

DTG5 Series

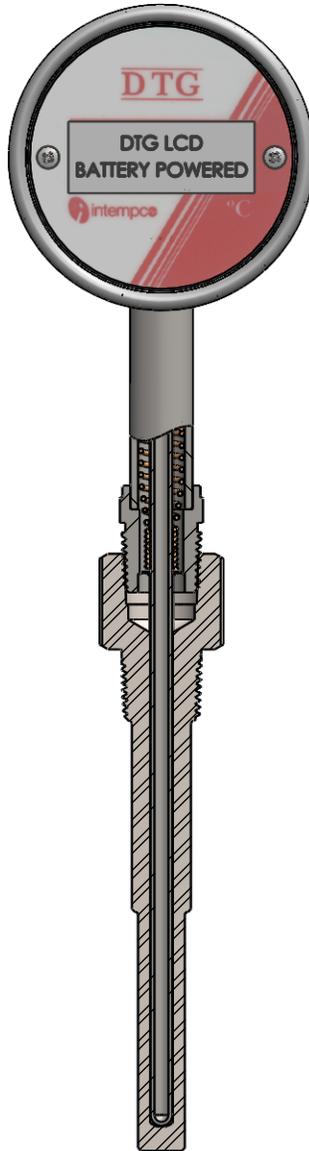
Spring Loaded Digital Temperature Gauge and Switch

DTG5A
LED Display, 24 VDC
Source 3-wire
Switch Output

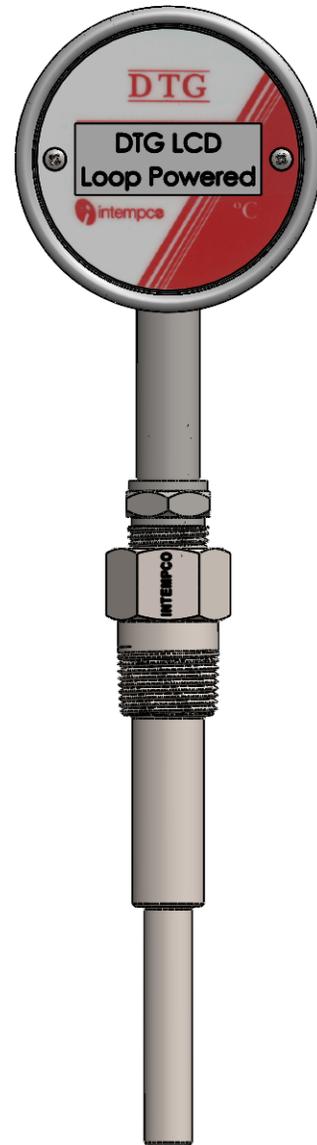


3 Display Types Available
with Optional Outputs

DTG5B
LCD Display,
Battery Powered



DTG5C
LCD Display, 24 VDC
Loop Powered 2-wire



- Spring Loaded Sensor
- Matched Pairs Optional for BTU Measurement
- Supplied With or Without SS316 Thermowell
- Threaded Process Connection
- 1/2 or 3/4 NPT
- Stepped or Tapered Well Stem Profile



Intempco Controls
www.intempco.com

DTG5 Series
Spring Loaded with Thermowell

DIGITAL TEMPERATURE GAUGE

Dimensions are in inches [mm]

