

# DigiTemp Digital Thermometers & Transmitters



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## ■ DT1 General Purpose Digital Thermometers

**DT1**  
DigiTemp



The Rototherm 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 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 Specifications

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

## ■ DT2 High Accuracy Digital Thermometers

**DT2**  
DigiTemp

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 Specifications

As per DT1 specification, except

### Measurement


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

## ■ ATEX 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.



### ATEX Category:

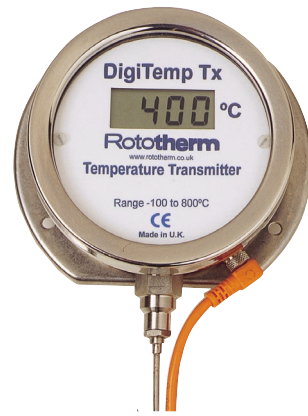
 II 1G EEx ia IIC T4 (-20°C ≤ Ta ≤ +60°C)

## ■ DigiTemp Tx Transmitter

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 re-transmit a 4/20mA signal across either the full, or part of the instruments measurement range. DigiTemp Tx. is supplied with a 2 metre 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:** Multi-turn 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

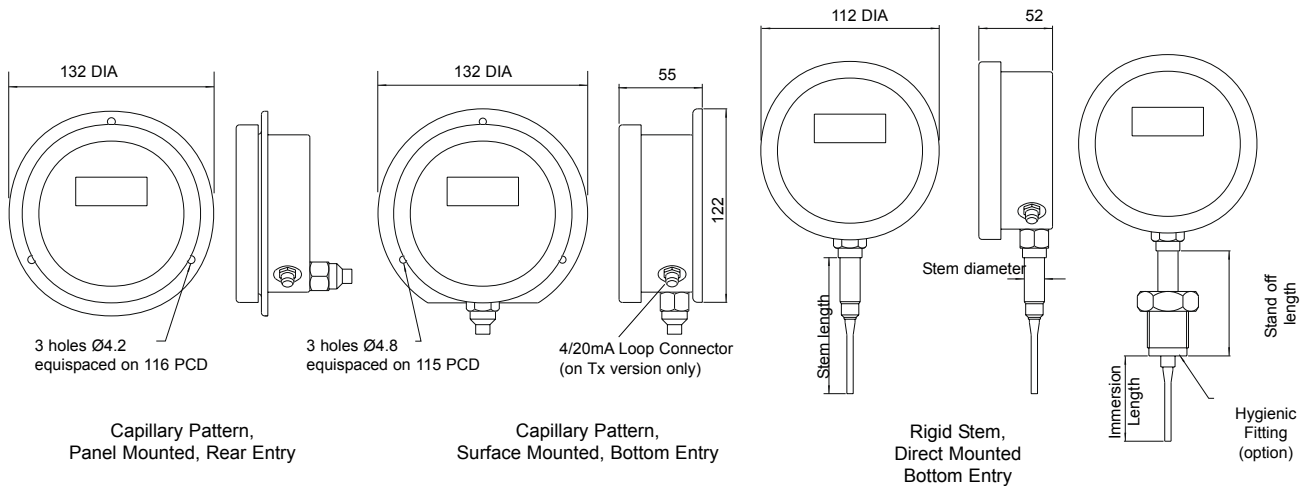


DT1Tx with 4 to 20 mA retransmission

## ■ Max Min Temperature Logging

All Digtemps 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.

## ■ Dimensions DT1 & DT2



All dimensions are in mm. Drawings are for illustration purposes only.

## ■ DT3 Digital Thermometer

The Rototherm DT3 Digital Thermometer is the latest addition to the already successful DigiTemp range of Process Digital Thermometers.

The DT3 Digital Thermometer offers a low cost digital alternative to more traditional analogue gauges and is suitable for use in many industrial applications including food processing, tank and pipeline temperature measurement.

**DT3**  
DigiTemp



## ■ DT3 Specifications

**Case:** 81.0 mm diameter 304 stainless steel, back or bottom entry. IP65  
**Window:** Standard instrument glass  
**Stem Material:** 304 stainless steel  
**Stem Diameter:** 8.0 mm  
**Stem Length:** 200 mm standard stem length (other lengths are available upon request)  
**Temperature Range:** -50 to +150 Deg C  
**Display:** 3 digit LCD display with 11mm high characters  
**Resolution:** 0.1 Deg C  
**Accuracy:** ±1.0 Deg C from -10 to +100 Deg C  
 ±2.0 deg C for remainder of range  
**Battery Type:** 1 x 1.5V G10 or equivalent  
**Battery Life:** Approximately 1 year of continuous operation

# DigiTemp Digital Thermometers & Transmitters

## ■ DigiTemp Order 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

½" BSP

½" NPT

Other (*Please State Requirement*)

Not required

#### OPTIONS

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

Required

Not Required

#### MAX & MIN Temperature Logging

Required

Not Required

\*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**



ISO9001:2000  
FM11958



### British Rotherm Company Limited

Kenfig Industrial Estate, Margam, Port Talbot SA13 2PW, United Kingdom

Telephone: +44 (0) 1656 740 551 Facsimile: +44 (0) 1656 745 915 E-mail: sales@rototherm.co.uk Web site: www.rototherm.co.uk