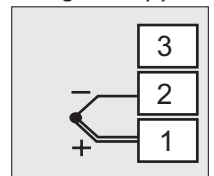
INPUT

Each channel is designed to independently accept any of 7 Thermocouple types (J, K, T, R, S, B, N) or 3-wire RTD Pt100 input. Connections for Thermocouples and RTD Pt100 are described below for Channel1 (Terminals 1, 2 & 3). Follow similar explanations for other channels.

Thermocouple

Connect Thermocouple Positive to terminal marked (+) and Negative to terminal marked (-) as shown in Figure 1.3 (a). Use correct type of extension lead wires or compensating cable. Avoid joints in the cable.

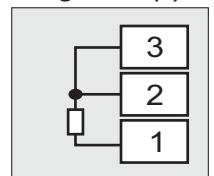
Figure 1.3(a)



RTD Pt100, 3-wire

Connect single leaded end of RTD bulb to terminal marked '1' and the double leaded ends to terminal marked '2' and '3' (interchangeable) as shown in Figure 1.3 (b). Use copper conductor leads of very low resistance for RTD connections. Ensure that all 3 leads are of same gauge and length. Avoid joints in the cable.

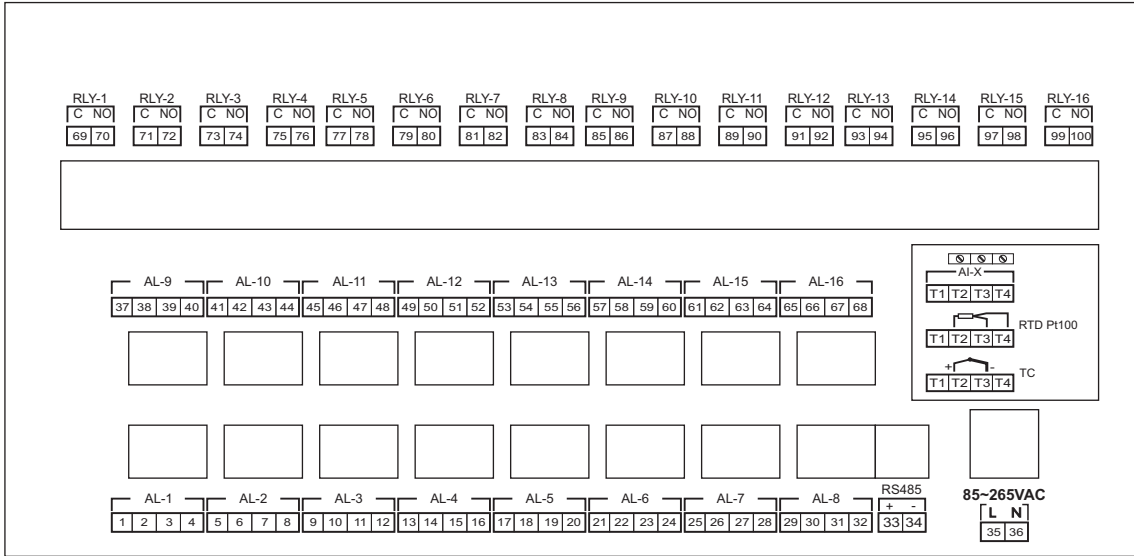
Figure 1.3(b)



The Figure 1.4 shows the **New** terminals viewed from the rear side, with the scanner label upright.

(2) New Version

Figure 1.4



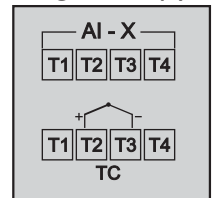
INPUT CHANNELS

Each of the 4/8/12 or 16 input channels are identical from wiring connection viewpoint. For each Channel, only 3 out of 4 terminals are provided for connections. The 4 terminals are marked in below description as T1, T2, T3 & T4. Terminal T1 for each channel is not present. The descriptions below apply to all the channels with no deviations.

Thermocouple

Connect Thermocouple Positive (+) to terminal T2 and Negative (-) to terminal T3 as shown in **Figure 1.5(a)**. Use the correct type of Thermocouple extension lead wires or compensating cable for the entire distance ensuring the correct polarity throughout. Avoid joints in the cable.

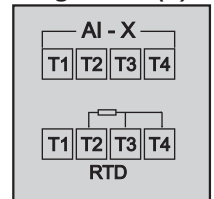
Figure 1.5(a)



RTD Pt100, 3-wire

Connect single leaded end of **RTD** bulb to terminal T2 and the double leaded ends to terminals T3 and T4 (interchangeable) as shown in **Figure 1.5(b)**. Use copper conductor leads of very low resistance ensuring that all 3 leads are of the same gauge and length. Avoid joints in the cable.

Figure 1.5(b)



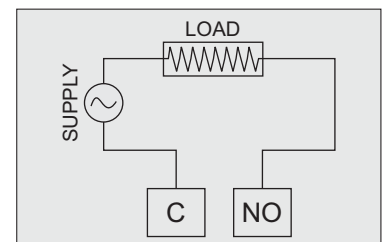
OUTPUTS

There are up to 16 Relay Outputs provided. The relay connections are shown in Figure 1.6 below.

