Life Is On | Schneider Electric

Accutech RT10

Wireless RTD Temperature Field Unit

Product at a glance

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 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.

Accutech field units automatically report field data to a centralized Accutech base radio over distances of up to 3000 ft. (~1000 m). Each field unit is self-contained, featuring an integrated 900 MHz or 2.4 GHz (license-free band), frequency-hopping, spread-spectrum transceiver and antenna, and long-lasting battery that offers 5+ years of maintenance-free service (up to 10 years depending on data rates and battery options). Accutech networks are highly scalable with the possibility of 100 field units per base radio and 256 base radios per installation. Accutech field units are housed within a weather-resistant NEMA 4X enclosure with options for a remote sensor and remote antenna on select models. Field units are available in a wide range of certifications.

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Specifications - Accutech RT10

General

Sensor Type	RTD Temperature
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

RTD Temperature Sensor	
Temperature Range	-200...800 °C (-330...1470 °F)
Accuracy	Electronics accuracy: • ± 0.1% of full scale reading Ambient temperature effect: • ± 0.002% of reading per °C (1.8 °F) ambient temperature difference from reference condition (20 °C or 68 °F). Stability: • Deviation per year is less than 0.025% RTD accuracy: • 100 ohm platinum RTD: ± (0.15+0.002*|T|) for temperatures in the range -100 °C < T < 450 °C • For user-provided thermocouples see the manufacturer's data sheet.
Linearisation	RTD linearization to ± .05 °C (0.09 °F), custom linearisation with 22-point curve
Operating Ambient Environment	• –40...85 °C (–40...185 °F) electronics • –40...–20 °C (–40...–4 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: • Ex ia IIC. T3; Class I, Zone 0, AEx ia IIC. T3 • Class I, Div. 1, Groups A, B, C & D, T3 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 ATEX/IECEx HAZLOC: • Intrinsically Safe • Ex ia IIC T3 • LCIE 10 ATEX 3109 X • IECEx LCI 10.0045X EMC & Radio: • North America: FCC , IC • Europe: CE Mark • Australia: C-Tick

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Common Accutech Field Unit Specifications

Features

Local Configuration Interface	• Integrated LCD with membrane-switch buttons • Display provides pressure reading and error messages, if applicable • Configure sampling and RF parameters locally using membrane-switch buttons
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
Network Capacity	• Max. 100 field units per base radio • Max. 256 base radios per network
Self-Diagnostics	• Low battery notification – indicates the need to replace the battery (approximately one month advance notification) • Contains software and hardware that continuously monitors operation. Any sensor or device parameter that is out of specification is identified and reported
RF Characteristics	900 MHz: • 902...928 MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band • 915...928 MHz (Australia) • Data Rates: 19.2 kbps, and 76.8 kbps • Typical Electrical Transmit Power: 0.4 W maximum 2.4 GHz: • 2400...2483.5 MHz license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Data Rates: 50/100 kbps (FSK Modulation) • Typical Electrical Transmit Power: +10.6 dBm • Typical Receive Sensitivity (0.1 % BER): - 102 dBm @ 50 kbps • Typical CW Receiver Blocking Rejection: 64 dB for CW @ +/- 5 MHz, 74 dB for CW @ +/- 30 MHz
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and IEC 60068-2-27 (shock)
Random Vibration Characteristics	Tested to withstand 6 G, 15 minutes per axis from 9...500 Hz
Electromagnetic Compatibility	Operates within specification in fields from 80...1,000 MHz with field strengths to 30 V/m. Meets IEC 61000-6-2 General Immunity Standard and IEC 6100-6-4 compatibility emissions standard
Output Resolution	24-bit analog-to-digital conversion

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Model Code - Accutech RT10

TBUARTTJ1N00B0N000 represents a typical part number.

Model	Type
TBUART	Wireless RTD Temperature Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Sensor Mounting
S	Integrated RTD (Requires selection of Type, Fitting and Probe length below)
B	Remotely mounted RTD - c/w NEMA 4 Aluminum rear-entry junction box (RTD & Bracket not included)
D	Remotely mounted RTD - c/w NEMA 4X Stainless Steel rear-entry junction box (RTD & Bracket not included)

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Wireless RTD Temperature Field Unit

Model Code - Accutech RT10 (cont'd)

TBUARTTJ1N00B0N000 represents a typical part number.

