YUA

Fast · Accurate · Managing

-110 … +60 °Ctd
Ultra-wide Meas. Range

Long-term Stability

FixInst Independent
Patented Technology



F191x Series

Dewpoint Meter

Integrated Display and Alarm Function

DEWPOINT METER

Product Overview

The F191x series dewpoint meter can integrate a variety of the most advanced humidity sensors: FIXINST-P polymer film capacitive sensors, FIXINST-A ultra-fast response aluminum oxide sensors with innovative moisture sensitive materials and processes, and FIXINST-Q dual resonance QCM sensors with sensitivity at ultra-low dewpoint. These sensors provide F191x with the ability to accurately measure a wide range of dewpoints from -110 to +60 °Ctd

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

Integrated Display

Display various dew point information simultaneously

Ultra-wide Range

-110 … +60 °Ctd Optional measurement range

Alarm Output

Relay alarm output and display Alarm information

Innovative Technology

FixInst Patented Sensors Materials and Processes

- Compatible with various sensor technologies: polymer thin film, aluminum oxide, QCM crystal type sensors that can be used in different measurement ranges
- MEMS based pressure sensor for online pressure and atmospheric dewpoint (Abs. pressure 0 … 1.7 MPa) monitoring
- Accurate to ± 2 °Ctd with up to 10+ dew point calibration and multi-point temperature compensation (Refer to “Technical Data”)
- Ultra-fast response time
- Outstanding long-term stability
- Anti-Condensation, resistant to particulate contamination, oil vapor and most chemicals
- High resistance to electrical disturbance
- 1.5" IPS wide viewing anlge LCD with capacitive touch
- Relay alarm output
- IP66 metal housing provides good protection even in harsh industrial environments

UI design



Integrated pressure sensor, simultaneous output of pressure dewpoint and atm. dew point, real-time calculation of all humidity parameters.

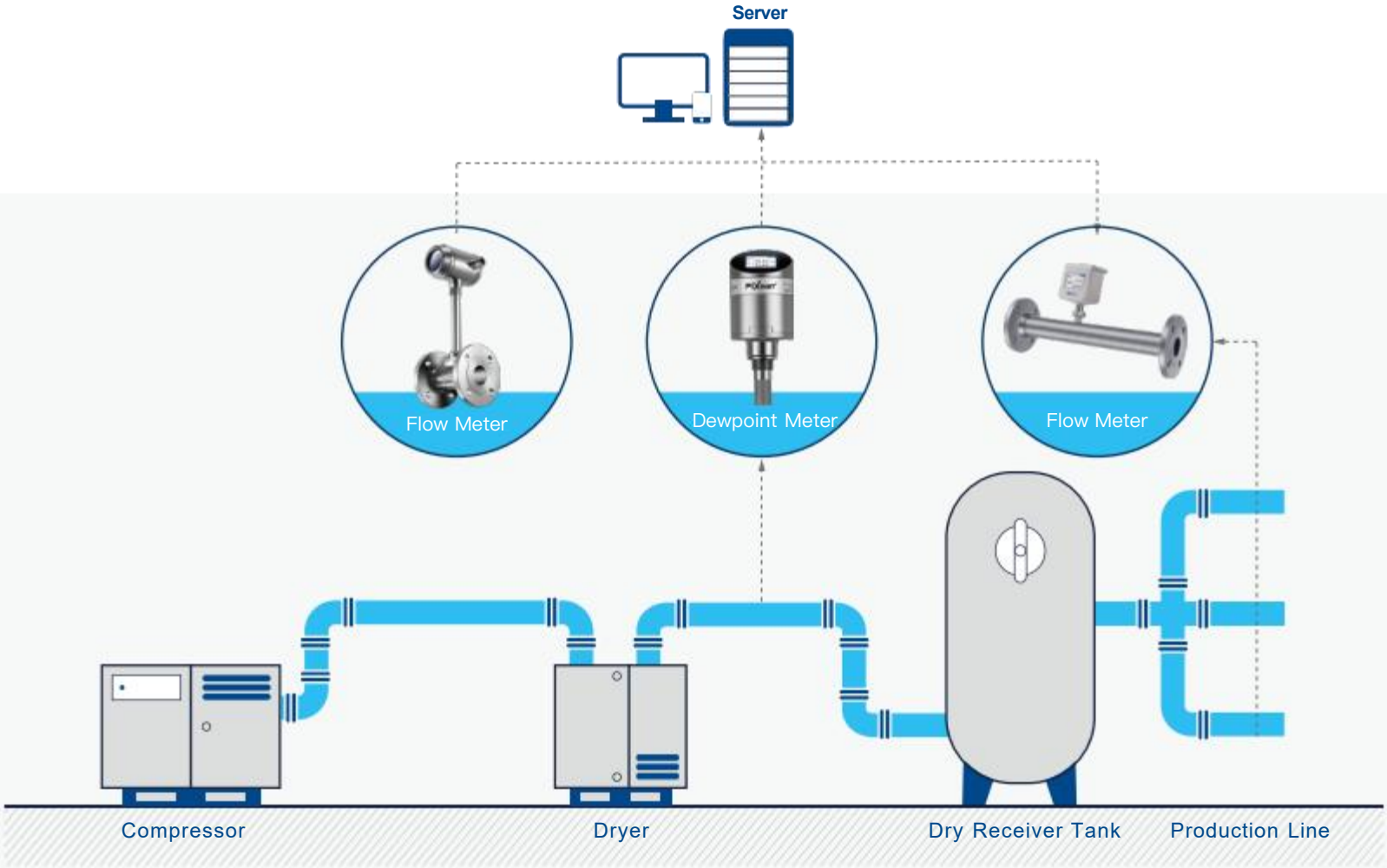


The alarm threshold, direction and hystersis can be set viathe touch screen, and the relay output connects to the alarm to trigger audio and visual alarm when the monitoring data exceeds the limit value.