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DTG5-CAT-001

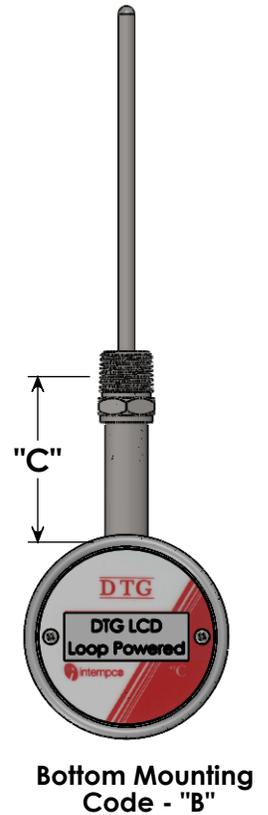
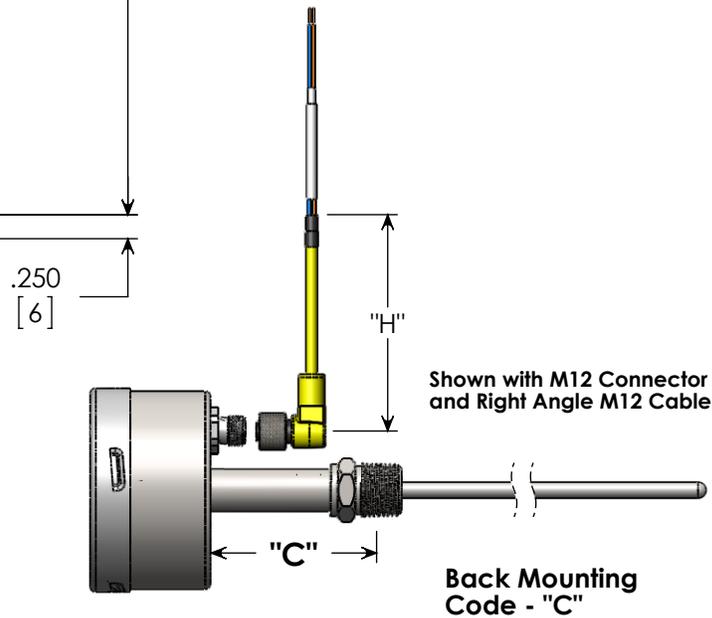