Relay

Potential-free Relay changeover contacts NO (Normally Open) and C (Common) rated 10A/240VAC (resistive load) are provided as Relay output.

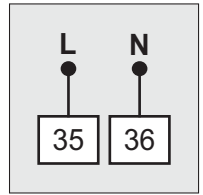
Figure 1.6



POWER SUPPLY

The instrument accepts single phase, 50/60 Hz Line Voltage ranging from 85 to 264 VAC. Use well-insulated copper conductor wire of the size not smaller than 0.5 mm² for power supply connections. Connect Line (Phase) supply line to terminal marked 'L' and Neutral (Return) supply line to terminal marked 'N' as shown in Figure 1.7

Figure 1.7



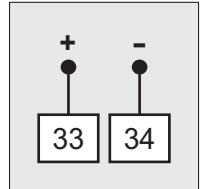
SERIAL COMMUNICATION PORT

Connect terminal (+) and (-) of the Instrument to the positive (+) and negative (-) terminal of the master device.

Note

PC as a master device cannot be connected (wired) directly to the instrument as PC is equipped with RS232 serial port which is not directly compatible with RS485 port on Instrument side. In such cases use RS232 / RS485 converter as a bridge.

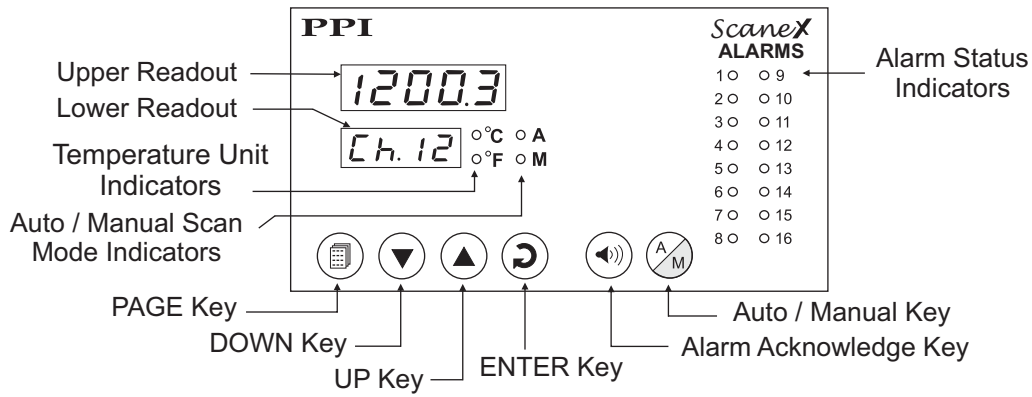
Figure 1.8



Section 2 FRONT PANEL : LAYOUT AND OPERATION

The front panel comprises of digital readouts, LED indicators and membrane keys as shown in Figure 2.1 below.

Figure 2.1



READOUTS

The Upper Readout is a 5 digit, 7-segment bright red LED display and usually displays the PV (Process Value). In Set-up Mode, the Upper Readout displays parameter values/options.

The Lower Readout is a 4 digit, 7-segment bright green LED display and usually displays the 'Channel Number' for which the Upper Readout is showing the PV. In Set-up Mode, the Lower Readout displays parameter name (prompts).

INDICATORS







Table 2.1

Indicator	Function
A	Glows for Auto Scan Mode
M	Glows for Manual Scan Mode
°C	Glows if the measured Process Value is in °C
°F	Glows if the measured Process Value is in °F
Alarm Status (1 to 16)	Flashes if the channel is in Alarm condition

KEYS

There are six tactile keys provided on the front panel for setting-up the parameter values and for other functions & commands. The Table 2.2 lists each key and the associated function.

Table 2.2

Symbol	Key	Function
	PAGE	Press to enter / exit Set-up Mode
	DOWN	Press to decrease the parameter value. Pressing once decreases the value by one count; holding the key pressed speeds up the change.
	UP	Press to increase the parameter value. Pressing once increases the value by one count; holding the key pressed speeds up the change.
	ENTER	Press to store the set parameter value and to scroll to the next parameter.
	ALARM ACK	Press to Acknowledge any pending Alarm(s)
	AUTO / MANUAL	Press to toggle between Auto and Manual Scan Mode. In Manual Scan Mode, Use UP / DOWN keys to the desired channel.

POWER-UP

Upon switching on the power to the unit, all displays and indicators are lit on for approximately 3 seconds. This is followed by the indication of the model name ScanEX (SCANEX) on the Upper Readout for approximately 1 seconds.

MAIN DISPLAY

After the Power-up display sequence, the Scanner enters MAIN Display Mode. The Upper Readout starts showing the measured PV (Process value) with the corresponding channel number being shown on the Lower Readout. The MAIN Display Mode is one that shall be used most often.

The measured PV is shown in either °C or °F for each channel depending upon the units selected. The selected units are indicated by the front panel indicators '°C' and '°F'.

