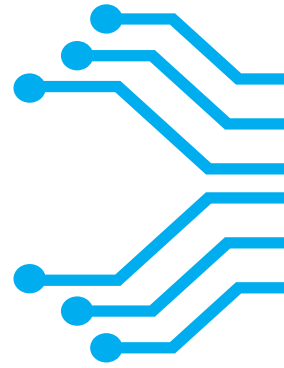


High Accuracy Industrial Handheld Thermometer (Product code 25.2)



DTM-22-RTD



DTM-22-RTD & TC



DTM-22-TC

MODEL WISE DESCRIPTION

Model	Product Description	Part no.
DTM-22-RTD & TC	Thermometer suitable for Pt-100 and Thermocouple probes	1003
DTM-22-RTD	Thermometer suitable only for Pt-100 probes	1004
DTM-22-TC	Thermometer suitable only for Thermocouple probes	1005

FEATURES

- Indispensable tool for all temperature measurement
- Software linearized for guaranteed +/-0.1 or +/-1oC display accuracy
- User selectable UOM oC/oF
- Touch keys for MAX/MIN/HOLD/CLEAR functions
- Can be selected for any type of Thermocouple or Pt-100
- Works on very low power using single 9V battery
- Single thermometer can be used with multiple type of probes
- User selectable thermocouple types like J,K,R,S and B.
- Handy and light weight.

APPLICATIONS

To measure the temperature of hot or cold flat / rotating / vibrating surface, solid surface, cylindrical surface, powder, liquid, gas, furnace, ovens, cold storage's, hot mould, etc..... and to log the data on to the computer.

DESCRIPTION

Libratherm offers Precision Industrial Portable Thermometer (Model DTM-22), which is designed using the latest low power, high speed microcontroller for accurate measurement of wide range of temperature and hence it is an indispensable tool in the industry for cross checking or quick measurement of the temperature.

Single instrument can accept multiple type of sensors, such as Pt-100 or J, K, R, S, or B type of thermocouples (Refer table above). The selection is possible through touch key pad. Thermocouple and Pt-100 curves are software linearized for $\pm 0.1\%$ of display accuracy. Various types of interchangeable probes can be used to measure the temperature. Industrial standard Omega type male/female connectors are provided for the sensor connections or for connecting floating leads of the external thermocouple already inside the furnace or oven or any hot or cold system. Other useful features allow user to record maximum and minimum temperature, freeze or hold the measured reading and select the unit of measurement either in OC or OF. White Back lit LCD to read the display in the dark area. Serial interface is optionally available for logging the data on to the PC using RS232 adapter. DTM-22 works on single 9V battery or on external 9V adapter.

TECHNICAL SPECIFICATIONS

Sensor Input / Range	As per the Model, Input and range selection table given below (Input selection through key pad).
Accuracy	±0.2 °C/°F for RTD (Pt-100) sensor & ±1 °C /°F for Thermocouple sensor
Resolution	0.1 °C for RTD(Pt-100) and 1 °C for T/C sensor
Display	4 Digit, 0.5" high 7 segment numeric LCD (with Back lit *)
Over range indication	Provided.
Low Battery indication	Provided.
Soft Touch Key pad	For °C / °F /Max / Min /Hold /Clear /Back Lit Functions
CJC	Built in Automatic for all types of thermocouples
Supply	9 volts dry cell / 9V AC-DC adaptor.
Serial Interface (Optional)	RS232 port for PC interface with additional adaptor (available as additional accessory)
Key Sound	Miniature beeper – sounds on Key press
Operating/Storage Temperature	0-50 °C Max. / 0-70 °C Max. @ 10-85% Rh (Non-Condensing)
Size	150(H) x 82(W) x 35 (D) mm.
Weight	200 gms approx.
Enclosure	ABS Plastic body with polycarbonate front and membrane keyboard.

