



Digital RTD Thermometer

316 SS Enclosure for Sanitary, Wash-Down, and Marine Applications

DTG-RTD100 Series



- ✓ Large Multicolor Backlit Display with 25 mm (1") Digits Readable From Over 10.7 m (35')
- ✓ Up to $\pm 0.2^{\circ}\text{C}$ ($\pm 0.3^{\circ}\text{F}$) or $\pm 0.1\%$ Rdg Accuracy
- ✓ Connects Directly to 3-Wire Pt100 RTD Sensors
- ✓ User Scaleable 4 to 20 mA, 0 to 5 or 0 to 10 Vdc Analog Output Standard
- ✓ Powered by Internal Battery or External DC Power Supply
- ✓ Included Setup and Service Software Allows for Fast Maintenance and Calibration via USB Connection
- ✓ Wireless Transmitter Option Sends Readings to Remote Locations and Allows for PC-Based Chart Recording and Data Logging
- ✓ Low Power Operation and Sleep Mode for Long Battery Life
- ✓ Display Backlight Changes from Green to Blue for Low Alarm and from Green to Red for High Alarm

The new DTG-RTD100 Thermometer Series features a rugged 316 SS enclosure that is designed specifically for wash-down, sanitary and marine applications. The large backlit LCD display incorporates both large 25 mm (1") digits and a

Large 25 mm (1") Digits

Magnetic stylus (included).

DTG-RTD100-1/4-600-E-W-AB with angle bracket and wireless transmitter option, shown actual size.

New security feature uses magnetic stylus (included) for keypad activation. No accidental button presses. Perfect for dirty hands or if wearing gloves



25 segment bar graph that make reading at distances up to 10.7 m (35') easy. Models are available with or without integral standard or sanitary sensors. Standard features include: internal battery external DC power supply operation, analog output and user programmable alarms. The wireless transmitter

Antenna connection for wireless option.

Available with Built-In Wireless Transmitter Option

Angle Bracket Option for Flexible Use

option allows for remote monitoring, chart recording and data logging. A variety of user-configurable options and settings include: update rate, dampening, units, backlight, and auto-off.

Specifications

Range: -51 to 538°C (-60 to 1000°F)
(depending on sensor selected)

Accuracy: $\pm 0.2^{\circ}\text{C}$ ($\pm 0.3^{\circ}\text{F}$) or $\pm 0.1\%$
of reading

Resolution: 0.1°C (0.1°F)

Operating Environment: -40 to 70°C
(-40 to 158°F) 5 to 100% RH
non-condensing

RTD Probe/Sensor Input: Pt100,
3-wire

Display Type: LCD with selectable
backlight

Display Digits: 4 digits, 9999 counts

Character Height: 25.4 mm (1.0")

Computer Interface: USB (one
programming cable included)

Sample/Display Rate: User adjustable
from 0.375 to 30 seconds, preset
to 1/second

Power: Two 3.6V lithium, 4.8 Ah
capacity ("C" cell) included; 12 to 24 Vdc

Battery Life (Typical): 1.5 years*

Analog Output: User selectable
0 to 5 Vdc, 0 to 10 Vdc, or 4 to 20 mA;
Requires external 12 to 24 Vdc power
supply for operation

Enclosure: 316 stainless steel housing,
ABS center gasket

Enclosure Finish: Electropolished

Enclosure Rating: Weatherproof,
NEMA 4 (IP65)

Settings (USB/Software)

Auto-Off: Locked-on, 1 minute,
2 minute, 5 minute, 10 minute,
15 minute, 30 minute, 60 minute

* Without wireless option

Units: $^{\circ}\text{F}$, $^{\circ}\text{C}$, K

Lock: Allows for front button "lock-out"

Alarms: User selectable "high" and
"low" alarm limits

Analog Output: User selectable scaling

Backlight: On/off, or 10 second, 30
second, 1 minute, 5 minute

Wireless Transmitter (Optional):
Channel number, transmission rate,
alarms, sensor offset, chart recording,
data logging

Dimensions:

115.1 H" x 114.8 W x 74.2 mm D
(4.53" x 4.52 x 2.92")
(*height not including sensor)

Weight: 0.72 kg (1.59 lb)

