P34-HH2-X-PX-MDIN
DUAL INPUT RTD DIGITAL THERMOMETER

INSTRUCTION
SHEET

CE

Main Display

Second Display

Third Display

INTRODUCTION

This instrument is a 4½ digit, compact-sized portable digital thermometer designed to use external 100Ω Platinum RTD as temperature sensor. Temperature indication follows Reference Temperature/Resistance Tables (Pt385 for European Curve, Alpha=.00385. Pt3926 for American Curve, Alpha=.003926. Pt3916 for Japan Curve, Alpha=.003916.)

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

WARNING

To avoid electrical shock, do not use this instrument when working voltages at the measurement surface over 24V AC or DC.

WARNING

To avoid damage or burns, do not make temperature measurement in microwave ovens.

SPECIFICATIONS
ELECTRICAL
Temperature Scale: Celsius or Fahrenheit user-selectable
Measurement Range:
Pt385(100Ω) -200°C to 800°C, (-328°F to 1472°F)
Pt3916/Pt3926(100Ω) -200°C to 630°C, (-328°F to 1166°F)
Resolution: 0.1°C or 0.2°F
Accuracy:
Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F), for 1 year, not including RTD probe error.
$\pm$(0.05% rdg + 0.2°C) on °C scale
$\pm$(0.05% rdg + 0.4°F) on °F scale
Temperature Coefficient:
0.1 times the applicable accuracy specification per °C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 82°F to 122°F).
Input Protection:
24V dc or 24V ac rms maximum input voltage on any combination of input pins.
Maximum Differential Common Mode Voltage (Maximum Voltage between T1 and T2 during measurement): 1volt.
Reading Rate: 1 time per second.
Input Connector:
Accepts for RTD 3 wires or 4 wires subminiature 4-Prong type connectors (flat blades spaced 7.9mm, center to center).

ENVIRONMENTAL
Ambient Operating Ranges:
0°C to 50°C (32°F to 122°F) <80% R.H.
Storage Temperature:
-20°C to 60°C (-4°F to 140°F) <70% R.H.

GENERAL
Display: 4½ digit liquid crystal display (LCD) with maximum reading of 19999.
Overload: "----.-" or "OL" is display.
Battery: 1.5V x 4 PCS (SIZE AAA) UM-4 R03.
Battery Life: 200 hours typical with carbon zinc battery.

Reading Rate: 1 time per second.
Auto power off: 30 minutes, press power key to resume operation.
Dimensions: 160mm(H) x83mm(W) x 38mm(D).
Weight: Approx. 260g including batteries.

OPERATING INSTRUCTIONS

1.   Power Button

Turns the thermometer on or off.

In the SET mode cannot be powered off. Exit SET mode to power off.

APO function mode - Press power button for more than 6 seconds to disable the autom-power function

2. °C/°F Selecting the Temperature Scale (Main Display

Reading the main displayed in either degrees Celsius(°C) or degrees Fahrenheit(°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the "°C/°F" key.

3. Display Back-Light

Press the light key to turn on or off the Back-Light

4. "T1 T2/T1-T2" Main display Input Selection
The input selection indicates which input is selected for main display; T1 probe, T2 probe or the difference between the two probes (T1-T2). When the thermometer is turned on, it is set to T1, when main display input selected T1, then T1 input can select alternate of probe by pressing Pt385/Pt3926/Pt3916 key switch.

5. "TYPE"(Pt385/Pt3926/Pt3916) Input RTD Probe Select (only Main display

The "TYPE" key switches the T1 input to select the Pt385, Pt3926 or Pt3916 RTD probe as input, when main display input selected T1. When the thermometer is turned on, it is set to the probe selected that was in use when the thermometer was last turned off.

6. "MIN/MAX" with Time record mode (only Main Display

Press "MIN/MAX" key to enter the MIN MAX Recording mode, (displays the Maximum reading with time, Minimum reading with time and Average reading stored in record mode). In the this mode the automatic power-off feature is disabled and "   " key, "°C/°F" key, "REL" key, "SET" key, "Hi/Lo Limits" key and main display "T1 T2 T1-T2" key, "TYPE" key are disabled. The beeper emits a tone when a new minimum or maximum value is recorded.
Press "MIN/MAX" key to cycle through the MAX, MIN and AVG readings. If an overload is recorded, the averaging function is stopped. In this mode, press the "HOLD" key to stop the recording of readings, all values are held, press again to restart recording.

To prevent accidental loss of MIN, MAX and AVG data, this mode can only be cancelled by pressing and holding the "MIN/MAX" key for 2 seconds. All recorded readings are erased.

