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, agricolture (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

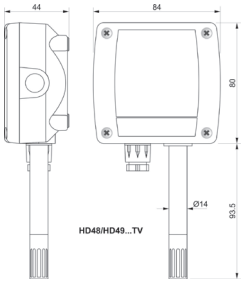
Output
- HD48... active 4...20 mA
- HD48V... 0...10 Vdc
- HD48S... RS485 Modbus-RTU

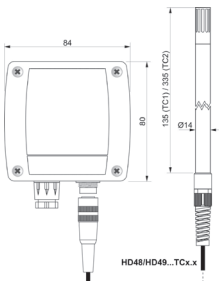
Power supply
- HD48... 24 Vac ± 10% or 18...40 Vdc
- HD48V... 24 Vac ± 10% or 18...40 Vdc
- HD48S... 12...30 Vdc

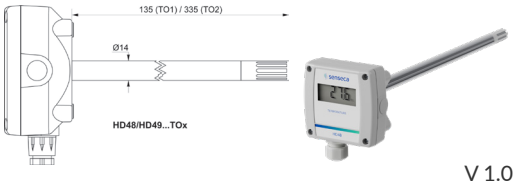
Power consumption
- HD48... 20 mA @ 24 Vdc and Iout=12 mA
- HD48V... 4 mA @ 24 Vdc
- HD48S... 2 mA @ 24 Vdc

Electrical connections	Screw terminal block, max 1.5 mm², 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







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