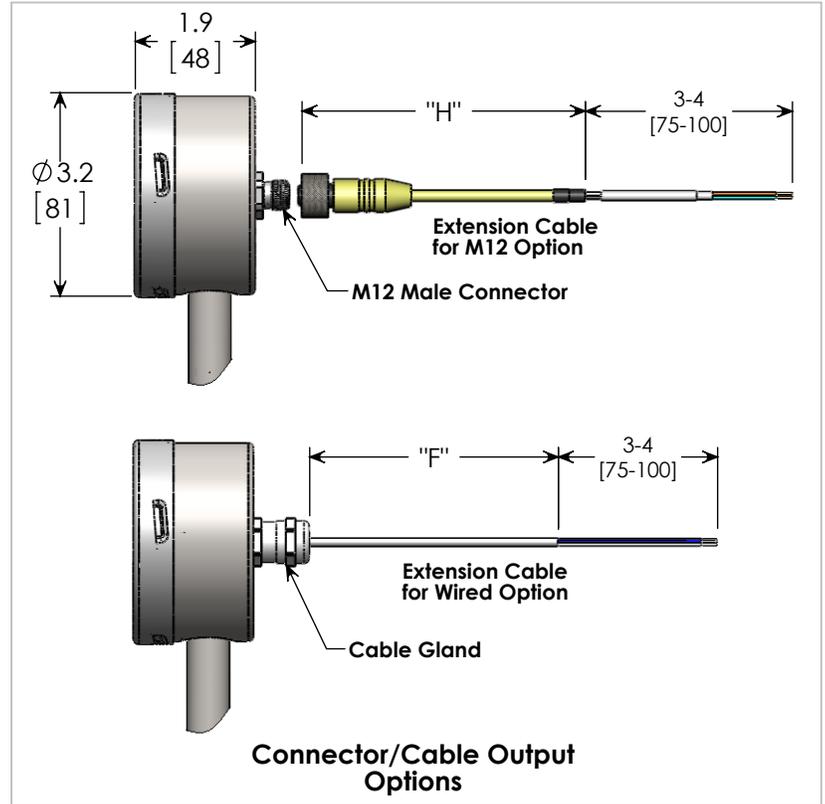
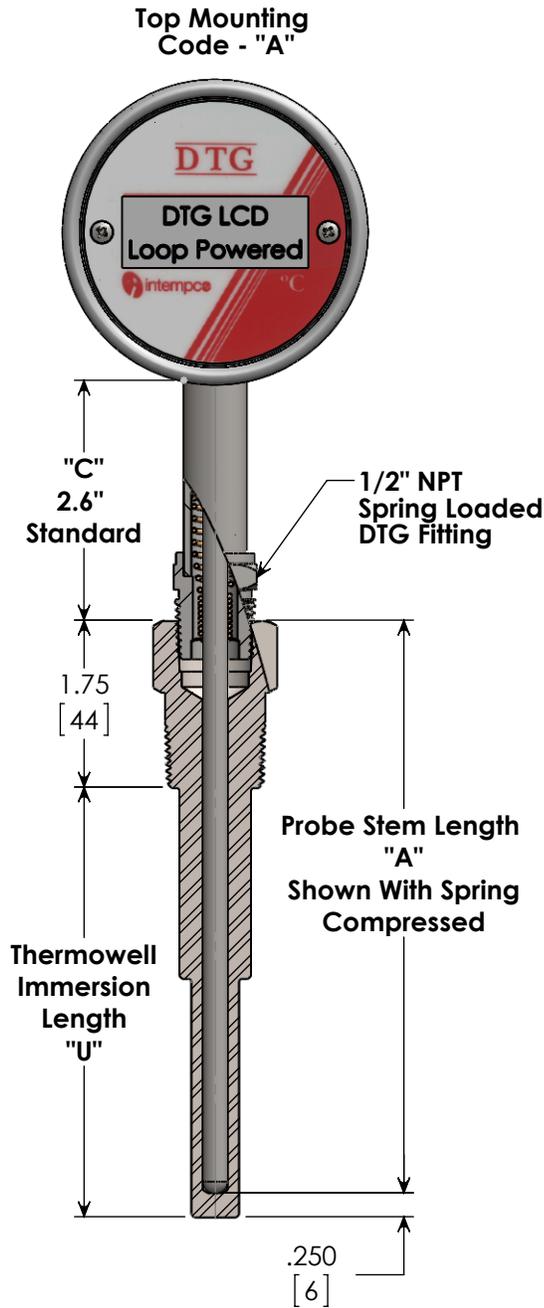
Revision: -
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Date: 2017/04/11

