

Accutech FL10 Wireless Float Level Field Unit

Accutech field units eliminate costly hard wired installations by providing an easy-to-install and secure wireless link between field-based process instrumentation and control/monitoring infrastructure. They are intended for use in extreme environments where typical wired installation is not feasible or economical. Field units are configured locally through a LCD/keypad or remotely with Accutech Manager, which also provides a user-friendly environment for wireless network diagnostics and management. A wide range of process types are supported with a maximum of 100 field units possible per base radio network.

FL10 Features:

- Reliable and accurate digital fluid level measurement
- Single or dual float for product level or interface measurement
- Retrofits with Siemens Model 1000 level sensor*
- Built in temperature sensor

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 easily connected together.

The Siemens level sensor utilizes 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 alarms and controls, and many other applications.

All Accutech field units automatically report field data to a centralized Accutech base radio over distances of up to 5000ft (~1500m). Each field unit is self contained, featuring an integrated 900MHz (license-free band), frequency hopping, spread-spectrum transmitter and antenna, and long-lasting battery for up to 10 years of maintenance-free operation. Accutech field units are housed within a compact and weather-proof (NEMA 4 or 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 is protected by an industry leading 3-Year warranty on parts and labor (excluding digital level sensor which is warranted by Siemens).

* For intrinsically-safe rating, install as per Siemens instructions



FL10 Specifications

Functional	
Sensor Type	Float Level
Location	Field Unit
Frequency Range	902-928MHz
Power	Integrated battery
Features	
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 pressure reading and error messages, if applicable ■ Configure sampling and RF parameters locally using membrane-switch buttons.
Digital Level Sensor (sold separately)	<p>Model: Siemens Model 2100 (low-power) Support for legacy Siemens Model 1000 installations (requires 4 'D' cell battery option and NEMA 4X enclosure)</p> <p>Switch type: Magnetically-activated glass reed Float type: Magnetically-impregnated Nitrophenyl rubber</p> <p>Sampling rates from sensor: 10s, 15s, 20s, 30s, 60s, 120s, 300s, 600s, 1800s, 3600s Frame: 316L stainless steel, 1.2 to 9.1 meter (4 to 30-ft) lengths available Temperature Sensor: Built-in, located ~12" above bottom of sensor, reports in degrees F.</p>
RF Characteristics	<ul style="list-style-type: none"> ■ 902MHz - 928MHz band (FCC/IC) ■ 915MHz - 928MHz band (Australia) ■ 915MHz - 921MHz band (New Zealand) ■ Up to 5000ft (~1500m) typical range with obstructions ■ Transmit rates to base radio: 10s, 15s, 20s, 40s, 60s ■ The RF module in each field unit is individually tested and calibrated over the full temperature range to ensure reliable wireless operation ■ Transmit Power: +13dBm ■ Receive Sensitivity: -113dBm ■ Adjacent Channel Rejection: 48dBc ■ Alternate Channel Rejection: 62dBc
Self-Diagnostics	<ul style="list-style-type: none"> ■ Low battery alarm – indicates the need to replace the battery (approximately one month warning). ■ Contains extensive self-checking 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°F to +185°F (-40°C to +85°C) electronics ■ -4°F to +158°F (-20°C to +70°C) display (full visibility) ■ -40°F to +185°F (-40°C to +85°C) display (with reduced 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 stable
Power:	<ul style="list-style-type: none"> ■ Self-contained power ■ One 'C' Cell (NEMA 4 Enclosure) ■ Two 'D' Cells (NEMA 4X Aluminum Enclosure) ■ Four 'D' Cells, mandatory for Model 1000 level sensor (NEMA 4X Aluminum Enclosure) ■ Up to ten (10) year battery life (depends on sample rate and RF-update rate)
Fail-Safe:	<ul style="list-style-type: none"> ■ Condition activated upon non-response of sensor or error reported by sensor. ■ Configurable behavior on fail-safe 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 linearization 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:	Certified per IEC EN00068 2-6 (vibration) and 2-27 (shock)
Random Vibration Characteristics:	Certified to withstand 6 g's, 15 minutes per axis from 9 – 500Hz
Electromagnetic Compatibility	
Safety Certifications:	<p>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.</p> <ul style="list-style-type: none"> ■ Rated for industrial use -40 to 185°F (-40 to 85°C) ■ Explosion Proof: CSA Class I, Div 1, Groups A, B, C and D ■ Intrinsically Safe: CSA Exia IIA; AEx ia IIA: Class I, Div 1, Group D: Provides Intrinsically Safe Output with Entity Parameters for Connection <p>Certified Devices: Voc(Uo) = 9.6V, Isc(Io) = 87mA, Ca(Co) = 100uF, La(Lo) = 84mH</p>