The Scanner may be configured to operate in either Auto or Manual Scan Mode. The Power-on default mode is 'Auto Scan Mode'. Use front panel key 'A/M' to toggle between the Auto and Manual Scan Mode.

Auto Scan Mode

In this mode, the Scanner shows the Process Value for each channel sequentially at a periodic interval, called 'Scan Rate'. The Scan Rate is user settable from 1 to 99 seconds. The channels are displayed in ascending (increasing) order with the last channel automatically rolling over to the first channel. In Auto Scan Mode, the front indicator marked 'A' is lit ON.

Manual Scan Mode

In this mode, the Scanner keeps displaying the Process Value for the selected channel indefinitely. The user can switch to and hold any desired channel by using UP/DOWN keys. In Manual Scan Mode, the front indicator marked 'M' is lit ON.

ALARM : STATUS INDICATION & ACKNOWLEDGMENT

There are up to 4 soft Alarms (AL-1 to AL-4) available for each channel. If any one or more set Alarm for a channel is active, the corresponding front panel indicator flashes. The complete Alarm status information for the channels under alarm condition is available on PAGE-1.

The 4 Relay Outputs (RLY-1 to RLY-4) are mapped with the 4 Alarms (AL-1 to AL-4) as explained below in Table 2.3

Table 2.3

Output	Associated Alarm	Alarm Activation
RLY-1	AL-1	If Alarm-1 for any one or more channels is ON
RLY-2	AL-2	If Alarm-2 for any one or more channels is ON
RLY-3	AL-3	If Alarm-3 for any one or more channels is ON
RLY-4	AL-4	If Alarm-4 for any one or more channels is ON

The front panel Alarm Acknowledge key can be used to mute the *Audio Alarm* or to bring the system out of *Trip Condition*. The effect of acknowledge key depends both on the Relay Logic (Direct / Reverse) and Latched / Un-Latched operation. Note that Acknowledging the alarm only de-activates the relay output and does not remove the Alarm condition. Refer Table 2.4 for effect of Acknowledge Key.

Table 2.4

Relay Logic	Latched	Effect of Acknowledge Key
Direct (Alarm)	No	Switches OFF the Alarm output
Reverse (Trip)	No	No effect
Direct (Alarm)	Yes	Switches OFF the Alarm output provided none of the Alarm condition is pending
Reverse (Trip)	Yes	Switches ON the Trip relay (brings out of tripping) provided none of the Alarm condition is pending

PV ERROR INDICATION

In case the PV falls below the Minimum Range or rises above the Maximum Range specified for the selected 'Input Type' or in case the input sensor is open / broken; the Upper Readout flashes the error messages listed in Table 2.5 below. The Figure 2.2 illustrates an open sensor condition for channel-12.

Figure 2.2

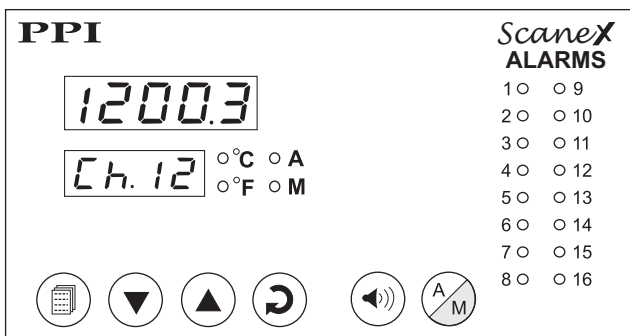


Table 2.5

Message	PV Error Type
	Over-range (PV above Max. Range)
	Under-range (PV above Min. Range)
	Open (Sensor open / broken)

Section 3 SET UP MODE : ACCESS AND OPERATION

There are many user settings that determine how the instrument will function or operate. These settings are called Parameters.

For the convenience and ease of operation, the various parameters have been grouped separately depending upon the functions they define. Each such group is called a PAGE. Each PAGE is assigned a unique number, called PAGE NUMBER, for its access. The parameters contained in a PAGE are presented in a fixed sequence to the user for setting. The user can access a desired PAGE by entering its PAGE NUMBER and can select and set the desired parameter values.

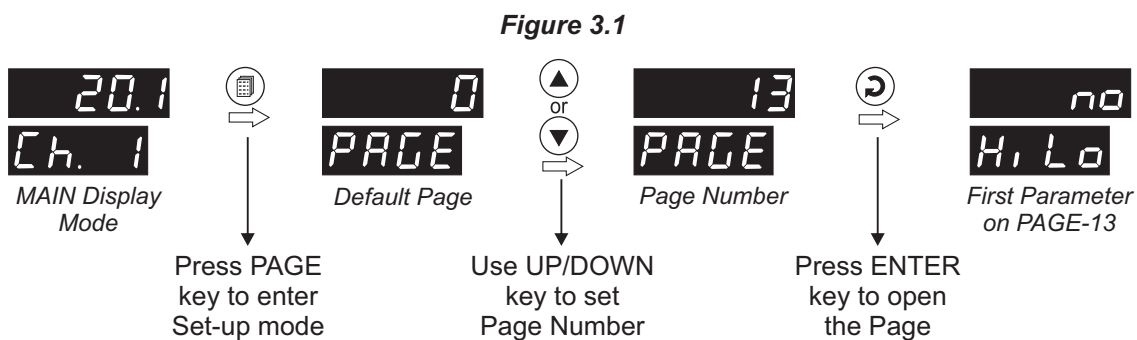
PARAMETER PROMPTS

Each parameter has an identifying tag, called the Parameter Prompt. While setting parameter values in a PAGE, the parameter prompt is always displayed on the Lower Readout and its current value is displayed on the Upper Readout.

