

# High Accuracy Industrial Handheld Thermometer (DTM-21)



**DTM - 21**

## MODEL WISE DESCRIPTION

Model	Product Description	PART NO.
DTM-21-TC	Thermometer suitable for different types Thermocouple probes	1001
DTM-21-RTD	DTM-21-RTD Thermometer suitable for Pt-100 probes	1002

## DESCRIPTION

Libratherm offers Precision Industrial Portable Thermometer (Model DTM-21), 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 the temperature. DTM-21 can be offered with pre-calibrated range of various temperature probes, such as Pt-100 or K type of thermocouples. If user wants to use portable thermometer with various types of thermocouples like J,K,R,S,B then we recommend our universal model DTM-22.

Various types of interchangeable probes having different shapes and sizes can be used to measure the temperature. Industrial standard Omega or equivalent make male/female connectors are provided for the sensor connections or for connecting external thermocouple already inside the furnace or oven or any hot or cold system. Other useful features allows user to select the unit of measurement either in °C or °F. DTM-21 works on single 9V battery or on external 9V adapter.

## APPLICATION

To measure accurately using suitable probe the temperature of hot or cold flat / rotating / vibrating surface, solid surface, cylindrical surface, powder, liquid, gas, air, furnace, ovens, cold storage's, hot mould, etc.....

## FEATURES

- Indispensable tool for all temp. measurement.
- Software linearized for guaranteed +/-0.1 or +/-1°C display accuracy.
- User selectable UOM °C/°F
- 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
- Handy and light weight.

## TECHNICAL SPECIFICATIONS

Sensor Input	K type or RTD(Pt-100) probes
Range	0 to 1372 °C for KTC -200.0 to 400.0 for RTD (Pt-100) – Refer Ordering Information for specific requirement
Accuracy	±0.1 °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.
Over range indication	Provided.
Low Battery indication	Provided.
Soft Touch Key pad	For °C / °F selection.
CJC	Built in Automatic for all types of thermocouples
Supply	Single 9 volts dry cell / 9V AC-DC adaptor.
Operating/Storage Condition	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.
	ABS Plastic body, polycarbonate front and with table stand.

## ORDERING INFORMATION

For selection of suitable portable thermometer and its compatible probe, please refer to Table-1 and Table-2 as given below.

### PART NO. WISE PRODUCT SELECTION TABLE-1

MODEL	SENSOR TYPE	RANGE (°C)	PART NO.
DTM-21-RTD	Pt-100	0.0 to 400.0	1001-1
DTM-21-RTD	Pt-100	-50.0 to 350.0	1001-2
DTM-21-RTD	Pt-100	-200.0 to 200.0	1001-3
DTM-21-TC	K TC	0 to 1372	1002-1

### PART NO. WISE PROBE SELECTION TABLE -2

Standard portable probes compatible with models DTM-21 and DTM-22


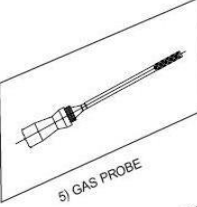
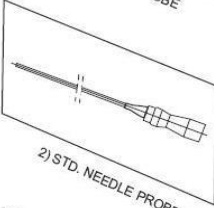
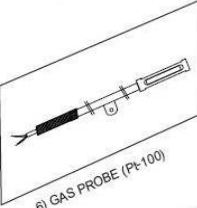
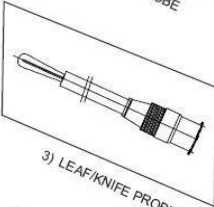
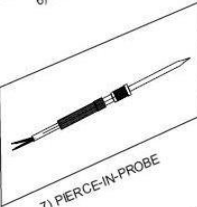
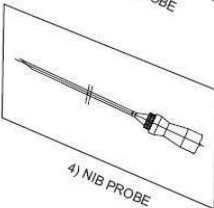
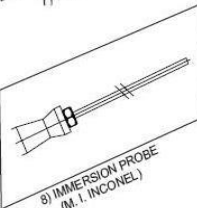
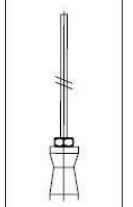
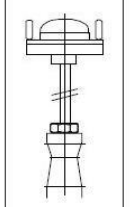
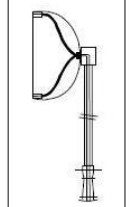
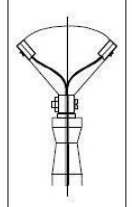
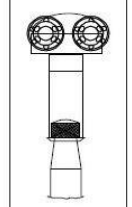
TEMPERATURE RANGE (°C/°F)	SENSOR TYPE	PROBE SIZE	PART NO.
0 to 600/32 to 1112	K TC – Leaf type probe	Leaf size 6 x 40mm + 150mm long stem	1008
0 to 600/32 to 1112	K TC – Immersion probe	4mm Dia x 300 mm Length	1009

## PART NO. WISE PROBE SELECTION TABLE -2

Standard portable probes compatible with models DTM-21 and DTM-22

0 to 800/32 to 1472	KTC – Immersion probe	6mm Dia x 450 mm Length	1010
0 to 1100/32 to 2012	KTC – Immersion probe	8mm Dia x 600 mm Length	1011
0 to 1100/32 to 2012	KTC – Immersion probe	8mm Dia x 1000 mm Length	1012
0 to 400/32 to 752	KTC – 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

**PORTABLE PROBES  
FOR DIGITAL THERMOMETER**

	TYPE	
 1) MINI NEEDLE PROBE	(A1) Mini - Needle 300°C (for liquid/powder)	 5) GAS PROBE
 2) STD. NEEDLE PROBE	(A2) Standard needle 300°C (for liquid/powder)	 6) GAS PROBE (Pt-100)
 3) LEAF/KNIFE PROBE	(A3) Leaf / Knife 600°C (for flat surface)	 7) PIERCE-IN-PROBE
 4) NIB PROBE	(A4) Nib probe 300°C	 8) IMMERSION PROBE (M.I. INCONEL)
	(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)	
 9) IMMERSION PROBE (Pt-100)		 10) FLAT SURFACE BOW PROBE
		 11) STD. BOW PROBE
		 12) MINI BOW PROBE
		 13) ROLLER TYPE 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.

### DIMENSIONAL DRAWING

# DTM-21



All dimensions are in mm

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