FL10

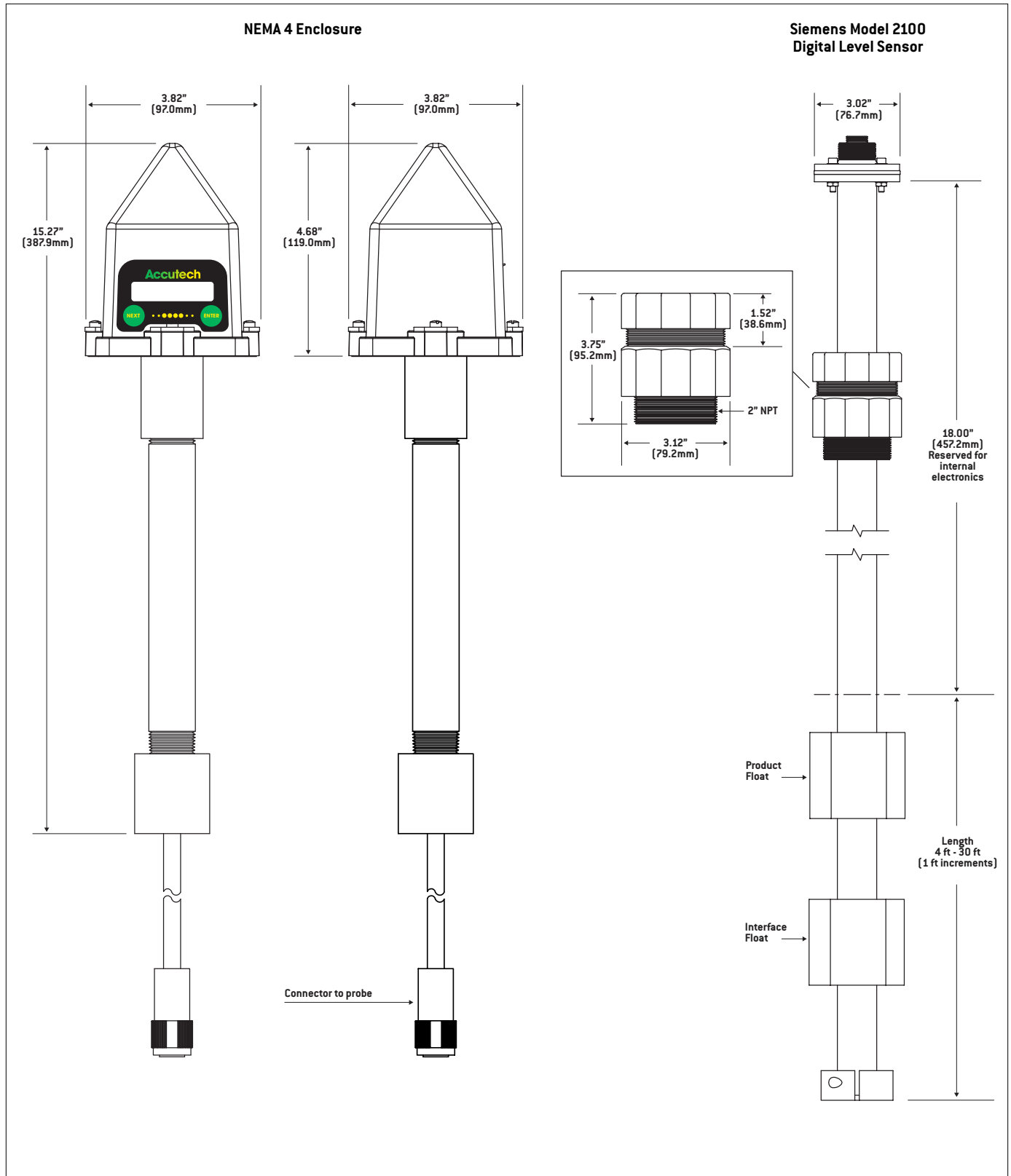
AC-FL10-TJ11N00-A represents a typical part number.

