



Ultra-wide Meas.
Range



Long-term Stability



Fast Response Time

F161x Series Dewpoint Meter

FixInst-P Polymer Capacitive
OEM Dewpoint Meter



DEWPOINT METER

Product Overview

When the dewpoint of the measuring medium is above $-40\text{ }^{\circ}\text{Ctd}$, the polymer capacitive sensor has the best accuracy, response speed, long-term stability and price performance in comparison with other types of sensors

Revolutionary auto-calibration circuit design automatically compensates for measuring drift caused by temperature, contamination, and aging, providing long-term stability and high accuracy measurements

Innovative temperature compensation algorithm and multi-point temperature-compensated calibration, greatly reduces temperature-dependent dewpoint drift and ensuring high-precision dewpoint measurement over a wide temperature range

Product Advantages



Excellent Pollution Resistance

Anti-condensation
Anti-particle contamination



Ultra-wide Range

$-60 \dots +60\text{ }^{\circ}\text{Ctd}$



Auto-calibration Circuit

Provides accurate and stable measurements

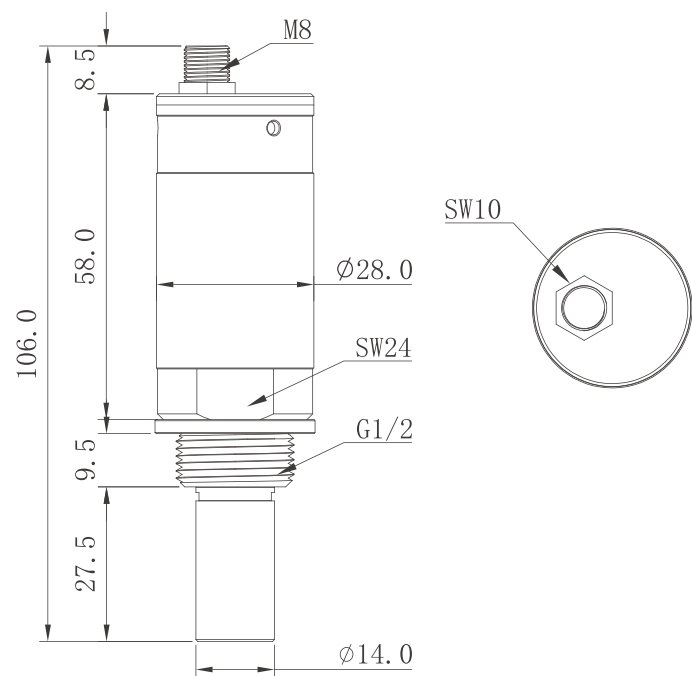


Fast Response Time

Fast response to moisture changes

- Based on polymer thin film capacitive sensor technology
- Application in dewpoint $> -60\text{ }^{\circ}\text{Ctd}$: Refrigerant dryers, desiccant dryers, industrial gases
- Accurate to $\pm 2\text{ }^{\circ}\text{Ctd}$ with up to 10+ dewpoint calibration and multi-point temperature compensation (Refer to "Technical Data")
- Ultra-fast response time and outstanding long-term stability
- Anti-condensation, resistant to particulate contamination, oil vapor and most chemicals
- High resistance to electrical disturbance
- IP65 protection class, providing good protection even in harsh environments
- Provides comprehensive sensor setup, data transfer, software upgrades, and maintenance via Modbus RTU (RS485) interface and powerful service APP
- Calibration is valid for two years, reducing maintenance
- Stable and cost-effective, low cost of use

Product Dimensions



Product Applications

Dewpoint meters are widely used in dry purification, chemical, petrochemical, power engineering, and food & medicine etc.



