

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**.



In the TO version, the duct probe is fixed to the electronics enclosure and it is available in three different lengths. To fix the probe to the duct, you can use, for example, the HD9008.31... flanges, a 3/8" universal biconical connection or the PG16... metal cable glands (Ø10...14 mm).
In the TC version, the probe together with the sensors is equipped with a cable which can be 2, 5 or 10 meters long. The probes are available in three different lengths.

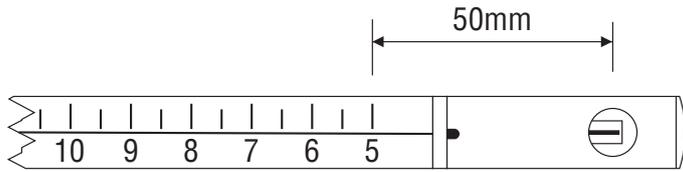
Technical specifications		Notes
Air speed measuring range	Range 1 = 0.05...1 m/s Range 2 = 0.1...2 m/s Range 3 = 0.20...10 m/s Range 4 = 0.20...20 m/s	The measuring range can be selected by dip-switch.
Air speed Accuracy	Range 1 Range 2 Range 3 Range 4	@ 50% RH and 1013 hPa
	±(0.1 m/s+3% of the measure)	
	±(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 _i < 500 Ω R _L > 10 kΩ
Power supply	18...40 Vdc or 12...24 Vac±10%	
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

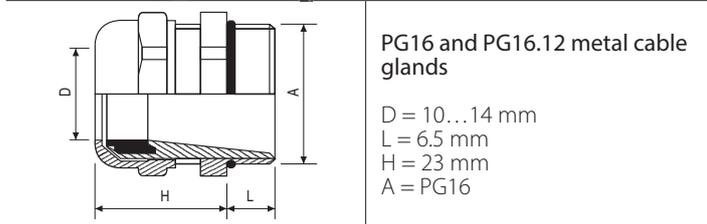
The window of the sensor (or of the sensors) must be oriented in the direction of flow. To facilitate the proper positioning of the probe, eg. inside of a pipe, a graduated scale, engraved along the stem, indicates the depth of introduction of the window speed sensor in the channel. To properly orient 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, a 3/8" universal biconical connection or the PG16... metal cable glands (Ø10...14 mm).

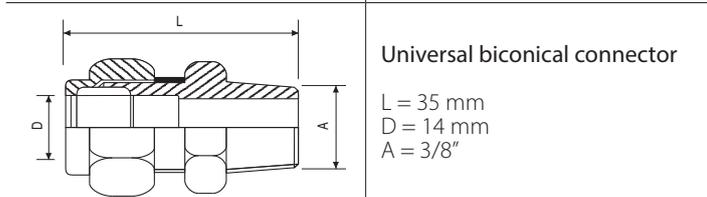


HD9008.31... flanges



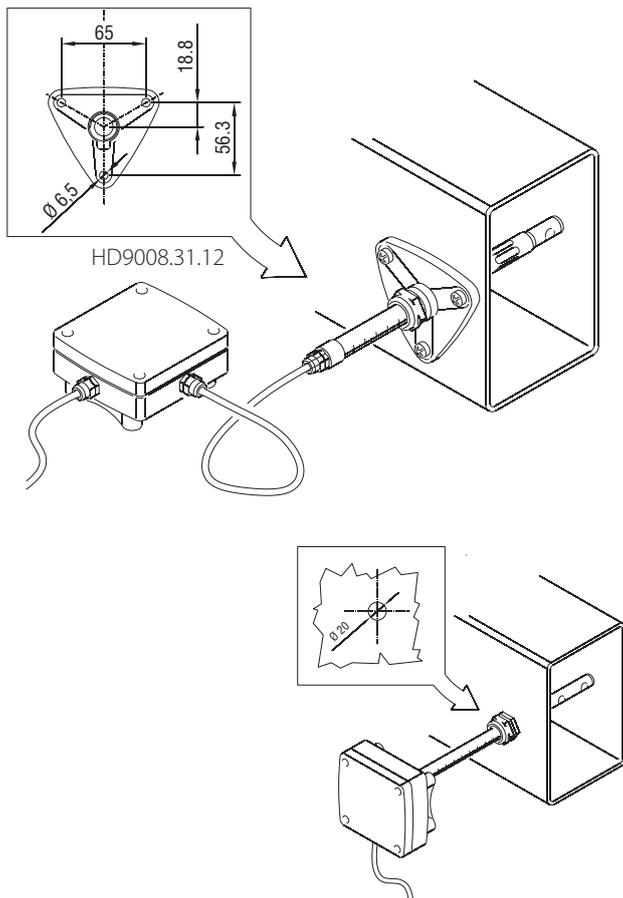
PG16 and PG16.12 metal cable glands

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



Universal biconical connector

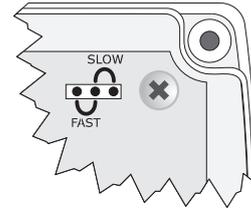
L = 35 mm
D = 14 mm
A = 3/8"



- The transmitters are factory calibrated and no further adjustments are required.
- 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

