



# T & RH Transmitters

## HD2717 - HD2817

TRANSMITTERS, INDICATORS, ON/OFF  
REGULATORS WITH INTERCHANGEABLE  
PROBE AND DATA LOGGING FUNCTION

### INTRODUCTION

The HD2717T... and HD2817T... series represent a reliable line of smart environmental transmitters designed for demanding industrial and HVAC applications. Combining precise measurement, easy configuration, and advanced data logging, these instruments serve as **transmitters, indicators, and ON/OFF regulators**, offering real-time monitoring and control of temperature and humidity. Whether installed in manufacturing environments, cleanrooms, ducts, or compressed air lines, both series offer versatile configurations and display options.

### FEATURES

#### Simultaneous Measurement and Calculation

Measures temperature and relative humidity, while calculating dew point, wet bulb temperature, absolute humidity, and mixing ratio.

#### Graphic Display for Real-Time Insights

The HD2817T... series features a backlit LCD showing up to three values or trend graphs simultaneously.

#### Replaceable Probes Without Downtime

The interchangeable probes can be swapped on-site without stopping operations, ensuring continuous monitoring.

#### Smart Calibration with Embedded Memory

Each probe includes a SICRAM2 module storing its calibration data, ensuring seamless replacement and accuracy.

#### Integrated Data Logging

Onboard memory allows configurable data recording intervals, with backup via lithium battery for timekeeping during power loss.

#### Versatile Connectivity and Control

Current and voltage outputs, RS232/RS485 serial ports, and optional control/alarm relays provide full integration flexibility.

### CONFIGURATION & MEASUREMENT

#### Flexible Mounting Formats

Available with integrated horizontal (S.TO), vertical (S.TV), or remote (S.TC) probe configurations to suit different setups.

#### Remote Probes for Advanced Needs

S.TC probes are available in stainless steel or PBT, moreover, the instruments support specialized probes for compressed air and duct applications.

#### Quick Setup and Power Options

Probes are factory-calibrated and ready to use. Power supply options include 24 Vac/dc or 90...240 Vac.



#### INTERCHANGEABLE PROBES

Replace the probe without interrupting the process.



#### REAL-TIME DISPLAY

View up to three values or trends on a backlit LCD (HD2817T series).



#### ACCURATE & PRE-CALIBRATED

Each probe is factory-calibrated and stores its data in an internal memory module.



#### BUILT-IN DATA LOGGING

Records measurements with configurable intervals and backup timekeeping.



#### FLEXIBLE INTEGRATION

Multiple outputs (current, voltage, RS232/RS485) and optional relays for control functions.

## Technical specifications @24 Vac and 20 °C

### INPUTS

#### Temperature

Sensor Pt100

Measuring range -50...+200 °C

#### Humidity

Measuring range 0...100 %RH

Dew Point TD -50...+100 °C

Absolute humidity 0...600 g/m<sup>3</sup>

Mixing ratio 0...2000 g/kg of dry air

Wet bulb temperature -50...+100°C

#### Accuracy of the measured physical quantities

Pt100 Temperature  $\pm 0.25$  °C

%RH  $\pm 1.5$  %RH (0...90 %RH),  
 $\pm 2.0$  %RH for remaining range, for T=15...35 °C  
 $\pm (1.5 + 1.5\%$  of the measured value) %RH for remaining temperature range

#### Accuracy of the calculated physical quantities

Accuracy of the Dew Point @T=20 °C  
 $\pm 2$  °C DP (-40...-20 °C DP)  
 $\pm 1.5$  °C DP (-20...0 °C DP)  
 $\pm 1$  °C DP (0...20 °C DP)

Response time 3 min with filter (at 20 °C and 0.5 m/s)

*Specifications reported above apply as well for S.TC2.480.2 and S.481.2 probes (for measuring humidity of the air in pipes), with the following exceptions:*

Temperature Measuring range: -40...+60 °C

Dew Point Measuring range: -40...+60 °C  
Accuracy @T = 20 °C:  $\pm 2$  °C DP (-40...0 °C DP)  
 $\pm 1$  °C DP (0...+20 °C DP)

Environmental conditions Working temperature: -40...+80 °C  
Working pressure: 0...1.6 bar (S.TC2.480.2)  
-1...8 bar (S.481.2)

### OUTPUTS

#### Communications

Type RS232C and RS485 Multidrop

Baud rate 9600 baud

57600 baud non-permanent

#### Physical Quantities

Measured Temperature, Relative Humidity

Calculated Absolute humidity, mixing ratio, dew point, wet bulb temperature

#### Analog outputs

Number 2 (HD2717T...)  
3 (HD2817T...)

