

HD29... SERIES



HD29... SERIES TEMPERATURE, HUMIDITY AND AIR SPEED TRANSMITTERS

The family of transmitters series HD29... are employed in the **control of air speed in the air conditioning and ventilation (HVAC / BEMS)** in the pharmaceutical, museum, clean rooms, ventilation ducts, industrial sectors and households, crowded places, cafeterias, auditoriums, gymnasiums or on farms with large numbers of animals.

The sensors, in combination with an accurate electronics, guarantee precise and reliable measurements over the time.

The sensor for the air speed is thin film, the probe sheath is AISI304, the filter relative humidity of 20µ wire mesh, materials that allow the use in hostile areas.

There are two possible installations: in the **TO version**, the **horizontal probe** is joined to the electronics enclosure while in the **TC version** the probe is connected to the electronics through a **cable**.



The probes are available in three different lengths. In the TO version, the duct probe is fixed to the electronics enclosure. To fix the probe to the duct, you can use the HD9008.31... flanges or an optional metal cable gland.

In the TC version, the probe together with the sensors is equipped with a cable which can be 2, 5 or 10 meters long.

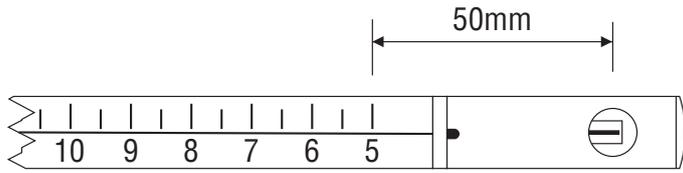
Technical specifications		Notes
Air speed measuring range	Range 1 = 0.05...1 m/s Range 2 = 0.1...2 m/s Range 3 = 0.20...10 m/s Range 4 = 0.20...20 m/s	The measuring range can be selected by dip-switch.
Air speed Accuracy	Range 1 Range 2 Range 3 Range 4	@ 50% RH and 1013 hPa
	±(0.1 m/s+3% of the measure)	
	±(0.15 m/s+3% of the measure)	
	±(0.5 m/s+3% of the measure)	
	±(0.7 m/s+3% of the measure)	
Temperature measuring range	-10...+60 °C	Models HD2937, HD29V37, HD29371, HD29V371
Temperature accuracy	±0.3 °C	
Relative Humidity measuring range	0...100 %RH	Models HD29371, HD29V371
Relative Humidity accuracy	±1.5 %RH (10...90 %RH) ±2.0% RH (in the remaining range) for T= 15...35 °C ----- ±(1.5+1.5% of the displayed value) %RH in the remaining temperature range	
Relative Humidity Output range	0...100 %RH	
Output * (according to the models)	4...20 mA 0...10 Vdc	R _L < 500 Ω R _L > 10 kΩ
Power supply	18...40 Vdc or 12...24 Vac±10%	Use a power supply of at least 500 mA
Response time (selected by jumper)	0.2 s 2.0 s	Fast Slow
Operating temp. electronics probe	0...+60 °C -30...+100 °C	
Compensation temp.	0...+80°C	
Storage temp.	-10...+70°C	
Electronics IP	IP67	
Sensor working conditions	Clean air, RH < 80%	
Case dimensions	80 x 84 x 44 mm	Without probe

* The output is mapped from 0 m/s.

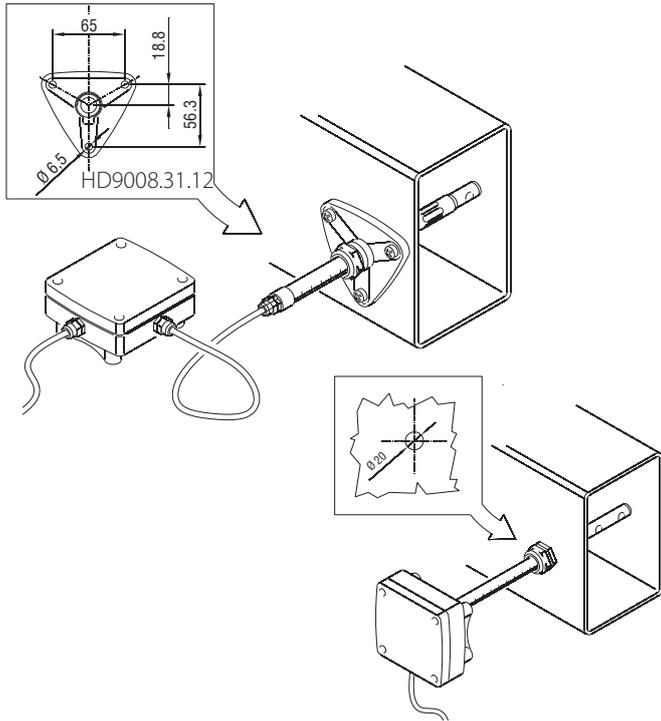
Model	Output		Measured parameters		
	4...20 mA	0...10 V	Air speed	T	RH
HD2903T...	✓		✓		
HD29V3T...		✓	✓		
HD2937T...	✓		✓	✓	
HD29V37T...		✓	✓	✓	
HD29371T...	✓		✓	✓	✓
HD29V371T...		✓	✓	✓	✓

INSTALLATION NOTES

The window of the sensor (or of the sensors) must be oriented in the direction of flow. To facilitate the proper positioning of the probe, eg. inside of a pipe, a graduated scale, engraved along the stem, indicates the depth of introduction of the window speed sensor in the channel. To properly orient the sensor to the flow, once introduced into the channel, the air speed window and line on the base of the scale are on the same axis.



