

Accutech SL10

Wireless Submersible Level Field Unit



Product at a glance

The Accutech™ SL10 wireless submersible level field unit measures hydrostatic level in a vented tank or well. The product samples and reports pressure readings at specified intervals and allows for user-defined low-rate and high-rate conditions.

The sensor is cable-mounted and submersed in the tank liquid, dropping in from the top of the tank, pool or well. Specific Gravity correction and common level units of measure are supported.

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 SL10

General

Sensor Type	Submersible Hydrostatic Level
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Pressure Sensor

Pressure Range	5 PSIG (0.345 BAR), 10 PSIG (0.689 BAR), 15 PSIG (1.034 BAR), 30 PSIG (2.068 BAR)
Accuracy	+/- 0.5% from -10...+30 °C (+14...+86 °F)
Temperature Effect	+/-0.02% per °C between -40...-10 °C (-40...+14 °F), and +30...+85 °C (+86...+155 °F)
Stability / Drift	Typically values are ± 0.1% of full scale per year. Maximum values are ± 0.3% per year.

Operating Ambient Environment	<ul style="list-style-type: none"> -40...+85 °C (-40...+185 °F) head unit electronics -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) -2...+60 °C (-4...+140 °F) process fluid temperature Humidity: 0...95%, non-condensing
Materials of Construction	<ul style="list-style-type: none"> Fittings: 316L Stainless Steel Epoxy-coated Aluminum enclosure Sensor Body: 316L Stainless Steel with Buna-N seal Submersible Sensor Cable: Sensor cable and vent tube is encased in polyethylene jacket, rated for use in many harsh environments. Vent tube protected with a hydrophobic filter.
Power	<ul style="list-style-type: none"> Self-contained power with integrated battery 1: D-cell Lithium Thionyl battery Battery life up to ten years of service, depending on configuration
Certifications	<p>North America HAZLOC:</p> <ul style="list-style-type: none"> cCSAus Intrinsically Safe: Exia IIC; AEx ia IIC Class I, Div. 1, Groups A, B, C & D, T3 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 <p>ATEX/IECEX HAZLOC:</p> <ul style="list-style-type: none"> LCIE Intrinsically Safe: Ex ia IIC T3 <p>EMC & Radio:</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Max. 100 field units per base radio • Max. 256 base radios per network
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 specification is identified and reported
RF Characteristics	<p>900 MHz:</p> <ul style="list-style-type: none"> • 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 <p>2.4 GHz:</p> <ul style="list-style-type: none"> • 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 SL10

TBUASLTJ1N00RA15A represents a typical part number.

Model	Type
TBUASL	Wireless Submersible Level 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)

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Model Code - Accutech SL10 (cont'd)

TBUASLTJ1N00RA15A represents a typical part number.

Code	Select: Sensor Mounting
	Standard Field Unit
N	Remote Sensor with no intermediate cable gland
R	Remote Sensor with S.S. & Brass intermediate cable gland
T	Remote Sensor with Nylon intermediate cable gland
	Direct Tank Port Connect Field Unit (1 in. NPT Male) – For Integral Antenna units only
D	Remote Sensor with no intermediate cable gland

Code	Select: Sensor Range & Cable Length					
First letter in Code designates the Sensor Range; following two-digit number specifies sensor cable length ²						
	Upper Range Limit (URL)		Proof Pressure		Standard Cable Length	
	PSIG	BAR	PSI	BAR	Feet	Meters
A15	5 ¹	0.345	10	0.689	15	4.6
B30	10 ¹	0.689	20	1.379	30	9.1
C40	15	1.034	30	2.068	40	12.2
F75	30 ¹	2.068	60	4.137	75	22.9