Output types 4...20 mA; 0...20 mA; 0...10 Vdc; 2...10 Vdc

Load resistance Current output: 500Ω max  
Voltage output: 100kΩ min

Resolution 16 bit

Accuracy  $\pm 0.05\%$  f.s. @20 °C

#### Relay

Operating relay 2 x SPDT operating relays  
3 A / 250 Vac resistive load

Alarm relay 1 x SPST normally open  
3 A / 250 Vac resistive load

## Instrument specifications

Power supply 24 Vac/dc  $\pm 10\%$  or 90...240 Vac depending on model, 50...60 Hz  
Average consumption 3 W

#### Datalogger

Storage capacity 9000 samples in max. 256 sessions

Type of memory Circular memory

Stored parameter All the parameters and the status of the outputs are stored.

Storage interval 1, 2, 5, 10, 20, 60 s  
2 and 4 min

#### Internal clock

Type Real time with Lithium backup battery

Accuracy  $\pm 1$  min/month

#### Operating conditions

Temperature -20...+60 °C

Relative humidity 0...90 %RH non-condensing

Static operating pressure of the sensors max. 12 bar

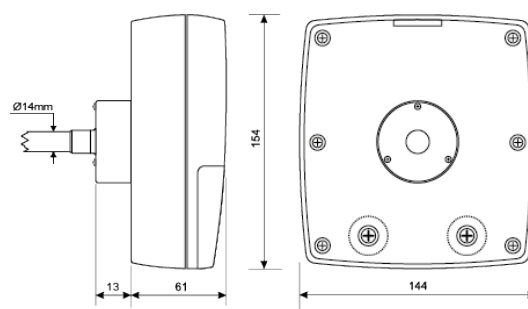
Storage temperature -30...+80 °C

Weight 600 g

Material ABS

Protection Degree IP65

## Dimensions



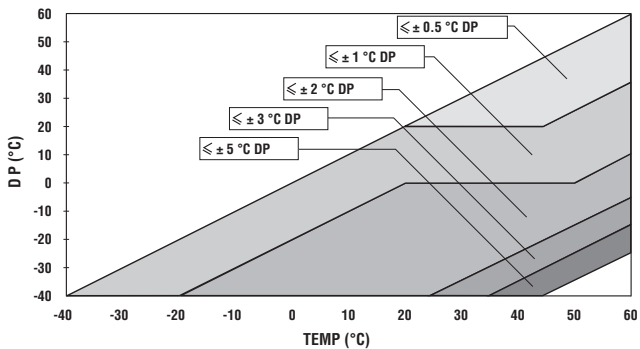
Accuracy of the calculated physical quantities

The accuracy of the calculated physical quantities depends on the accuracy of the relative humidity and temperature calibration.

Accuracy of the dew point measurement (DP) as a function of RH

		Relative Humidity (%)					
		10	30	50	70	90	100
Temperature (°C)	-20	0.92	0.49	0.30	0.22	--	--
	0	1.05	0.56	0.35	0.25	0.20	0.18
	20	1.18	0.75	0.45	0.34	0.27	0.23
	50	1.27	0.88	0.56	0.42	0.33	0.30
	100	1.30	1.17	0.76	0.58	0.47	0.42

Accuracy of the Dew Point Td (°C) in S.TC2.480.2 and in S.481.2



Accuracy of the absolute humidity (g/m³)