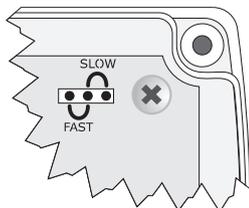
To fix the probe in a ventilation duct, pipe, etc. you can use, for example, the HD9008.31... flanges or an optional $\varnothing 12$ mm or $\varnothing 14$ mm metal cable glands ($\varnothing 12$ mm > ordering code PG16.12; $\varnothing 14$ mm > ordering code PG16).



- The transmitters are factory calibrated and no further adjustments are required. For the TC models, you need to **connect the probe with the same serial number as the transmitters** (if purchased together). The replacement of the probe requires recalibration of the instrument in line with the new probe.
- To **select the air speed output range** by using the dual dip-switch on the board, please see the chart below:

Output range	0...1 m/s	0...2 m/s	0...10 m/s	0...20 m/s
Dip-switch position				

- Dip-switch should always be at the end of its final limit in both directions.
- The jumper on the board selects an **integrated response time** in 0.2 s in the **FAST** position and in 2 s in the **SLOW** position. Please set the integration time at **SLOW** in case of turbulence, otherwise please select the **FAST** position.



ELECTRICAL CONNECTIONS

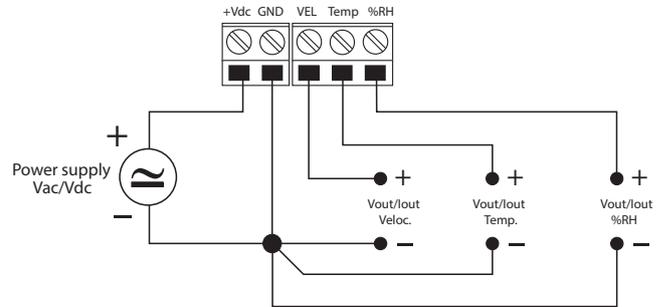
Power supply

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

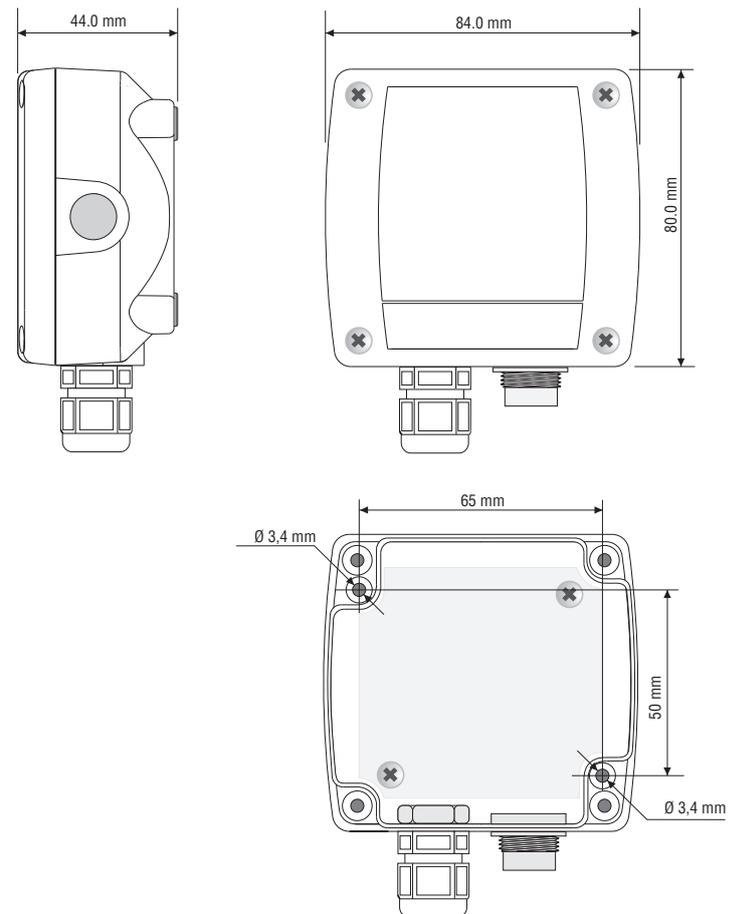
Analogue output

According to the model, the output signal comes from:

- VEL and GND terminals for air speed transmitters,
- VEL and GND, Temp and GND terminals for temperature / air speed transmitters,
- VEL and GND, Temp and GND, %RH and GND terminals for temperature / relative humidity / air speed transmitters.