7. REL Relative mode (only Main display)

Press the "REL" key to enter the relative mode, zero the display, and store the displayed Reading as a reference value. REL is shown on the display. Press "REL" key again to exit the relative mode. The relative reference value can also be entered by the user. (See "SET mode" later in this manual). When the desired relative value has been entered, press "REL" key to enter the relative mode and than press "SET" key use the entered relative value as a reference value. Press "REL" key again to exit the relative mode. In the relative mode, the value (can not >±1999.9 counts) shown on the LCD is always the difference between the stored reference and the present reading.

8. HOLD mode (only Main display)

Press the "HOLD" key to enter the Data Hold mode, the "HOLD" annunciator is displayed. When HOLD mode is selected, the thermometer held the present readings and stops all further measurements. Press the "HOLD" key again to cancel HOLD mode causing thermometer to resume taking measurements. In the MIN/MAX recording mode, press "HOLD" key to stop the recording. Press "HOLD" key again to resume recording. (Previously recorded read are not erased).

9. SET mode (Relative value set, Time set and Hi/Lo Limits value set)

9.1 Press the "SET" key to enter relative values SET mode (Press "ENTER" key to skip setting relative value). = = = =.= is displayed on the main display. The relative value is entered via overlay numbers, press overlay "ENTER" key to store the relative value, and advance to elapsed time set mode.

9.2 Elapsed time set mode, (Press ENTER key to skip Elapsed time set mode) =.= = = : = = is displayed in second and third display. Time (hours, minutes, seconds) value is entered via overlay numbers, press overlay "ENTER" key to store time value. Elapsed time starts from set time value.

9.3 Hi Limit value set mode, (Press "ENTER" key to skip Hi Limit value set mode), = = = =.= is displayed in main display, Hi Limit value is entered via overlay numbers, then press "ENTER" key to store the Hi Limit value. = = = =.= is displayed in main display, Lo Limit value is entered via overlay numbers, then press overlay "ENTER" key to store the Lo Limit value and exit SET mode.

9.4 When the thermometer is turned on it uses the relative value and Hi/Lo Limits values that were entered when thermometer was last in use.

10. T1/T2 T1-T2 second display Input Selection

The input selection indicates which input is selected for second display; T1 probe, T2 probe or the difference between the two probes (T1-T2), when the thermometer is turned on, it is set to T2 input can select alternate of probe by second display Pt385/Pt3926/Pt3916 key switch.
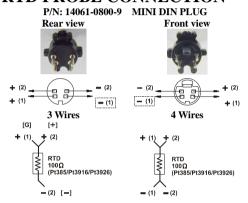
11. TYPE(Pt385/Pt3926/Pt3916) Input RTD Probe

select (second display)

The Pt385/Pt3926 key switches the T2 input to select the Pt385, Pt3926 or Pt3916 RTD probe as input, when second display input selected T2. When the thermometer is turned on, it is set to the RTD selected that was in use when the thermometer was last turned off.

12. Hi/Lo Limits mode (only Main display)

Press "Hi/Lo Limits" key to enter the Hi/Lo Limits comparative mode. When the input temperature value exceeds the Hi or Lo Limits value, the beeper emits a continuous or pulsed tone. Press "Hi/Lo Limits" key again to exit the Hi/Lo Limits mode.

RTD PROBE CONNECTION

P/N: 14061-0800-9   MINI DIN PLUG

TEMPERATURE VSRESISTANCE TABLE (ITS90)

°C	Pt385	Pt3926	Pt3916
-200°C	18.521Ω	16.996Ω	17.057Ω
-100°C	60.256Ω	59.479Ω	59.565Ω
0°C	100.000Ω	100.000Ω	100.000Ω
100°C	138.505Ω	139.272Ω	139.171Ω
200°C	175.856Ω	177.362Ω	177.155Ω
300°C	212.052Ω	214.275Ω	213.957Ω
400°C	247.092Ω	250.018Ω	249.584Ω
500°C	280.977Ω	284.591Ω	284.036Ω
600°C	313.708Ω	317.994Ω	317.313Ω
700°C	345.280Ω	-	-
800°C	375.700Ω	-	-

OPERATOR MAINTENANCE

Battery Replacement
1. Power is supplied by 4pcs 1.5V (AAA SIZE) UM-4 R03.
2. The "⊞" appears on the LCD display when replacement is needed. To replace battery remove screw from back of meter and lift off the battery cover.
3. Remove the battery from battery contacts and replace.
4. When not in use for long periods remove battery.
5. Do not store in locations with high temperatures, or high

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