SHEET 1 OF 8

DTG5 Series

Spring Loaded Digital Temperature Gauge and Switch

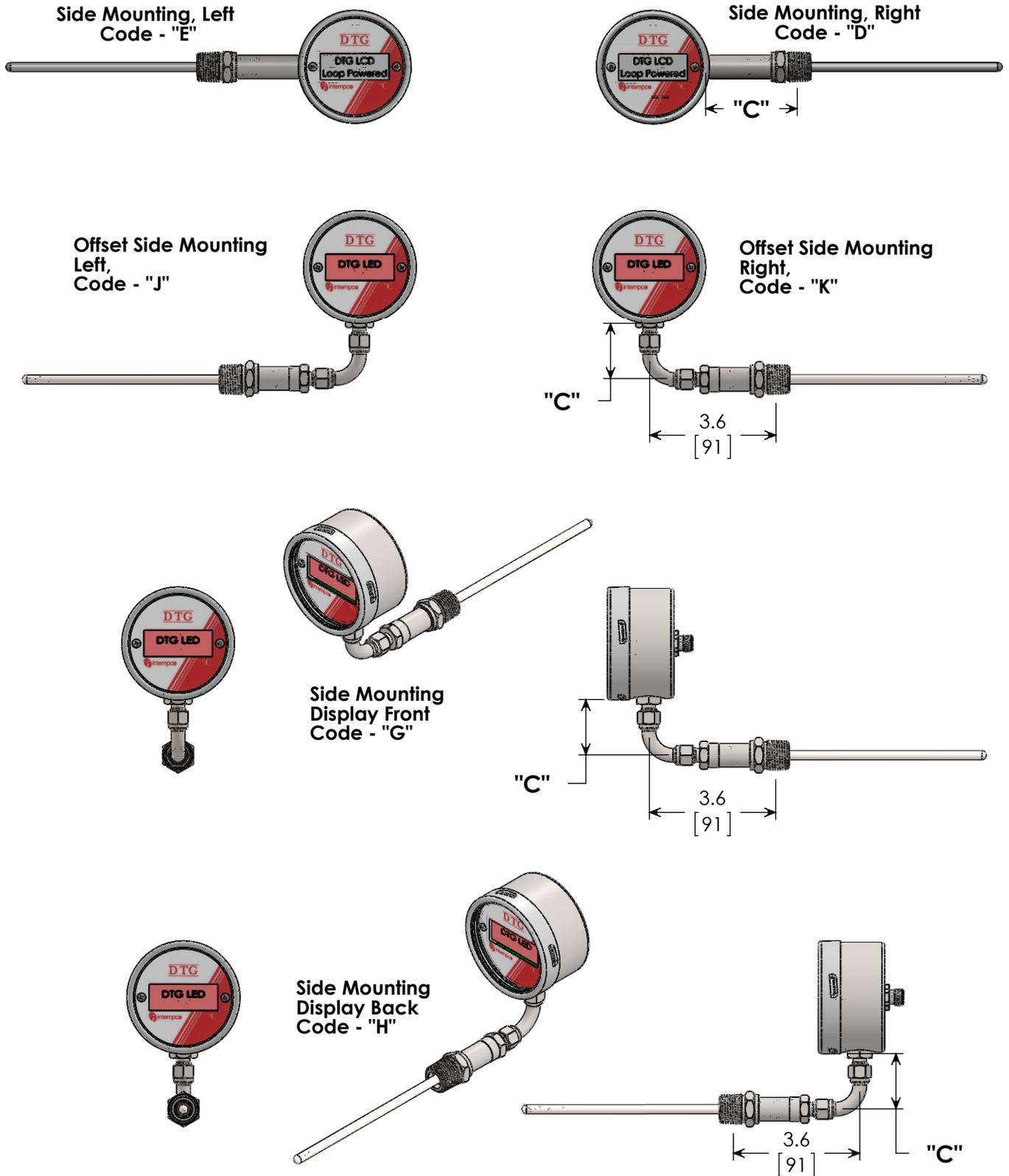
Dimensions and Mounting Options



DTG5 Series

Spring Loaded Digital Temperature Gauge and Switch

Dimensions and Mounting Options



DTG5A Series Spring Loaded Digital Temperature Gauge

LED Display, 24 VDC Source 3 Wire, Switch Output

Technical Specifications

Sensing Element	RTD, Type Pt100 DIN EN 60751, Class A
Temperature Ranges	Customer re-scalable between -50°C to 200°C or -200°C to 600°C (depending on model) No re-calibration required.
Switching Ranges	Customer programmable between -200°C to 600°C or -50°C to 200°C depending model.
Hysteresis (Switch Option)	Customer programmable, 1% of range by factory setting.
Accuracy ¹	With standard 1 Point Factory Calibration at 0.0°C (32.0°F), accuracy is proportional to reading. ±(0.18°F + 0.002 x °T-32 reading) ±(0.10°C + 0.002 x °T reading) With optional 2 Point Factory Calibration, accuracy is proportional to Calibrated Span ±(0.18°F + 0.0005 x Calibrated Span) ±(0.10°C + 0.0005 x Calibrated Span)
Open Circuit Detection	Upscale (22mA) or Downscale (2.5mA) current output. Error message on LED display.
Warm-up	30 seconds.
Response Time	0.5 sec to 30 sec (software selectable)
Display	4-DIGITS LED, decimal point selectable by software.
Display resolution	See Table 1
RFI effect	1% or less typical
Temp. Effect	<0.01% FS/°C
Ambient Temp. Range	-40°C to 80°C (-40°F to 176°F)
Storage Temp. Range	-50°C to 85°C (-58°F to 185°F)
Max. Pressure	Determined by thermowell
Housing Material	Stainless steel 316
Probe Material	Stainless steel 316 standard
Cable Materials	PVC, Silicone, Teflon ^{®2} , Teflon [®] with SS armor covered with PVC or Teflon [®]
Environmental Protection	NEMA 4/ IP 65
Shipping Volume	Imperial Volume = 3.5"W x 3"H x (6" + "A" + "C") L Metric Volume = 9.0cm W X 8 cm H X (15 cm + "A" + "C") L
Weight	400 grams (.9 lbs) with 6" probe, no thermowell
ELECTRICAL	
Power Supply	9-30 VDC, polarity protected
Supply effect	0.005%/V
Power consumption	15mA @ 24 VDC + output current – 950mW max. 20mA @ 24 VDC for PNP output – 500mW max. 20mA @ 24 VDC + sourcing current for NPN output 50mA @ 24 VDC for Relay Output – 1200mW max.
Current Output	4-20mA (3 wires configuration) linear to temperature.
