

HD4801T...
HD48V01T...
HD4817T...
HD48V17T...
HD4877T...
HD48V77T...

▶ [GB] Temperature,
 Relative humidity and Dew
 Point transmitters



[GB] Description

HD48.. series of transmitters measure temperature, relative humidity and dew point and provide depending on the version a current (4...20mA) or a voltage (0...10V) linear analog outputs signal for transmission to a remote display, recorder, controller or data processing unit.

The HD48...series of transmitters are designed for conditioning and ventilation applications (HVAC/BEMS) in the following sectors: pharmacy, museums, clean rooms, ventilation ducts, crowded places, canteens, auditoria, gyms or high-density farms, as well as industrial and civil sectors.

The HD48... transmitters measure relative humidity with a well proven capacitive sensor and temperature with a precision NTC sensor; the sensors in combination with an accurate electronics guarantee precise and reliable measurements in the course of time. A stainless steel 20µm filter protect the sensors against dust particles and high air velocity (other filters are available for different applications).

The transmitters are factory calibrated and no further adjustments are required. All series are available in three different versions: with horizontal probe (HD48...TO...) for duct mounting, with vertical probe (HD48...TV...) for wall mounting and with remote probe (HD48...TC...) having the probe connected to the electronics by means of a cable (2, 5, or 10 meters long). The probes can be supplied in two lengths (135mm or 335mm). **Optionally, 4-digit LCD display is available. It allows to visualize a selected quantity among those detected by the instrument (°C, °F, %RH or DP).**

Many different accessories are available for the installation: for example to fix the probe to the duct, you can use, the HD9008.31 flange, a 3/8" universal biconical connection or a PG16 metal cable gland (□10...14mm).

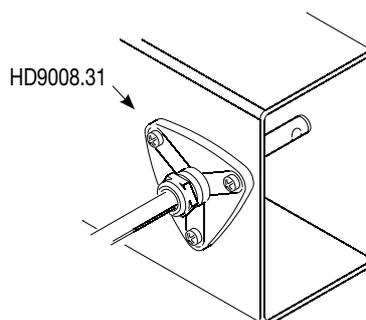


Technical specifications

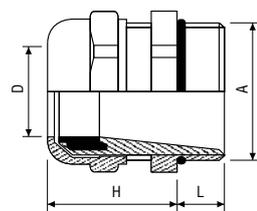
Relative humidity measurement	
Sensor	Capacitive polymer 150pF
Measuring range	5...98%RH
Measurement accuracy	±2% (15..90%RH), ±2.5% in the remaining range
Repeatability	0.4%RH
Temperature measurement	
Sensor	NTC 10kΩ
Measuring range	-20...+80°C
Measurement accuracy	±0.3°C (0..+70°C) ±0.4°C (-20..0°C, +70..+80°C)
Repeatability	0.05°C
Dew Point	
Sensor	calculated parameter from relative humidity and temperature
Measuring range	-20...+80°C DP
Measurement accuracy	±1°C DP (0..40°C, 15..90%RH) ±2°C DP 0..40°C and 90..98%RH, 5..15%RH) ±3°C DP (-20..0°C, +40..+80°C and 90..98%RH, 5..15%RH) not specified (0..5%RH)
Repeatability	0.5°C DP
Analog output	
HD4801T...models	Relative humidity output: 4...20mA (0...100%RH), R _L < 500Ω 22mA out of measuring range
HD48V01T models	Relative humidity output: 0...10Vdc (0...100%RH), R _L > 10kΩ 11Vdc out of measuring range
HD4817T...models	Relative humidity output: 4...20mA (0...100%RH), R _L < 500Ω 22mA out of measuring range
	Temperature output: 4...20mA (-20...+80°C), R _L < 500Ω 22mA out of measuring range
HD48V17T...models	Relative humidity output: 0...10Vdc (0...100%RH), R _L > 10kΩ 11Vdc out of measuring range
	Temperature output: 0...10Vdc (-20...+80°C), R _L > 10kΩ 11Vdc out of measuring range
HD4877T...models	Dew point output: 4...20mA (-20...+80°C DP), R _L < 500Ω 22mA out of measuring range
	Temperature output: 4...20mA (-20...+80°C), R _L < 500Ω 22mA out of measuring range
HD48V77T...models	Dew point output: 0...10Vdc (-20...+80°C DP), R _L > 10kΩ 11Vdc out of measuring range
	Temperature output: 0...10Vdc (-20...+80°C), R _L > 10kΩ 11Vdc out of measuring range
Power supply and connections	
Supply voltage	16...40Vdc or 24 Vac ±10%
Electrical connections	Terminal block and PG9 cable grip
General specifications	
Electronics working temperature	0...+60°C
Probe working temperature	-20...+100°C
Storage temperature	-20...+80°C
Electronics protection class	IP66
Case dimensions	80x84x44

Installation notes

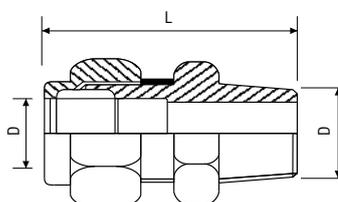
- To fix the probe inside a ventilation duct, a pipe, etc. you can use, for example, HD9008.31 flange, a PG16 metal cable gland (□10...14mm) or a 3/8" universal biconical connection.



