Accutech AP10
Wireless Absolute Pressure 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 infrastructure. They are intended for use in extreme environments where typical wired communication 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.

AP10 Features:

- Highly accurate absolute pressure sensor
- 30 and 250psia (2 and 17 bar)
- Remote pressure sensor option

The Accutech AP10 wireless absolute pressure field unit provides pressure data in a variety of ranges from 30 to 250PSIA. With its integrated and highly sensitive sensor design, the product may be configured to sample and transmit updates between once per second and once per minute. Transmit rate changes can also be triggered based on events that are defined in terms of measurement limits or rates of movement. This function allows for maximization of battery life while ensuring that all important process events are monitored.

All Accutech field units automatically report field data to a centralized Accutech base radio over distances of up to 5000ft (1524m). Each field unit is self contained, featuring an integrated 900MHz (license-free band), frequency hopping, spread-spectrum transceiver 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 enclosure with options for a NEMA 4X or explosion-proof enclosure, remote sensor and remote antenna on select models. Field units are available in a wide range of certifications are and protected by an industry-leading 3-Year warranty (parts and labor).

AP10 Specifications

Functional	
Sensor Type	Absolute Pressure
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	■ 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.
Sensor Accuracy:	$\pm$ 0.1 % of sensor URL including combined effects of linearity, hysteresis, repeatability and temperature (applies to standard unit without isolating seals) Note: addition of seals will reduce accuracy due to thermal effects of fill fluid.
Stability:	Combined zero and span stability: less than $\pm$ 0.1% of sensor URL per year at 70°F (21°C)
Output Resolution:	24-bit Analog to Digital conversion
Absolute Pressure Ranges:	30, 250 PSIA (2, 17 BAR)
RF Characteristics	■ 902MHz - 928MHz band (FCC/IC) ■ 915MHz - 928MHz band (Australia) ■ 915MHz - 921MHz band (New Zealand) ■ Up to 5000ft (1524m) typical range with obstructions ■ The RF module in each field unit is individually tested and calibrated over the full temperature range to ensure reliable wireless operation
Self-Diagnostics	■ 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:	■ -40°F to +250°F (-40°C to +121°C), process temperature, steady-state ■ -40°F to +230°F (-40°C to +110°C) ambient temperature sensor ■ -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:	■ Type 316 stainless steel base and diaphragm ■ Standard 1/2" MNPT (other options available) ■ GE Lexan® cover. V-0 rating and UV stable
Power:	■ Self-contained power ■ One 'C' Cell ■ Up to ten (10) year battery life (depends on sample rate and RF-update rate)
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:	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. ■ Explosion Proof: Div 1: CSA - Class I, Div. 1, Groups A, B, C and D; Class II, Div. 1, Groups E, F and G; Class III, Div. 1 Div 2: CSA - Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; Class III ■ Intrinsically Safe: 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

AP1O

AC-AP10-TG11N00-S030 represents a typical part number.

Model	Type
AC-AP10	Absolute Pressure 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 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
	Explosion Proof Div 2
E	Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; Class III
	Intrinsically Safe
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	Aluminum - Available with all ratings. Required for explosion-proof safety rating

Code	**Select: Battery Pack**
1	One 'C' Cell

Code	**Future Option**
N	None

Code	**Select: Integral Antenna or Cable & Connector Interface**
00	Integral Antenna with Explosion Proof Antenna Cover (meets explosion-proof Div 1/ Div 2 & intrinsically safe rating)
01	Integral N-Male connector for Remote Antenna (meets explosion-proof Div 2 & intrinsically safe rating)
10	10ft. Cable with N-Male connector for remote antenna configurations (meets explosion-proof Div 2 & intrinsically safe rating)
25	25ft. Cable with N-Male connector for remote antenna configurations (meets explosion-proof Div 2 & intrinsically safe rating)

Code	**Select: Sensor Mounting**
S	Integral
R	Remote Sensor with 10ft. cable (other cable lengths available as special order)

Code	**Select: Sensor Range**					
	Upper Range Overload Safety Limit (URL)		**Overload Limit**		**Safety Limit**	
	PSIA	**(BAR)**	**PSI**	**(BAR)**	**PSI**	**(BAR)**
030	30	(2)	60	(4)	500	(34)
250	250	(17)	500	(34)	1500	(103)

Internal OMNI Antenna & Integral Sensor

3.70" (94.0mm)

3.70" (94.0mm)

6.91" (175.5mm)

1/2" NPT Male

Internal OMNI Antenna & Remote Sensor Option

3.70" (94.0mm)

3.70" (94.0mm)

6.55" (166.5mm)

Remote YAGI Antenna & Remote Sensor Options

3.70" (94.0mm)

5.86" (148.9mm)

24" (609.6mm)