



-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

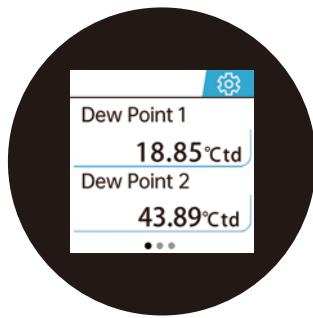


### Innovative Technology

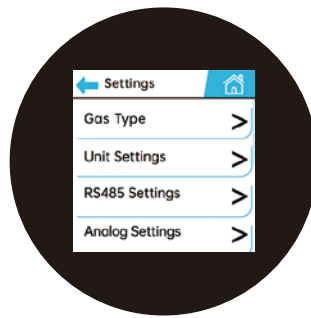
FixInst Patented Sensors Materials and Processes

- 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  $\pm 2$  °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 angle LCD with capacitive touch
- Relay alarm output
- IP66 metal housing provides good protection even in harsh industrial environments

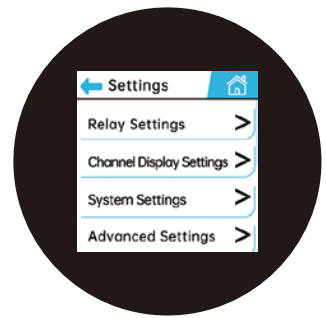
## UI design



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

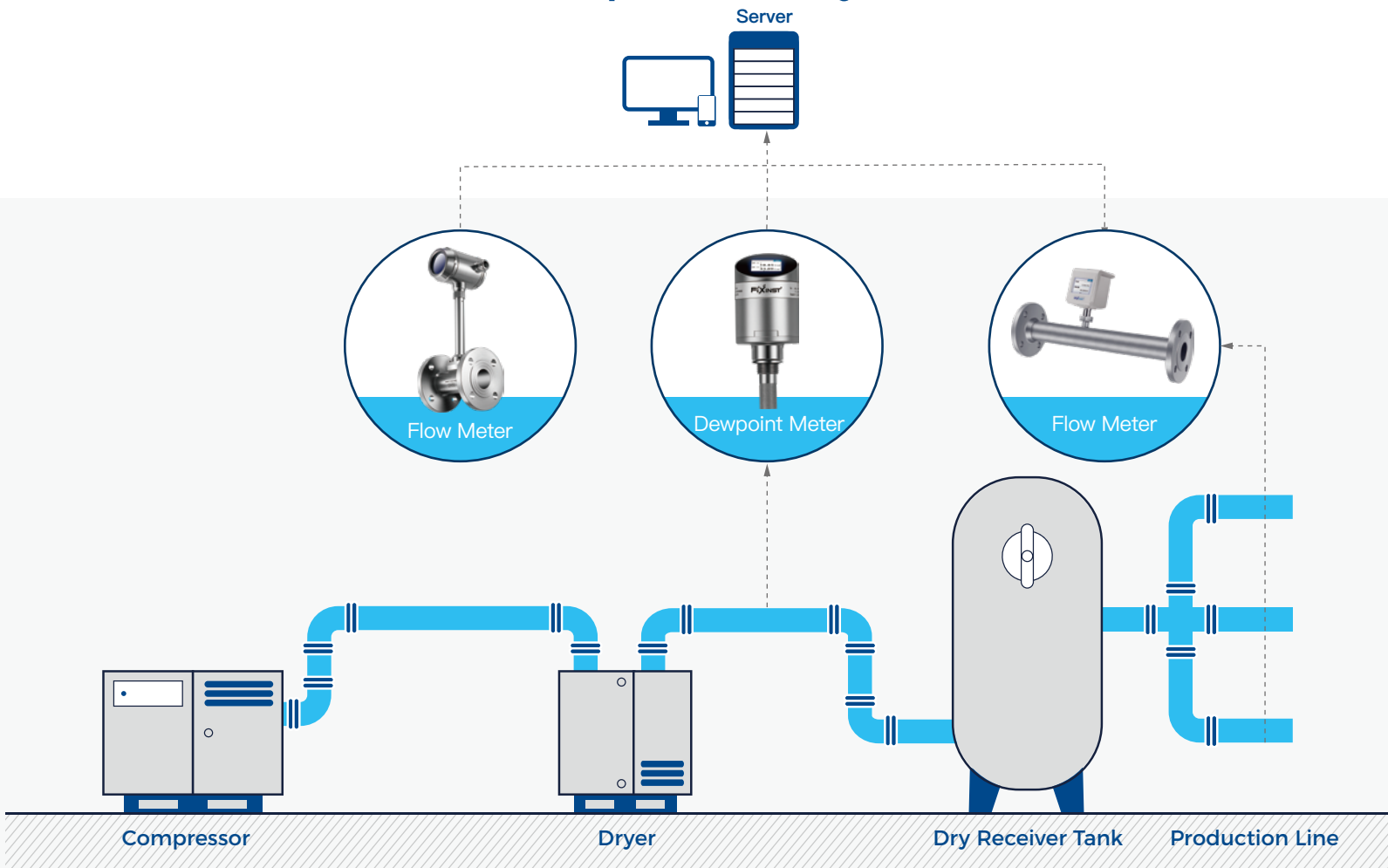


The alarm threshold, direction and hysteresis can be set via the touch screen, and the relay output connects to the alarm to trigger audio and visual alarm when the monitoring data exceeds the limit value.