DIMENSIONS



ORDERING CODES

AIR SPEED TRANSMITTERS

HD29	3	Probe type TO1 = 150 mm TO2 = 250 mm TO3 = 350 mm TC1 = 145 mm TC2 = 245 mm TC3 = 345 mm	Cable length 2 = 2 m 5 = 5 m 10 = 10 m
			Output 0 = 4...20 mA analog output V = 0...10 Vdc analog output

AIR SPEED AND TEMPERATURE TRANSMITTERS

HD29	37	Probe type TO1 = 180 mm TO2 = 275 mm TO3 = 375 mm TC1 = 175 mm TC2 = 275 mm TC3 = 375 mm	Cable length 2 = 2 m 5 = 5 m 10 = 10 m
			Output Blank = 4...20 mA analog output V = 0...10 Vdc analog output

AIR SPEED, TEMPERATURE AND RELATIVE HUMIDITY TRANSMITTERS

HD29	371	Probe type TO1 = 215 mm TO2 = 415 mm TO3 = 565 mm TC1 = 215 mm TC2 = 415 mm TC3 = 570 mm	Cable length 2 = 2 m 5 = 5 m 10 = 10 m
			Output Blank = 4...20 mA analog output V = 0...10 Vdc analog output

ACCESSORIES

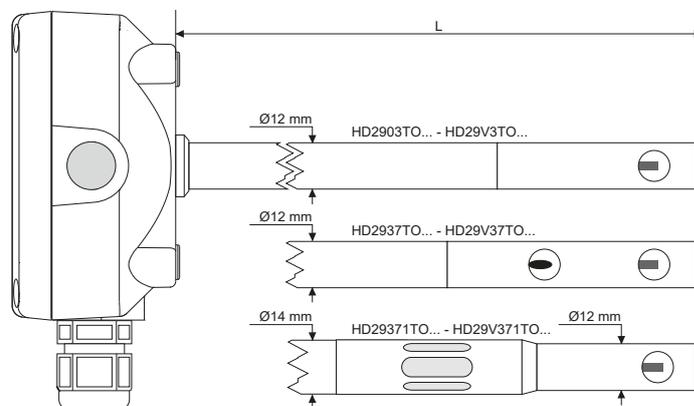
HD9008.31 : Wall flange with gland to fix the air speed and temperature probes Ø14 mm. HD29371T... HD29V371T... series.

HD9008.31.12 : Wall flange with gland to fix the air speed and temperature probes Ø12 mm. HD2903T... HD2937T... series.

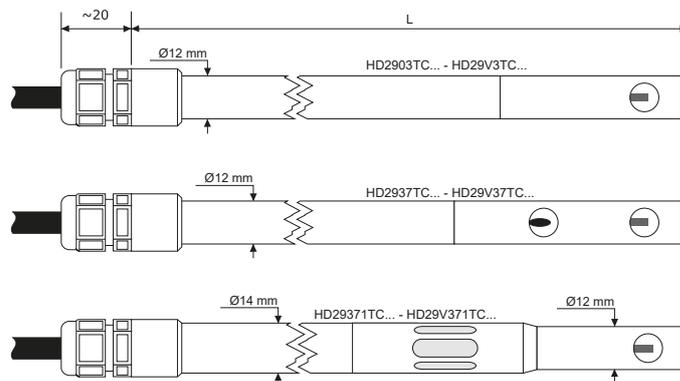
PG16.12 : Metal gland for probes Ø12 mm-, G ½" L= 8 mm thread.

PG16 : Metal gland for probes Ø14 mm, G ½" L= 8 mm thread.

TO series



TC series



WARRANTY

The manufacturer is required to respond to the “factory warranty” only in those cases provided by Legislative Decree 6 September 2005 - n. 206. Each instrument is sold after rigorous inspections; if any manufacturing defect is found, it is necessary to contact the distributor where the instrument was purchased from. During the warranty period (24 months from the date of invoice) any manufacturing defects found will be repaired free of charge. Misuse, wear, neglect, lack or inefficient maintenance as well as theft and damage during transport are excluded. Warranty does not apply if changes, tampering or unauthorized repairs are made on the product. Solutions, probes, electrodes and microphones are not guaranteed as the improper use, even for a few minutes, may cause irreparable damages. The manufacturer repairs the products that show defects of construction in accordance with the terms and conditions of warranty included in the manual of the product. For any dispute, the competent court is the Court of Padua. The Italian law and the “Convention on Contracts for the International Sales of Goods” apply

TECHNICAL INFORMATION

The quality level of our instruments is the result of the continuous product development. This may lead to differences between the information reported in the manual and the instrument you have purchased. We reserves the right to change technical specifications and dimensions to fit the product requirements without prior notice.

DISPOSAL INFORMATION



Electrical and electronic equipment marked with specific symbol in compliance with 2012/19/EU Directive must be disposed of separately from household waste. European users can hand them over to the dealer or to the manufacturer when purchasing a new electrical and electronic equipment, or to a WEEE collection point designated by local authorities. Illegal disposal is punished by law.

Disposing of electrical and electronic equipment separately from normal waste helps to preserve natural resources and allows materials to be recycled in an environmentally friendly way without risks to human health.

