Instruction Manual

MultiLite Digital Temperature Scanner Indicator

PMD-MXT Series

Part Number Configurator:

Model	Input Channels	Input Type
PMD-MXT	**-XX**	**-XXX**
	08 8 channels	**RTD** RTD
	16 16 channels	**THC** Thermocouple
	24 24 channels	
	32 32 channels	

Ordering Example

PMD-MXT-24-RTD: 24 input channels, RTD Input

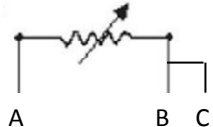## Rear Panel Schematic:
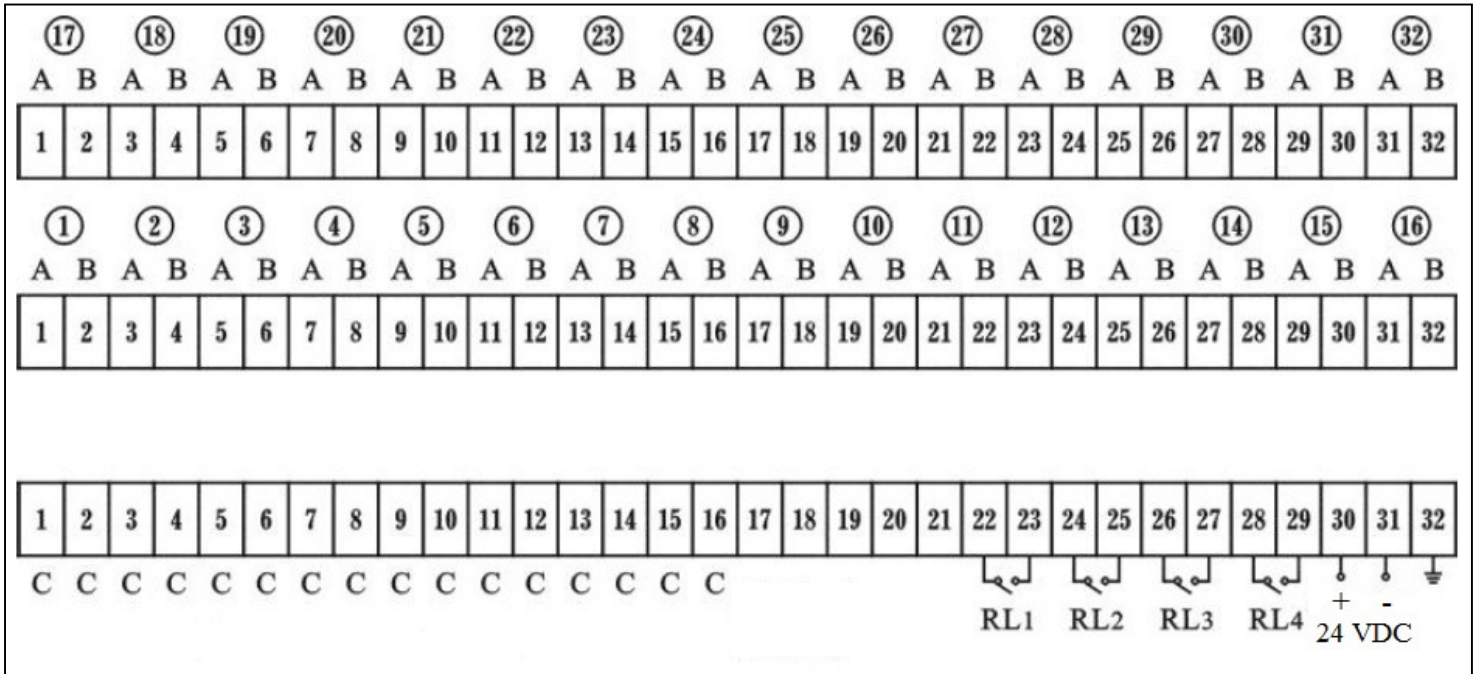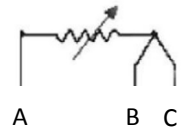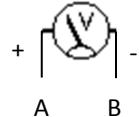
Power Supply Wiring:

Use: 24 VDC Power Supply

30   31
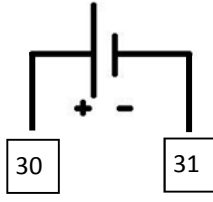
Signal Wiring:

