RH & Temperature Transmitters / Hygrostats

HVAC40... SERIES - TEMPERATURE, RELATIVE HUMIDITY & DEW POINT TRANSMITTERS & HYGROSTATS

INTRODUCTION

The HVAC40... series measures temperature, relative humidity (RH) and dew point (DP) using an interchangeable digital RH/T sensor. It is factory-calibrated, ready to use, and available with multiple probe versions for wall or duct installations, including options with 4-digit LCD display for local reading.

FEATURES

Interchangeable Digital Sensor

Stable, service-friendly sensing element for reliable RH/T measurements.

3 Parameters in One Device

Temperature, RH and Dew Point for complete monitoring.

Probe Versions for Any Installation

Wall, duct or remote probe options to match your application.

Output Flexibility by Model

Choose analog, digital, or switching output to match BMS/PLC interfaces:

- 0...10 V - Voltage output for common HVAC controllers.
- 0/4...20 mA (active) - Current output for noise-resistant long cable runs.
- 2-wire 4...20 mA (loop-powered) - Simple wiring and integration in current loops.
- RS485 Modbus-RTU - Digital integration into Modbus networks.
- ON/OFF Relay (SPDT) - Direct switching for alarms or control logic.

Local Indication (LCD + LEDs)

Optional 4-digit LCD to display measured parameters; LEDs indicate power and alarm/out-of-range conditions (depending on model).

CONFIGURATION & MEASUREMENT

Fast Setup (PC or On-board Dip Switches)

Configure by serial connection to a PC or via quick dip switches on the PCB (model dependent).

Humidity Output Selection (RH / DP)

Select the humidity measurement as Relative Humidity or Dew Point.

Preconfigured Temperature Ranges (Analog Models)

Four ready-to-use temperature ranges selectable via dip switches; custom ranges via serial commands.

Relay Models: Local Configuration via Internal Buttons

Relay versions include internal buttons for configuration through the display.

Measuring Ranges

Wide ranges for typical HVAC environments.

Resolution & Accuracy

High resolution and solid accuracy for monitoring and control.

Response Time & Stability

Fast response and low long-term drift.

REPLACEABLE DIGITAL SENSOR
Interchangeable RH/T digital sensing element for easy service and long-term reliability.

FACTORY-CALIBRATED, READY TO USE
Factory calibrated and ready for use - fast commissioning.

RH / TEMPERATURE / DEW POINT
Measures temperature, relative humidity and dew point in one device.

FLEXIBLE PROBE VERSIONS
Wall, duct or remote probe (2 m cable) versions for different installations.

INTEGRATION FREEDOM
Wide output selection: 0–10 V, 0/4–20 mA, 2-wire 4–20 mA, RS485 Modbus-RTU or ON/OFF relay.

Measurement specifications

Sensor	Interchangeable digital relative humidity and temperature sensor
Measuring range	
RH	0...100 %RH / recommended 5...80 %RH
Temperature	-20...+80 °C
Dew Point	-20...+80 °C
Resolution	
RH	0.1%
Temperature	0.1 °C
Dew Point	0.1 °C
Accuracy	
RH	Typ. ±2.5 % (5...80 %) @ T = 15...35 °C
Temperature	Typ. ±0.3 °C @ T = -20...70 °C / ±0.5 °C @ T = remaining range
Dew Point	Refer to the table in the manual
Long term drift	Typ. < 0.25 %RH/year Max. 0.03 °C/year
Response time	10 s (63% of final value with 1 m/s air flow)

Technical specifications

Output	• Active 0...20 or 4...20 mA (HVAC4017) • 0...10 Vdc (HVAC40V...) • 2-wire 4...20 mA Vdc (HVAC40A...) • RS485 Modbus-RTU (HVAC40S...) • ON/OFF relay switch with SPDT contact (HVAC40R...)
Alarm	• Front red LED: exceeding of the set measurements thresholds in HVAC40R17... models, measurement detected outside the measuring range in the other models. • Internal buzzer in HVAC40R17... models.
Power supply	• 24 Vac ± 10% or 18...40 Vdc (HVAC4017 and HVAC40V...) • 15...30 Vdc (HVAC40A...) • 12...30 Vdc (HVAC40S...) • 24 Vac ± 10% or 15...36 Vdc (HVAC40R...)
Power consumption	• 20 mA @ 24 Vdc and Iout=12 mA (HVAC4017) • 4 mA @ 24 Vdc (HVAC40V...) • equal to output signal (HVAC40A...) • 2 mA @ 24 Vdc (HVAC40S...) • < 1 W @ 24 Vdc (HVAC40R...)
Electrical connections	Screw terminal block, max 1.5 mm², PG9 cable gland
Connection to PC	RS232 serial port - it can be connected to a USB port by using cable CP27 (except Modbus versions). Modbus versions: RS485 serial port - it can be connected to a USB port by using RS48 adapter

Ordering codes

HVAC40 17

Display
Blank = without LCD (except HVAC40R17...)
L = with LCD

Type of probe
TC.2 = probe with 2 m cable
TO = horizontal probe
TV = vertical probe

Type of output
Blank = 0/4...20 mA active analog output
A = 2-wire 4...20 mA analog output
V = 0...10 V analog output
S = RS485 Modbus RTU digital output
R = ON/OFF relay switch output

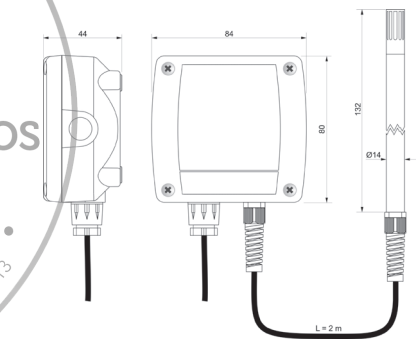
Fixing accessories and PC connecting cable must be ordered separately.

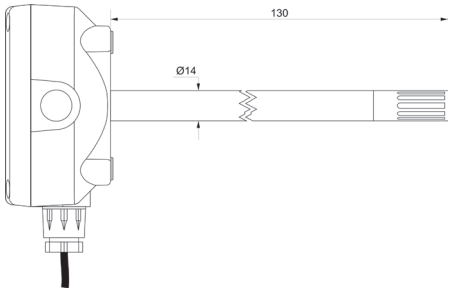
Physical specifications

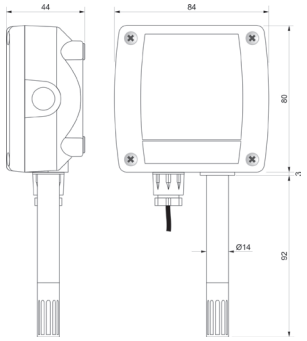
Sensor operating conditions	-20...+80 °C*. The sensor is protected from water and dust.
Instrument operating conditions	-20...+60 °C / 0...95 %RH
Storage temperature	-20...+80 °C
Materials	Housing: ABS Probe stem: PBT Probe filter: PBT and 10 µm stainless steel grid
Weight	120 g approx. (...TV models)
Protection degree	IP65

**best performance between 20...80 % RH humidity range. Long term exposure outside this range, especially at high humidity, may temporarily offset the sensor response.*

Dimensions







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senseca