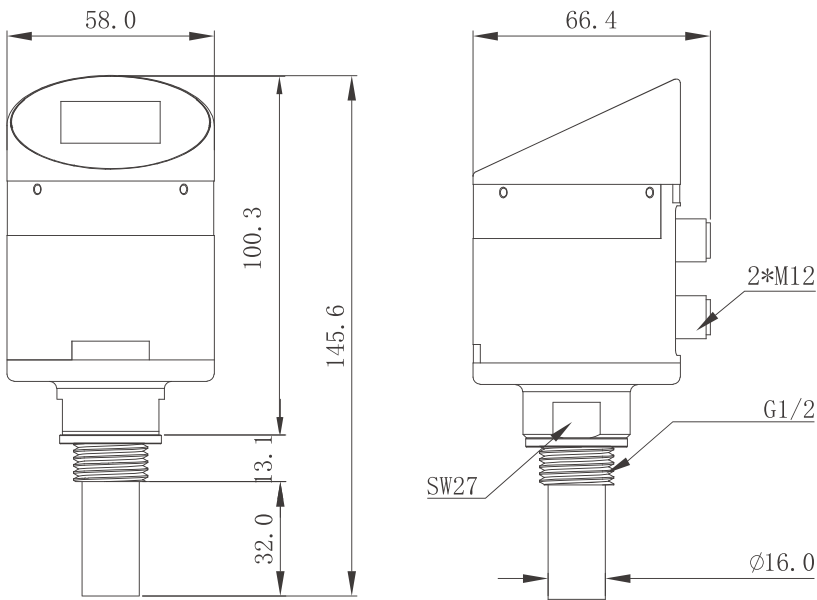





Outstanding intuitive operability, eliminating the learning cost of complex key operations.

## 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  
 O Model F139C-Puri, F305B

# Product Applications

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



01

Gas monitoring of drying equipment

\* Refrigeration Dryer    Desiccant dryer  
 Membrane dryer



02

Vessel and pipeline gas monitoring



03

Medical and surgical gas monitoring



04

Moisture monitoring of industrial gases



05

Monitoring of dry and clean environments



06

Dryness test for food and drug additives

# Technical Data

Measuring Range	Output
<b>Dewpoint</b>	<b>Analog Output (Customized)</b> 4 ... 20 mA (4-wire)
F191A -60 ... +60 °Ctd	<b>Analog Resolution</b> 0.002 mA
F191B -80 ... +20 °Ctd	<b>Analog Drift</b> 0.01% of span/°C
F191C -110 ... +20 °Ctd	<b>Analog Load</b> Max. 500 ohm
<b>Temperature</b> -40 ... +100 °C	<b>Digital Output</b> Modbus RTU (RS485)
<b>Pressure</b> 0 ... 1.7 MPa(a) (Option)	<b>Relay Output</b> Normal open 32 VDC/500 mA
	<b>Connector</b> 2 × 5pin M12, Female
Accuracy	Operating Environment
<b>Dewpoint (Air or Nitrogen)</b>	<b>Environment Temperature</b> -30 ... +70 °C
+20 ... -60 °Ctd ±2 °Ctd	<b>Storage Temperature</b> -40 ... +80 °C
-60 ... -100 °Ctd ±3 °Ctd	<b>Relative Humidity</b> 0 ... 95 %RH
<b>Temperature (Customized)</b>	<b>Sample Gas Flow Rate</b> > 1 L/min
0 ... +50 °C ±0.3 °C (Standard)	<b>Pressure</b>
-40 ... 0 °C & +50 ... +100 °C ±0.5 °C (Standard)	<b>(Integrated Pressure Sensor)</b> 0 ... 1.7 MPa(a)
<b>Pressure</b>	<b>(Without Pressure Sensor)</b> 0 ... 5 MPa(a)
<b>Accuracy @23 °C</b> ±0.3% FS	0 ... 25 MPa(a) (Option)
<b>Pressure Drift With Temperature</b> ±0.001 MPa/10 °C	
Response Time	Other
<b>Dewpoint: 63% [90%], Reference: 20 °C, 1bar(a), 4L/min</b>	<b>Process Connection</b> ISO G1/2" thread (Standard)
-50 → +20 °Ctd 20 sec [40 sec]	3/4" - 16 UNF thread (Customized)
+20 → -50 °Ctd 1 min [3 min]	5/8" - 18 UNF thread (Customized)
<b>Pressure</b> < 1 sec	<b>Protection Code</b> IP66
	<b>Housing Material</b> Aluminum alloy
	<b>Sensor Filter</b> Stainless steel sinter filter
	(Filtration class 40-50 um)
	<b>EMC</b> Compliant with IEC 61326-1
Power	
<b>Measuring State</b> 16 ... 30 VDC Max 4.5W @ 24VDC	

# Order Information

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

**www.fix-instruments.com**

**Fix Instruments (Shenzhen) Co., Ltd.**

M: sales@fix-instruments.com

P: 0755-2359-1123

A: 2/F, Middle Block, Building B, TG Science Park, No. 2 LuoZu Industrial Avenue,

ShiYan Subdistrict, Baoan District, Shenzhen, GuangDong, China