ACCESSING A PAGE

Each PAGE is accessible only from the MAIN Display Mode. That is, from the current PAGE, the user must return to the MAIN Display Mode before the other PAGE can be accessed.

Figure 3.1 illustrates access to the desired PAGE from MAIN Display Mode.



ADJUSTING PARAMETER VALUES

For accessing and adjusting the parameter, one must first open the PAGE containing the parameter.

Figure 3.2 illustrates how to access the desired parameter(s) and adjust the corresponding value(s).

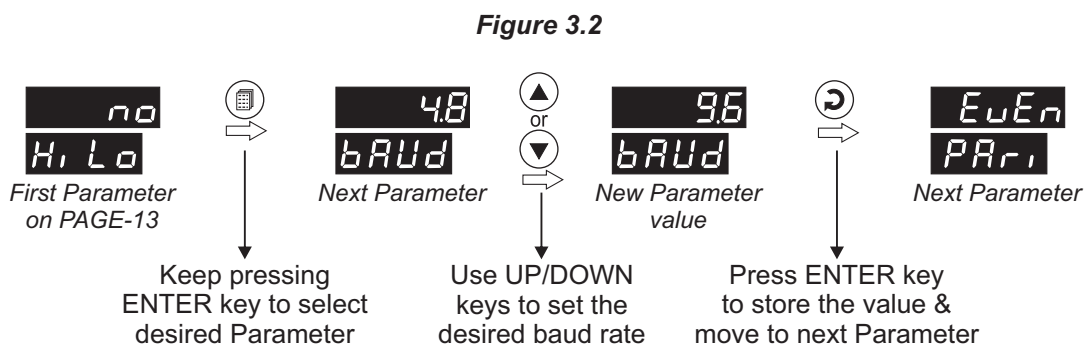
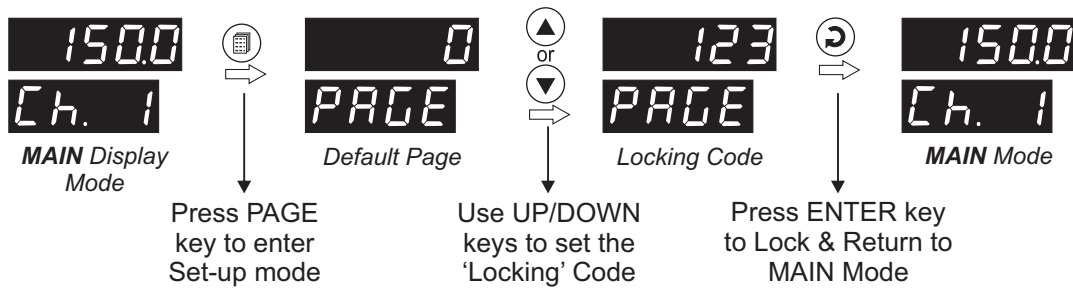


Figure 3.2 shows accessing the parameter 'Baud Rate' and changing its value from '4.8 kbps' to '9.6 kbps'. Press PAGE key to revert to MAIN Mode.

PARAMETER LOCKING

For protecting the parameter values from unauthorized / accidental alterations, the parameter adjustments can be Locked. The Operator Page is not affected by locking. The Figure 3.3 illustrates the steps for Locking.

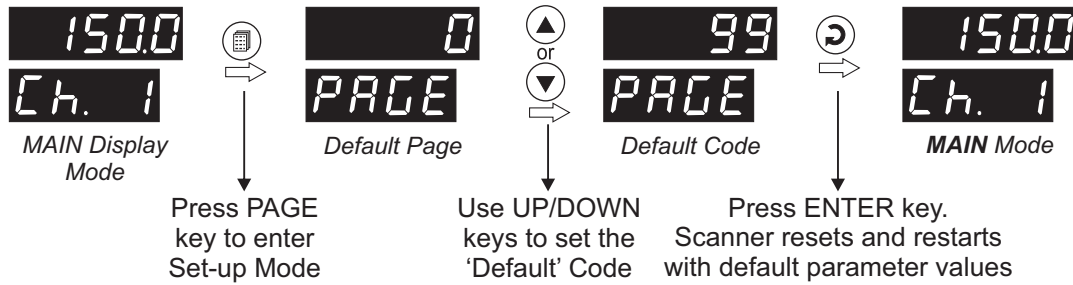
Figure 3.3



For Un-Locking, repeat the sequence of steps shown in Figure 3.3 twice.

