

Accutech RT10

Wireless RTD temperature field unit





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.

Accutech field units automatically report field data to a centralised Accutech base radio over distances of up to 3000ft (~1000m). Each field unit is self-contained, featuring an integrated 900MHz or 2.4GHz (license-free band), frequency hopping, spread-spectrum transceiver and antenna, and long-lasting battery that offers 3+ 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 compact and weather-resistant NEMA4 enclosure with options for a remote sensor and remote antenna on select models. Field units are available in a wide range of certifications and come with a 3-Year warranty (parts and labor).

Product Data Sheet Accutech RT10

Specifications

> Accutech RT10	
Functional	
Sensor Type	RTD Temperature High accuracy, high temperature: -200° to 800°C (-330° to 1470°F)
Location	Field Unit
Frequency Range	900MHz and 2.4GHz license-free bands
Power	Integrated battery
Features	
Linearisation	RTD linearisation to $\pm .05^{\circ}\text{C}$ (.09°F), custom linearisation 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	<ul style="list-style-type: none"> • Integrated LCD with membrane-switch buttons • Display provides temperature reading and error messages, if applicable • Configure sampling and RF parameters locally using membrane-switch buttons.
Sensor	
Accuracy	Electronics accuracy: <ul style="list-style-type: none"> • $\pm 0.1\%$ of full scale reading Ambient temperature effect: <ul style="list-style-type: none"> • $\pm 0.002\%$ of reading per $^{\circ}\text{C}$ (1.8°F) ambient temperature difference from reference condition (20°C or 68°F). Stability: <ul style="list-style-type: none"> • Deviation per year is less than 0.025% RTD accuracy: <ul style="list-style-type: none"> • 100ohm platinum RTD: $\pm (0.15+0.002^{\circ}\text{T})$ for temperatures in the range $-100^{\circ}\text{C} < \text{T} < 450^{\circ}\text{C}$ • For user-provided thermocouples see the manufacturer's data sheet.
Stability	Stability deviation per year is less than 0.025%
RF Characteristics	900MHz: <ul style="list-style-type: none"> • 902 to 928MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band • 915 to 928MHz (Australia) • 921 to 928MHz (New Zealand) • Data Rates: 4,800, 19,200 or 76,800bps • 0.4W maximum 2.4GHz: <ul style="list-style-type: none"> • 2400 to 2483.5MHz ISM license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Data Rates: 50/100kbps (FSK Modulation), 200kbps (GFSK Modulation) • Typical Electrical Transmit Power: +10.6dBm • Typical Receive Sensitivity (0.1% BER): - 102dBm @ 50kbps, - 99dBm @ 100kbps, - 99dBm @ 200kbps • Typical CW Receiver Blocking Rejection: 64dB for CW @ +/- 5MHz, 74dB for CW @ +/- 30MHz
Self-Diagnostics	<ul style="list-style-type: none"> • 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 spec is identified and reported.
General	
Operating Ambient Environment	<ul style="list-style-type: none"> • -40 to 85°C (-40 to 185°F) electronics • -20 to 70°C (-4 to 158°F) display • -40 to -20°C (-40 to -4°F) display (extreme cold can reduce LCD visibility) • Humidity: 0 to 95%, non-condensing
Materials of Construction	<ul style="list-style-type: none"> • Type 316 stainless-steel base and RTD sheath • GE Lexan® cover. V-0 rating and UV resistant • Process Connection: 1/2" MNPT
Power	<ul style="list-style-type: none"> • Self-contained power • Standard Accutech field units include a single C-Cell (900MHz) or D-Cell (2.4GHz) lithium battery that offers battery life up to ten years of service, depending on data rates and battery options.
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and 2-27 (shock)
Random Vibration Characteristics	Tested to withstand 6 g's, 15 minutes per axis from 9 – 500Hz
Electromagnetic Compatibility	<ul style="list-style-type: none"> • This equipment complies with the EU RTTE directive (1999/5/EC). • Australian C-Tick - registration number N15744
Certifications	North America HAZLOC: <ul style="list-style-type: none"> • cCSAus Intrinsicly Safe: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Intrinsicly Safe • Ex ia IIC T3 • LCIE 10 ATEX 3109 X • IECEx LCI 10.0045X EMC & Radio: <ul style="list-style-type: none"> • North America: FCC , IC • Europe: CE Mark (R&TTE) • Australia/New Zealand: C-Tick
Disclaimer: Schneider Electric reserves the right to change product specifications. For more information visit www.schneider-electric.com .	