Max load on current output	(Vsupply-9V) /20mA, Ohms
Switching Output	Transistor NPN (max 100mA source) or Transistor PNP (max 100mA sink) or Relay SPDT 0.5A @ 240 VAC
Switching Logic	N.C. or N.O. Software selectable.
Isolation	500VDC Input /Output (between probe and output signal)
Electrical Connection	Micro-DC male plug or cable only

1. Maximum error at calibration point is less than .001 x Span

2. Teflon[®] is a registered trademark of E.I. du Pont de Nemours and Company.

DTG5B Series Spring Loaded Digital Temperature Gauge

LCD Display Battery Powered

Technical Specifications

Sensing Element	RTD, Type Pt1000 DIN EN 60751, Class A
Measuring Temperature Range	-50 °C to 200 °C (-58 °C to 392°F) or -200°C to 600 °C (-328 °F to 1112°F)
Accuracy ¹	With standard 1 Point Factory Calibration at 0.0°C (32.0°F), accuracy is proportional to reading. $\pm(0.27^{\circ}\text{F} + 0.002 \times ^{\circ}\text{T}-32 \text{ reading})$ $\pm(0.15^{\circ}\text{C} + 0.002 \times ^{\circ}\text{T} \text{ reading})$ With optional 2 Point Factory Calibration, accuracy is proportional to Calibrated Span $\pm(0.27^{\circ}\text{F} + 0.0005 \times ^{\circ}\text{T} \text{ reading})$ $\pm(0.15^{\circ}\text{C} + 0.0005 \times ^{\circ}\text{T} \text{ reading})$
Refresh Rate	3 seconds
Display	4-digit LCD, 1/2" high (12.7mm), decimal point selectable by software
Display Resolution	See table 1
RFI effect	1% or less typical
Temp. Effect	< +/- 0.005 °C/°C
Ambient Temp. Range	0°C to 50 °C (32 °F to 122 °F)
Storage Temp. Range	- 20°C to 70 °C (-4 °F to 158 °F)
Max. Pressure	Determined by thermowell
Housing Material	Stainless steel 316
Probe Material	Stainless steel 316 standard
Standard Surface Finish	Code "SF" Maximum Ra of 32 μ-in (0.8μm) or better on sensor Stem
Cable Materials	
(For Optional Output only)	PVC, Silicone, Teflon ^{®2} , Teflon [®] with SS armor covered with PVC or Teflon [®]
Environmental Protection	NEMA 4X/ IP67
Power	Lithium Battery (3.6V)
Battery Life	5 years min. in continuous mode
Electrical Connection	Micro-DC male plug or cable (with optional outputs only)
RTD Output Option	RTD, Type Pt100 or Pt1000 Ohm, 3-wire, Class A DIN IEC 60715
Shipping Volume	Imperial Volume = 3.5"W x 3"H x (6" + "A" + "C") L Metric Volume = 9.0cm W X 8 cm H X (15 cm + "A" + "C") L
Weight	400 grams (.9 lbs) with 6" probe, no thermowell

