

Product Features

- *Sanitary 3-A qualified*
- *All stainless steel 316 construction*
- *Large 4-digit LCD display*
- *Alarm display on measurement error and low battery condition*
- *Battery powered, life 5 years minimum*
- *High accuracy Microprocessor Based*
- *Utilizes Pt-1000 Ohm RTD Class A element for temperature sensing*
- *Optional RTD output, 2, 3 or 4-wire*
- *Resolution 1/10 of a degree*
- *IP67/NEMA 4X (Waterproof)*
- *Display in degree C or F*
- *Programming and calibration option available*

Description

The Intempco Sanitary DTG-LCD Series battery powered Digital Temperature Gauges, is a step above all competition, providing accurate and reliable electronic temperature indication. Because of the robust IP67 housing all stainless design, they offer protection against moisture and dust penetration. The DTG can be used as a direct replacement for Bi-Metal, Liquid Bulb and Glass Thermometers where no power is available and are a suitable replacement under mercury reduction programs.

All models are factory calibrated for maximum accuracy. The DTG's 4-digit 1/2" (12.7 mm) LCD display can be factory set in units of °C or °F. With resolution to a tenth of a degree, the DTG takes the guesswork out of reading dials and mercury columns. Models with the programming option can be re-calibrated by performing a one-point or two-point calibration using known temperature standards with Intempco's DTG programming kit. This is where the DTG leaves the competition behind. Calibration, display resolution and other features are all programmable. Powered by a high performance 3.6V battery, this thermometer will provide a minimum of five years continuous operation before batteries require replacement.

DTGs may be ordered as panel mounting with either three-hole front flange or back flange, or as a direct mounting thermometer with rigid stem. The rigid probe is either of 1/4"(6.35mm) or 3/8"(0.375mm) diameter as standard but other diameters and materials are available. Probes with flexible extensions are also available. The DTG wetted parts are all fabricated from stainless steel 316L. The RTD element used is Pt-1000 standard accuracy to DIN IEC 60751 Class A. DTG can be made available with an additional RTD output. This feature allows a single process connection to be used for indication of temperature and for remote indication, recording, or controlling. The electrical connector, a flexible cable or a Micro-DC (M12) male plug, are made available from the stainless housing for the optional RTD output. Each DTG has the part number, range and serial number marked on the thermometer housing.

DTG's can be returned to the factory or an authorized service center for verification and calibration. NIST traceable calibration certificates are an available option.

If you require an accurate, stable and dependable battery powered digital thermometer, look no further. Model DTG is your solution. For additional information please visit us on the web at www.intempco.com or contact your local Authorized Intempco Distributor.



Application/ Process Notes

- *For sanitary 3A applications*
- *CIP / SIP*
- *Ideal replacement for bi-metal, liquid bulb and gas thermometers*
- *Suitable for Mercury Reduction Programs*
- *Resistant to water spray, moisture and vibration*
- *Pharmaceutical*
- *Food preparation*
- *Milk and dairy*
- *Pasteurizers*
- *Sterilizers*

Model DTG91

LCD Digital Temperature Gauge

Battery Powered, Configurable Options, Fixed Probe w/Sanitary Fitting



Custom Builder

DTG91 - - - - - - - - - - - - -

BOX1 CODE	Model Range
CL	Low Temp., display °C -50 to 200°C
CH	High Temp., display °C -200 to 600°C
FL	Low Temp., display °F -58/392°F
FH	High Temp., display °F -328/1112°F

BOX2 CODE	Output Type
0	No Output
A3	Pt 100 Ohm @ 0°C (±0.15°C) α = 0.00385 DIN EN 60751 Class A (±0.06%), 3-wire
T3	Pt 1000 Ohm @ 0°C (±0.15°C) α = 0.00385 DIN EN 60751 Class A (±0.06%), 3-wire

Notes:

- DTGs are factory calibrated to an accuracy of ±0.25% of span or better.
- Order **DTG-PKIT-3** to set-up, re-program and re-calibrate in the field.
- Select Connector/Cable Type from Box9 for optional RTD output.
- Other RTD types available. Consult factory.

BOX3 CODE	Probe Diameter "D"	
D	1/4"	
F	3/8"	
H	1/2"	
CODE	Sheath O.D.	Tip O.D.
DB	1/4"	1/8"
FC	3/8"	3/16"
HC	1/2"	3/16"
HD	1/2"	1/4"
JD	5/8"	1/4"

Other diameters available. Consult factory.