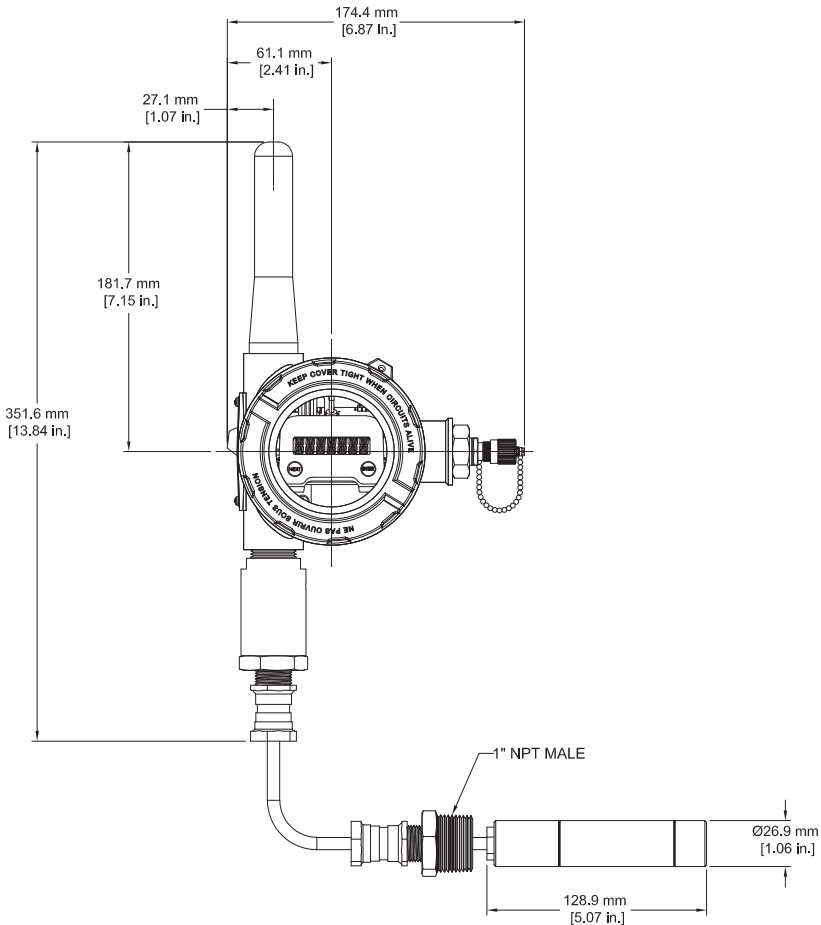
Code	Future Option
A	None

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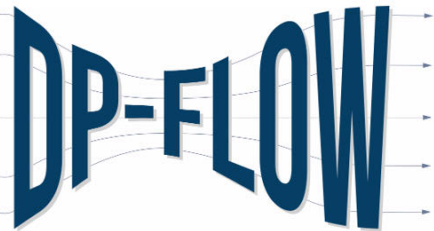
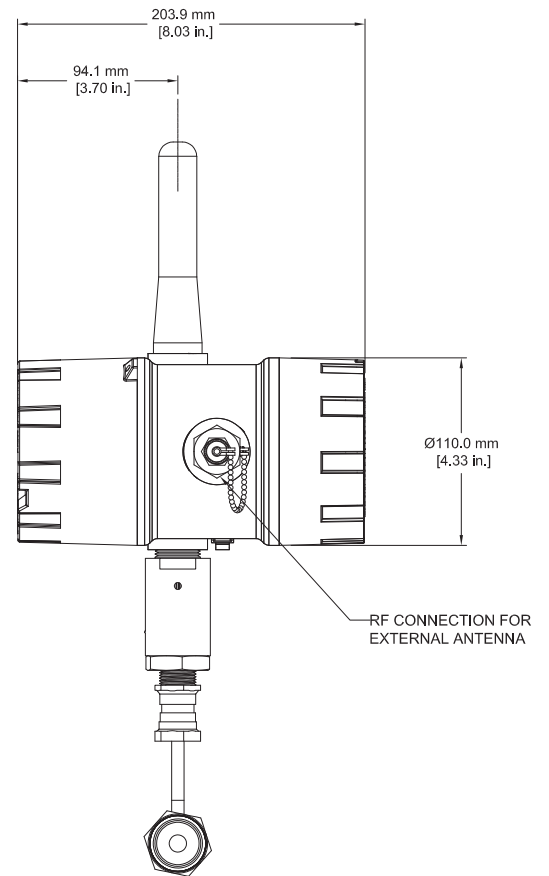
Wireless Submersible Level Field Unit

Dimensions - Accutech SL10

FRONT VIEW



SIDE VIEW



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Life Is On