SETTING DEFAULT VALUES

Figure 3.4



The instrument is shipped from the factory with all the parameters set to their default values. Refer Figure 3.4 above for regaining the factory default values.



Section 4 CONFIGURATION PARAMETERS

The configuration parameters are listed in Table 4.1 below and are generally required to be set only at the time of installation. Set these parameters appropriately based on the types of Thermocouple / Sensor connected and other application needs.

Table 4.1

Parameter Description	Settings (Default Value)
<p>ACTUAL NUMBERS OF CHANNELS TO SCAN 5n.CH</p> <p>The numbers of channels actually connected/used for monitoring. This allows skipping unused channels for scanning. Note that only consecutive channels, starting from channel-1, must be used.</p>	<p>1 to Max. Available (Default : 4/8/12/16)</p>
<p>SENSOR-BREAK PV STATUS 5brP</p> <p>This parameter setting allows user to define the alarm behavior under Sensor open condition. The Alarm may behave as either Over-range or Under-range condition. <i>UP</i> : The PV is treated as Over Range (max). <i>DOWN</i> : The PV is treated as Under Range (min).</p>	<p>UP Up Scale dn Down Scale (Default : Up Scale)</p>
<p>COMMON INPUT CONFIGURATIONS C.In.C</p> <p>In most applications the Scanner is used to monitor the process value at different points within a closed space (Chamber, Cold Room, etc). Thus the type of sensors and also the measurement resolution and units used are Identical (Common) for all channels. This parameter facilitates eliminating repetitive settings for multiple channels in such cases. <i>Yes</i> : The parameter values for Input type, Resolution and Temperature Units are applied to all the channels. <i>No</i> : The parameter values for Input type, Resolution and Temperature Units need to be set independently for each channel.</p>	<p>no No YES Yes (Default : Yes)</p>
<p>SELECT CHANNEL FOR INPUT CONFIGURATION CHAN</p> <p>Refer Figure 4.1 (a) and 4.1 (b).</p>	<p>1 to Actual no. of channels to scan (Default : NA)</p>
<p>INPUT TYPE inPt</p> <p>Refer Table 4.2 Select the Input Type in accordance with the type of sensor connected to the selected channel.</p>	<p>Refer Table 4.2 (Default : Type K)</p>
<p>RESOLUTION rSLn</p> <p><i>1 unit</i> : The measured process value for the selected channel is displayed with 1 unit resolution (e.g. 100°C, 101°C, 102°C...).</p> <p><i>0.1 unit</i> : The measured process value for the selected channel is displayed with 0.1 unit resolution (e.g. 100.0°C, 100.1°C, 100.2°C...).</p>	<p>1 or 0.1 (Default : 1)</p>



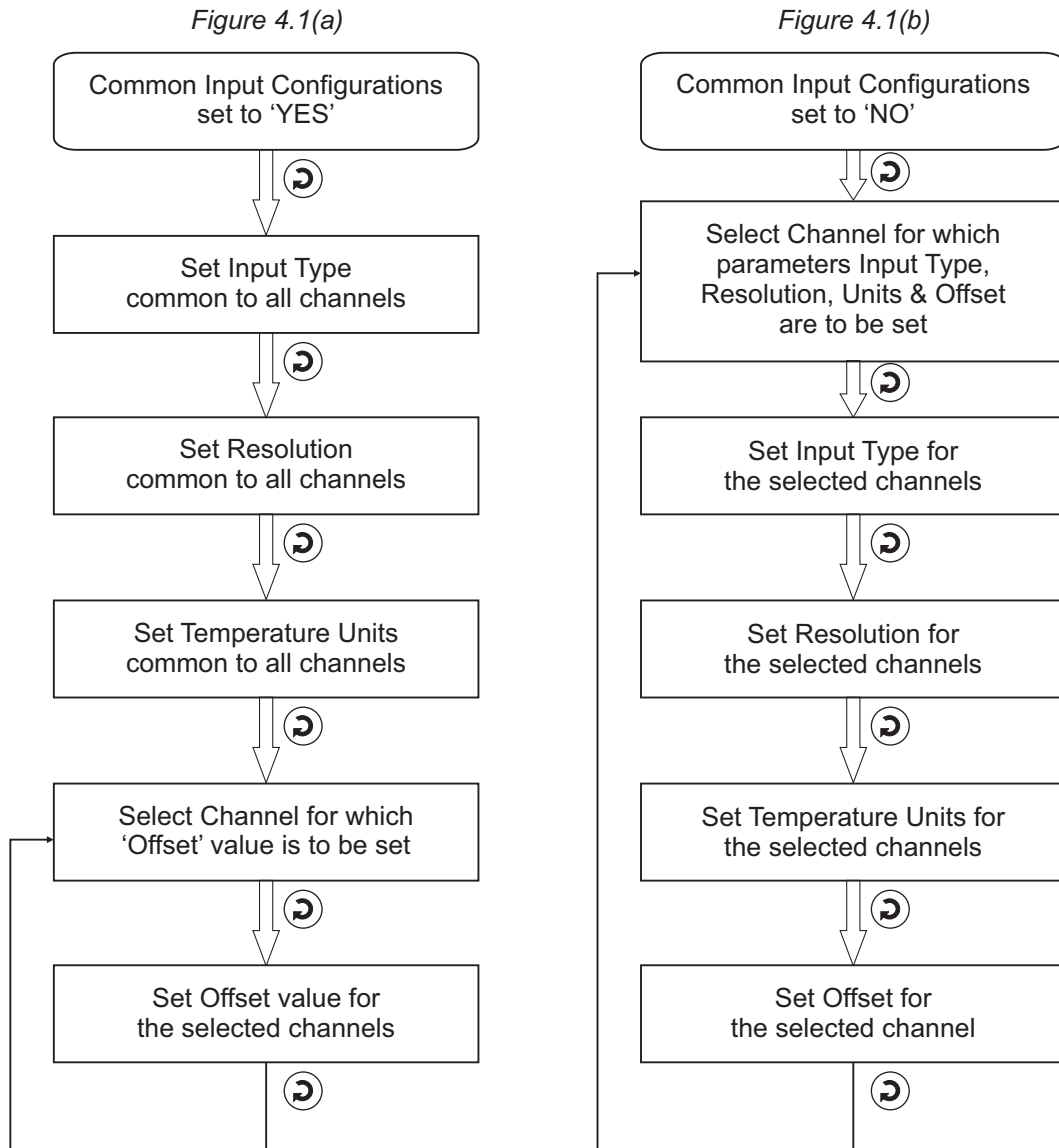
Parameter Description	Settings (Default Value)
TEMPERATURE UNITS Unit °C : The measured process value for the selected channel is in Centigrade. °F : The measured process value for the selected channel is in Fahrenheit.	<div style="text-align: center;">  °C  °F (Default : °C) </div>
OFFSET OFSt In many application, the measured PV at the input requires a constant value to be added or subtracted to obtain a final process value for removing sensor zero error or to compensate known thermal gradient. This parameter is used to remove such errors. Actual (Displayed) PV = Measured PV + Offset for PV.	<div style="text-align: center;"> -1999 / 3000 or -1999.9 / 3000.0 (Default : 0) </div>