BOX4 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX5 CODE	Probe Length "L"
----	In 0.1" increments Ex.: 065 = 6.5" long

BOX6 CODE	Extension Length "C"
N--	In 0.1" increments (2.0" Std.) Ex.: N20 = 2.0" long

BOX7 CODE	Mounting Options
A	Top Mounting
B	Bottom Mounting
C	Back Mounting
D	Side Mounting, right
E	Side Mounting, left
G	Side Mounting, Display Front
H	Side Mounting, Display Back

BOX8 CODE	Process Fitting Type / Size
T10	Hygienic clamp union, 1"
T15	Hygienic clamp union, 1.5"
T20	Hygienic clamp union, 2"
T25	Hygienic clamp union, 2.5"
T30	Hygienic clamp union, 3"
A**	Cherry-Burrell (16A1-141), male std.
B**	Cherry-Burrell (16A1-141), female
C**	Bevel Seat (16A) with 13H nut
D**	Bevel Seat (16A) without nut
E**	Bevel Seat (16A) female
F**	John Perry (JP16A) with 13H nut
G**	John Perry (JP16A) without nut
** 10 = 1" 20 = 2" 30 = 3" 15 = 1.5" 25 = 2.5" Codes A to G are COP (Clean Out of Place)	

Other fittings available. See www.intempco.com & consult factory.

BOX9 CODE	Extension: Connector/Cable Type (Only Req. For Output Options)
00	No Connector/Cable
MC	M12 Micro-Male Connector
PV	PVC insulation, 90°C (195°F) max.
SL	Silicone insulation, 180°C (356°F) max.
TF	Teflon® insulation, 200°C (392°F) max.
TP	Teflon® with SS armor and polyolefin shrink, 90°C (195°F) max.
TT	Teflon® with SS armor and Teflon® shrink, 200°C (392°F) max.

BOX10 CODE	Extension Cable Length "H" (MC option)
N	No Cable
SA2	Sanitary Molded Straight, 2 meters
SA5	Sanitary Molded Straight, 5 meters
SB2	Sanitary Molded Right Angle, 2 meters
SB5	Sanitary Molded Right Angle, 5 meters
BOX10 CODE	Extension Cable Length "F" (Cable option)
---	In inches Ex.: 060 = 60" long

BOX11 CODE	Surface Finish
SF	32µ-in (0.8µm) Ra max. or better
F1	20µ-in (0.5µm) Ra max. w/o EP
F4	15µ-in (0.4µm) Ra max. with EP