Wireless Option Specifications

Transmit Sample Rate:

User programmable from 1 sample/
2 minutes to 1 sample/every 2 seconds

Radio Frequency (RF) Transceiver

Carrier: ISM 2.4 GHz

RF Output Power: 10 dBm (10 mW)

Range of RF Link:

Outdoor Line of Sight:

Up to 120 m (400')

Indoor/Urban: Up to 40 m (130')

Software (Included Free): Requires
Windows® 2000, XP or Vista (32 bit)

Internal Battery: Two 3.6V lithium,
4.8 Ah capacity ("C" cell) included

Data Transmitted to Host:

Temperature reading, ambient
temperature reading, RF transmit
strength and battery level



Wireless Receivers

UWTC-REC4
receiver



Receive data from
up to 48 transmitters,
and provide a scalable
retransmitted, hard
wired analog output
for 4 user selected
transmitters in your
system.

UWTC-REC1



Receive data from up to
48 transmitters, powered directly
by the USB connection on your
computer.

UWTC-REC3
32-channel receiver
with ethernet



Receiver/host with ethernet is
compatible with UWTC and UWRTD
connectors, transmitters and wireless
probe assemblies. Connects directly
to your network or the Internet—no PC
required!

Read From Up to 10.7 m (35') Away!

Large 25 mm
(1") Digits



25 Segment
Bargraph

Temperature
Units ($^{\circ}\text{C}/^{\circ}\text{F}$)



Low Alarm Backlight



High Alarm Backlight



Digital RTD Thermometer with Integral Sensor

Integral Sensor Options

Attach the DTG-RTD100 to a 3-A approved PRS-3-100-A-S-0300-D1-M12 standard duty sensor for a $\frac{1}{4}$ " diameter, 3" long probe with $1\frac{1}{2}$ " 16AMP mounting flange. Lengths of 4, 5 and 6" are also available. Temperature range -50 to 200°C (-58 to 392°F).



74-03

Ordering Example: DTG-RTD100-PRS-3-100-AS-300-D1, comes complete with thermometer and 3" L integral sensor.

Attach the DTG-RTD100 to a 3-A approved PRS-3-100-A-H-0300-D1-M12 sensor for a heavy duty stepped probe ($\frac{3}{16}$ to $\frac{3}{8}$ " diameter), 3" long with $1\frac{1}{2}$ " 16AMP mounting flange. Lengths of 4, 5 and 6" are also available. Temperature range -50 to 200°C (-58 to 392°F).



74-03

Ordering Example: DTG-RTD100-PRS-3-100-AH-400-D1, comes complete with thermometer and 4" L integral sensor.

$\frac{1}{8}$ " or $\frac{1}{4}$ " dia, industrial sensor, 316 stainless steel construction, and $\frac{1}{2}$ " x $\frac{1}{2}$ " NPT fitting, temperature range -51 to 538°C (-60 to 1000°F).

Ordering Example: DTG-RTD100-1/4-400-E, comes complete with thermometer and 4" L integral sensor.

Thermowell Options for Industrial Sensors

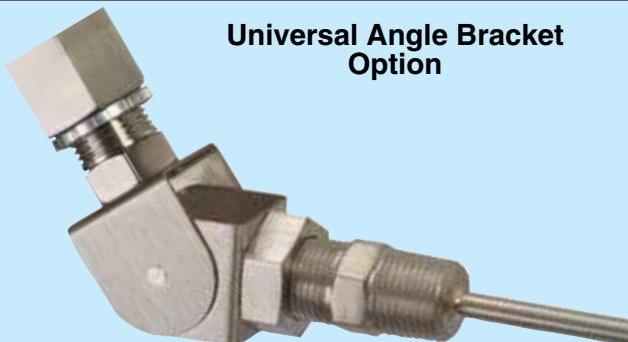


Standard 304 or 316 stainless steel models—260L Series



3A approved 316 stainless steel models—S Series.

Universal Angle Bracket Option



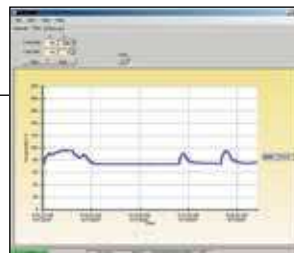
Ordering Example: DTG-RTD100-1/4-400-E-AB, field adjustable bracket allows sensor to be rotated and angled.

