



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 sensitivity 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

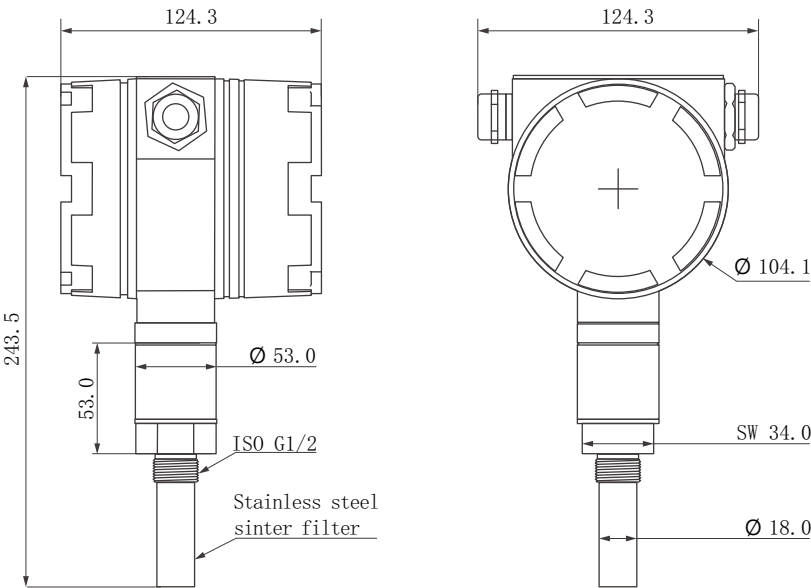


Explosion-proof Certification

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



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

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)
F191A-Ex	-60 ... +60 °Ctd	Analog Resolution	0.002 mA
F191B-Ex	-110 ... +20 °Ctd	Analog Drift	0.01 % of span/°C
Temperature	-40 ... +100 °C	Analog Load	Max. 500 ohm
Pressure	0 ... 1.7 MPa(a) (Option)	Digital Output	Modbus RTU (RS485)
		Relay Output	Normal open 32 VDC/500 mA
		Connector	Wiring terminal
Accuracy		Operating Environment	
Dewpoint (Air or Nitrogen)		Operating Temperature	-30 ... +50 °C
+20 ... -60 °Ctd	±2 °Ctd	Storage Temperature	-40 ... +80 °C
-60 ... -100 °Ctd	±3 °Ctd	Relative Humidity	0 ... 95 %RH
Temperature (Customizable)		Sample Gas Flow Rate	> 1 L/min
0 ... +50 °C	±0.3 °C (Standard)	Pressure	
-40 ... 0 °C & +50 ... +100 °C	±0.5 °C (Standard)	(Integrated pressure sensor)	0 ... 1.7 MPa(a)
Pressure		(Without pressure sensor)	0 ... 5 MPa(a)
Accuracy @23 °C	±0.3 %FS		0 ... 35 MPa(a) Option
Pressure drift with temperature	±0.001 MPa/10 °C	Other	
Response Time		Process Connection	ISO G1/2" thread (Standard) 3/4" - 16 UNF thread (Customized) 5/8" - 18 UNF thread (Customized)
Dewpoint 63% [90%], Reference: 20 °C, 1bar(a), 4L/min		Explosion-proof Class	Ex db IIC T6 Gb / Ex tb IIIC T80°C Db
-50 → +20 °Ctd	20 sec [40 sec]	Protection Code	IP67
+20 → -50 °Ctd	1 min [3 min]	Housing Material	SUS304 + ZL102
Pressure	< 1 sec	Sensor Filter	Stainless steel sinter filter (Filtration class 30~45 µm)
Power		EMC	Compliant with IEC 61326-1
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

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