

DT-2000

DIGITEMP

DIGITAL THERMOMETERS AND TRANSMITTERS



DT2 rigid stem version



DT2 stainless steel armoured cable version

- **High accuracy and resolution**
- **Selection of Thermocouple or RTD sensor**
- **Stainless steel IP67 sealed case**
- **Long battery life - 2 years continuous operation from 2 AA alkaline cells**
- **Microprocessor based**
- **4 to 20 mA output option available**
- **Intrinsically safe versions available to EEx ia IIC T4**
- **Available with MAX and MIN temperature logging**

instrument displays are for illustration purposes only

DT1 GENERAL PURPOSE DIGITAL THERMOMETER

The Rotothem DT1 is a micro processor based, battery operated, continuous reading, type K thermocouple input digital thermometer. Two basic versions are available, both have clear four digit LCD displays with 12.7mm high characters and 1°C/°F resolution. 4/20mA signal re-transmission and MAX / MIN temperature logging can also be incorporated - see OPTIONS for further details

The DT1-1 is a 316 stainless steel stem rigid stem temperature indicator, the stem can be either 12.7mm or 6.35mm diameter with a reduced tip for fast response, the stem length and fitting, if required, can be user specified. The DT1-1 can be mounted directly on to a pipe line or vessel where direct, local temperature indication is required.

The DT1-2 is a remote reading instrument, designed for mounting on a panel, either with a three hole front flange or a back flange for surface mounting. The indicator is connected to the sensor by a 3mm diameter stainless steel mineral insulated cable which can be fitted with a compression fitting if required.

DT1 SPECIFICATION

Case:	100mm (4") diameter 304 stainless steel, back or bottom entry
Window:	Acrylic.
Ingress protection:	IP67 / NEMA 4X
Display:	4 digit LCD with 12.7mm (1/2") high characters.
Display Units:	°C or °F. User selectable.
Measurement Range:	-100°C to 800°C : 1°C Resolution -150°F to 1500°F : 1°F Resolution
Sensor :	Type K (Nickel-Chromium / Nickel-Aluminium) Thermocouple +/- 1°C +/- 1 Digit.
Accuracy (at 20 °C):	Zero: +/- 0.05°C per °C ambient temperature change from 20°C
Display Update:	0.5 seconds (not Tx version)
Temperature Stability:	Span: +/- 0.01% of reading per °C ambient temperature change from 20°C
Operating Temperature:	-10 to 70°C (14 to 160°F)
Cold Junction Compensation:	Automatic: Error included in basic accuracy statement.
Linearisation:	+/- 1°C / °F
Protection:	Protected against reverse battery polarity.
EMC	Immunity :BS EN 50081-1 : 1992 Emissions: BS EN 50082 -2 : 1992
Batteries:	2 x 1.5V Alkaline Manganese AA cells
Battery Life:	2 years, continuous operation.

DT2 HIGH ACCURACY DIGITAL THERMOMETER

Using common construction to the DT1, the DT2 is a high accuracy, high resolution digital temperature indicator. The DT2 uses a precision three wire thin film PT1000 resistance element as a sensor and can be supplied in both rigid stem and remote reading variants. In common with the DT1 series the DT2 can be supplied with 4/20mA signal re-transmission and MAX / MIN temperature logging - see OPTIONS for further details.

The DT2 -1 is a rigid stem, direct mounted instrument for local indication, stem configurations are common with the DT1-1. A special derivative of this product is the DT2-3, this is fitted with a 12.7mm stem with a reduced tip and a captive 3/4" or 1" BSP hygienic fitting - primary application are Dairy, Brewing and Food Industries.

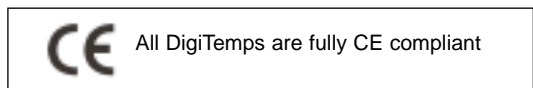
The DT2-2 enables the measuring instrument to be mounted remotely from the sensor and is available in two variants with differing cable protection systems and sensor housings.