Antenna connection for wireless option.

Magnetic stylus (included).

DTG-RTD100-PRS-3-100-AS-300-D1-W
smaller than actual size.

Integral sensor.



| Time | Temp (°C) | Temp (°F) |
|----------|-----------|-----------|
| 12:00:00 | 25.0 | 77.0 |
| 12:01:00 | 25.0 | 77.0 |
| 12:02:00 | 25.0 | 77.0 |
| 12:03:00 | 25.0 | 77.0 |
| 12:04:00 | 25.0 | 77.0 |
| 12:05:00 | 25.0 | 77.0 |
| 12:06:00 | 25.0 | 77.0 |
| 12:07:00 | 25.0 | 77.0 |
| 12:08:00 | 25.0 | 77.0 |
| 12:09:00 | 25.0 | 77.0 |
| 12:10:00 | 25.0 | 77.0 |
| 12:11:00 | 25.0 | 77.0 |
| 12:12:00 | 25.0 | 77.0 |
| 12:13:00 | 25.0 | 77.0 |
| 12:14:00 | 25.0 | 77.0 |
| 12:15:00 | 25.0 | 77.0 |
| 12:16:00 | 25.0 | 77.0 |
| 12:17:00 | 25.0 | 77.0 |
| 12:18:00 | 25.0 | 77.0 |
| 12:19:00 | 25.0 | 77.0 |
| 12:20:00 | 25.0 | 77.0 |
| 12:21:00 | 25.0 | 77.0 |
| 12:22:00 | 25.0 | 77.0 |
| 12:23:00 | 25.0 | 77.0 |
| 12:24:00 | 25.0 | 77.0 |
| 12:25:00 | 25.0 | 77.0 |
| 12:26:00 | 25.0 | 77.0 |
| 12:27:00 | 25.0 | 77.0 |
| 12:28:00 | 25.0 | 77.0 |
| 12:29:00 | 25.0 | 77.0 |
| 12:30:00 | 25.0 | 77.0 |
| 12:31:00 | 25.0 | 77.0 |
| 12:32:00 | 25.0 | 77.0 |
| 12:33:00 | 25.0 | 77.0 |
| 12:34:00 | 25.0 | 77.0 |
| 12:35:00 | 25.0 | 77.0 |
| 12:36:00 | 25.0 | 77.0 |
| 12:37:00 | 25.0 | 77.0 |
| 12:38:00 | 25.0 | 77.0 |
| 12:39:00 | 25.0 | 77.0 |
| 12:40:00 | 25.0 | 77.0 |
| 12:41:00 | 25.0 | 77.0 |
| 12:42:00 | 25.0 | 77.0 |
| 12:43:00 | 25.0 | 77.0 |
| 12:44:00 | 25.0 | 77.0 |
| 12:45:00 | 25.0 | 77.0 |
| 12:46:00 | 25.0 | 77.0 |
| 12:47:00 | 25.0 | 77.0 |
| 12:48:00 | 25.0 | 77.0 |
| 12:49:00 | 25.0 | 77.0 |
| 12:50:00 | 25.0 | 77.0 |
| 12:51:00 | 25.0 | 77.0 |
| 12:52:00 | 25.0 | 77.0 |
| 12:53:00 | 25.0 | 77.0 |
| 12:54:00 | 25.0 | 77.0 |
| 12:55:00 | 25.0 | 77.0 |
| 12:56:00 | 25.0 | 77.0 |
| 12:57:00 | 25.0 | 77.0 |
| 12:58:00 | 25.0 | 77.0 |
| 12:59:00 | 25.0 | 77.0 |
| 13:00:00 | 25.0 | 77.0 |

Wireless Models Include
FREE Monitoring,
Charting and Data Logging
Software For Your PC!

Digital RTD Thermometer for use with Remote Sensor



Remote Sensor Options

3A approved, 1/4" diameter standard duty design, Pt100 sensor with M12 male connector, stainless steel construction and 1 1/2" 16AMP cap, standard lengths from 3 to 6". Temperature range -50 to 200°C (-58 to 392°F).



