

# Accutech FL10

Wireless float level field unit





The Accutech™ FL10 wireless float level field unit interfaces with the Siemens™ Model 2100 digital level sensors, providing single or dual fluid level and temperature data across a wireless connection to an Accutech base radio. The FL10 field unit 'head' and Siemens Model 2100 level sensor are offered as separate products and shipped independently to the end user, where they are then connected together.

The Siemens level sensor utilises proven technology in a variety of liquids including crude oil, condensate, diesel, gasoline, kerosene and water. The product's accuracy and resolution make it the ideal choice for custody transfer measurement, production monitoring/leak detection, inventory control, remote read out of level in H<sub>2</sub>S environment, Hi/Lo notifications and controls, and many other applications.

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 weather-resistant NEMA 4X enclosure with options for a remote sensor and remote antenna on select models. The Accutech FL10 field unit is available in a wide range of certifications and comes with a 3-Year warranty on parts and labor.

# Product Data Sheet Accutech FL10

## Specifications

> Accutech FL10	
<b>Functional</b>	
Sensor Type	Float Level
Location	Field Unit
Frequency Range	900MHz and 2.4GHz license-free bands
Power	Integrated battery
Network Capacity	<ul style="list-style-type: none"> <li>Max. 100 field units per base radio</li> <li>Max. 256 base radios per network</li> </ul>
<b>Features</b>	
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
Local Configuration Interface	<ul style="list-style-type: none"> <li>Integrated LCD with membrane-switch buttons</li> <li>Display provides pressure reading and error messages, if applicable</li> <li>Configure sampling and RF parameters locally using membrane-switch buttons</li> </ul>
<b>Digital Level Sensor (sold separately)</b>	
Model	Siemens Model 2100 (low-power) Support for legacy Siemens Model 1000 installations (requires 4 'D' cell battery option and NEMA4X enclosure)
Accuracy	Available in 1/4" and 1/2" resolutions
Switch type	Magnetically-activated glass reed
Float type	Magnetically-impregnated Nitrophenyl rubber
Sampling rates from sensor	10s, 15s, 20s, 30s, 60s, 120s, 300s, 600s, 1800s, 3600s
Frame	316L stainless steel, 1.2 to 9.1m (4 to 30ft) lengths available
Temperature Sensor	Built-in, located 0.3m (12") above bottom of sensor, reports in degrees F
RF Characteristics	<p>900MHz:</p> <ul style="list-style-type: none"> <li>902 to 928MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band</li> <li>915 to 928MHz (Australia)</li> <li>Data Rates: 4,800, 19,200 or 76,800bps</li> <li>0.4W maximum</li> </ul> <p>2.4GHz:</p> <ul style="list-style-type: none"> <li>2400 to 2483.5MHz ISM license-free band Frequency Hopping Spread Spectrum (FHSS) Radio</li> <li>Data Rates: 50/100kbps (FSK Modulation)</li> <li>Typical Electrical Transmit Power: +10.6dBm</li> <li>Typical Receive Sensitivity (0.1% BER): -102dBm @ 50kbps, -99dBm @ 100kbps</li> <li>Typical CW Receiver Blocking Rejection: 64dB for CW @ +/- 5MHz, 74dB for CW @ +/- 30MHz</li> </ul>
