

Accutech AP10

Wireless absolute pressure field unit





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 maximisation of battery life.

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 enclosure with options for a remote sensor and remote antenna on select models. Field units are available in a wide range of certifications and come with a 3-Year warranty (parts and labor).

Product Data Sheet Accutech AP10

Specifications

> Accutech AP10	
Functional	
Sensor Type	Absolute Pressure
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.
Sensor	
Accuracy	<ul style="list-style-type: none"> • $\pm 0.25\%$ of full-scale at 20°C (68°F) • $\pm 0.5\%$ of sensor URL including combined effects of linearity, hysteresis, repeatability, and temperature. 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 21°C (70°F)
Output Resolution	24-bit Analog to Digital conversion
Absolute Pressure Ranges	30, 250psia (2, 17BAR)
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 +121°C (-40°F to +250°F), process temperature, steady-state • -40°C to +110°C (-40°F to +230°F) ambient temperature sensor • -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 stable • Process Connection: 1/2" MNPT
Power	<ul style="list-style-type: none"> • Self-contained power • Standard Accutech field units include a single C-Cell (900MHz) or D-Cell (2.4GHz) lithium battery that offers battery life up to ten years of service, depending on data rates and battery options.
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 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 / New Zealand : C - Tick
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Model Code

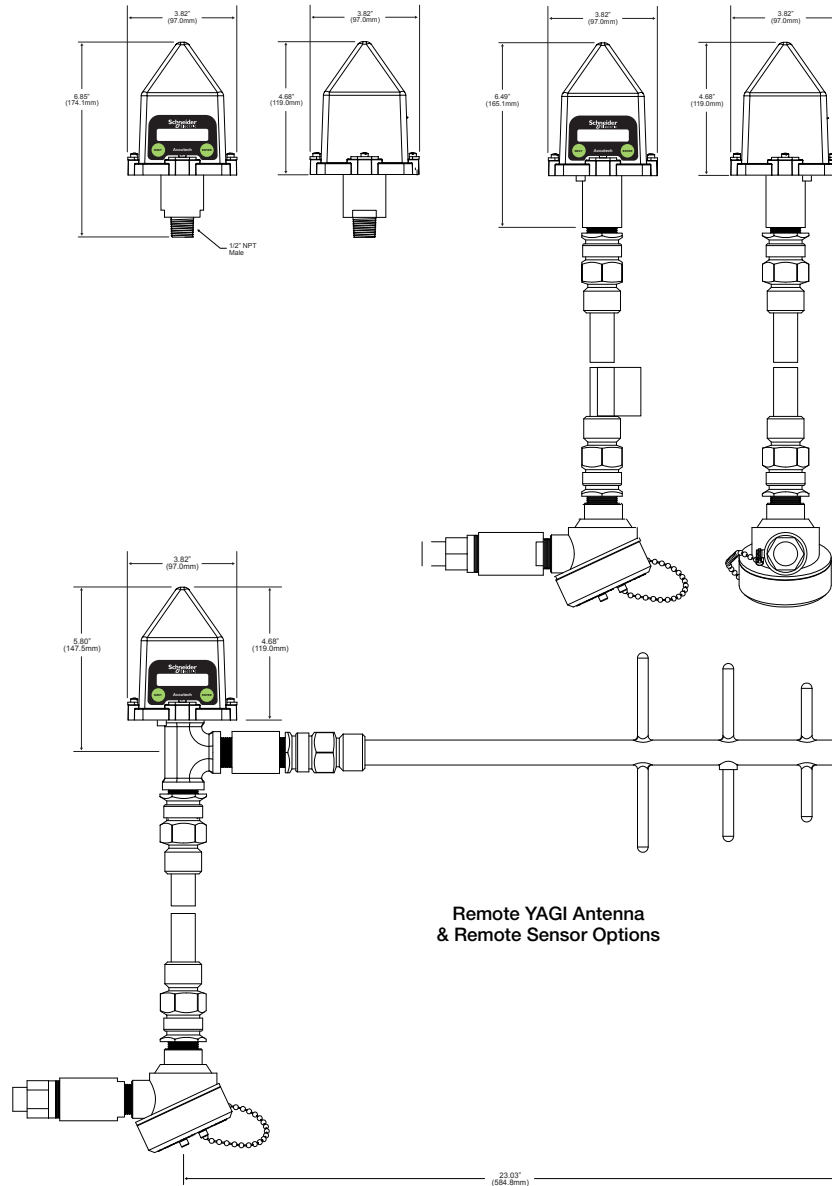
	TBUAAPTJPN00S030A represents a typical part number.					
Model	Type					
TBUAAP	Wireless Absolute Pressure Field Unit					
Code	Select: RF Module Type					
T	902MHz - 928MHz band (FCC / IC)					
D	915MHz - 928MHz band (Australia)					
N	915MHz - 921MHz band (New Zealand)					
F	2.4GHz					
Code	Select: Certifications					
J	Intrinsically Safe Protection cCSAus: see specifications page					
Q	ATEX/IECEX: see specifications page					
Code	Select: Housing & Battery Pack					
P	NEMA4 Polycarbonate Housing with 1 Cell (Available with Intrinsically Safe Rating)					
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	For 900MHz RF Module Systems – or – the 2.4GHz in a NEMA4X Aluminum Housing External YAGI Antenna, 6db, attached to base of unit (not available with 2.4GHz RF NEMA4 unit)					
10	10ft. (3.05m) 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: Sensor Mounting					
S	Integral					
R	Remote Sensor with 10ft. (3.05m) cable					
Code	Select: Sensor Range					
	Upper Range Limit (URL)		Overload Limit		Safety Limit	
	PSIA (BAR)		PSIA (BAR)		PSIA (BAR)	
030	30 (2)		60 (4)		500 (34)	
250	250 (17)		500 (34)		1500 (103)	
Code	Select: Future Option					
A	None					

Product Data Sheet Accutech AP10 Dimensions

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

Internal OMNI Antenna & Integral Sensor

Internal OMNI Antenna & Remote Sensor Option



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