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DTG5C Series Spring Loaded Digital Temperature Gauge

LCD Display, 24 VDC Loop Powered 2-wire

Technical Specifications

Sensing Element	RTD, Type Pt1000 DIN EN 60751, Class A
Temperature Ranges	Customer re-scalable between -50°C to 200°C or -200°C to 600°C (depending on model) No re-calibration required.
Accuracy ¹	With standard 1 Point Factory Calibration at 0.0°C (32.0°F), accuracy is proportional to reading. $\pm(0.27^{\circ}\text{F} + 0.002 \times ^{\circ}\text{T} - 32 \text{ reading})$ $\pm(0.15^{\circ}\text{C} + 0.002 \times ^{\circ}\text{T} \text{ reading})$ With optional 2 Point Factory Calibration, accuracy is proportional to Calibrated Span $\pm(0.27^{\circ}\text{F} + 0.0005 \times \text{Calibrated Span})$ $\pm(0.15^{\circ}\text{C} + 0.0005 \times \text{Calibrated Span})$
Open circuit detection	Upscale (22mA) or Downscale (2.5mA) current output. Error message on display.
Warm-up	30 seconds.
Display	4-digit LCD, 1/2" high (12.7mm), decimal point selectable by software
Display resolution	See Table 1
RFI effect	1% or less typical
Temp. Effect	Display < +/- 0.005 °C/°C Output < +/- 0.005% FS/°C
Ambient Temp. Range	0°C to 50 °C (32 °F to 122 °F)
Storage Temp. Range	- 20°C to 70 °C (-4 °F to 158 °F)
Max. Pressure	Determined by thermowell
Housing Material	Stainless steel 316
Probe Material	Stainless steel 316 standard
Cable Materials	PVC, Silicone, Teflon ^{®2} , Teflon [®] with SS armor covered with PVC or Teflon [®]
Environmental Protection	NEMA 4/ IP 65
Shipping Volume	Imperial Volume = 3.5"W x 3"H x (6" + "A" + "C") L Metric Volume = 9.0cm W X 8 cm H X (15 cm + "A" + "C") L
Weight	400 grams (.9 lbs) with 6" probe, no thermowell
ELECTRICAL	
Power Supply	9-30VDC, polarity protected
Supply effect	0.005%/V
Output	4-20mA loop powered, 2-wire, linear to temperature
Maximum Loop Resistance	[(Vsupply - 9V) / 20mA] ohms (for 4-20mA output only)
Isolation	500 VDC Input /Output (between probe and output signal)
Electrical Connection	Micro-DC male plug or cable only

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Technical Specifications

Table 1

Model Range	Factory Settings		Optional Settings			
	Setting	Viewable Range	Setting	Viewable Range	Setting	Viewable Range
-50 °C to 200 °C (-58 ° F to 392 ° F)	0.1	-50.0 to 200.0 °C -58.0 to 392.0 °F	0.01	-9.99 to 99.99 °C -9.99 to 99.99 °F	1	-50 to 200 °C -58 to 392 °F
-200 °C to 600 °C (-328 ° F to 1112 ° F)	1	-200 to 600 °C -328 to 1112 °F	0.01	-9.99 to 99.99 °C -9.99 to 99.99 °F	0.1	-99.9 to 600.0 °C -99.9 to 999.9 °F

Application Notes:

Installation requirements of the DTG are similar to those of temperature sensor assemblies with head mounted hockey puck transmitter and display. If the temperature of the electronics in the housing exceeds 80°C, permanent damage to the DTG will occur. In all applications, especially when they exceed 200 °C, careful attention must be placed on correct installation. For these applications, a remote probe wall mount unit or remote probe panel mount unit, may be a better choice. Consult Intempco for alternative models. It is the installer's, customer's and/or end user's responsibility to make sure that this over exposure to temperature does not occur due to improper installation.