Accutech AI10 & AV10

Wireless Multi-Input Field Unit

Product at a glance

Ideal for adding wireless capabilities to existing or new wired measurement sensors such as radar tank gauges, flow meters and chemical analyzers, the Accutech™ AI10 and AV10 wireless multi-input field units provide dual analog inputs in either current (4...20 mA) or voltage (0...10 Vdc) configurations. Each unit also includes two discrete contact closure inputs for simple apparatus use.

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 AI10 & AV10

General

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

Functional

Multi-Input

Inputs	• 2: 4...20 mA inputs sharing a common ground and two discrete contact closure inputs (AI10) • 2: 0...10 Vdc inputs sharing a common ground and two discrete contact closure inputs (AV10)
Input Characteristics	• 10 Ω impedance, analog (AI) • 100 kΩ impedance, analog (AV)
Accuracy	± 0.1% of Full-scale reading at reference conditions
Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility is 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: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T4 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 Explosion Proof: • Class I, Div. 1, Groups A, B, C & D; T4 • Class I, Div. 2, Groups A, B, C & D; T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe • Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe : CE Mark (R&TTE) • Australia : C - Tick

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Common Accutech Field Unit Specifications

Features

Local Configuration Interface	• Integrated LCD with membrane-switch buttons • Display input 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 AI10

TBUAAITJ1N00A represents a typical part number.

Model	Type
TBUAAI	Two: 4...20 mA & two: contact-closure wireless inputs

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
A	**Explosion-Proof Protection – Div 1** CSA - see certification details on previous page
J	**Intrinsically-Safe Protection – Div 1** CSA - see certification details on previous page
Q	**Intrinsically-Safe Protection – Div 1** ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell
2	NEMA 4X Aluminum Housing with 2 D-cells (not available for ATEX/IECex)
4	NEMA 4X Aluminum Housing with 4 D-cells (not available for ATEX/IECex)

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: Junction Box
A	No Junction Box (exposed lead wires)
B	NEMA 4 - Aluminum Rear-Entry
D	NEMA 4X - Stainless Steel Rear-Entry

Accutech AI10 & AV10
Wireless Multi-Input Field Unit

Model Code - Accutech AV10

TBUAAVTJ1N00A represents a typical part number.

Model	Type
TBUAAV	Two: 0...10 Vdc & two: contact-closure wireless inputs

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
A	Explosion-Proof Protection – Div 1 CSA - see certification details on previous page
J	Intrinsically-Safe Protection – Div 1 CSA - see certification details on previous page
Q	Intrinsically-Safe Protection – Div 1 ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 cell
2	NEMA 4X Aluminum Housing with 2 cells (not available for ATEX/IECex)
4	NEMA 4X Aluminum Housing with 2 cells (not available for ATEX/IECex)

Code	Select: Future Option
N	None

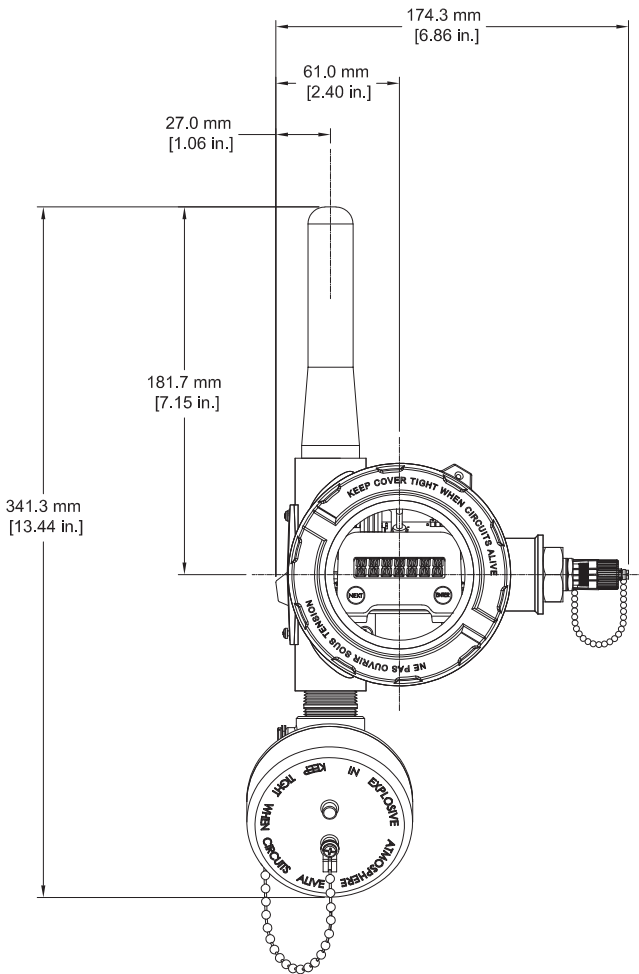| Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

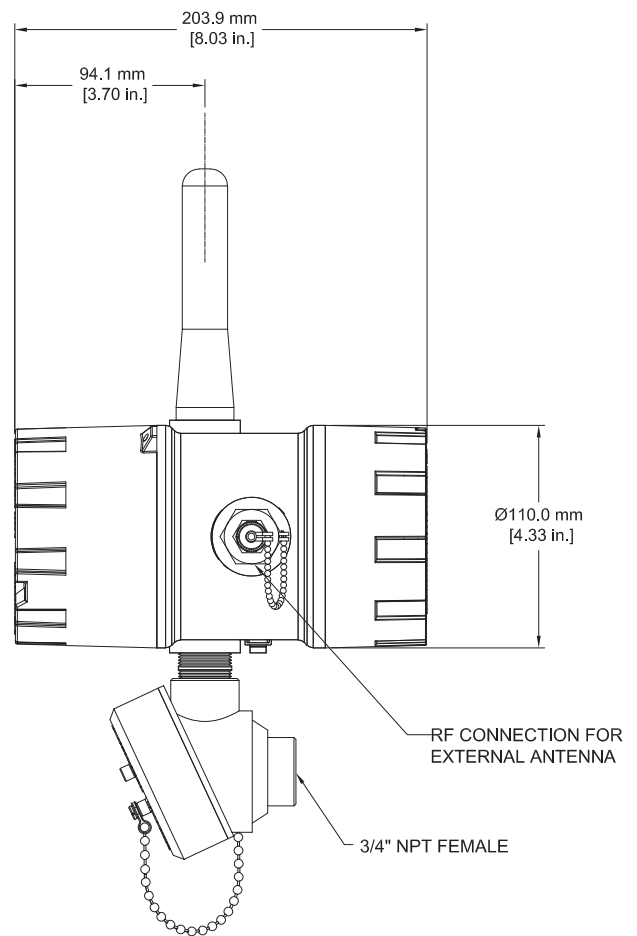| Code	Select: Junction Box
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Dimensions - Accutech AI10 & AV10

FRONT VIEW

174.3 mm
[6.86 in.]

61.0 mm
[2.40 in.]

27.0 mm
[1.06 in.]

181.7 mm
[7.15 in.]

341.3 mm
[13.44 in.]

KEEP COVER TIGHT WHEN CIRCUITS ALIVE

NE PAS OUVRIR SOUS TENSION

KEEP TIGHT WHEN CIRCUITS ALIVE IN EXPLOSIVE ATMOSPHERE

SIDE VIEW

203.9 mm
[8.03 in.]

94.1 mm
[3.70 in.]

Ø110.0 mm
[4.33 in.]

RF CONNECTION FOR
EXTERNAL ANTENNA

3/4" NPT FEMALE

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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