YUA
Fast · Accurate · Managing

Display various dewpoint parameters simultaneously

-110 ... +60 °Ctd

Optional measuring range

Ex db IIC T6 Gb

Ex tb IIIC T80°C Db



F191x-Ex Series

Dewpoint Meter

FixInst Explosion-proof Dewpoint Meter Integrated with Display

DEWPOINT METER

Product Overview

The F191x-Ex series explosion-proof dewpoint meter is designed for dewpoint monitoring in harsh environments and industrial hazardous sites. It is widely used in petrochemical, electric power, pharmaceutical, industrial gas, heat treatment, aviation, natural gas, drying equipment and medical industries, providing users a safe and reliable dewpoint monitoring solution

F191x-Ex can integrate a variety of latest technology humidity sensors: FIXINST-P polymer film capacitive sensor, FIXINST-A ultra-fast response aluminum oxide sensor with innovative moisture sensitive materials and processes, and dual resonance QCM sensors with sensitivy at ultra-low dewpoint. These sensors provide F191x-Ex with the ability to accurately measure a wide range of dewpoint from -110 ... +60 °Ctd

Explosion-proof class: Ex db IIC T6 Gb / Ex tb IIIC T80°C Db

Protection class: IP67

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

The innovative temperature compensation algorithm and multi-point temperature compensation calibration before leaving the factory greatly improve the temperature drift of the sensor, ensuring high-precision measurement within a wide temperature range

Product Advantages

Integrated Display
Display various dewpoint parameters simultaneously

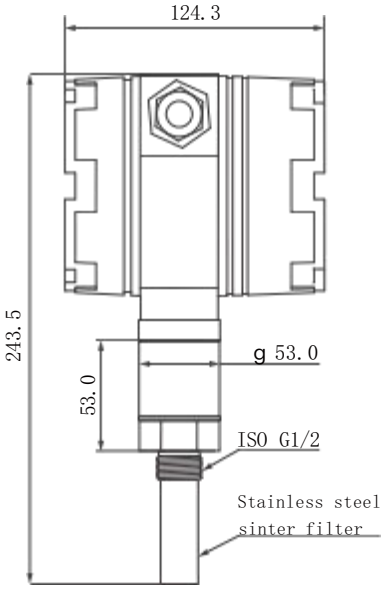
Ultra-wide Range
-110 … +60 °Ctd Optional measuring range

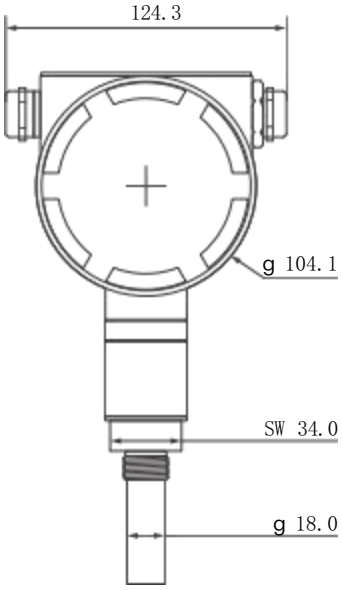
Protection Code IP67

Explosion-proof Certification
Ex db IIC T6 Gb
Ex tb IIIC T80°C Db

- Compatible with various sensor technologies: polymer thin film, aluminum oxide, QCM crystal type sensors that can be used in different measurement ranges
- Explosion-proof certification: Ex db IIC T6 Gb / Ex tb IIIC T80°C Db
- IP67 metal housing provides good protection even in harsh industrial environments
- MEMS based pressure sensor for online pressure and atmospheric dewpoint (Abs. pressure 0 … 1.7 MPa.a) monitoring
- 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
- The capacitive touch 2.0” IPS LCD with an ultra-wide viewing angle
- Relay alarm output

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



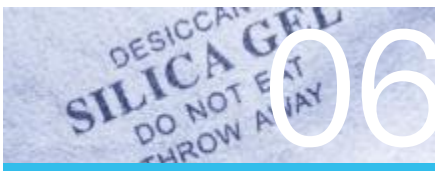
Medical and surgical gas monitoring



Moisture monitoring of industrial gases



Monitoring of dry and clean environments



Dryness test for food and drug additives

Technical Data

Measuring Range

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

Output

Analog Output (Customized)	4 … 20 mA (3-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	Wiring terminal

Accuracy

Dewpoint (Air or Nitrogen)	
+20 … -60 °Ctd	±2 °Ctd
-60 … -100 °Ctd	±3 °Ctd
Temperature (Customizable)	
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

Operating Temperature	-30 … +50 °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 presssure sensor)	0 … 5 MPa(a)
	0 … 35 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)
Explosion-proof Class	Ex db IIC T6 Gb / Ex tb IIIC T80°C Db
Protection Code	IP67
Housing Material	SUS304 + ZL102
Sensor Filter	Stainless steel sinter filter (Filtration class 30~45 μm)
EMC	Compliant with IEC 61326-1

Power

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

Order Information

Model	Description
F191A-Ex	-60 … +60 °Ctd, 2.0” Capacitive touch screen, Alarm relay output
F191A-P-Ex	-60 … +60 °Ctd, 2.0” Capacitive touch screen, Alarm relay output, Integrated pressure sensor
F191B-Ex	-110 … +20 °Ctd, 2.0” Capacitive touch screen, Alarm relay output
F191B-P-Ex	-110 … +20 °Ctd, 2.0” Capacitive touch screen, Alarm relay output, Integrated pressure sensor

* To have customized thread type, please consult sales

https://yua-instruments.com/

A：Room R2-B, Gaoxin Industrial Park, No. 206 Gaoxin South 7th Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong, China

M：sales@yua-instruments.com