INPUT AND RANGE SELECTION TABLE


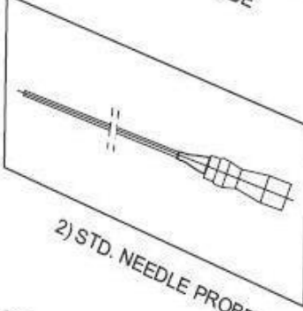
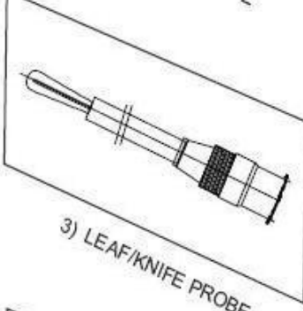
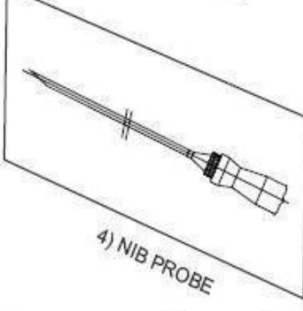
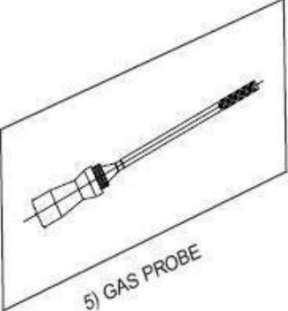
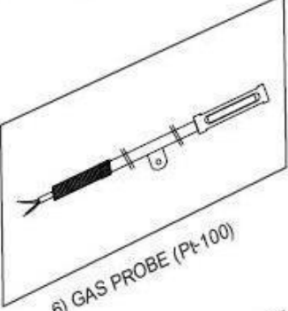

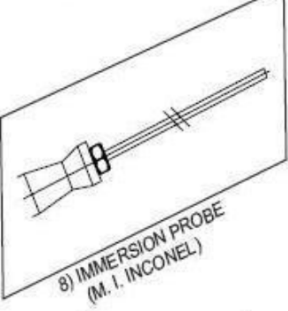
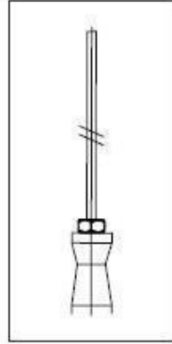
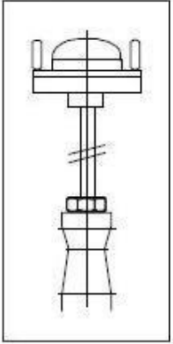
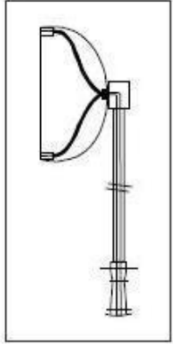
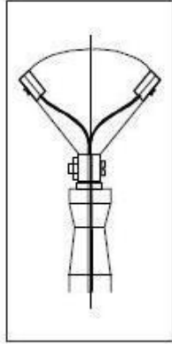
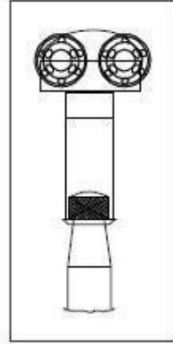
DTM-22 RTD and TC (1003)		DTM-22 RTD (1004)		DTM-22 TC (1005)	
Input	Range oC	Input	Range oC	Input	Range oC
Pt-100	0.0 to 400.0	Pt-100	-150.0 to 200.0	J type TC	0 to 760
J type TC	0 to 760		200 to 450	K type TC	0 to 1370
K type TC	0 to 1370		(auto ranging)	R type TC	0 to 1768
R type TC	0 to 1768			S type TC	0 to 1768
S type TC	0 to 1768			B type TC	200 to 1820
B type TC	200 to 1820				

Ordering Code: i) Part no. 1003 for DTM-22-RTD and TC or ii) Part no. 1004 for DTM-22-RTD
iii) Part no. 1005 for DTM-22 TC

INPUT AND RANGE SELECTION TABLE

Model	Sensor Type	Range (°C)	Part No.
DTM-22-RTD+TC	Pt-100	0.0 to 400.0	1003
	J - TC	0.0 to 760.0	
	K - TC	0.0 to 1372.0	
	R - TC	0.0 to 1768.0	
	S - TC	0.0 to 1768.0	
	B - TC	200.0 to 1820.0	
DTM-22-RTD	Pt-100	-150.0 to 200.0	1004
		200.0 to 450.0	
DTM-22-TC	Pt-100	0.0 to 760.0	1005
	Pt-100	0.0 to 1372.0	
	Pt-100	0.0 to 1768.0	
	Pt-100	0.0 to 1768.0	
	Pt-100	200.0 to 1820.0	

