YUA

Fast · Accurate · Managing

-120 ... +20 °C td
Ultra-low dewpoint measurement

Fast Response

VCR Connection

Fixinst-a patented sensor materials and processes



F139C-Puri

Dewpoint Meter

High Purity Gas Dewpoint Transmitter

DEWPOINT METER

Product Overview

F139C-Puri is a dewpoint measuring instrument specially designed for high-purity gas conditions. It uses FIXINST-A, an ultra-fast response aluminum oxide sensor with innovative moisture sensitive materials and processes. It has extremely high sensitivity and stability and can accurately capture small moisture changes in the medium, stable measurement of humidity as low as ppb level, providing accurate and reliable key data for gas analysis, quality control and process optimization

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 compensation calibration, greatly improving the sensor's temperature drift and ensuring high-precision dew point measurement over a wide temperature range

The VCR process is used for connection, with high connection strength and good air-tight performance, is widely used for special gas or high purity gas pipelines

Product Advantages

Innovative Sensor Tech

Low dewpoint, high humidity resistance, long-term stability

Excellent Pollution Resistance

Anti-condensation, Anti-particle contamination

Ultra-wide Range

-120 … +20 °Ctd

Auto-calibration Circuit

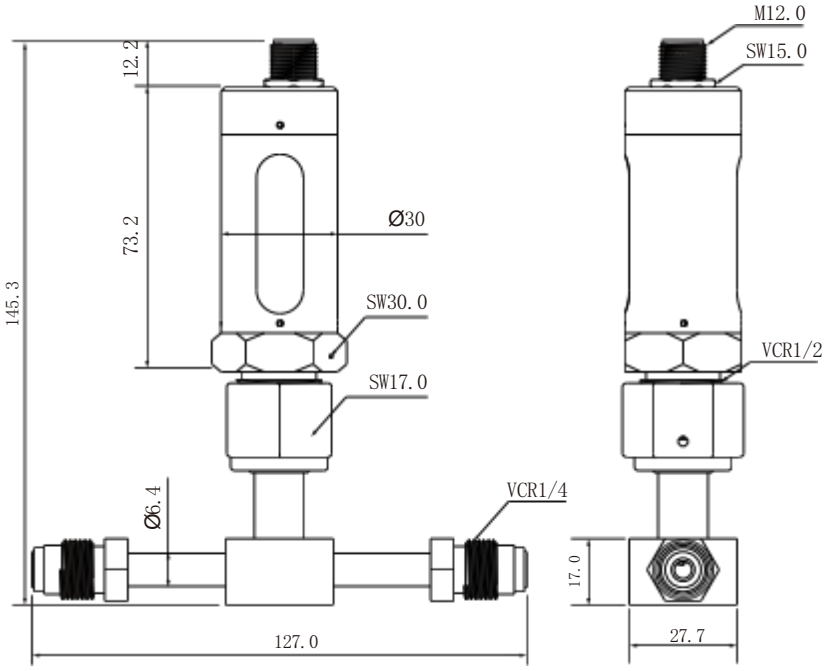
Provides accurate and stable measurements

VCR Connection

Excellent air tightness

- FixInst newly developped ultra-high sensitivity aluminum oxide sensor technoclogy, lower limit of dewpoint down to -120 °Ctd, ppb level of humidity
- MEMS based pressure sensor for simultaneous monitoring of dewpoint and pressure
- Application in dewpoint < -80 °Ctd: High-purity industrial gas, electronic speciality gas and etc.
- 10+ points of dewpoint calibration and multi-point temperature compensation provide accurate measurements up to ±2 °Ctd (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 standard Modbus RTU (RS485) interface and powerful service APP
- Calibration is valid for two years, reducing maintenance

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	-120 … +20 °Ctd
Temperature	-40 … +100 °C
Pressure	0 … 1.7 MPa(a)

Accuracy

Dewpoint (Air or Nitrogen)	
+20 … -60 °Ctd	±2 °Ctd (Standard)
-60 … -120 °Ctd	±3 °Ctd (Standard)
Temperature (Customizable)	
0 … + 50 °C	±0.3 °C (Standard)
-40 … 0 °C & +50 … +100 °C	±0.5 °C (Standard)
Pressure Accuracy	± 0.3 %FS

Response Time

Dewpoint 63% [90%], Reference: 20 °C, 1bar(a), 4L/min

-50→+20 °Ctd	20 sec [40 sec]	1
+20→-50 °Ctd	min [3 min]	< 1
Pressure	sec	

Power

Measuring State	10 … 30VDC Max 1.5W @ 24VDC

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)
Connector	5pin M12, Female

Operating Environment

Operating Temperature	-30 … +70 °C
Storage Temperature	-40 … +80 °C
Relative Humidity	0 … 95 %RH
Sample Gas Flow Rate	> 1 L/min
Pressure	0 … 1.7 MPa(a)

Other

Process Connection	VCR 1/4" (Gas inlet/oulet)
Protection Code	IP65
Housing Material	SUS304
EMC	Compliant with IEC 61326-1

Order Information

Model	Installation	Digital Output	Analog Output	Cable Connector	Aanlog Output Unit	Pressure	Description
F139C-Puri							-120 … +20 °Ctd, High purity gas dewpoint transmitter, Integrated pressure sensor, Standard stainless steel housing
	1						VCR 1/4" (Gas inlet/outlet) (Standard)
		1					Modbus RTU(RS485)
			1				4 … 20 mA
				M2701 0004			M12 female straight connectors, IP67, With 2m cable (Default)
				M2701 0005			M12 female straight connectors, IP67, With 5m cable
				M2701 0001			M12 plastic female straight connectors, Assembled type, IP67
				M2701 0002			M12 metal female straight connectors, Assembled type, IP67, With shielding
					V0101 0001		Default output unit
					V0101 0002		Output unit (Customized)
						V0103 0001	Defualt 0 bar(g)
						V0103 0002	Customized

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