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 – 0.5 in. increments only
000	No RTD (Purchased separately)
XXX	Enter Required Probe length XX . X in. as XXX (no decimal point) - contact factory for > 9 in.

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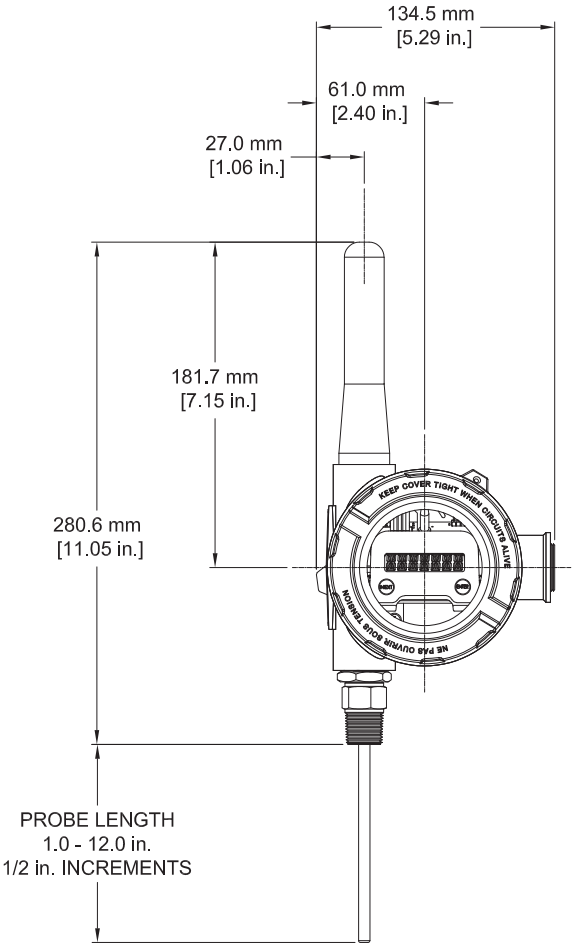
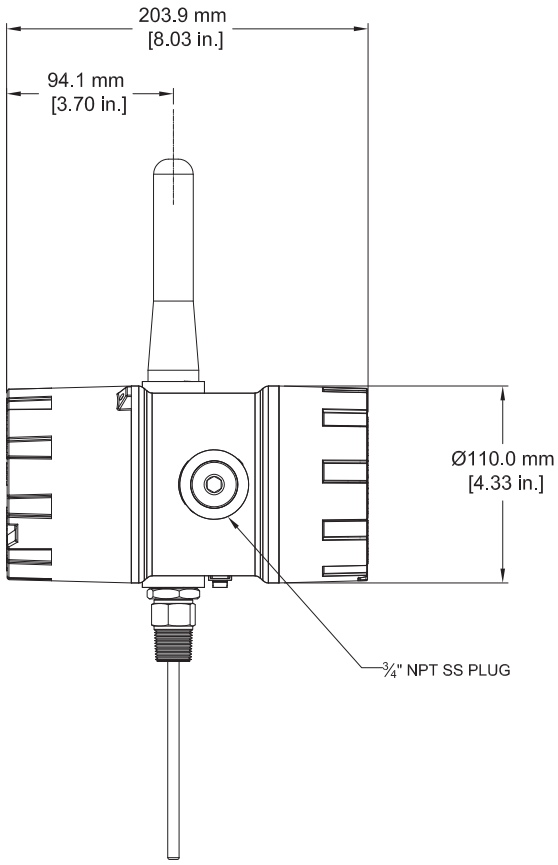
Dimensions - Accutech RT10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Disclaimer: Schneider Electric reserves the right to change product specifications. For ordering information call direct worldwide: +1 (613) 591-1943; Toll Free within North America: +1 (888) 267-2232 or Email: orderstrss@se.com. For more information visit www.se.com.

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