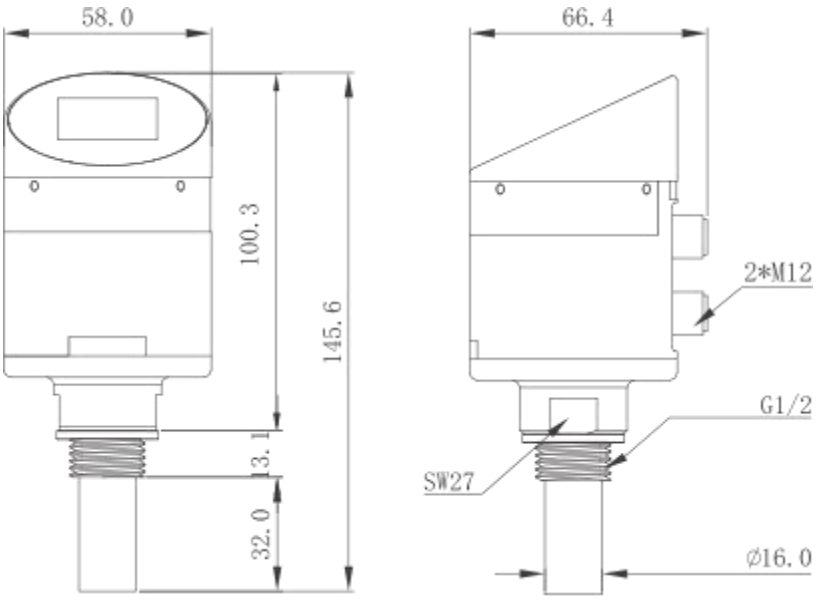


Outstanding intuitive operability, eliminating the learning cost of complex key operations.

Air Compression System



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



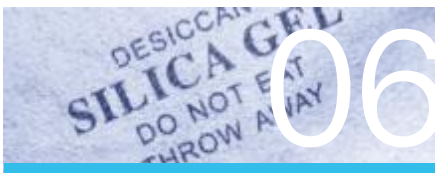
Medical and surgical gas monitoring



Moisture monitoring of industrial gases



Monitoring of dry and clean environments



Dryness test for food and drug additives

Technical Data

Measuring Range

Dewpoint	
F191A	-60 … +60 °Ctd
F191B	-80 … +20 °Ctd
F191C	-110 … +20 °Ctd
Temperature	-40 … +100 °C
Pressure	0 … 1.7 MPa(a) (Option)

Output

Analog Output (Customized)	4 ... 20 mA (4-wire)
Analog Resolution	0.002 mA
Analog Drift	0.01% of span/°C
Analog Load	Max. 500 ohm
Digital Output	Modbus RTU (RS485)
Relay Output	Normal open 32 VDC/500 mA
Connector	2 × 5pin M12, Female

Accuracy

Dewpoint (Air or Nitrogen)	
+20 … -60 °Ctd	±2 °Ctd
-60 … -100 °Ctd	±3 °Ctd
Temperature (Customized)	
0 … + 50 °C	±0.3 °C (Standard)
-40 … 0 °C & +50 … +100 °C	±0.5 °C (Standard)
Pressure	
Accuracy @23 °C	±0.3% FS
Pressure Drift With Temperature	±0.001 MPa/10 °C

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	
(Integrated Pressure Sensor)	0 ... 1.7 MPa(a)
(Without Pressure Sensor)	0 ... 5 MPa(a)
	0 ... 25 MPa(a) (Option)

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]
Pressure	< 1 sec

Other

Process Connection	ISO G1/2" thread (Standard) 3/4" - 16 UNF thread (Customized) 5/8" - 18 UNF thread (Customized)
Protection Code	IP66
Housing Material	Aluminum alloy
Sensor Filter	Stainless steel sinter filter (Filtration class 40~50 um)
EMC	Compliant with IEC 61326-1

Power

Measuring State	16 … 30 VDC	Max 4.5W @ 24VDC

Order Information

P/N	Description
F191A	-60 ... +60 °Ctd, 1.5" capacitive touch screen, Alarm relay output, G1/2" thread
F191A-P	-60 ... +60 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, G1/2" thread
F191A-U1	-60 ... +60 °Ctd, 1.5" capacitive touch screen, Alarm relay output, 3/4" – 16 UNF thread
F191A-P-U1	-60 ... +60 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, 3/4" – 16 UNF thread
F191A-U2	-60 ... +60 °Ctd, 1.5" capacitive touch screen, Alarm relay output, 5/8" – 16 UNF thread
F191A-P-U2	-60 ... +60 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, 5/8" – 16 UNF thread
F191B	-80 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, G1/2" thread
F191B-P	-80 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, G1/2" thread
F191B-U1	-80 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, 3/4" – 16 UNF thread
F191B-P-U1	-80 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, 3/4" – 16 UNF thread
F191B-U2	-80 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, 5/8" – 16 UNF thread
F191B-P-U2	-80 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, 5/8" – 16 UNF thread
F191C	-110 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, G1/2" thread
F191C-P	-110 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, G1/2" thread
F191C-U1	-110 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, 3/4" – 16 UNF thread
F191C-P-U1	-110 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, 3/4" – 16 UNF thread
F191C-U2	-110 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, 5/8" – 16 UNF thread
F191C-P-U2	-110 ... +20 °Ctd, 1.5" capacitive touch screen, Alarm relay output, Integrated pressure sensor, 5/8" – 16 UNF thread

* Portable protective case is available as an option. Please consult sales staff for details
* 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

https://yua-instruments.com/

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