HD9008.31 Flange



PG16 metal cable gland
D = 10...14mm
L = 6.5mm
H = 23mm
A = PG16



Universal biconical connector
L = 35mm
D = 14mm
A = 3/8"

Electrical connections

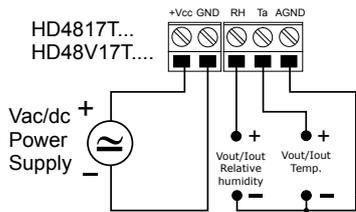
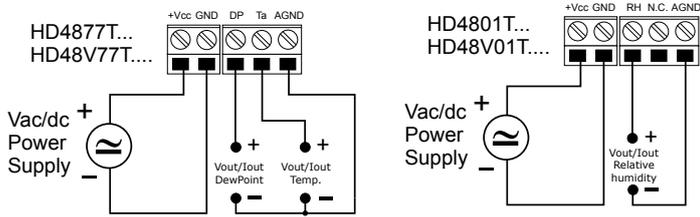
Power supply

Power the instrument at the voltage shown in the electrical specifications: power supply terminals are marked as +Vcc and GND.

Analogue output

According to the model, the output signal comes from:

- RH and AGND terminals for relative humidity transmitters,
- RH and AGND, Ta and AGND terminals for temperature / relative humidity transmitters.
- DP and AGND, Ta and AGND terminals for temperature / dew point transmitters.

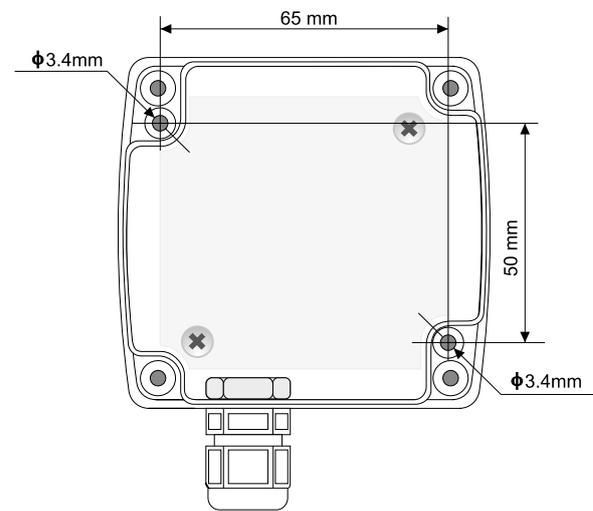
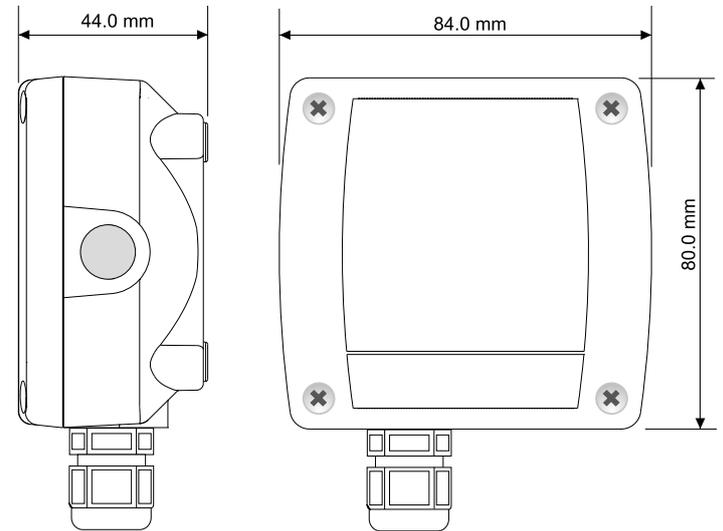


Relative humidity calibration

The instruments are supplied factory calibrated and ready to use. If it is necessary, it is possible to perform the calibration of the relative humidity sensor using the saturated salt solutions **HD75** (75% RH saturated salt solution) and **HD33** (33% RH saturated salt solution) and connecting the instrument to the PC using **HD48TCAL** kit.

HD48TCAL kit includes RS27 cable for connecting HD4801T, HD4817T and HD4877T to the PC and a CDrom for operative systems Windows 98 to XP that guides the user in the relative humidity calibration procedure.

Dimensions



Manufacture of portable and bench top instruments

Current and voltage loop transmitters

Temperature - Humidity - Pressure

Air speed - Light - Acoustics

pH - Conductivity - Dissolved Oxygen - Turbidity

Elements for weather stations - Thermal Microclimate



SIT CENTRE N°124

Temperature - Humidity - Pressure - Air speed

Photometry/Radiometry - Acoustics

CE CONFORMITY

- **Safety:** EN61000-4-2, EN61010-1 Level 3
- **Electrostatic discharge:** EN61000-4-2 Level 3
- **Electric fast transients:** EN61000-4-4 livello 3, EN61000-4-5 Level 3
- **Voltage variations:** EN61000-4-11
- **Electromagnetic interference susceptibility:** IEC1000-4-3
- **Electromagnetic interference emission:** EN55020 class B

