YUA

Fast · Accurate · Managing

-120 … +20 °Ctd
Ultra-low dewpoint
measurement

Dual QCM Sensor Tech

Fast Response



F141x Series

Dewpoint Meter

FixInst-Q Dual QCM Standard Dewpoint Transmitte

DEWPOINT METER

Product Overview

QCM sensor technology is a revolutionary humidity measurement technology. Combined with the newly developed moisture sensitive material, it has excellent signal sensitivity in ultra-low humidity conditions and can measure humidity down to ppb level stably

Patented dual QCM sensors, one for humidity signal and one for pollution signal, automatically compensate for the drift caused by pollution which is common in QCM humidity measurement technology

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. Combined with the ultra-high stability of QCM sensor technology, recalibration intervals can be extended to more than two years

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

Product Advantages

Dual QCM Sensor Tech

One for humidity signal and one for pollution signal

Ultra-wide Range

-120 … 0 °Ctd
Ultra-low dewpoint measurement

Auto-calibration Circuit

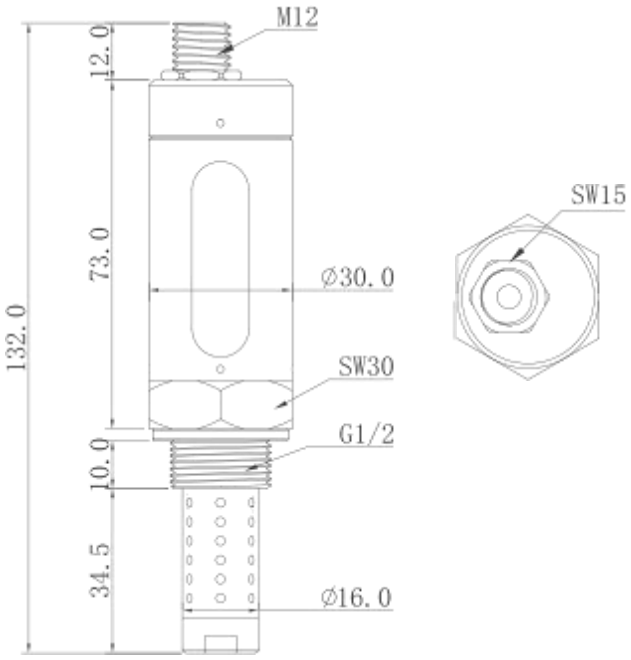
Provides accurate and stable measurements

Fast Response Time

Fast response to moisture changes

- Revolutionary FixInst-Q QCM humidity sensitive material, lower limit of dewpoint down to -120 °Ctd, ppb level of humidity
- Application in dewpoint < -80 °Ctd:
  High-purity industrial gas, clean gas
- Patented dual QCM sensors, one for humidity signal and one for pollution signal, automatically compensate for the drift caused by pollution
- Accurate measurements up to ±2 °Ctd
- Ultra-fast response time and outstanding long-term stability
- Multi-point temperature compensation calibration
- 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 Modbus RTU (RS485) interface and powerful service APP

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



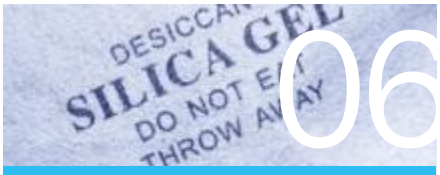
Medical and surgical gas monitoring



Moisture monitoring of industrial gases



Monitoring of dry and clean environments



Dryness test for food and drug additives

Technical Data

Measuring Range

Dewpoint	
F141B	-110 … 0 °Ctd
F141C	-120 … 0 °Ctd
Temperature	-40 … +100 °C

Accuracy

Dewpoint (Air or Nitrogen)	
+20… -80 °Ctd	±2 °Ctd
-80 … -120 °Ctd	±3 °Ctd
Temperature (Customized)	
0 … +50 °C	± 0.3 °C (Standard)
-40 … 0 °C & +50 … +100 °C	± 0.5 °C (Standard)

Response Time

Dewpoint: 63% [90%], Reference: 20 °C, 1bar(a), 4L/min	-
80 → +30 °Ctd	20 sec [40 sec]
+30 → -70 °Ctd	5 min [20 min]

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
Digital Output	Max. 500 ohm
Digital Output	Modbus RTU (RS485)
Connector	5pin M12, Female

Operating Environment

Environment Temperature	-20 … +70 °C
Storage Temperature	-30 … +80 °C
Relative Humidity	0 … 95 %RH
Sample Gas Flow Rate	> 1 L/min
Pressure	0 … 5 MPa(a)

Other

Process Connection	ISO G1/2″ thread (Standard) 3/4″ - 16 UNF thread (Customized) 5/8" - 18 UNF thread (Customized)
Protection Code	IP65
Housing Material	SUS304
Sensor Filter	Stainless steel mesh filter (Filtration class 70 um)
EMC	Compliant with IEC 61326-1

Order Information

Model	Digital Output	Analog Output	Sensor Filter	Cable / Connector	Analog Output Unit	Pressure	Description
F141B							-110 … 0 °Ctd, Dual QCM sensor, Standard stainless steel housing, G1/2" thread
F141B-U1							-110 … 0 °Ctd, Dual QCM sensor, Standard stainless steel housing, 3/4" -16 UNF thread
F141B-U2							-110 … 0 °Ctd, Dual QCM sensor, Standard stainless steel housing, 5/8" -18 UNF thread
F141C							-120 … 0 °Ctd, Dual QCM sensor, Standard stainless steel housing, G1/2" thread
F141C-U1							-120 … 0 °Ctd, Dual QCM sensor, Standard stainless steel housing, 3/4" -16 UNF thread
F141C-U2							-120 … 0 °Ctd, Dual QCM sensor, Standard stainless steel housing, 5/8" -18 UNF thread
	1						Modbus RTU (RS485)
		1					4 … 20 mA
			S0301 0005				Stainless steel mesh filter (Filtration class 70 um, Default)
				M2701 0004			M12 female straight connectors, IP67, With 2m cable (Default)
					V0101 0001		Default output unit
					V0101 0002		Output unit (Customized)
						V0103 0001	Defualt 0 bar(g)
						V0103 0002	Customized

* 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