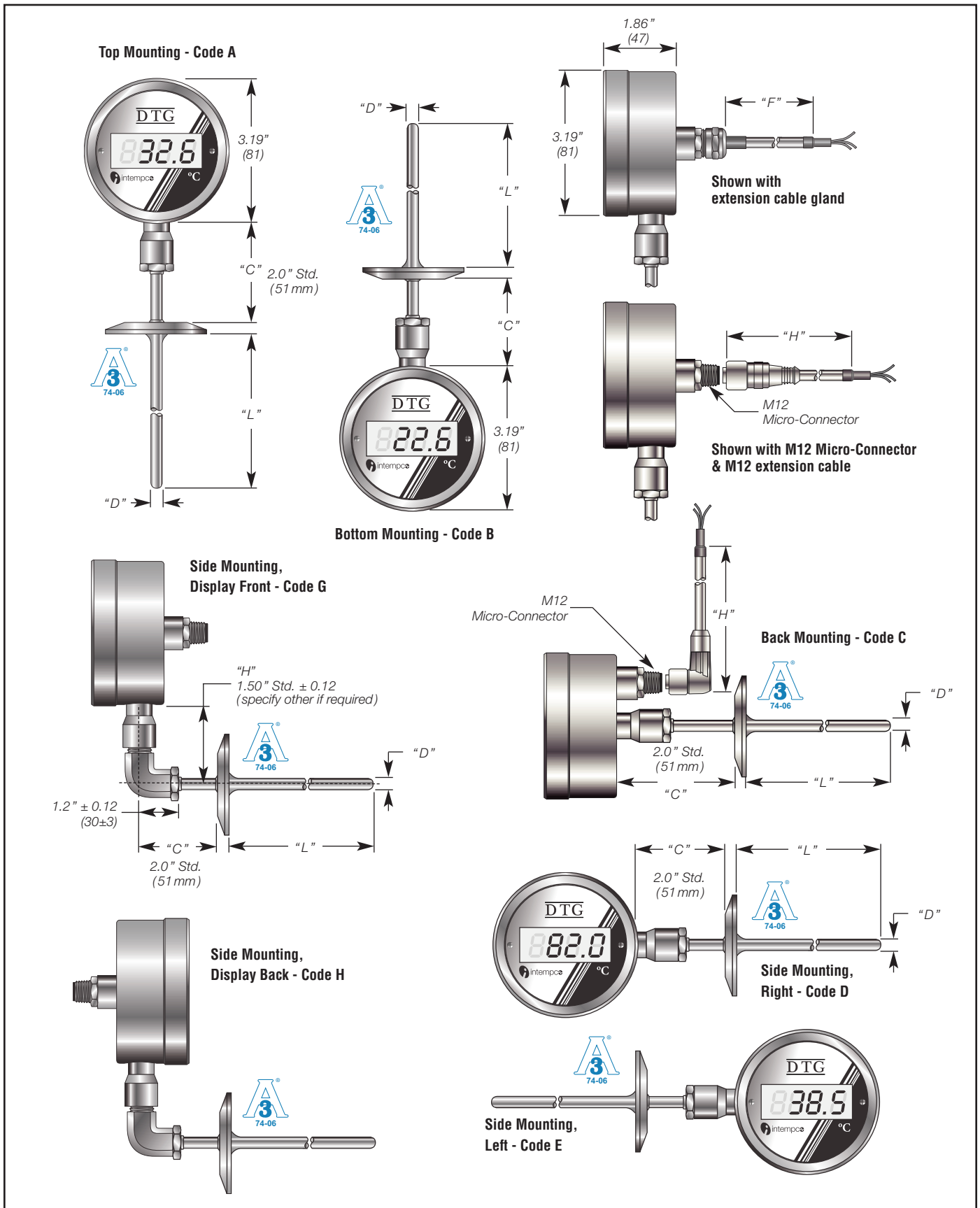
BOX12 CODE	Options
N	No Options
C1	Calibration certificate, NIST traceable, 1 point, 0°C (32°F)
C2	Calibration certificate, NIST traceable, 2 points, 0.0°C (32.0°F) & 100.0°C (212.0°F)
C3	Calibration certificate, NIST traceable, specify 3-points

Model DTG91

LCD Digital Temperature Gauge
 Battery Powered, Configurable Options, Fixed Probe w/Sanitary Fitting



Dimensions & Mounting Options



Technical Specifications

Sensing Element :	RTD, Type Pt1000 Ohm, Class A
Measuring Temperature Ranges :	-50°C to 200°C (-58°C to 392°F) or -200°C to 600°C (-328°F to 1112°F) depending model.
Accuracy :	± (0.2 + 0.002 x T) °C, std. factory, ± (0.36 + 0.002 x T-32) °F, std. factory, ± (0.2 + 0.001 x T) °C, option, ± (0.36 + 0.001 x T-32) °F, option For high accuracy measurement see manual
Refresh Rate :	3 seconds
Display :	4-digit LCD, 1/2" high (12.7 mm), 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 :	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 :	500 PSIG (on probe)
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 as per 3-A 74-06 Sanitary only
Pharmaceutical Surface Finish : Code "F1"	Per ASME BPE 2014 SF-1 20 µ-in (0.5µm) Ra max. without electro polish
Pharmaceutical Surface Finish : Code "F4" :	Per ASME BPE 2014 SF-4 15 µ-in (0.4µm) Ra max. with electro polish
Cable Materials :	PVC, Silicone, Teflon®, Teflon® with SS armor covered with polyolefin or Teflon® shrink
Weight :	350 grams (12 ounces)
Environmental Protection :	NEMA 4X/IP67
Power :	Lithium Battery (3.6 V)
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
Communication Option:	Communication option allows qualified users to calibrate, change measuring units and resolution. DTG-PKIT-3 required, order separately.
Shipping Volume :	Imperial Volume = 3.5" W X 3" H X (4.7" + L "of probe) Metric Volume = 9.0cm W X 8cm H X (12cm + Lcm of probe)

Table 1: Display Resolution

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	-58.0 to 392.0	0.01	-58.00 to 99.99	1	-58 to 392
-200°C to 600°C (-328°F to 1112°F)	1	-328 to 1112	0.01	-99.99 to 99.99	1	-328 to 1112

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

Installation Considerations

Installation requirements of the DTG are similar to those of the temperature sensor assemblies with a head mounted hockey puck transmitter and display. If the temperature of the electronics in the housing exceeds 50°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. 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.