Gas monitoring of drying equipment

* Refrigeration Dryer Desiccant dryer
Membrane dryer



Vessel and pipeline gas monitoring



Medical and surgical gas monitoring



Moisture monitoring of industrial gases



Monitoring of dry and clean environments



Dryness test for food and drug additives

Sensor Model	FixInst-P	FIXINST-A	FIXINST-Q
Sensor Type	Polymer Capacitive Sensors	Aluminum Oxide Sensors	QCM Sensor
Sensor View			
Application in > -60 °Ctd: Refrigerant Dryer, Desiccant Dryer, Industrial Gas	✓		
Application in -80 ... -60 °Ctd: Desiccant Dryer, Nitrogen Generators, Industrial Gas		✓	
Application in -120 ... -80 °Ctd: High-purity industrial gas		○	✓
Containing contaminated particles	✓	✓	

* Sensor FIXINST-A FIXINST-Q have obtained relevant patents
○ Model F139C-Puri, F305B

Technical Data

Measuring Range		Output	
Dewpoint		Analog Output (Customized)	4 ... 20 mA (3-wire)
F161A	-60 ... +20 °Ctd	Analog Resolution	0.002 mA
F161B	-60 ... +60 °Ctd	Analog Drift	0.01 % of span/°C
Temperature	-40 ... +100 °C	Digital Output	Max. 500 ohm
		Digital Output	Modbus RTU (RS485)
		Connector	5pin M8, Female
Accuracy		Operating Environment	
Dewpoint (Air or Nitrogen)		Environment Temperature	-30 ... +70 °C
+60... -20 °Ctd	±2 °Ctd (Standard) ±0.5 °Ctd (Customized)	Storage Temperature	-40 ... +80 °C
-20 ... -60 °Ctd	±2 °Ctd	Relative Humidity	0 ... 95 %RH
Temperature (Customizable)		Sample Gas Flow Rate	> 1 L/min
0 ... +50 °C	± 0.3 °C (Standard)	Pressure	0 ... 5 MPa(a)
-40 ... 0 °C & +50 ... +100 °C	± 0.5 °C (Standard)		
Response Time		Other	
Dewpoint: 63% [90%], Reference: 20 °C, 1bar(a), 4L/min		Process Connection	ISO G1/2" thread (Standard) 3/4" - 16 UNF thread (Customized) 5/8" - 18 UNF thread (Customized)
-50 → +20 °Ctd	20 sec [40 sec]	Protection Code	IP65
+20 → -50 °Ctd	1 min [3 min]	Housing Material	SUS304 + AL6061
		Sensor Filter	Stainless steel sinter filter (Filtration class 40-50 um)
		EMC	Compliant with IEC 61326-1
Power			
Measuring State	10 ... 30VDC Max 1W @ 24VDC		

Order Information

Model	Digital Output	Analog Output	Sensor Filter	Cable / Connector	Analog Output Unit	Pressure	Description
F161A							-60 ... +20 °Ctd, Polymer film capacitive sensor, Compact aluminum housing, G1/2" thread
F161A-U1							-60 ... +20 °Ctd, Polymer film capacitive sensor, Compact aluminum housing, 3/4" -16 UNF thread
F161A-U2							-60 ... +20 °Ctd, Polymer film capacitive sensor, Compact aluminum housing, 5/8" -18 UNF thread
F161B							-60 ... +60 °Ctd, Polymer film capacitive sensor, Compact aluminum housing, G1/2" thread
F161B-U1							-60 ... +60 °Ctd, Polymer film capacitive sensor, Compact aluminum housing, 3/4" -16 UNF thread
F161B-U2							-60 ... +60 °Ctd, Polymer film capacitive sensor, Compact aluminum housing, 5/8" -18 UNF thread
	1						Modbus RTU (RS485)
		1					4 ... 20 mA
			M1801 0004				Stainless steel sinter filter (Filtration class 40-50 µm, Default)
				M2701 0008			M8 female straight connectors, IP67, With 2m cable (Default)
					V0101 0001		Default output unit
					V0101 0002		Output unit (Customized)
						V0103 0001	Default 0 bar(g)
						V0103 0002	Customized

* Wi-SUN wireless is available as an option. Please consult sales staff for details

* For other accessories please refer to FixInst Product Catalog or consult sales