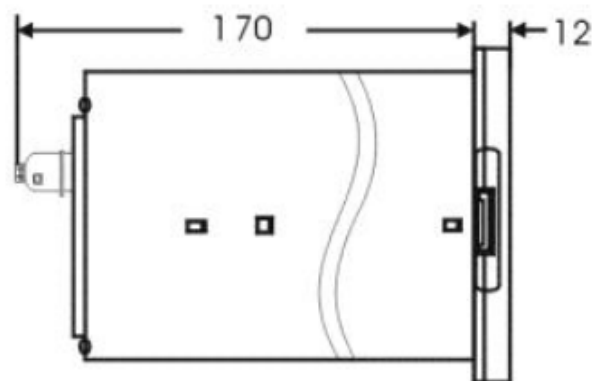| Thermocouple	2-Wire RTD	3-Wire RTD	DC Voltage	DC Current
+ -			+ -	+ -
A B	A B C	A B C	A B	A B
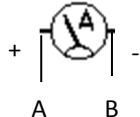
Meter Dimensions (mm):

160

80

170   12

Cutout Dimensions (mm):

76-1

152-1   50

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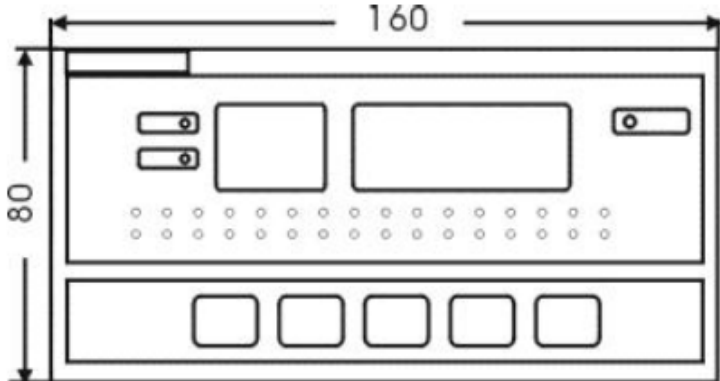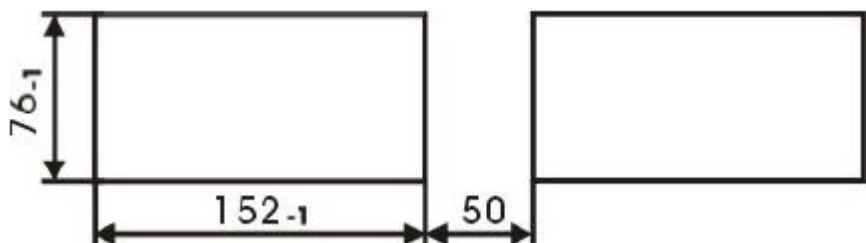
Faceplate:
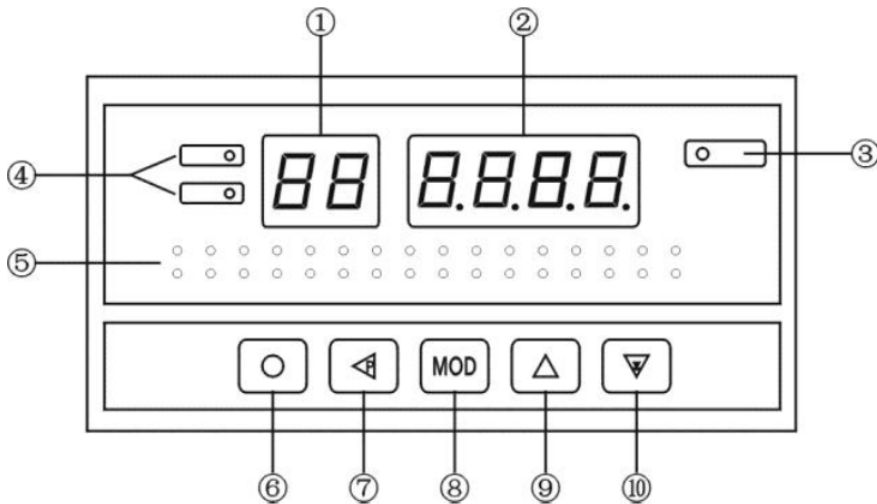
Push Button Functions:

①	Channel Select Indication
②	Measured Value Indication
③	External Printer Communications Indicator (LED) (* *If option is installed*)
④	Master Alarms Indicators (LED)
⑤	Individual Channel Alarm Indicators (LED) LED Status: Lit = Alarm Warning, Unlit = No Alarm, Flashing = Nearing Alarm Warning
⑥	Function Key
⑦	Program Key
⑧	Modify Key (Enter)
⑨	Increase Key
⑩	Decrease Key, Alarm Mute

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Choose Auto Scanning / Manual Scanning Mode Function :

The instrument powers up in Auto Scanning mode. To change to Manual Scanning mode:

Press [MOD] key x1 to enter Manual Scanning mode.

The Channel Selection Indication will begin flashing. Use the [▲] or [▼] keys to display desired channel.