Self-Diagnostics	<ul style="list-style-type: none"> <li>Low battery notification – indicates the need to replace the battery (approximately one month advance notification)</li> <li>Contains software and hardware that continuously monitors operation. Any sensor or device parameter that is out of spec is identified and reported</li> </ul>
<b>General</b>	
Operating Ambient Environment	<ul style="list-style-type: none"> <li>-40°C to +85°C (-40°F to +185°F) electronics</li> <li>-40°C to +85°C (-40°F to +185°F) display (below -20°C LCD visibility reduced)</li> <li>Humidity: 0 to 95 %, non-condensing</li> </ul>
Materials of Construction	<ul style="list-style-type: none"> <li>Fittings: 316L Stainless Steel</li> <li>Epoxy coated Aluminum enclosure</li> </ul>
Power	<ul style="list-style-type: none"> <li>Self-contained power</li> <li>1: 'D' Cell</li> <li>2: 'D' Cells</li> <li>4: 'D' Cells, mandatory for Model 1000 level sensor</li> <li>Lithium battery(s) offers battery life up to ten years of service, depending on data rates and battery options.</li> </ul>
Default Condition	<ul style="list-style-type: none"> <li>Condition activated upon non-response of sensor or error reported by sensor</li> <li>Configurable behavior on default condition includes reporting of max. value, zero or last good value</li> </ul>
Data Post-Processing (when enabled)	<ul style="list-style-type: none"> <li>Level data only</li> <li>Smart smoothing</li> <li>User-configurable 22-point linearisation curve of level for non-linear (asymmetrical) reservoirs</li> <li>Configurable 'rate of change' threshold, when exceeded, causes radio to immediately report data to base radio</li> </ul>
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and 2-27 (shock)
Electromagnetic Compatibility	Operates within specification in fields from 80 to 1,000MHz with field strengths to 30V/m. Meets IEC61000-6-2 General Immunity Standard and IEC 6100-6-4 compatibility emissions standard.
Certifications	<p>North America HAZLOC:</p> <ul style="list-style-type: none"> <li>cCSAus</li> <li>Intrinsically Safe: Exia IIA; AEx ia IIA</li> <li>Class I, Div. 1, Groups A, B, C &amp; D, T4</li> <li>Class I, Div. 2, Groups A, B, C &amp; D, T4 [Provides Intrinsically Safe Output with Entity Parameters for Connection to Certified Devices: Voc (Uo) = 9.6 V, Isc (Io) = 87 mA, Ca (Co) = 100 uF, La (Lo) = 84 mH]</li> </ul> <p>EMC &amp; Radio:</p> <ul style="list-style-type: none"> <li>North America : FCC , IC</li> </ul>
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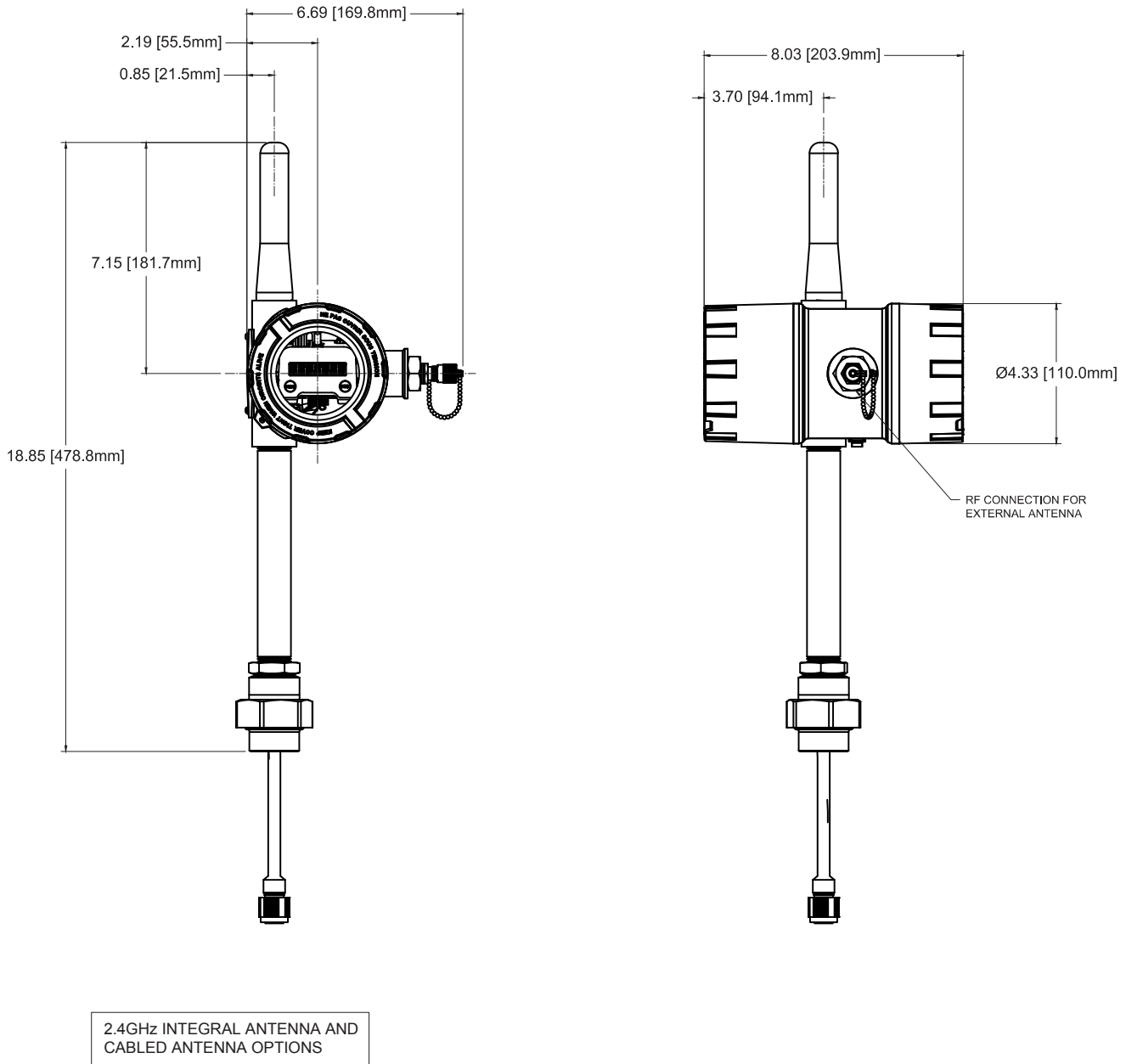
## Product Data Sheet Accutech FL10

