



CHINA SENSOR

中国传感器 - 原装正品, 现货直供



Digital Humidity Measurement

HYGROCLIP[®]

Humidity goes Digital



H290D: Humidity Transmitter for Environmental Test Equipment

Comprehensively Improve the Performance of Your Environmental Test Equipment, Incubators, Ovens and Other Products

- High precision: $\pm 1.5\%$ RH (0...100%RH, 23°C)
- Wide temperature range: -75°C...+200°C (the widest operating temperature range)
- Temperature compensation: temperature compensation for humidity over the full temperature range
- Digital calibration: solves the inconvenience of traditional potentiometer calibration.

Advantages of Digitization:

H-290D is a humidity transmitter designed for OEM market, using the latest digital technology, its advantages are reflected in the following aspects:

1. certainty of measurement :

The digital processing of H290D sensor signals provides greater flexibility and potential for enhancing sensor performance features such as linear correction and temperature compensation. ROTRONIC HYGROMER® capacitive sensors have consistently maintained industry leadership in both precision and stability. With the integration of digital technologies, these sensors now achieve even higher performance levels.

2. Data such as sensors and calibration are stored in the H290D transmitter. The software-based calibration makes the calibration simple and accurate, solves the inconvenience of traditional potentiometer calibration, and easily completes the calibration. Multi-point calibration can be performed over the entire humidity measurement range.

H290D series transmitter is mainly used in environmental test chamber and other places that need high precision humidity measurement.

H290D calibration: Digital calibration, calibration work easily done

With the H290D humidity transmitter, field calibration and maintenance of the sensor is easier and more convenient. With HygroPalm 3 and calibration cable, the following can be done:

- The relative humidity value of the H290D humidity transmitter can be read and displayed through HygroPalm 3.
- A single point consistency migration calibration is performed on the H290D humidity transmitter using a reference probe as a standard with HygroPalm 3
- Perform single point and multi-point calibration of H290D humidity transmitter in a standard humidity environment using HygroPalm 3

H290D Technical Indicators:

metric	H292D	H293D
humidity sensor	ROTRONIC Hygromer III IN-1 Thin film polyester capacitor	
temperature sensor	Pt100 RTD (for temperature compensation of humidity sensor)	
mode of connection	two-wire system	three-wire system
output signal	4...20mA	0...1V/0...5V/0...10V/0...20mA/ 4...20mA
Circuit operating environment	0...100%RH, no condensation, -40...60°C	
Standard humidity output	0...100%RH	
Humidity precision	± 1.5%RH (20...25 °C)	
repetitiveness	± 0.3%RH	
stability	Better than 1%RH per year	
response time	10 seconds (no filter, response time for temperature and humidity)	
field calibration	With the HygroPalm 3 handheld meter and calibration chamber, as well as humidity standard solutions	
service voltage	VDC=10+ (0.02× R _{Load}), up to 28VDC	10...35VDC/12...24VAC Minimum current output 15VDC
Current loss	20mA/depending on the output value	<50mA
load	Maximum 250Ω	Maximum current output 250Ω Minimum voltage output 1000Ω

Electrical connections	12AWG terminals
gas flow rate	Maximum 20m/s (3900 feet/min) with stainless steel mesh filter
dimensional drawing	PCB: 90×64mm probe: 100mm×Φ15mm cable: 2m
Probe materials	PPS
quality	225g
CE attestation	EN610000-6-2:2001, EN610000-6-4:2001

H290D Humidity Transmitter Order:

functional description		Order code									
Recommended model	Inventory products, spot supply	H290D	3	2	X	02	P2	M	P	XX	
product line	H290D series humidity transmitter	H290D									
mode of connection	2 Line system, only 4...2mA output		2								
	3 Wiring, power supply 10-35VDC		3								
output signal	0-20mA			1							
	4-20mA			2							
	0-1V			3							
	0-5V			4							
	0-10V			5							
hull	No shell				X						
Length of cable	Brought with a 1-meter cable					01					
	Brought with a 2-meter cable					02					
Probe length	100mm						P1				
	250mm						P2				
	400mm						P3				
filter	Belted stainless steel mesh filter							M			
Temperature outputs	No temperature output								X		
	Temperature transmitter output								T		
	3 Wired Pt100 output								P		
hull	At the board level, no enclosure									XX	
temperature range	0...100°C										A3
	0...150°C										D6
	0...200°C										D7
	-50...150°C										C4
	-50...200°C										C7

Recommended selection: H290D32X02P2MPXX

Features: Probe operating temperature-75...200 °C

Connection: 3-wire, power supply voltage 10...35V DC

Humidity: 0...100%RH, 4...20mA output

Temperature: 3 wire PT100 direct output

appendix

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Order code	functional description
LM12	Calibration kit, including HygroPalm 3 handheld meter, HygroClip S probe, MOK-01-B5 cable, ACRLXB5 cable, and portable case
HygroPalm 3	Handheld meter with HygroClip S temperature and humidity probe for multi-point calibration of H290
HygroClip S	Humidity and temperature sensor probe, connected to HygroPalm 3
MOK-01-B5	Connecting cable: Connects HygroClip S to HygroPalm 3
ACRLXB5	Connectors: Connects H290 to HygroPalm 3, calibrates communication lines
ER15	Calibration chamber, calibrated with EAXX humidity standard solution, 1×Φ15mm probe
EDM15-15	Calibration chamber, calibrated with EAXX humidity standard solution, 2×Φ15mm probe
EAXX	SCS certified humidity standard solution (5 per box)

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