Table 4.2

Option	What it means	Range (Min. to Max.)
tc_j	Type J Thermocouple	0.0 to + 960.0°C / 32.0 to +1760.0°F
tc_k	Type K Thermocouple	-200.0 to + 1376.0°C / -328.0 to + 2508.0°F
tc_t	Type T Thermocouple	-200.0 to + 387.0°C / -328.0 to + 728.6°F
tc_r	Type R Thermocouple	0.0 to + 1771.0°C / 32.0 to + 3219.0°F
tc_s	Type S Thermocouple	0.0 to + 1768.0°C / 32.0 to + 3214.0°F
tc_b	Type B Thermocouple	0.0 to + 1826.0°C / 32.0 to +3218.0°F
tc_n	Type N Thermocouple	0.0 to + 1314.0°C / 32.0 to +2397.0°F
resu	Reserved for custom use (Default Type J)	Reserved for custom use
rtd	3-wire, RTD Pt100	-200.0 to + 600.0°C / -328.0 to +1112.0°F

The parameters Input Type, Resolution, Temperature Units and Offset; are available for each input channel and can be set independently. It is thus required to first select the channel number for which the access to the parameters is required.

Refer Figure 4.1 (a) and 4.1 (b) below for the parameter navigation diagram.



Note : Press PAGE Key to Revert to Main Mode.

Section 5 ALARM CONFIGURATION PARAMETERS

The parameters presented on this page allow configuring the number of Alarms per channel, the Alarm output function (Audio/Visual or Tripping) and Alarm latching.

Table 5.1

Parameter Description	Settings (Default Value)
<p>NUMBER OF ALARMS PER CHANNEL ALCH</p> <p>The instrument is provided with 4 independently settable soft Alarms per channel. However, the actual number of Alarms required per channel may vary from application to application. This parameter allows selecting the exact number of Alarms required per channel (Max.4).</p>	<p>1 to 4 (Default : 4)</p>
<p>SELECT OUTPUT RELAY NUMBER rLY</p> <p>For each of Alarm-1 to Alarm-4 for all channels, there is a common Relay Output provided that can be used for either activating Audio/Visual Alarm (Normal Logic) or for Tripping the system being monitored (Reverse Logic). Further the output can be programmed to <u>either</u> switch ON/OFF with Alarm switching (Relay Latch = No) <u>or</u> remain Latched until acknowledged (Relay Latch = Yes). This parameter allows to select 1 out of 4 Relays for 'Logic' and 'Latch' parameter setting.</p>	<p>For COMMON Relay Outputs 1 to No. of Alarms per channel (Max. 4)</p> <p>For INDIVIDUAL Relay Outputs 1 to No. of Channels (Max. 16)</p> <p>(Default : NA)</p>
<p>RELAY LOGIC rLLG</p> <p><i>Normal</i> : The Relay remains ON under Alarm condition; OFF otherwise. Useful for activating Audio / Visual Alarm. <i>Reverse</i> : The Relay remains OFF under Alarm condition; ON otherwise. Useful for Tripping the system under monitoring.</p>	<p>nor\bar{n} Normal rEu Reverse (Default : Normal)</p>
<p>RELAY LATCH rLLt</p> <p><i>No</i> : The Relay switches ON/OFF Alarm switching. <i>Yes</i> : The Relay Output switches (ON for Normal Logic / Off for Reverse logic) upon Alarm activation. However, Alarm de-activation does not affect the Relay status. The Relay status can only be regained by pressing acknowledge key provided the Alarm has de-activated.</p>	<p>no No YES Yes (Default : No)</p>

