YUA

Fast · Accurate · Managing

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 °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 … +60 °Ctd

Auto-calibration Circuit

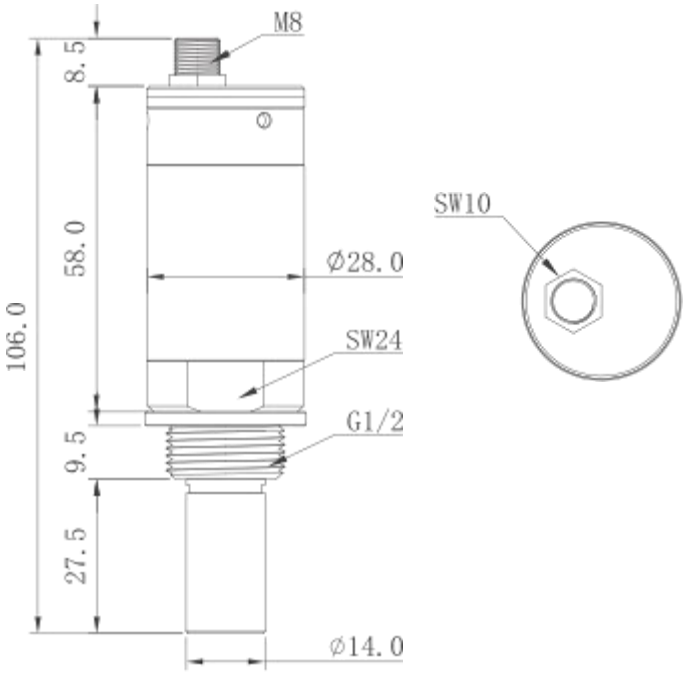
Provides accurate and stable measurements

Fast Response Time

Fast response to moisture changes

- Based on polymer thin film capacitive sensor technology
- Application in dewpoint > -60 °Ctd:
  Refrigerant dryers, desiccant dryers, industrial gases
- Accurate to ± 2 °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



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

Product Applications

Dew point 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



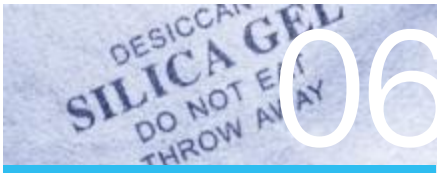
Medical and surgical gas monitoring



Moisture monitoring of industrial gases



Monitoring of dry and clean environments



Dryness test for food and drug additives

Technical Data

Measuring Range

Dewpoint	
F161A	-60 … +20 °Ctd
F161B	-60 … +60 °Ctd
Temperature	-40 … +100 °C

Accuracy

Dewpoint (Air or Nitrogen)	
+60… -20 °Ctd	±2 °Ctd (Standard) ±0.5 °Ctd (Customized)
-20 … -60 °Ctd	±2 °Ctd
Temperature (Customizable)	
0 … +50 °C	± 0.3 °C (Standard)
-40 … 0 °C & +50 … +100 °C	± 0.5 °C (Standard)

Response Time

Dewpoint: 63% [90%], Reference: 20 °C, 1bar(a), 4L/min	-
50 → +20 °Ctd	20 sec [40 sec]
+20 → -50 °Ctd	1 min [3 min]

Power

Measuring State	10 … 30VDC	Max 1W @ 24VDC

Output

Analog Output (Customized)	4 … 20 mA (3-wire)
Analog Resolution	0.002 mA
Analog Drift	0.01 % of span/°C
Digital Output	Max. 500 ohm
Digital Output	Modbus RTU (RS485)
Connector	5pin M8, Female

Operating Environment

Environment Temperature	-30 … +70 °C
Storage Temperature	-40 … +80 °C
Relative Humidity	0 … 95 %RH
Sample Gas Flow Rate	> 1 L/min
Pressure	0 … 5 MPa(a)

Other

Process Connection	ISO G1/2″ thread (Standard) 3/4″ - 16 UNF thread (Customized) 5/8" - 18 UNF thread (Customized)
Protection Code	IP65
Housing Material	SUS304 + AL6061
Sensor Filter	Stainless steel sinter filter (Filtration class 40~50 um)
EMC	Compliant with IEC 61326-1

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	Defualt 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 **YUA Instruments** Product Catalog or consult sales