Model	Type
AC-FL10	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)
Code	Select: Safety Rating
G	General Purpose (non-hazardous locations)
	Explosion Proof Protection - Div 1
A	CSA - Class I, Div. 1, Groups A, B, C and D; Class II, Div. 1, Groups E, F and G; Class III, Div. 1. (Level Sensor must be certified to XP separately)
	Intrinsically Safe Protection - Div 1
J	CSA - Exia IIC; AEx ia IIC: Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1
Code	Select: Housing
1	NEMA 4 - Available with general purpose or intrinsically safe ratings
2	NEMA 4X Aluminum - Available with all ratings. Required for Explosion Proof Safety Rating (2 or 4 'D' Cell Housing)
Code	Select: Battery Pack
1	One 'C' Cell
2	Two 'D' Cells (Available for Aluminum Housing Option 2 Only)
4	Four 'D' Cells (Available for Aluminum Housing Option 2 Only)
Code	Future Option
N	None
Code	Select: Integral Antenna or Cable & Connector Interface
00	Integral Antenna with Antenna Cover (Available for all Safety ratings)
01	External YAGI Antenna, 6db, attached to base of unit (Available for Div 2 & Intrinsically Safe rating)
10	10ft. Cable with N-Male connector for remote antenna configurations (meets Div 2 & intrinsically safe rating)
25	25ft. Cable with N-Male connector for remote antenna configurations (meets Div 2 & intrinsically safe rating)
Code	Select: Level Sensor Type
A	Interface to Siemens Model 2100 Digital Level Sensor (Purchased separately) - Meets Safety Code G & J
B	Interface to Siemens Model 1000 Digital Level Sensor (Purchased separately) - Meets Safety Code G only

Level Sensor Probe

AC-FLS2-S1N104 represents a typical part number.

Model	Type
AC-FLS2	Float Level Sensor Probe (Series 2100)
Code	Select: Float
S	Single : Product Float - 0.60 specific gravity
D	Double : Product Float - 0.60 specific gravity, Interface Float - 0.90 specific gravity
Code	Future Options
1	None
Code	Future Options
N	None
Code	Select: Level Sensor Length & Resolution
Series 2100 +/- 0.25 Inch Resolution Sensors	
104	4 foot level sensor
105	5 foot level sensor
106	6 foot level sensor
107	7 foot level sensor
108	8 foot level sensor
109	9 foot level sensor
110	10 foot level sensor
111	11 foot level sensor
112	12 foot level sensor
113	13 foot level sensor
114	14 foot level sensor
115	15 foot level sensor
116	16 foot level sensor
117	17 foot level sensor
118	18 foot level sensor
119	19 foot level sensor
120	20 foot level sensor
121	21 foot level sensor
122	22 foot level sensor
123	23 foot level sensor
124	24 foot level sensor
125	25 foot level sensor
126	26 foot level sensor
127	27 foot level sensor
128	28 foot level sensor
129	29 foot level sensor
130	30 foot level sensor
Series 2100 +/- 0.50 Inch Resolution Sensors	
204	4 foot level sensor
205	5 foot level sensor
206	6 foot level sensor
207	7 foot level sensor
208	8 foot level sensor
209	9 foot level sensor
210	10 foot level sensor
211	11 foot level sensor
212	12 foot level sensor
213	13 foot level sensor
214	14 foot level sensor
215	15 foot level sensor
216	16 foot level sensor
217	17 foot level sensor
218	18 foot level sensor
219	19 foot level sensor
220	20 foot level sensor
221	21 foot level sensor
222	22 foot level sensor
223	23 foot level sensor
224	24 foot level sensor
225	25 foot level sensor
226	26 foot level sensor
227	27 foot level sensor
228	28 foot level sensor
229	29 foot level sensor
230	30 foot level sensor



Ex-Proof Enclosure