Section 6 ALARM SETTING PARAMETERS

The Alarm setting parameters define how the alarm will function with respect to process value variations.

Table 6.1

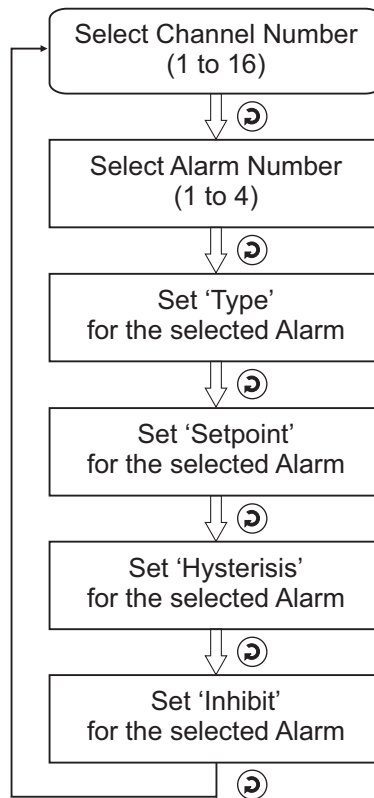
Parameter Description	Settings (Default Value)
CHANNEL NUMBER CHAN Select the Channel Number containing the desired Alarm.	1 to Max. Channels (Default : NA)
ALARM NUMBER ALrñ Select the desired Alarm Number for the selected channel.	1 to User Selected Alarm (Default : NA)
ALARM TYPE TYPE <i>None</i> : Disable the Alarm. <i>Process Low</i> : The Alarm activates when the PV equals or falls below the 'Alarm Setpoint' value. <i>Process High</i> : The Alarm activates when the PV equals or exceeds the 'Alarm Setpoint' value.	none None P_Lo Process Low P_hi Process High (Default : None)
ALARM SETPOINT SP This parameter value sets the Process High or Process Low limit for Alarm.	Min. to Max. of selected input type range (Default : 0)
ALARM HYSTERISIS HYST This parameter value sets a differential (dead) band between the ON and OFF Alarm states. Keep it large enough to avoid frequent switching of the Alarm relay.	1 to 3000 or 0.1 to 3000.0 (Default : 2 or 2.0)
ALARM INHIBIT , hbt <i>Yes</i> : The Alarm activation is suppressed until the PV is within Alarm limits from the time the controller is switched ON. This allows suppressing the Alarm during the start-up Alarm conditions. <i>No</i> : The Alarm is not suppressed during the start-up Alarm conditions.	no No YES Yes (Default : No)

The Scanner may have up to 16 Channels and each Channel may have up to 4 Alarms. In order to set the Alarm parameters for a specific Alarm, the Alarm must first be identified by its number (1 to 4) and the Channel number (1 to 16) to which it belongs.

The parameters listed in this page include Channel number selection followed by Alarm number selection, followed by Alarm parameters.

Refer Figure 6.1 below for the navigation diagram.

Figure 6.1



Note : Press PAGE Key to Revert to Main Mode.



Section 7 UTILITY PARAMETERS

The Scanner incorporates utility feature like monitoring the channels for the highest / lowest PV and optionally serial communication port for interfacing with PC. The parameters for these features are listed on PAGE-13.

Table 7.1

Parameter Description	Settings (Default Value)
<p>ENABLE MIN/MAX MONITORING H,Lo</p> <p>Yes : The process values for all the channels are continuously monitored for the Min. and the Max. values. The Max. value represents the highest value attained by any of the channels. The Min. value represents the lowest value attained by any of the channels. The Min. & Max. values are stored in memory and can be viewed on demand.</p> <p>No : Min./Max. monitoring is disabled.</p>	<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">no</div> No <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">YES</div> Yes (Default : No)
<p>PASSWORD FOR RESETTNG MIN/MAX VALUES CODE</p> <p>This parameter allows protection against inadvertent resetting of Min/Max values. That is, the reset command is executed only if the operator sets the password that matches with this parameter value.</p>	0 to 250 (Default : 0)
<p>BAUD RATE bAUD</p> <p>This parameter defines the communication speed expressed in "Bits per Second" (bps). The settable values are 4800, 9600, 19200, 38400 and 57600. The Baud Rate must be set to match the Baud rate set for the Master Device.</p>	<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">4.8</div> 4800 <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">9.6</div> 9600 <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">19.2</div> 19200 <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">38.4</div> 38400 <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">57.6</div> 57600 (Default : 9600)
<p>PARITY PAR,</p> <p>This parameter is a part of communication protocol and helps detecting communication errors. The settable values are 'None', 'Even' and 'Odd'. The parity type must be set to match the parity type set for the Master Device.</p>	<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">none</div> None <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">Even</div> Even <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">Odd</div> Odd (Default : Even)
<p>SERIAL ID id</p> <p>This parameter assigns an identification number for the communication with Master Device. The Master Device uses this ID to uniquely address the instrument for data transactions. The settable values are from 1 to 127.</p>	1 to 127 (Default : 1)
<p>SERIAL WRITE PERMISSION CoñE</p> <p>Yes : The Read/Write parameters can be accessed for both reading and writing.</p> <p>No : The Read/Write parameters can only be accessed for reading. That is the parameter values cannot be altered through serial communication.</p>	<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">no</div> No <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">YES</div> Yes (Default : No)