Ordering Example: DTG-RTD100-M12-F, thermometer with male M12 connection, PRS-3-100-A-S-0600-D1-M12, 6" standard duty sensor, and M12-PVC-4-S-M-R-F-5, cable, PVC jacket, 5 m (16.4') long.

3A approved, 3/8" diameter (stepped to 1/8"), heavy-duty design, Pt100 sensor with M12 male connector, stainless steel construction and 1 1/2" 16AMP cap, standard lengths from 3 to 6". Temperature range -50 to 200°C (-58 to 392°F).



Ordering Example: DTG-RTD100-M12-F, thermometer with M12 male connection, PRS-3-100-A-H-0600-D1-M12, 6" heavy-duty sensor, and M12-PVC-4-S-M-R-F-5, cable, PVC jacket, 5 m (16.4') long.

1/2" or 3/4" diameter, industrial sensor 316 stainless steel construction, 1/2 NPT with M12 connector. Temperature range -50 to 260°C (-58 to 500°F).

Ordering Example: DTG-RTD100-M12-F, thermometer with M12 male connection PR-21B-3-100-A-1/4-0600-M12, 6" industrial sensor, and M12C-PVC-4-R-F-5, cable, PVC jacket, 5 m (16.4') long.

Thermowell Options for Sanitary Sensors



Standard 304 or 316 stainless steel models-260L Series



3A approved 316 stainless steel models-S Series. Visit newportUS.com/sanitary for the complete selection.



DTG-RTD100-M12-M shown smaller than actual size.

Female model (-F) recommended for washdown applications.

General purpose M12 style cable with stripped leads and additional mating M12 field installable connector included.

Optional Cables with M12C Connectors for Remote Sensor Connection

Rugged PVC jacketed cables for wash-down applications.

316 SS nut.

M12C-PVC-4-S-M-R-F-2 with right angle male and female connectors.

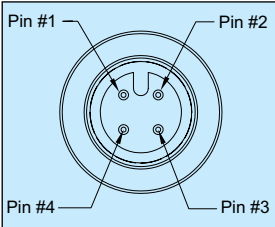
M12C-PVC-4-S-M-S-F-2, with straight male and female connectors.



M12-R-F-FM.

Field mountable connectors.

M12-S-F-FM.



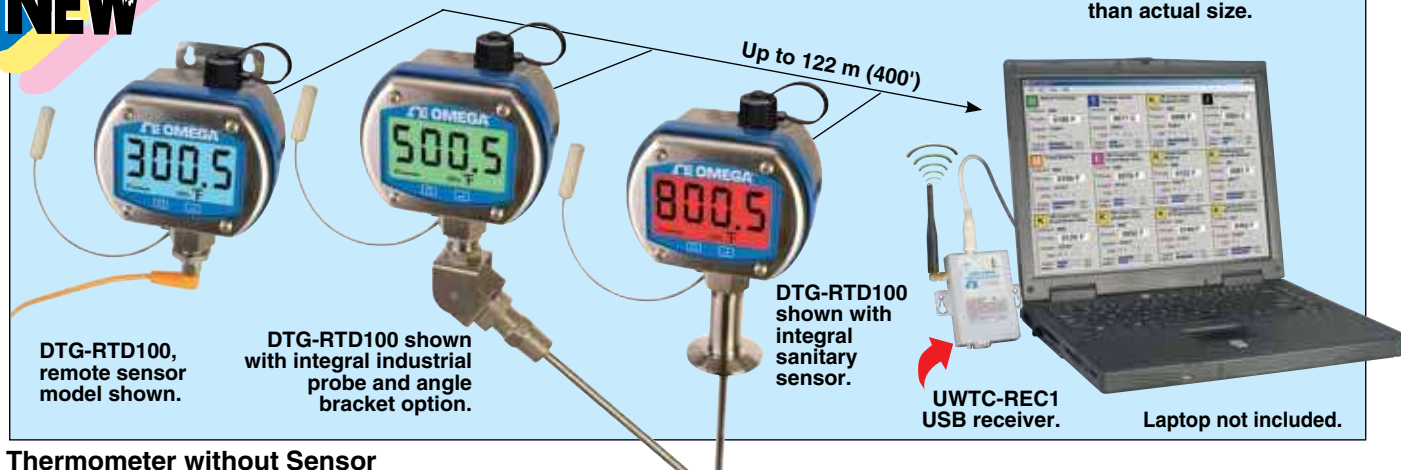
Color Codes

| Pin 1 | Pin 2 | Pin 3 | Pin 4 |
|-------|-------|-------|-------|
| Brown | White | Blue | Black |



Typical Multi-Unit Wireless Data Logging System

Shown smaller
than actual size.



