Accutech RT10

Wireless RTD Temperature Field Unit

Accutech field units eliminate costly hard wired installations by providing an easy-to-install and secure wireless link between field-based process instrumentation and control/monitoring infrastructure. They are intended for use in extreme environments where typical wired installation is not feasible or economical. Field units are configured locally through a LCD/keypad or remotely with Accutech Manager, which also provides a user-friendly environment for wireless network diagnostics and management. A wide range of process types are supported with a maximum of 100 field units possible per base radio network.

RT10 Features:

- RTD temperature sensor
- Common and special RTD curves embedded in Microprocessor
- 22-point offset function for non-standard curve programming and precision trimming

The Accutech RT10 wireless RTD temperature field unit provides temperature data using standard and non-standard RTDs (Resistance Temperature Detectors), including 4-wire DIN 100 Ω platinum, SAMA 100 Ω platinum and DIN 1000 Ω platinum. Probes are available with either spring-loaded or direct-insertion fitting in a variety of probe lengths.

All Accutech field units automatically report field data to a centralized Accutech base radio over distances of up to 5000ft (~1500m). Each field unit is self contained, featuring an integrated 900MHz (license-free band), frequency hopping, spread-spectrum transceiver and antenna, and long-lasting battery for up to 10 years of maintenance-free operation. Accutech field units are housed within a compact and weather-proof NEMA 4 enclosure with options for a remote sensor and remote antenna on select models. Field units are available in a wide range of certifications and are protected by an industry-leading 3-Year warranty (parts and labor).

RT10 Specifications

Functional	
Sensor Type	RTD Temperature High accuracy, high temperature: -200° to 800°C (-330° to 1470°F)
Location	Field Unit
Frequency Range	902-928MHz
Power	Integrated battery

Features	
Linearization	RTD linearization to ± .09°F (.05°C), custom linearization with 22-point curve
Remote Configuration Interface	Accutech Manager, Windows™-based GUI software, providing network-wide fault and performance-management features and field unit configuration capabilities.
Local Configuration Interface	■ Integrated LCD display with membrane-switch buttons provides pressure reading and error messages, if applicable ■ Configure sampling and RF parameters locally using membrane-switch buttons
Sensor Accuracy:	± 0.1 % of full-scale reading, RTD: ± 0.002 % of reading per °C for ambient temperature effect
Stability:	Stability deviation per year is less than 0.025 %
RF Characteristics	■ 902MHz - 928MHz band (FCC/IC) ■ 915MHz - 928MHz band (Australia) ■ 915MHz - 921MHz band (New Zealand) ■ Up to 5000ft (~1500m) typical range with obstructions ■ The RF module in each field unit is individually tested and calibrated over the full temperature range to ensure reliable wireless operation
Self-Diagnostics	■ Low battery alarm – indicates the need to replace the battery (approximately one month warning). ■ Contains extensive self-checking software and hardware that continuously monitors operation. Any sensor or device parameter that is out of spec is identified and reported.
General	
Operating Ambient Environment:	■ -40 to +185°F (-40 to +85°C) electronics, -4 to +158°F (-20 to +70°C) display with full visibility, -40 to +185°F (-40 to +85°C) display with reduced visibility ■ Humidity: 0 to 95 %, non-condensing
Power:	■ One 'C' Cell ■ Up to ten (10) year battery life (depends on sample rate and RF-update rate)
Materials of Construction:	■ Base Plate: 304 Stainless Steel
Physical Characteristics:	■ Cover: GE Lexan®, V-0 rating and UV stable ■ Process Connection: 1/2" MNPT
Operating Shock and Vibration:	Certified per IEC EN00068 2-6 (vibration) and 2-27 (shock)
Random Vibration Characteristics:	Certified to withstand 6 g's, 15 minutes per axis from 9 – 500Hz
Electromagnetic Compatibility	
Safety Certification:	Operates within specification in fields from 80 to 1,000MHz with field strengths to 30V/m. Meets EN 50082-1 General Immunity Standard and EN 55011 compatibility emissions standard. ■ Intrinsically Safe: CSA - Exia IIC; AEx ia IIC: Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1

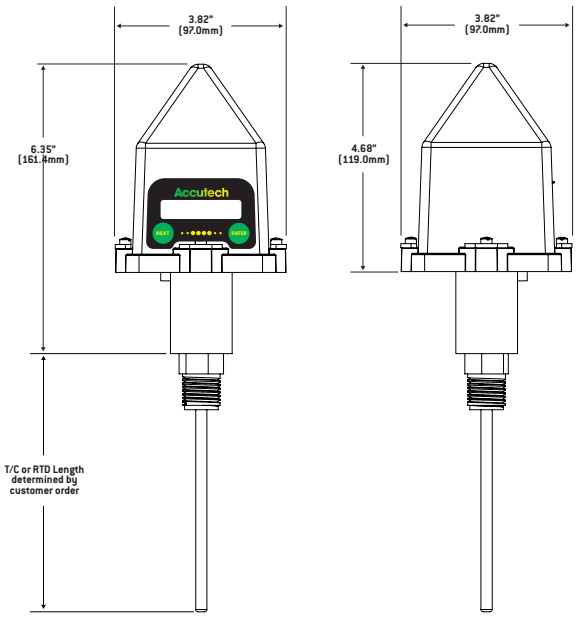
RT1O

AC-RT1O-TJ11N00-S0N000 represents a typical part number.