The standard instrument has a PTFE protected cable and a 6mm diameter, 50mm long stainless steel sensor housing. A cable gland can be supplied loose on the cable to enable a sealed connection to be made to tanks, pipes etc. Where cable protection is required 6mm diameter stainless steel armoured cable is available, the stainless steel sensor housing is 12.7mm diameter with a reduced tip, a standard compression fitting can be supplied either loose or captive on the housing.

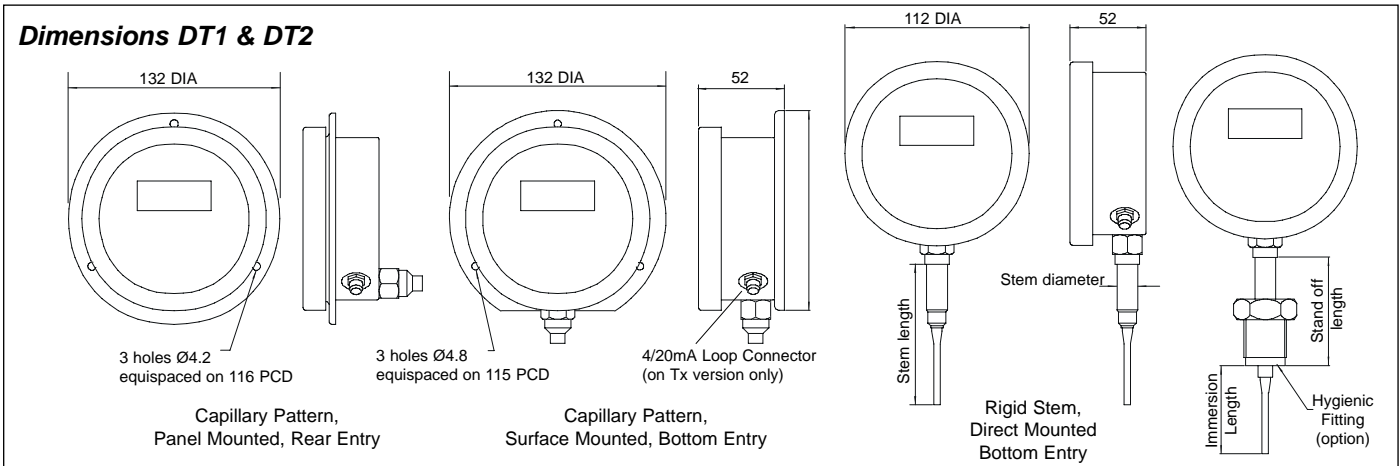
DT2 SPECIFICATION

As per DT1 specification, except

Measurement Range:	-50 to 200°C : 0.1°C resolution -60 to 400°F : 0.1°F resolution
Sensor:	Three wire Pt1000 platinum resistance thermometer. +/- 0.2°C +/- 1 digit
Accuracy:	Zero : +/- 0.005°C per °C ambient temperature change.
Temperature Stability:	Span: +/- 0.003 % of reading per °C ambient temperature change.
Linearisation:	< +/- 0.05°C
Resolution:	0.1°C



All measurements are in millimeters (mm)



BASEEFA APPROVED INTRINSICALLY SAFE VERSIONS

The addition to the range of an intrinsically safe version allows this product to be standardised in all Pharmaceutical and Petro Chemical industries. Both Thermocouple (DT1X) and RTD (DT2X) sensor instruments are offered.

DT1X SPECIFICATION

Range:	-30 to +400°C or -22 to 750°F
Resolution:	1°C / °F
Accuracy:	+/- 1°C / °F
Display:	LCD with 12.7mm (1/2") high digits
Power Supply:	6 Volt battery pack
Battery Life:	Typically 3 years continuous operation at 20°C / 68°F ambient temperature
Low Battery Indication:	High visibility red LED indicator
Ambient Operating Range:	0 to 50°C / 32 to 122°F
Ambient Temp. Effect:	+/- 0.05°C / °C
Enclosure:	Stainless steel case rated IP67 / NEMA 4X
Stem/Capillary:	Stainless steel AISI 316
BASEEFA Category:	EEx ia IIc T4

