

Accutech DP10

Wireless Differential 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.

DP10 Features:

- Highly accurate differential pressure sensor
- Four operational modes
- 22-point custom curve capability
- Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; Class III

The Accutech DP10 wireless differential pressure field unit provides differential pressure data in a variety of ranges from 200 to 840IN (water column) and 300PSI, and accommodates static pressure readings up to 2000PSI. The Differential Pressure Field Unit may be operated in any one of four modes: Differential Pressure, Orifice Flow, Open Channel Flow and Level, and may be configured with a 22-point custom curve capability.

The DP10 is ideally suited for level applications, especially in pressurized tanks (e.g. propane & butane). The product also has a square root function for use with orifice plates, v-cones, and pitot tubes, providing volumetric flow measurement in general industrial processes.

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 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 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 and protected by an industry-leading 3-Year warranty (parts and labor).



DPIO Specifications

Functional	
Sensor Type	Differential Pressure
Location	Field Unit
Frequency Range	902-928MHz
Power	Integrated battery
Features	
Operational Modes	Differential Pressure Orifice Flow Open Channel Flow Level
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.
Sensor	<p>Accuracy: $\pm 0.1\%$ of sensor URL including the combined effects of linearity, hysteresis, repeatability and temperature (applies to standard unit without isolating seals).</p> <p>Stability: Combined zero and span stability: less than $\pm 0.1\%$ of sensor URL per year at 70°F {21°C}</p> <p>Maximum Static Pressure: 2000PSI</p> <p>Differential Pressure Ranges: 200IN, 840IN, 300PSI</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 3000 ft (914m) range from base radio with clear line of sight; 500 to 1000 ft (152 to 305m) 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	<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 +220° F (-40° C to +104° C) process connection temperature, steady state ■ -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"> ■ Type 316 stainless steel base ■ Type 316 stainless steel diaphragm (Hastelloy C is available upon special request) ■ Type 316 stainless steel flange and bolts (Hastelloy C is available upon special request) ■ DC 200 silicone sensor filling fluid (Florolube available upon special request) ■ Weight approximately 6.2 lbs (2.8 kgs) ■ GE Lexan® cover. V-0 rating and UV stable
Power:	<ul style="list-style-type: none"> ■ 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. <ul style="list-style-type: none"> ■ Rated for industrial use -40 to 185°F (-40 to 85°C) ■ Explosion Proof: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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

DP10

AC-DP10-TG11N00-S100N represents a typical part number.

Model	Type	
AC-DP10	Differential 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	CSA - 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 (URL) and Lower Range Limit	Overload Limit
100N	+/- 100IN H2O	2000PSI
300N	+/- 300IN H2O	2000PSI
025P	+/- 25 PSI	2000PSI
100P	+100, -25PSI	2000PSI
300P	+300, -25PSI	2000PSI