To return to instrument Auto Scanning Mode press [MOD] key x1.

Changing a Channel's Alarm Set-point Parameter Setting:

NOTE: The instrument has (4) user selectable alarm set-points AH & AL & bH & bL

Press [MOD] key x1 to enter Manual Scanning mode.

The Channel Selection Indication will begin flashing. Use the [▲] or [▼] keys to display desired channel.

Press & hold the [●] key for 3 seconds

The Channel Selection Indication will display AH & the channel number. Now press the [◄] key x1

The Measured Value Indication will display the current alarm set-point value for AH

Pressing the [MOD] key x1 will sequence to the AL alarm set-point value

Pressing the [MOD] key x1 will sequence to the bH alarm set-point value

Pressing the [MOD] key x1 will sequence to the bL alarm set-point value

To change the channel's alarm set-point value

Once the desired AH or AL or bH or bL parameter is selected press the [◄] key x1

The current alarm set-point will flash in the Measured Value Indication window

Change the value to the desired alarm set-point using the [◄] [▲] [▼] keys

Press the [MOD] x1 to store the new alarm set-point value

To return to Manual Scanning Mode press and hold the [●] key for 6 seconds

HINT: Time saving shortcut to copy a channel's parameter settings to the next channel

EXAMPLE: Copy Channel 1 AH setting of 900 from Channel 1 to Channel 2 and all the way up to Channel 16

Set AH01 parameter to 900 then continually press the [MOD] key until AH is displayed again. Then press the [◄] key x1

When AH01 is displayed press the [▲] key x1, the display will now read AH02 and the setting of 900 will have been copied

Press the [▲] key again and AH03 will be displayed . Keep pressing the [▲] key until AH 16 is displayed

All 16 channels AH settings are now 900

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Changing a Channel's Input Type & Scale Factor:

To change a channel's Input Type & Scale Factor, a security access code must be entered.
**Follow these instructions:**

Press [MOD] key x1 to enter Manual Scanning mode.

The Channel Selection Indication will begin flashing. Use the or keys to display the desired channel

Press & hold the [●] key for 3 seconds

The Channel Selection Indication will display AH

Press & hold the [●] key for 3 seconds

The Measured Value indication will display oA

Press the [◄] key x1 until 0000 is in the Measured Value Indication window

Change the value to 1111 using the [◄] [▲] [▼] keys

Press [MOD] key x1 the Measured Value indication will display oA

Press & hold the [●] key for 3 seconds

Use the [▲] or [▼] keys to choose the channel to be modified

Press & hold the [●] key for 3 seconds

The Channel Selection Indication will display AH and in the Measured Value Indication window will be the channel number

The instrument is now in the programming mode

Press [MOD] key to increment through the Channel Input Type & Scale Factor settings

Reference: [Table 1] Channel Input Type & Scale Factor Settings

To Modify a Channel's Input Type or Scale Factor follow these instructions:

Once at the desired Channel's Input Type or Scale Factor parameter is in the display, Press the [◄] key to access the parameter

Use the [◄] [▲] [▼] arrow keys to modify the parameter value

Press the [MOD] key to save the new parameter value & move to the next Advanced Function parameter

To exit & return to Manual Scanning Mode press and hold the [●] key for 6 seconds

Channel Input Type & Scale Factor Settings Table:

[Table 1] Channel Input Type & Scale Factor Settings

Displayed Value	Function	Comment	Note
AH	Alarm AH Set-point Value	Enter alarm #1 trip point value	
AL	Alarm AL Set-point Value	Enter alarm #2 trip point value	
bH	Alarm bH Set-point Value	Enter alarm #3 trip point value	
bL	Alarm bL Set-point Value	Enter alarm #4 trip point value	
CA	Zero Offset Correction Value	Default = 0000	1
FC	Full Scale Offset Correction Value	Default = 1.000	1
Ct	Input Signal Type	*See [Table 3] Input Type Options*	
Cd	Decimal Point Position	0.000, 00.00, 000.0, or 0000 (Default = 0000)	2
ur	Input Low Value	Default = 0	3
Fr	Input High Value	Default = 3000	3
dY	Engineering Unit Selection	*See [Table 2] Engineering Unit Selections*	
Lb	Digital Filtering Time Coefficient	Default = 0001	

Note 1: Corrected Measured Value = FC x (Measured Value + CA)

HINT: To display in °F FC = 1.8 and CA = 32

Note 2: RTD input: only 000.0 (0.1°C), Thermocouple input: only 0000 (1°C) or 000.0 (0.1°C)

Note 3: Does not apply to Thermocouple or RTD inputs, Voltage or Current inputs only

