AcuHUM™ DM Series

Duct Mount Relative Humidity & Temperature Sensor Datasheet

The AcuHUM DM series duct mount relative humidity (RH) sensor utilizes advanced digital polymer sensing technology for high-precision RH measurement, long-term stability, and fast response time. Ideal for HVAC systems, the AcuHUM DM is tightly sealed in an IP65 rated enclosure and includes a PE polymer filter providing protection against dust, condensation & particulates. The RH sensor is secured with a 4-screw mounting flange with set screw, enabling adjustable probe depth. The AcuHUM DM provides thermistor, RTD, and transmitter options, enabling temperature and RH readings in one device.

Features

- IP65 enclosure & PE polymer filter offer superior protection.
- Quick installation with push button terminal blocks and quick release screws.
- ±2% high-accuracy RH measurement. Temperature measurement up to 0.2°C (0.36°F) accuracy.
- <10s response time, low drift, <±0.5% RH/ year, and <±1% RH hysteresis.
- 4-20mA and 0-10VDC output options for different BAS controllers.
- 100Ω Platinum, 1KΩ Platinum/Nickel RTDs & 10KΩ Type II/Type III, 20KΩ thermistors available.
- Optional custom configuration for temperature measurement.

Specifications

Relative Humidity Measurement

ELECTRICAL	
Voltage Power	19.2~28.8 VAC or VDC
Current Power	19.2~28.8 VDC (RL=500Ω); 8.5~35 VDC (RL=0Ω)
Output	4~20mA (2 Wires) or 0~10VDC (3 Wires)

RELATIVE HUMIDITY PERFORMANCE	
RH Sensor Type	Digital Polymer
Accuracy	+/-2% (25°C, 20~80%RH); +/-3% (0~95%RH)
Measurement RH Range	0~100%
Operating RH Range	0~95%RH (Non-Condensing)
Hysteresis	<±1%RH
Response Time	<10s (25°C, in Slow Air)
Drift	<±0.5%RH/Year

Temperature Measurement

ELECTRICAL	
Transmitter Voltage Power	19.2~28.8 VAC or VDC
Transmitter Current Power	19.2~28.8 VDC (RL=500Ω); 8.5~35 VDC (RL=0Ω)
Transmitter Output	4~20mA (2 Wires) or 0~10VDC (3 Wires)
Output Load	≤500Ω (Current), ≥2KΩ (Voltage)

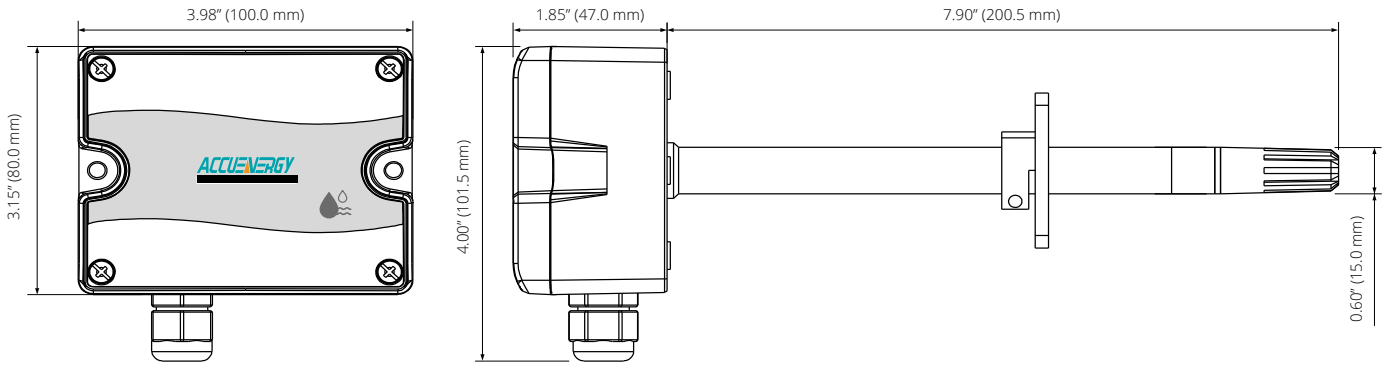
TEMPERATURE PERFORMANCE	
Temperature Sensor Type	RTD or Thermistor, See Ordering Information
Transmitter Accuracy (If Applicable)	<±0.3°C @ 5~60°C (<±0.54°F @ 41~140°F)
Thermistor Accuracy (If Applicable)	10K Ω, Type III - ±0.3°C @ 25°C (0.54°F @ 77°F) 10K Ω, Type II - ±0.2°C @ 25°C (0.36°F @ 77°F) 20K Ω - ±0.2°C @ 25°C (0.36°F @ 77°F)
RTD Accuracy (If Applicable)	1K Ω Platinum - ±0.2°C @ 25°C (0.36°F @ 77°F) 100 Ω Platinum - ±0.2°C @ 25°C (0.36°F @ 77°F) 1KΩ Nickel - ±0.5°C @ 25°C (0.9°F @ 77°F)
Temperature Transmitter Measurement Range	0~50°C (32~122°F) or 0-100°C (32-212°F)
Response Time	<10s

ENVIRONMENTAL	
Operating Temperature Range	-20~70°C (-4~158°F)
Storage Temperature	-30~80°C (-22~176°F)

MECHANICAL	
Mounting	4-Screw Duct Mount Flange with Adjustable Probe and Set Screw
Wiring Connection	Push Button Terminal Blocks
Weight	340g (0.75lbs)

CERTIFICATIONS/WARRANTY	
Enclosure Material	Fire Retardant Polycarbonate (UL94V-0)
Protection	IP65
Agency Approvals	CE
Warranty	5 Years

Dimensions



Ordering Information

Model	RH Analog Output	Temperature Output	Temperature Sensor
AcuHUM-DM	**A**: 4-20 mA Transmitter	**A**: Resistive Output	**01**: 10KΩ, Type III Thermistor
	B: 0-10 VDC Transmitter		**02**: 10KΩ, Type II Thermistor
			03: 20KΩ Thermistor
			04: 1KΩ Platinum RTD, 2 Wires
			05: 100Ω Platinum RTD, 2 Wires
			06: 1KΩ Nickel RTD, 2 Wires
	A: 4-20 mA Transmitter	**B**: 4-20mA Output	**07**: Transmitter, 1KΩ Platinum RTD 0-50°C (32-122°F)
			08: Transmitter, 1KΩ Platinum RTD 0-100°C (32-212°F)
			09: Transmitter, 1KΩ Platinum RTD Special Order †
	B: 0-10VDC Transmitter	**C**: 0-10VDC Output	**07**: Transmitter, 1KΩ Platinum RTD 0-50°C (32-122°F)
			08: Transmitter, 1KΩ Platinum RTD 0-100°C (32-212°F)
			09: Transmitter, 1KΩ Platinum RTD Special Order †
	A: 4-20mA Transmitter	**D**: No Temperature Output	**00**: No Temperature Output
	B: 0-10VDC Transmitter		

Ordering Example: AcuHUM-DM-B-C-08

† **Important:** Special Order Span will increase lead times and may be subject to minimum order requirements.

Note: Selecting the "09 XMTR, 1K Ω RTD Platinum Other Span" option allows the transmitter to be calibrated within a -40°C to +100°C (-40°F to 212°F) measurement range. The custom range must be specified when ordering.

Revision Date: December 2025 Version: 1.0.2
Specs Subject To Change Without Notice.