

RH & Temperature Active Transmitters

HD48... SERIES - ACTIVE TRANSMITTERS FOR RELATIVE HUMIDITY, TEMPERATURE & DEW POINT INTRODUCTION

The HD48... series of active transmitters is the reliable choice for measuring temperature, relative humidity, and dew point temperature. Designed to excel in HVAC and building energy management systems (BEMS), these transmitters are perfect for demanding applications in sectors such as pharmacy, museums, cleanrooms, industrial and civil sectors, ventilation ducts, crowded spaces, agriculture (greenhouses, farms).

With seamless integration into existing systems, the HD48 series ensures accurate monitoring and control, contributing to optimal environmental conditions and energy efficiency.

FEATURES

Dual Power Supply Compatibility

Operates on direct or 24Vac alternating current.

Capacitive Sensor

Delivers precise and reliable measurements, with built-in temperature compensation.

Protected Design

Stainless steel or PTFE filter safeguards against dust and particles. Optional filters available for specialized applications.

Flexible Probe Configurations

Available in three configurations for versatile installation: **horizontal probe** for duct mounting; **vertical probe** for wall mounting, **remote probe** connected via cable (2, 5, or 10 meters).

Probe length options: choose between 135 mm or 335 mm for your specific application.

Durable

Temperature Ranges: standard: -20...+80 °C; extended: -40...+150 °C for critical environments.

Optional 4-Digit Display

Available as an "L" model for real-time or sequential parameter display.

CONFIGURATION & MEASUREMENT

Output Choices

Standard analog outputs (4...20 mA or 0...10 V) for remote displays, recorders, or PLCs. RS485 output with MODBUS-RTU protocol for networked connections to PCs or PLCs.

RS485 Network Setup

Create a network by connecting multiple devices.

Built-In Line Termination: configure via jumper settings for efficient signal management.

Factory Calibrated for Immediate Use

Ready to use with no further adjustments required.



DUAL OUTPUT OPTIONS

Choose between standard analog outputs (4...20 mA or 0...10 V) for remote displays or RS485 output with MODBUS-RTU for seamless network integration.



PRECISION AND RELIABILITY

Advanced capacitive sensor technology with temperature compensation ensures accurate, long-term measurements of temperature, humidity, and dew point.



VERSATILE PROBE CONFIGURATIONS

Horizontal, vertical, and remote probe options with varying lengths adapt to diverse installation needs across industries.



EXTENDED TEMPERATURE RANGE

Operates in challenging environments with standard (-20...+80 °C) and extended (-40...+150 °C) temperature range options.



READY-TO-USE AND LOW MAINTENANCE

Factory calibrated for immediate use, with durable components like stainless steel filters protecting against dust and particles. Minimal maintenance required.

Measurement specifications

Sensor	
RH	capacitive
Temperature	NTC Pt100 (only versions with horizontal probe or probe with cable and extended range)
Dew Point	Quantity calculated from relative humidity and temperature
Measuring range	
RH	0...100%
Temperature	-20...+80 °C -40...+150 °C (only versions with horizontal probe or probe with cable and extended range)
Dew Point	-20...+80 °C
Resolution	
RH	0.1 %
Temperature	0.1 °C
Dew Point	0.1 °C
Accuracy	
RH	±1.5% (0...90%) / ±2% (90...100%) @ T=15...35 °C (1.5 + 1.5% of measured value)% @ T=remaining range
Temperature	NTC sensor = ±0.3 °C @ T=0...70 °C ±0.4 °C @ T=remaining range Pt100 sensor = ±0.3 °C
Dew Point	Refer to the table in the manual
Repeatability	
RH	0.4 %
Temperature	0.1 °C
Dew Point	0.5 °C

Ordering codes

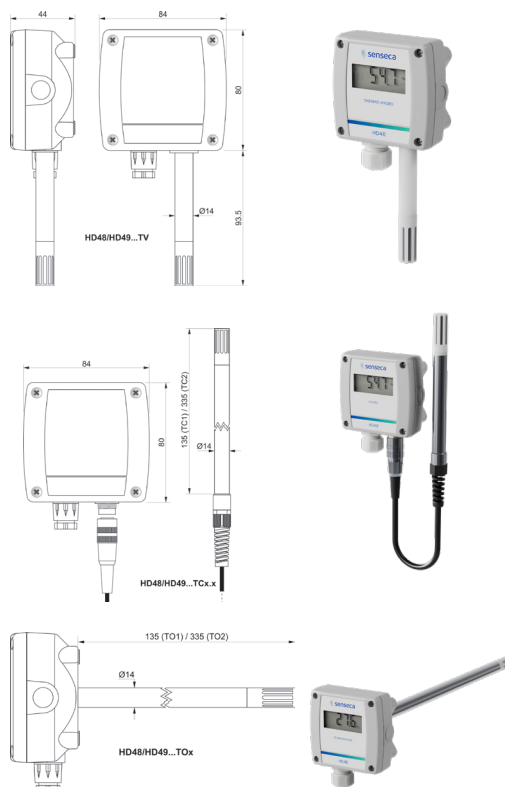
HD48	
	Display Blank = without LCD L = with LCD
	Cable length (only for probes with cable "TC") 2 = 2 m 5 = 5 m 10 = 10 m
	Type of probe TC1 = probe with cable, stem 135 mm TC2 = probe with cable, stem 335 mm TO1 = horizontal fixed probe, stem 135 mm TO2 = horizontal fixed probe, stem 335 mm TV = vertical fixed probe
	Temperature range Blank = -20...+80 °C (default) E = -40...+150 °C (only ...TC and ...TO models, except HD48x77)
	Measured quantities 01 = relative humidity 07 = temperature 17 = relative humidity and temperature 77 = dew point and temperature
	Type of output Blank = active 4...20 mA analog output V = 0...10 V analog output S = RS485 Modbus RTU digital output

PC connecting cable and accessories must be ordered separately.

Technical specifications

Output	
HD48...	active 4...20 mA
HD48V...	0...10 Vdc
HD48S...	RS485 Modbus-RTU
Power supply	
HD48...	24 Vac ± 10% or 18...40 Vdc
HD48V...	24 Vac ± 10% or 18...40 Vdc
HD48S...	12...30 Vdc
Power consumption	
HD48...	20 mA @ 24 Vdc and I _{out} =12 mA
HD48V...	4 mA @ 24 Vdc
HD48S...	2 mA @ 24 Vdc
Electrical connections	Screw terminal block, max 1.5 mm ² , PG9 cable gland
Connection to PC	- RS232 serial port - RS485 serial port (for HD48S...). - USB port with optional adapters
RH sensor operating conditions	-20...+80 °C -40...+150 °C (only versions with horizontal probe or probe with cable and extended range)
Instrument Temp. / RH	-20...+60 °C / 0...95 %RH
Storage temp.	-20...+80 °C
Materials	- housing: ABS - probe: PBT (TV) or Inox (TC/TO) with stainless steel grid (standard) or PTFE (option E) filter
Weight	from 120 g approx. to 900 g approx. (depending on the model)
Protection degree	IP65

Dimensions



V 1.0