[Table 2] Engineering Unit Selections

0	1	2	3	4	5	6	7	8	9
	°C	%RH	%	Pa	kPa	MPa	t/h	m3/h	l/m
10	11	12	13	14	15	16	17	18	19
m	Mm	Kg	t	kN	V	A	PPm	Mbar	bar

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[Table 3] Input Type Options

No.	Displayed Value	Input Signal
0	_oFF	Not in Use
1	P100	RTD PT100
2	c100	RTD Cu100
3	cu50	RTD Cu50
4	_bA1	RTD BA1
5	_bA2	RTD BA2
6	_G53	RTD G53
7	---H	Thermocouple Type K
8	---S	Thermocouple Type S
9	---r	Thermocouple Type R
10	---b	Thermocouple Type B
11	---n	Thermocouple Type N
12	---E	Thermocouple Type E
13	---J	Thermocouple Type J
14	---t	Thermocouple Type T
15	4-20	DC current; 4-20 mA
16	0-10	DC current; 0-10 mA
17	0-20	DC current; 0-20 mA
18	1-5u	DC voltage; 1-5V
19	0-5u	DC voltage; 0-5V

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Advanced Functions:

To access the Advanced Functions follow these instructions:

Press [MOD] key x1 to enter Manual Scanning mode.

The Channel Selection Indication will begin flashing. Use the [▲] or [▼] keys to display the desired channel

Press & hold the [●] key for 3 seconds

The Channel Selection Indication will display AX

Press & hold the [●] key for 3 seconds

The Measured Value indication will display oA

Press the [◄] key x1 until 0000 is in the Measured Value Indication window

Change the value to 1111 using the [◄] [▲] [▼] keys

Press [MOD] key x1 the Measured Value indication will display oA

Press [MOD] key x1 the Channel Selection indication will display ct

The instrument is now in the programming mode

Press [MOD] key to increment through the Advanced Functions settings

Reference: [Table 4] Advanced Functions

To Modify an Advanced Function follow these instructions:

Once at the desired Advanced Function parameter is in the display, Press the [◄] key to access the parameter

Use the [◄] [▲] [▼] arrow keys to modify the parameter value

Press the [MOD] key to save the new parameter value & move to the next Advanced Function parameter

To exit & return to Manual Scanning Mode press and hold the [●] key for 6 seconds

Advanced Functions Table:

[Table 4] Advanced Functions

Displayed Value	Function	Comment
ct	Channel Indication Switching Time Setting	When in Auto Scanning Mode, Range 0.5~10.0 seconds
cH	Channel Number	*For factory use only* *DO NOT CHANGE*
Ld	Cold Junction Compensation Mode Setting	*For factory use only* *DO NOT CHANGE* (Default = 61)
Lc	Cold Junction Compensation Coefficient	*For factory use only* *DO NOT CHANGE* (Default = 1.00)
F1	Alarm Type AH	H = High Alarm, L = Low Alarm (Default = H)
F2	Alarm Type AL	H = High Alarm, L = Low Alarm (Default = L)
F3	Alarm Type bH	H = High Alarm, L = Low Alarm (Default = H)
F4	Alarm Type bL	H = High Alarm, L = Low Alarm (Default = L)
H1	Alarm AH Hysterisis	Default = 0
H2	Alarm AL Hysterisis	Default = 0
At	Alarm Delay Time	Default = 0, Range 0~50 seconds *Set at 51 to make alarm latching type, press [▼] to reset
Ad	RS-485 Address *(* if option is installed)*	*For factory use only* *DO NOT CHANGE* (Default = 1)
bd	RS-485 Baud Rate *(* if option is installed)*	Default = 9600 Range: 2400, 4800, 9600, 19.2k

Technical Specifications:

Input type:

	Thermocouple	K, T, J, B, E, N, R, S
	RTD	PT100, CU100, CU50

Accuracy:

	RTD**:**	+/- 1.0% of full scale
	Thermocouple:	+/- 0.3% of full scale

Resolution:

	RTD (0.1° Res):	-167.9 to +999.9°F (-189.9 to +596.9°C)
	TC (0.1° Res):	-167.9 to +999.9°F (-199.9 to +999.9°C)
	TC (1° Res):	-412 to 3271°F (-257 to 1800°C)

Display: 4-digit LED, 0.56 inch (14 mm high)

Sample Rate: 0.1 second per channel

Power: 20 to 28 VDC @ 400 mA (nominal)

Dimensions: 6.3 inch x 3 inch x 7 inch (160 mm x 80 mm x 182 mm)
(Cutout: 6 inch x 3 inch (152 mm x 76 mm))

Weight: 2 pounds (900 grams)

Relay contact: 250 VAC @ 2 amps (resistance load)

Environment: 0 to 50°C, 90% Max. RH (non-condensing**)**