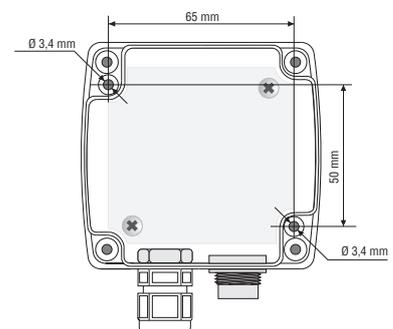
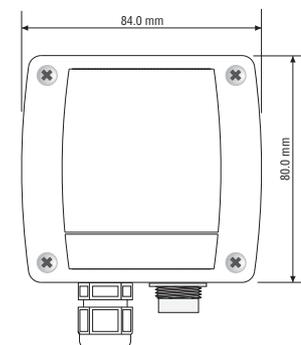
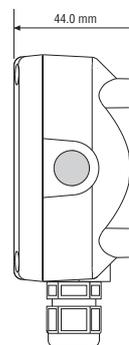
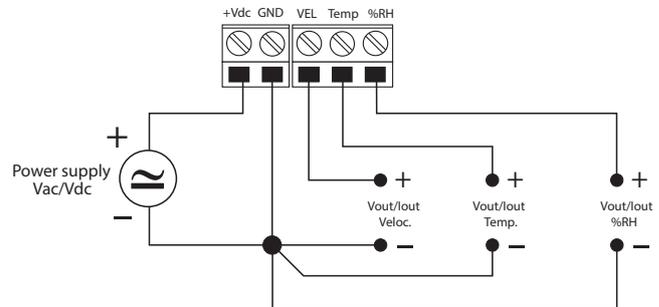
Power supply

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

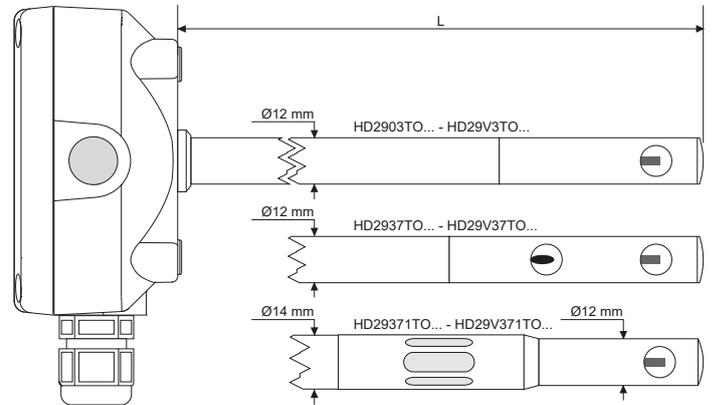
HD9008.31.12 : Wall flange with gland to fix the air speed and temperature probes Ø12 mm. HD2903T... HD2937T... series.

PG16.12 : Metal gland PG16 for probes Ø12 mm.

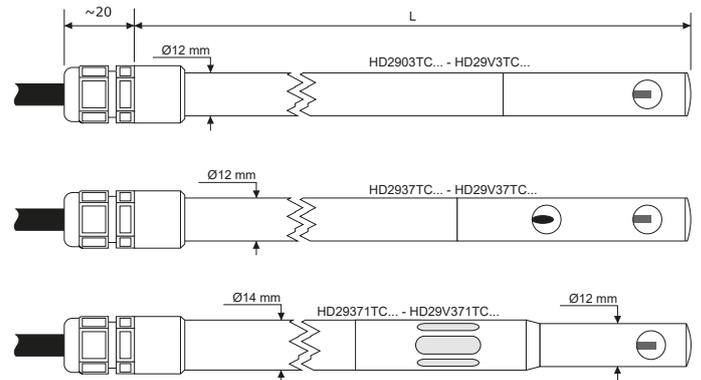
HD9008.31 : Wall flange with gland to fix the air speed and temperature probes Ø14 mm. HD29371T... HD29V371T... series.

PG16 : Metal gland PG16 for probes Ø14 mm.

TO series



TC series





DICHIARAZIONE DI CONFORMITÀ UE EU DECLARATION OF CONFORMITY

Delta Ohm S.r.L. a socio unico – Via Marconi 5 – 35030 Caselle di Selvazzano – Padova – ITALY

Documento Nr. / Mese.Anno: **5034 / 11.2019**
 Document-No. / Month. Year :

Si dichiara con la presente, in qualità di produttore e sotto la propria responsabilità esclusiva, che i seguenti prodotti sono conformi ai requisiti di protezione definiti nelle direttive del Consiglio Europeo:
 We declare as manufacturer herewith under our sole responsibility that the following products are in compliance with the protection requirements defined in the European Council directives:

Codice prodotto: **HD29x3T... / HD29x37T... / HD29x371T...**
 Product identifier :

Descrizione prodotto: **Trasmettitori di velocità dell'aria, temperatura e umidità relativa**
 Product description : **Air speed, temperature and relative humidity transmitters**

I prodotti sono conformi alle seguenti Direttive Europee:
 The products conform to following European Directives:

Direttive / Directives	Direttiva EMC / EMC Directive
2014/30/EU	Direttiva EMC / EMC Directive
2014/35/EU	Direttiva bassa tensione / Low Voltage Directive
2011/65/EU - 2015/863/EU	RoHS / RoHS

Norme armonizzate applicate o riferimento a specifiche tecniche:
 Applied harmonized standards or mentioned technical specifications:

Norme armonizzate / Harmonized standards	
EN 61010-1:2010	Requisiti di sicurezza elettrica / Electrical safety requirements
EN 61326-1:2013	Requisiti EMC / EMC requirements
EN 50581:2012	RoHS / RoHS

Il produttore è responsabile per la dichiarazione rilasciata da:
 The manufacturer is responsible for the declaration released by:

Johannes Overhues

Amministratore delegato
 Chief Executive Officer

Caselle di Selvazzano, 19/11/2019



Questa dichiarazione certifica l'accordo con la legislazione armonizzata menzionata, non costituisce tuttavia garanzia delle caratteristiche.
 This declaration certifies the agreement with the harmonization legislation mentioned, contained however no warranty of characteristics.

WARRANTY

Delta OHM 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.

Delta OHM 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. In case of discrepancies and/or inconsistencies, please write to sales@deltaohm.com. Delta OHM 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.