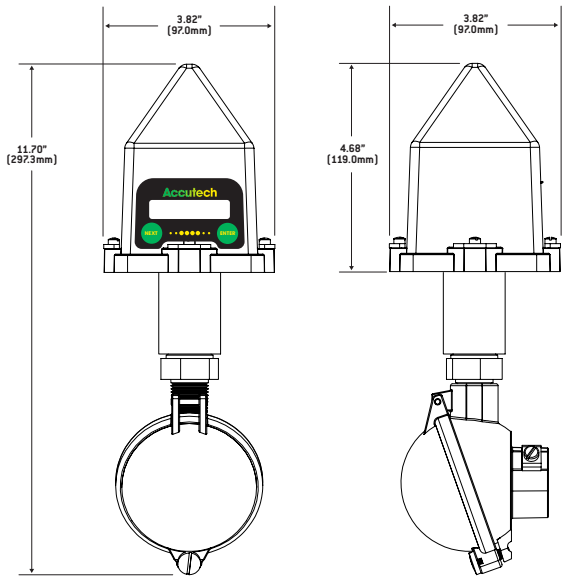
Model	Type
AC-RT1O	RTD Temperature Field Unit
Code	**Select: RF Module Type**
T	902MHz - 928MHz band (FCC/IC)
D	915MHz - 928MHz band (Australia)
N	915MHz - 921MHz band (New Zealand)
Code	**Select: Safety Rating**
G	General Purpose (non-hazardous locations)
	Intrinsically Safe
J	CSA - Exia IIC; AEx ia IIC: Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1
Code	**Select: Housing**
1	NEMA 4 - Available with general purpose or intrinsically safe ratings
Code	**Select: Battery Pack**
1	One 'C' Cell
Code	**Future Option**
N	None
Code	**Select: Integral Antenna or Cable & Connector Interface**
00	Integral Antenna with Antenna Cover
01	External YAGI Antenna, 6db, attached to base of unit
10	10ft. Cable with N-Male connector for remote antenna configurations
25	25ft. Cable with N-Male connector for remote antenna configurations
Code	**Select: Sensor Mounting**
S	Integrated RTD (Requires selection of Type, Fitting and Probe length below)
B	Remotely mounted T/C - c/w NEMA 4 Aluminum rear entry junction box (RTD & Bracket not included)
C	Remotely mounted T/C - c/w NEMA 4X Epoxy coated cast steel bottom entry j-box (RTD & Bracket not incl.)
D	Remotely mounted T/C - c/w NEMA 4X Stainless Steel rear entry junction box (RTD & Bracket not included)
Code	**Select: RTD Type**
0	No RTD (purchased separately)
1	4 Wire DIN curve 100 ohm platinum RTD
Code	**Select: Fitting**
N	No RTD (Purchased separately - junction box provided for field termination)
B	Spring loaded fitting (Customer to install in thermowell)
D	Direct-insertion welded
Code	**Select: Probe Length**
000	No RTD (purchased separately)
XXX	Enter Required Probe length XX . X inches as XXX (no decimal point) - contact factory for > 9 inches

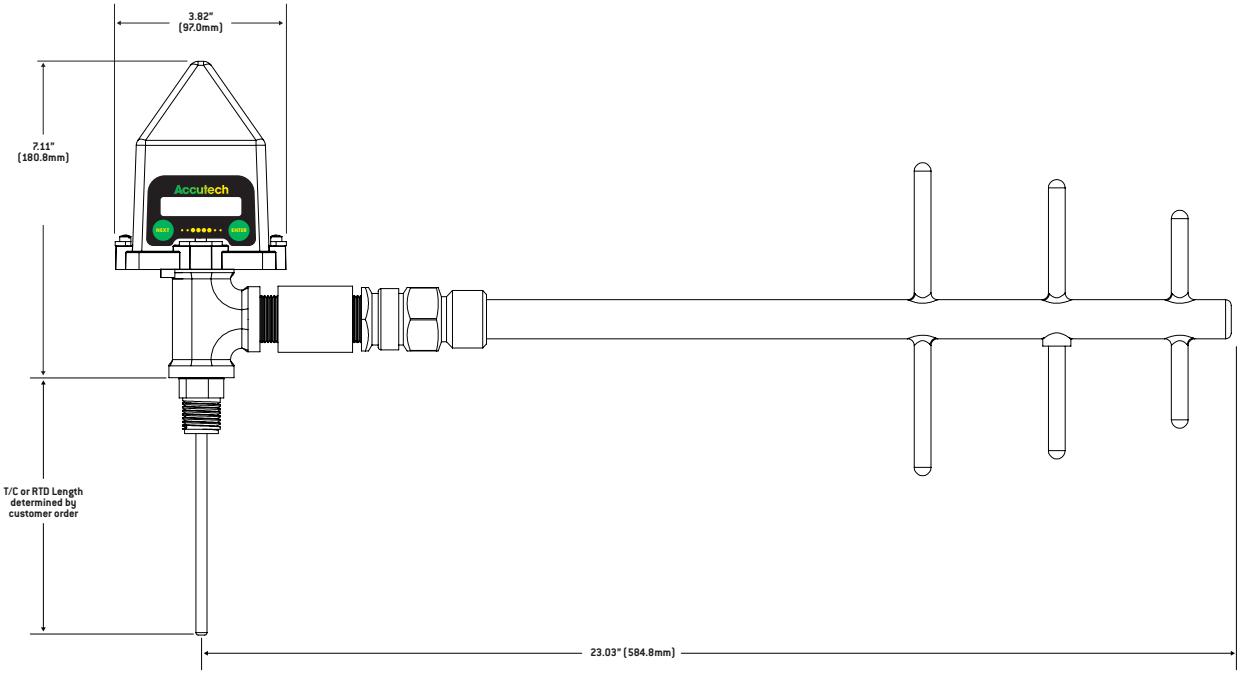
Note: Consult Accessories data sheet for mounting brackets

Integral Sensor



Remote Sensor Option





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