		Relative Humidity (%)					
		10	30	50	70	90	100
Temperature (°C)	-20	0.015	0.020	0.025	0.030	---	---
	0	0.08	0.10	0.11	0.13	0.14	0.15
	20	0.28	0.33	0.40	0.44	0.50	0.55
	50	1.36	1.56	1.74	1.92	2.13	2.19
	100	9.37	10.2	11.3	12.3	13.2	13.5

Accuracy of the mixing ratio (g/kg)

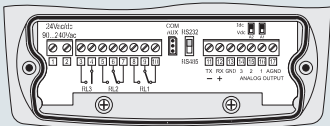
		Relative Humidity (%)					
		10	30	50	70	90	100
Temperature (°C)	-20	0.014	0.017	0.020	0.024	---	---
	0	0.06	0.08	0.09	0.10	0.12	0.13
	20	0.24	0.29	0.34	0.39	0.44	0.45
	50	1.28	1.54	1.85	2.20	2.53	2.66
	100	12.5	23.2	46.2	136.0	---	---

PC connection

The transmitters are equipped with a multistandard RS232C/RS485 port and one RS232C auxiliary serial port for connection to a PC.

The auxiliary RS232C port can be connected to a USB PC port via the CP27 cable with integrated USB/RS232C converter.

Terminal board



HD2717



HD2817



## Ordering codes

<b>HD2717</b>	.			<p><b>Power supply</b>  <b>Blank</b> = 90...240 Vac  <b>/24</b> = 24 Vac/dc</p> <p><b>Relay</b>  <b>0</b> = without relay  <b>R</b> = with relay</p> <p><b>Display</b>  <b>0</b> = without display  <b>D</b> = with custom LCD display</p> <p><b>Probes compatibility</b>  <b>T</b> = model for vertical probe or probe with cable  <b>TO</b> = model for horizontal probe</p>
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All models are supplied with DeltaLog12 software downloadable from the website. Model, power supply and type of probe have to be specified when placing the order.

HD2817	.	D	Power supply Blank = 90...240 Vac /24 = 24 Vac/dc
			Relay 0 = without relay R = with relay
			Graphic LCD display

**Probes compatibility**  
**T** = model for vertical probe or probe with cable  
**TO** = model for horizontal probe

All models are supplied with DeltaLog12 software downloadable from the website. Model, power supply and type of probe have to be specified when placing the order.

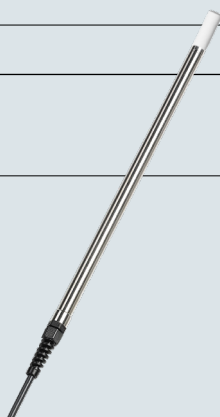
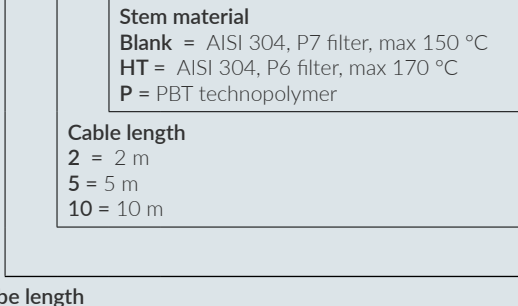
## Probes with cable

**S.TC**

**Stem material**  
**Blank** = AISI 304, P7 filter, max 150 °C  
**HT** = AISI 304, P6 filter, max 170 °C  
**P** = PBT technopolymer

**Cable length**  
**2** = 2 m  
**5** = 5 m  
**10** = 10 m

**Probe length**  
**1** = 135 mm  
**2** = 335 mm



## Vertical probe

S.TV	Stem length =130 mm. AISI304. P8 filter.
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## Horizontal probes

S.T01	Stem length =135 mm. AISI304. P7 filter.
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<b>S.TO2</b>	Stem length =335 mm. AISI304. P7 filter.
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Probes with cable for the measurement of humidity and dew point in compressed air systems or pipes

S.TC2.480.2	Cable length 2 m. 1/4" quick coupling Italian standard. AISI 304 measuring chamber.
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S.481.2	Cable length 2 m. G ½" threading. 15μ sintered AISI 316 stainless steel filter.
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