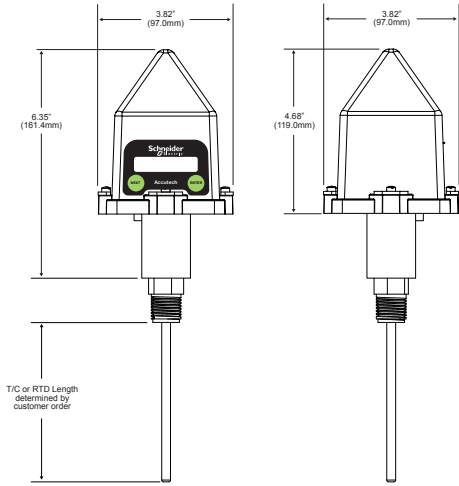
Product Data Sheet Accutech RT10

Model Code

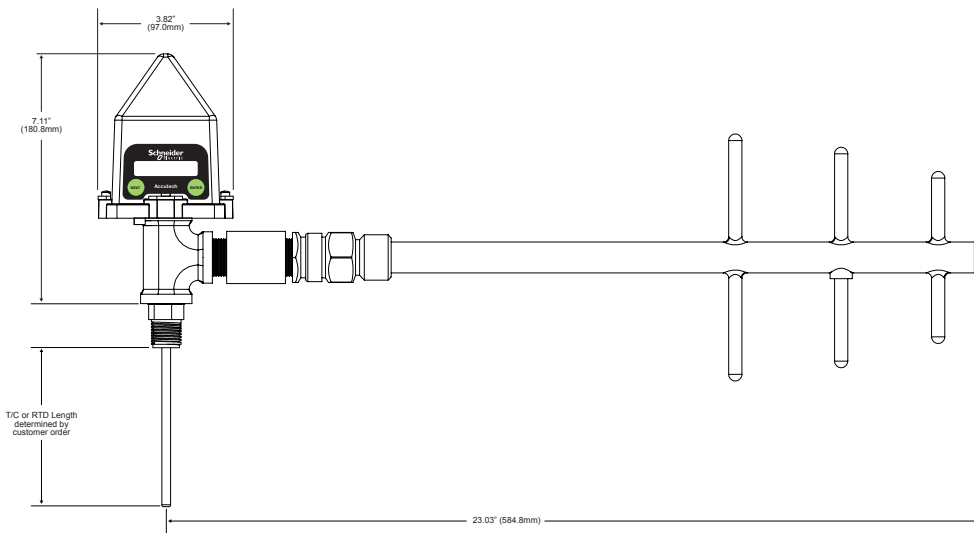
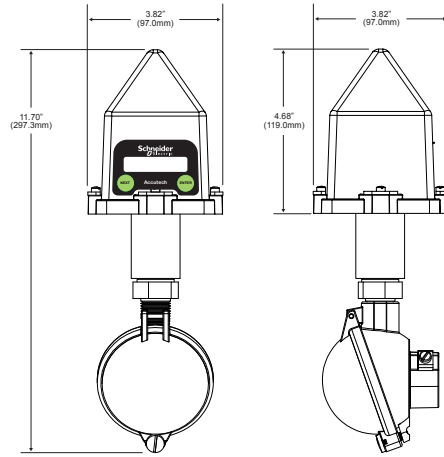
	TBUARTJPN00B0N000 represents a typical part number.
Model	Type
TBUART	Wireless RTD Temperature Field Unit
Code	Select: RF Module Type
T	902MHz - 928MHz band (FCC / IC)
D	915MHz - 928MHz band (Australia)
N	915MHz - 921MHz band (New Zealand)
F	2.4GHz
Code	Select: Safety Certifications
J	Intrinsically Safe Protection CSA – see product data sheet for certification details
Q	ATEX & IECEx – see product data sheet for certification details
Code	Select: Housing & Battery Pack
P	NEMA4 Polycarbonate Housing with 1 Cell (Available with Intrinsically Safe Rating)
Code	Select: Future Option
N	None
Code	Select: Integral Antenna or Cable & Connector Interface
00	Integral Antenna with antenna cover. The 2.4GHz unit also comes with an external antenna connector.
01	<u>For 900MHz RF Module Systems Only:</u> External YAGI Antenna, 6db, attached to base of unit
10	10ft. (3.01m) cable with N-Male connector for remote antenna configurations
25	25ft. (6.72m) 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 RTD - c/w NEMA4 Aluminum rear-entry junction box (RTD & Bracket not included)
D	Remotely mounted RTD - c/w NEMA4X 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 – 0.5 inch increments only
000	No RTD (Purchased separately)
XXX	Enter Required Probe length XX . X inches as XXX (no decimal point) - contact factory for > 9 inches

Product Data Sheet Accutech RT10 Dimensions

Integral Sensor (900MHz option)



Remote Sensor Option



(2.4GHz option)

