

AcuPRE™ DM Series

Duct Mount Differential Pressure Sensor
Datasheet



The AcuPRE DM series differential pressure sensor utilizes high-accuracy MEMS sensor and digital technology to measure positive, negative, or differential pressure. Designed for duct-mounted HVAC applications, it includes a static pressure probe for monitoring fans, blowers, and duct static pressure. The sensor offers user-selectable settings such as zero calibration, pressure range, response time, and unit of measurement. The AcuPRE DM comes standard with an LCD module that supports 180° reverse installation for flexible wiring and application.

Features

- $\pm 1.0\%$ full range accuracy ensuring precise measurements.
- Designed for duct mount applications.
- Field selectable ranges as low as 0 to 0.1 inWC up to 0 to 40 inWC based on model number selection.
- Unidirectional or bidirectional measurements.
- 0.5/1/2/5s user selectable response time.
- User selectable units with DIP switches allowing quick unit conversion.
- All models come with five-digit LCD module that supports 180° reverse installation.
- IP 65 rated water-resistant & UL94V-0 fire retardant enclosure.
- Easy zero calibration.



Specifications

ELECTRICAL

Voltage Power	16~28VAC/ 16~35VDC
Current Power	18.5~35VDC (RL=500Ω); 8.5~35VDC (RL=0Ω)
Output (Based on Select Models)	0~5VDC, 0~10VDC, 4~20mA (2 Wires)
Output Load	$\leq 500\Omega$ (Current), $\geq 2k\Omega$ (Voltage)

ENVIRONMENTAL

Medium	Non-Combustible, Non-Corrosive Air
Medium Temperature Range	0 to 60°C (32 to 140°F)
Operating Temperature Range	-20 to 70°C (-4 to 158°F)
Temperature Compensation	0 to 50°C (32 to 122°F)
Working Pressure	Overload 10xFS, Burst 15xFS

MECHANICAL

Mounting	2-Screw with Back Mount Pressure Probe, Duct Mount
Connection	5mm ID Tubing (0.19")
Weight	200g (0.44 lbs)
Display	5-Digit LCD, Size 44x18mm (1.73" x 0.70"), with Unit Indication

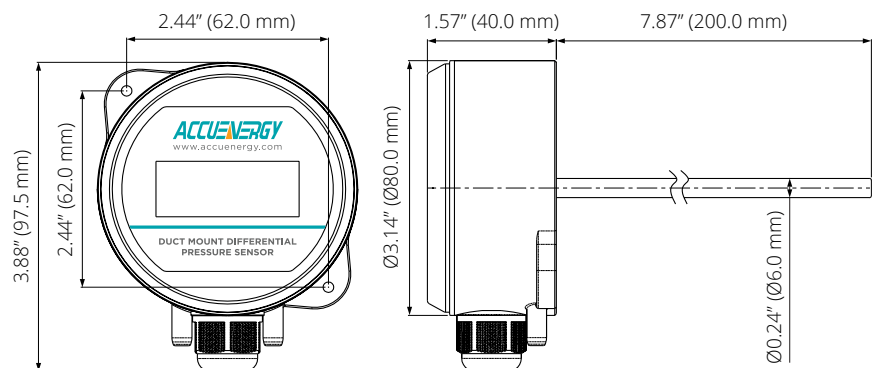
PERFORMANCE

Accuracy	$\pm 1.0\%$ FS ($\pm 2.0\%$ FS@ 0.10 inWC Range)
Stability	$\pm 0.5\%$ FS/Year
Thermal Effect	$< 0.08\%$ FS/°C (FS) (+/- 0.045% FS/°F)
Response Time	0.5/1/2/5s. Can be Set by DIP Switches

CERTIFICATIONS/WARRANTY

Enclosure Material	ABS+PC (Housing) & PC (Cover), Fire Retardant UL94V-0
Protection	IP65
Agency Approvals	CE
Warranty	5 Years

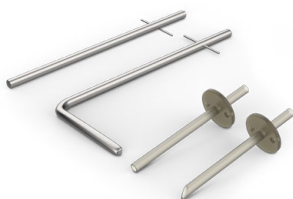
Dimensions



ACCESSORIES

Pressure Tip

Designed to be compatible with AcuPRE DP sensors, these pressure tips are available in straight or L-type, 0° or 60° angle openings, stainless steel or ABS. Supported in both static and total pressure, ensuring reliable pressure measurements in demanding environments.



Clear PVC Tubing

Accuenergy offers clear PVC tubing designed for all AcuPRE differential pressure sensors. Available in 6.5' (2m) and 330' (100m) options, suitable for various installation conditions.



Pressure Pickup Port


A pickup port is an inlet connected to a DP sensor, allowing the sensor to sample air pressure while preventing large particles from entering the pressure ports and damaging the sensor. Accuenergy offers both room pressure pickup ports and wall plate stainless steel pickup ports.



Range Selection Chart

+ Range Code	Unit, Range, and Display Resolution				
	inWC	Pascals	kPa	mmWC	mbar
1	0.1	25	0.025	2.5	0.25
	0.25	60	0.06	6	0.6
	0.5	125	0.125	12	1.25
2	1	250	0.25	25	2.5
	2	500	0.5	50	5
	4	1000	1	100	10
3	10	2500	2.5	250	25
	20	5000	5	500	50
	40	10000	10	1000	100

Ordering Information

+ Model - Range (inWC) - Display - Output				+ Accessories (Optional)			
See Range Selection Chart for Field Selectable Options							
AcuPRE-DM	01:	0-0.1", 0.25", 0.5" Unidirectional	A: With Display	1:	4 to 20mA	AcuPRE-XX-001	Clear PVC Tubing 0.19"(5mm) ID x 0.27"(7mm) OD x 6.5' (2m) Length.
	02:	0-1.0", 2.0", 4.0" Unidirectional		2:	0 to 5 VDC	AcuPRE-XX-002	Clear PVC Tubing 0.19"(5mm) ID x 0.27"(7mm) OD x 330' (100m) Length.
	03:	0-10", 20", 40" Unidirectional		3:	0 to 10 VDC	AcuPRE-XX-003	Static pressure tip, straight type, ABS, 0° angle opening.
	04:	-0.125" to +0.125", -0.25" to +0.25" Bidirectional				AcuPRE-XX-004	Total pressure tip, straight type, ABS, 60° angle opening.
	05:	-0.50" to +0.50", -1.0" to +1.0", -2.0" to +2.0" Bidirectional				AcuPRE-XX-005	Static pressure tip, straight type, 304SS, 0° angle opening, 125mm (4.92").
Ordering Example: AcuPRE-DM-04-A-3						AcuPRE-XX-006	Static pressure tip, straight type, 304SS, 0° angle opening, 200mm (7.87").
						AcuPRE-XX-007	Static pressure tip, L shape type, 304SS, 0° angle opening, 125mm (4.92").
						AcuPRE-XX-008	Static pressure tip, L shape type, 304SS, 0° angle opening, 200mm (7.87").
						AcuPRE-XX-009	Room pressure pickup port.
						AcuPRE-XX-010	Wall plate stainless steel pickup port.

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Specs Subject To Change Without Notice.