

Accutech FL10

Wireless float level field unit





The Accutech FL10 wireless float level field unit interfaces with the Siemens™ Model 2100 and 1000 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 H₂S 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 compact and weather-resistant (NEMA4 or NEMA4X) 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 (excluding digital level sensor which is warranted by Siemens).

Product Data Sheet Accutech FL10

Specifications

> Accutech FL10	
Functional	
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"> Max. 100 field units per base radio Max. 256 base radios per network
Features	
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"> 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
Digital Level Sensor (sold separately)	
Model	Siemens Model 2100 (low-power) Support for legacy Siemens Model 1000 installations (requires 4 'D' cell battery option and NEMA4X enclosure)
Accuracy	See Siemens probe specifications
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"> 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 <p>2.4GHz:</p> <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°C to +85°C (-40°F to +185°F) electronics -20°C to +70°C (-4°F to +158°F) display -40°C to +85°C (-40°F to +185°F) display (extreme cold can reduce LCD visibility) Humidity: 0 to 95 %, non-condensing
Materials of Construction	<ul style="list-style-type: none"> Base Plate: 304 Stainless Steel Cover: GE Lexan®, V-0 rating and UV resistant
Power	<ul style="list-style-type: none"> Self-contained power 1: 'D' Cell (NEMA4 Enclosure) 2: 'D' Cells (NEMA4X Aluminum Enclosure) 4: 'D' Cells, mandatory for Model 1000 level sensor (NEMA4X Aluminum Enclosure) Lithium battery(s) offers battery life up to ten years of service, depending on data rates and battery options.
Default Condition	<ul style="list-style-type: none"> Condition activated upon non-response of sensor or error reported by sensor Configurable behavior on default condition includes reporting of max. value, zero or last good value
Data Post-Processing (when enabled)	<ul style="list-style-type: none"> Level data only Smart smoothing User-configurable 22-point linearisation curve of level for non-linear (asymmetrical) reservoirs Configurable 'rate of change' threshold, when exceeded, causes radio to immediately report data to base radio
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	Operates within specification in fields from 80 to 1,000MHz with field strengths to 30V/m. Meets EN 50082-1 General Immunity Standard and EN 55011 compatibility emissions standard.
Certifications	<p>North America HAZLOC:</p> <ul style="list-style-type: none"> cCSAus Intrinsically Safe: Exia IIA; AEx ia IIA Class I, Div. 1, Groups A, B, C & D, T4 Class I, Div. 2, Groups A, B, C & 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] <p>EMC & Radio:</p> <ul style="list-style-type: none"> North America : FCC , IC
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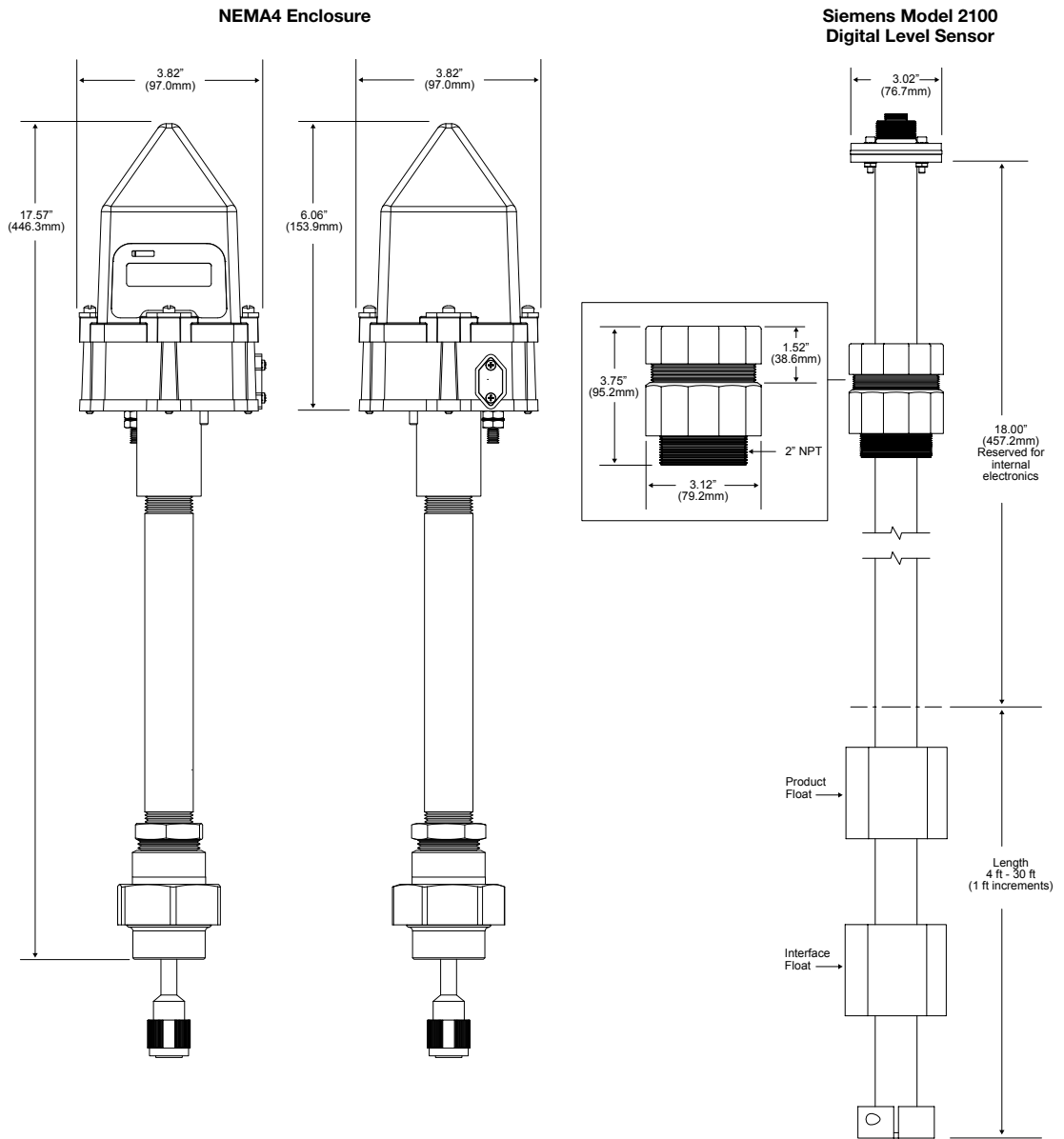
Model Code