For high temperature probes above 1200oC – we recommend R, S or B type sensors.
 For very low temperature probes below -50oC – we recommend Pt-100 type sensors.
 Libratherm offers special type of very low and high temperature probes as per the requirement.
 Below is the List of standard Pt-100 and K type probes for general purpose use (-50 to 1000 oC):

PORTABLE PROBES FOR DIGITAL THERMOMETER	
TYPE	
	(A1) Mini - Needle 300°C (for liquid/powder)
	(A2) Standard needle 300° C (for liquid/powder)
	(A3) Leaf / Knife 600°C (for flat surface)
	(A4) Nib probe 300°C
	(A5) Gas Probe 300°C/800°C
	(A6) Gas Probe Pt- 100 (- 50°C to 600°C)
	(A7) Pierce-in probe 300°C
	(A8) Immersion probe 1000°C M.I. Inconel
	(A9) Immersion probe Pt-100 (- 50°C to 600°C)
	(A10) Flat Surface Bow 300°C/600°C
	(A11) Std. Bow - 300°C (for cylindrical or round surface)
	(A12) Mini Bow - 300°C
	(A13) Roller Type (for rolling surface)
	
	
	
	
	
	
	
	
	

STANDARD PORTABLE PROBES COMPATIBLE WITH MODELS DTM-21 AND DTM-22

TEMPERATURE RANGE (oC/oF)	SENSOR TYPE	PROBE SIZE	PART NO.
0 to 600/32 to 1112	K TC – Leaf type probe	Leaf size 6 x 40mm + 150mm long stem	1008
0 to 600/32 to 1112	K TC – Immersion probe	4mm Dia x 300 mm Length	1009
0 to 800/32 to 1472	K TC – Immersion probe	6mm Dia x 450 mm Length	1010
0 to 1100/32 to 2012	K TC – Immersion probe	8mm Dia x 600 mm Length	1011
0 to 1100/32 to 2012	K TC – Immersion probe	8mm Dia x 1000 mm Length	1012
0 to 400/32 to 752	K TC – Immersion probe	3mm Dia x 300 mm Length	1013
-200 to 400/-328 to 752	Pt-100 – Immersion probe	4mm Dia x 300 mm Length	1014
0 to 400/32 to 752	Pt-100 – Immersion probe	6mm Dia x 450 mm Length	1015
0 to 400/32 to 752	Pt-100 – Immersion probe	6mm Dia x 600 mm Length	1016

Note: All portable probes are available with Ebonite handle, 1.5meter long cable and 2 pin connector (for K type TC) / 3 pin connector (for Pt-100).

Please write to us on libratherm@libratherm.com for your requirement of any other type of probe.

SELECTION OF PORTABLE PROBES AND DTM-21/DTM-22:

- Based on the application of temperature measurement, user must select suitable probe along with DTM-21 or DTM-22.
- For low and stable temperature measurement, Pt-100 probes are recommended and for High temperature measurement K type TC probes are recommended. Pt-100 probes are slow in response time compared to K TC probes.
- User has choice of selecting more than one type of probe with single DTM-21 or DTM-22. For example, user wants to measure surface temperature of hot plates up to 400 °C and also wants to measure Furnace temperature up to 1000 °C. In such case, one can opt for probes Part no.1008 and Part no. 1011 along with single DTM-21 or DTM-22.
- In case, user wants to use single thermometer for both KTC probes and Pt-100 probes, then one can opt for model DTM-22-RTD-TC.
- In case, user wants to use thermometer with simple measurement only with fixed type of K TC probe or fixed type of Pt-100 probe, model DTM-21 is most suitable.
- In case, user wants to use single portable thermometer with different types of TC (J,K,R,S or B), model DTM-22 -TC is more suitable.

DTM-22

DIMENSIONAL DRAWING



Front View

Side View

All dimensions
are in mm

Note: Dimension of DTM-21 , DTM-22 & HTM-22 are same