Section 8 OPERATOR PARAMETERS

The Operator page contains the parameters that are used most frequently and the commands that are required for day-to-day operation. This page is not locked for editing by Master Lock. The Operator Page parameters are listed in Table 8.1 below.

Table 8.1

Parameter Description	Settings (Default Value)
<p>ALARM ACKNOWLEDGE [<code>ACK</code>]</p> <p>This parameter serves the same purpose as that of front panel acknowledge key. Set this parameter value to 'Yes' to acknowledge Alarm.</p>	<p>[<code>no</code>] No [<code>YES</code>] Yes (Default : NA)</p>
<p>SCAN RATE [<code>rAtE</code>]</p> <p>Applicable for Auto Scan Mode only. This parameter value sets the time interval for which each channel is displayed. In other words, the rate at which the channels are sequentially updated for indication.</p>	<p>1 Sec. to 99 Sec. (Default : 3 Sec.)</p>
<p>MAXIMUM PV [<code>Hi</code>]</p> <p>The Max. PV is the highest value attained by any of the channels. This is a read only value and is available only if Min/Max monitoring is enabled.</p>	<p>View Only (Default : NA)</p>
<p>MINIMUM PV [<code>Lo</code>]</p> <p>The Min. PV is the lowest value attained by any of the channels. This is a read only value and is available only if Min/Max monitoring is enabled.</p>	<p>View Only (Default : NA)</p>
<p>RESET COMMAND [<code>rSt</code>]</p> <p>Available only if Min / Max monitoring is enabled. This feature clears the current Min / Max values and starts afresh monitoring the channels for new highest and lowest values. For resetting, set the reset command to 'Yes' and then enter the correct password.</p>	<p>[<code>no</code>] No [<code>YES</code>] Yes (Default : No)</p>
<p>RESET COMMAND [<code>COdE</code>]</p> <p>Available only if Min / Max monitoring is enabled. This feature clears the current Min / Max values and starts afresh monitoring the channels for new highest and lowest values. For resetting, set the reset command to 'Yes' and then enter the correct password.</p>	<p>0 to 250 (Default : 0)</p>



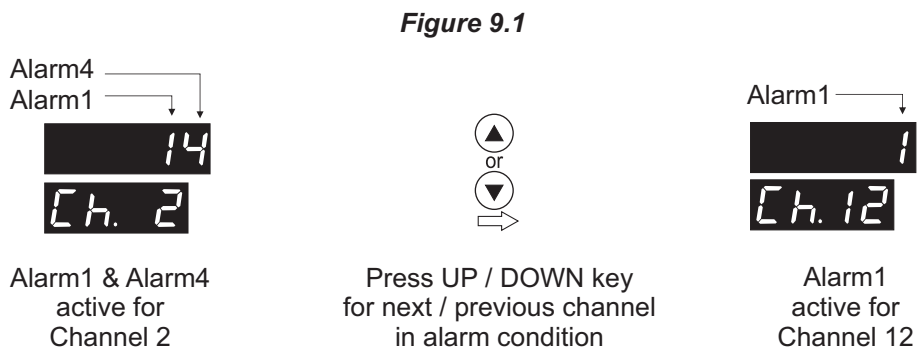
Section 9 ALARM STATUS INFORMATION

There are up to 4 soft Alarms provided for each channel. The front panel Alarm Status LEDs flash to indicate the channels that are under Alarm conditions. However, the complete information for each of the channels under Alarm is provided on PAGE-1.

The information available is for view only. The Lower Readout indicates the 'Channel Number' under Alarm and the corresponding 'Alarm Number(s)' are indicated on the Upper Readout. For e.g. if Alarm-1, Alarm-3 and Alarm-4 are active then the Upper Readout shows '134'. The UP/DOWN keys can be used to scroll through all the channels under Alarm.

The example below illustrates the following case :

Channel-2 and Channel-12 are currently under Alarm condition. The active Alarms for Channel-2 are Alarm-1 and Alarm-4 while for Channel-12 it is only Alarm1.



Use ENTER / PAGE key to revert to Main Display Mode.





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