	TBUAFLTJPN00A represents a typical part number.
Model	Type
TBUAFL	Wireless Float Level 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: Certifications
M	<u>Explosion Proof Protection – Div 1</u> CSA – see product data sheet for certification details (Level Sensor must be certified to XP separately)
J	<u>Intrinsically Safe Protection – Div 1</u> CSA: see product data sheet for certification details
G	<u>General Purpose</u> General Purpose – non-hazardous locations (for units using level sensor type “B” only)
Code	Select: Housing & Battery Pack
P	NEMA4 Polycarbonate Housing with 1 Cell (available with Intrinsically Safe Rating)
1	NEMA4X Aluminum Housing with 1 Cell
2	NEMA4X Aluminum Housing with 2 Cells (not available for ATEX/IECex)
4	NEMA4X Aluminum Housing with 4 Cells (not available for ATEX/IECex)
Code	Select: Future Option
N	None
Code	Select: Integral Antenna or Cable & Connector Interface
00	Integral Antenna with Antenna Cover, the 2.4GHz NEMA4 unit also comes with an external antenna connector
01	<u>For 900MHz RF Module Systems – or – the 2.4GHz in a NEMA4X Aluminum Housing</u> External YAGI Antenna, 6db, attached to base of unit (not available with 2.4GHz RF NEMA4 unit)
10	10ft. (3.01m) cable with N-Male connector for remote antenna configurations (not available with 2.4GHz RF NEMA4 unit)
25	25ft. (7.62m) cable with N-Male connector for remote antenna configurations (not available with 2.4GHz RF NEMA4 unit)
Code	Select: Level Sensor Type
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

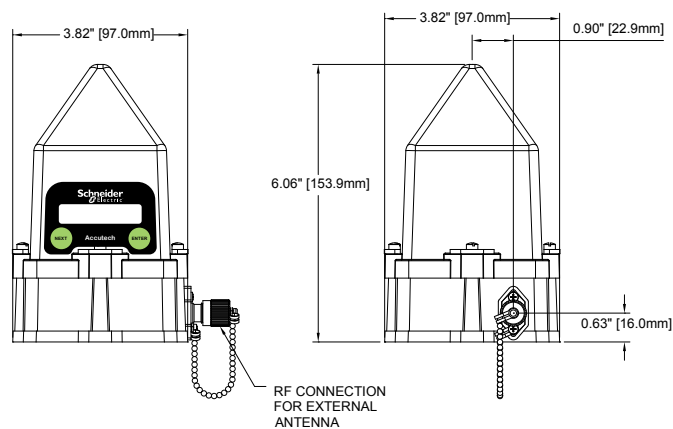
The FL10 is available in North America only

Product Data Sheet Accutech FL10 Dimensions

900MHz RF and Battery Unit (Sensor and external antenna option shown)



2.4GHz RF and Battery Unit (Sensor and external antenna not shown for clarity)



Product Data Sheet Accutech FL10 Dimensions

NEMA4X Enclosure