Thermometer without Sensor

To Order Visit newportUS.com/dtg-rtd100 for Pricing and Details

| Model No. | Description |
|------------------|---|
| DTG-RTD100 | Digital RTD thermometer with internal terminal block connection |
| DTG-RTD100-M12-F | Digital RTD thermometer with female M12 connection |
| DTG-RTD100-M12-M | Digital RTD thermometer with male M12 connection |

Thermometer with Integral Sensors

| Model No. | Description |
|--------------------------------|---|
| DTG-RTD100-PRS-3-100-AS-(*)-D1 | Digital RTD thermometer with integral standard duty 1/4" diameter sanitary Pt100 sensor, 1 1/2" Tri-Grip™ 16AMP cap |
| DTG-RTD100-PRS-3-100-AH-(*)-D1 | Digital RTD thermometer with integral heavy-duty 3/8" diameter (stepped to 3/16") sanitary Pt100 sensor, 1 1/2" Tri-Grip™ 16AMP cap |
| DTG-RTD100-1/8-(*)-E | Digital RTD thermometer with integral 1/8" diameter standard duty Pt100 sensor |
| DTG-RTD100-1/4-(*)-E | Digital RTD thermometer with integral 1/4" diameter standard duty Pt100 sensor |

3A Approved Sensors with M12 Connector (For use with DTG-RTD100-M12 Thermometers)



| Model No. | Description |
|--------------------------|---|
| PRS-3-100-A-S-(*)-D1-M12 | Standard duty sanitary 1/4" Pt100 sensor, 1 1/2" 16AMP cap |
| PRS-3-100-A-H-(*)-D1-M12 | Heavy-duty sanitary 3/8" diameter (stepped to 3/16") Pt100 sensor, 1 1/2" 16AMP cap |

Accessories

| Model No. | Description |
|----------------|--|
| DTG-RTD100-MB | Mounting bracket (not needed for models with integral sensor) |
| DTG-RTD100-SK | Service kit, includes enclosure lid, clear window, gasket, washers, screws |
| DTG-MS | Spare magnetic programming stylus (2 pack) |
| BATT-C-3V | Replacement battery, "C" cell 3.6V lithium (2 required with wireless option) |
| UWTC-REC1 | Wireless 48-channel USB receiver (used with wireless option only) |
| UWTC-REC3 | Wireless 32-channel web based ethernet receiver (used with wireless option only) |
| UWTC-REC4-(**) | 48-channel DIN rail wireless receiver with 4 analog outputs and alarms |
| CAL-3 | NIST-traceable calibration (meter only) |
| CAL-3-SYSTEM | NIST-traceable calibration (meter with probe) |

Comes complete with operator's manual, USB cable, user software, magnetic programming stylus and two 3.6V lithium "C" cell batteries.

* Specify probe length; "300" for 3", "400" for 4", "500" for 5", or "600" for 6".

** Specify analog output signal: "V1" for 0 to 5 Vdc; "V2" for 0 to 10 Vdc, "TC" for Type K thermocouple, or "MA" for 4 to 20 mA signal.

To order with angle bracket option, add suffix "-AB" to model number for additional cost.

To order with wireless transmitter option, add suffix "-W" to model number for additional cost.

Note: Units with the wireless option require a UWTC series receiver or transceiver to operate.

Ordering Examples: DTG-RTD100-1/4-600-E-W-AB, RTD meter with integral Pt100, 6" long, 1/4" diameter industrial probe with angle bracket and wireless options, and UWTC-REC1, 48-channel USB receiver.

DTG-RTD100-PRS-3-100-AS-300-D1, RTD meter with integral Pt100, 3" L, 1/4" diameter sanitary probe.

DTG-RTD100-M12-M, RTD meter with male M12 connector.