DT2X SPECIFICATION

As per DT1X specification, except:

Range:	-100 to 199.9°C
Resolution:	0.1°C / °F
Accuracy:	+/- 0.25°C
Battery Life:	Typically 2 years continuous operation at 20°C / 68°F ambient temperature
Ambient Temp. Effect:	+/- 0.005°C / °C



OPTIONS

DIGITEMP Tx

Any non intrinsically safe DigiTemp variant can be supplied as a two wire 4/20mA indicating temperature transmitter. Operating from a two wire DC power supply, the DigiTemp Tx can be configured during set up to retransmit a 4/20mA signal across either the full, or part of the instruments measurement range. DigiTemp Tx. is supplied with a 2m long connecting cable. Retransmission range must be advised at the time of ordering.

Tx SPECIFICATION

Loop Supply :	12 to 32V DC
Connection:	3 pole miniature M8 connector sealed to IP 68
Protection:	Reverse loop polarity protected.
Adjustments:	Multiturn potentiometers for zero and span. Separate pairs of potentiometers for trimming of local indication and loop current.
EMC:	Immunity : BS EN 50082-2 Emissions : BS EN 50081-2
CE Marking:	All DigiTemps are fully CE compliant

Max Min Temperature Logging

With the exception of intrinsically safe versions all DigiTemps can be supplied with a maximum and minimum temperature logging facility. Information is held in memory and is accessed and cleared by a non-intrusive magnetic key.

ORDERING CODE

DigiTemp Digital Thermometer
Thermocouple Sensor
DigiTemp Digital Thermometer
Thermocouple Sensor Intrinsically Safe
DigiTemp Digital Thermometer
RTD Sensor
DigiTemp Digital Thermometer
RTD Sensor Intrinsically Safe

DT1										
DT1X										
DT2										
DT2X										

STEM TYPE

Rigid Stem
 Cable

STEM / CABLE ENTRY

Bottom
 Back

MOUNTING

Direct
 Surface
 Panel

STEM LENGTH

100mm
 200mm
 Other (*Insert Length Required*)
 Cable

STEM DIAMETER (*Rigid stem models only*)

6.35mm
 12.7mm

CABLE TYPE

Stainless Steel Mineral Insulated Cable
 Stainless Steel Armoured Cable
 PTFE covered Cable

Rigid Stem

CABLE LENGTH

1 metre
 Other (*Insert Length Required*)

COMPRESSION FITTING

1/2" BSP
 1/2" NPT
 Other (*Please State Requirement*)
 Not required

OPTIONS

4/20mA Retransmission (*not available on Intrinsically Safe versions*)*

Required
 Not Required

MAX & MIN Temperature Logging (*not available on Intrinsically Safe versions*)

Required
 Not Required

1
 2

A
 B

1
 2
 3

A
 B
 -
 X

1
 2

M
 S
 P
 X

1
 -

A
 B
 -
 X

T
 X

M
 X

*Please state Retransmission range required (minimum 10% of span)

Example Order Codes

DigiTemp Digital Thermometer, Thermocouple sensor, cable type, surface mounting, 1 metre of mineral insulated cable, no fitting required, with 4 to 20 mA retransmission and maximum and minimum temperature logging:

Order : DT1 / 2 / A / 2 / X / M / 1 / X / T / M

DigiTemp Digital Thermometer, RTD sensor, rigid stem type, bottom direct mounting, 300 mm stem length, 12.7 mm stem diameter, 1/2" BSP compression fitting, no options required:

Order : DT2 / 1 / A / 1 / 300mm / 2 / X / A / X / X

DIGIGAUGE DIGITAL PRESSURE GAUGE

To complement the DigiTemp range, the next generation of DigiGauge digital pressure gauges and transmitters is now available. The DigiGauge continues to offer high accuracy and a 4 digit display and now includes a host of new features, including:



- High accuracy - $\pm 0.2\%$ f.s
- 4 to 20mA transmitter option
- Intrinsically Safe versions
- Max & Min pressure logging
- Easy user recalibration
- Wide selection of pressure ranges



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