### Model Code

	TBUAFLTJPN00A represents a typical part number.
<b>Model</b>	<b>Type</b>
TBUAFL	Wireless Float Level Field Unit
<b>Code</b>	<b>Select: RF Module Type</b>
T	902MHz - 928MHz band (FCC / IC)
D	915MHz - 928MHz band (Australia)
F	2.4GHz
<b>Code</b>	<b>Select: Certifications</b>
A	<u>Explosion Proof Protection – Div 1</u> CSA – see certification details on previous page (Level Sensor must be certified to XP separately)
J	<u>Intrinsically Safe Protection – Div 1</u> CSA: see certification details on previous page
G	<u>General Purpose</u> General Purpose – non-hazardous locations (for units using level sensor type “B” only)
<b>Code</b>	<b>Select: Housing &amp; Battery Pack</b>
1	NEMA 4X Aluminum Housing with 1 Cell
2	NEMA 4X Aluminum Housing with 2 Cells (not available for ATEX/IECex)
4	NEMA 4X Aluminum Housing with 4 Cells (not available for ATEX/IECex)
<b>Code</b>	<b>Select: Future Option</b>
N	None
<b>Code</b>	<b>Select: Integral Antenna</b>
00	Integral Antenna (2.4GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900MHz only, antenna and cables purchased separately)
<b>Code</b>	<b>Select: Level Sensor Type</b>
A	Interface to Siemens Model 2100 Digital Level Sensor (Purchased separately) - Meets Safety Code J
B	Interface to Siemens Model 1000 Digital Level Sensor (Purchased separately) - Meets Safety Code G

The FL10 is available in North America only

## Product Data Sheet Accutech FL10 Dimensions



### Schneider Electric

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