



# H2

## RELATIVE HUMIDITY AND TEMPERATURE TRANSMITTER



### User manual

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### PREFACE



This manual contains the information necessary for the product to be installed correctly and also instructions for its maintenance and use; we therefore recommend that the utmost attention is paid to the following instructions and to save it.

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Whenever a failure or a malfunction of the device may cause dangerous situations for persons, thing or animals, please remember that the plant has to be equipped with additional electromechanical devices which will guarantee safety.

## 1 INSTRUMENT DESCRIPTION

### 1.1 General description

H2s are single or dual channel **relative humidity** and **temperature transmitters** for industrial applications.

Both models have a temperature sensor, the different on-board electronics means that in the single-channel model, the temperature measure is intended for reading by the user.

The transmitters are supplied already calibrated to adapt them to the customer's needs.

Versions for wall or duct mounting are available.

## 2 USAGE WARNINGS

### 2.1 Admitted use



The instrument has been projected and manufactured as a measuring and control device to be used according to EN60730-1 at altitudes operation below 2000 m.

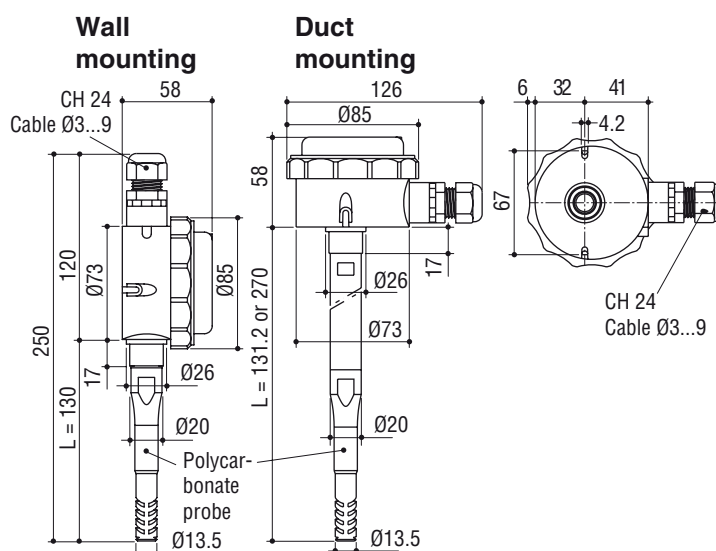
Using the instrument for applications not expressly permitted by the above mentioned rule must adopt all the necessary protective measures.

The instrument **must not be used** in dangerous environments (flammable or explosive) without adequate protections. The installer must ensure that the EMC rules are respected, also after the instrument installation, if necessary using proper filters.

## 3 INSTALLATION WARNINGS

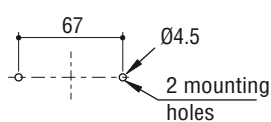
### 3.1 Dimensions [mm]

#### 3.1.1 Mechanical dimensions

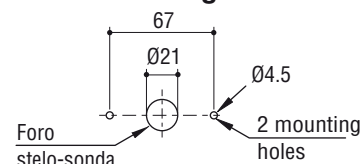


#### 3.1.2 Mounting holes

##### Wall mounting



##### Duct mounting



## 3.2 Electrical connections

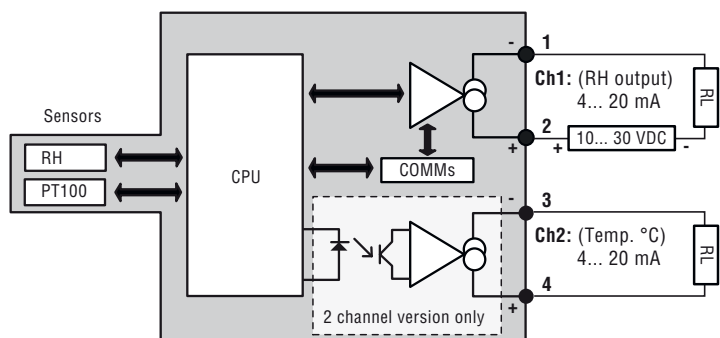
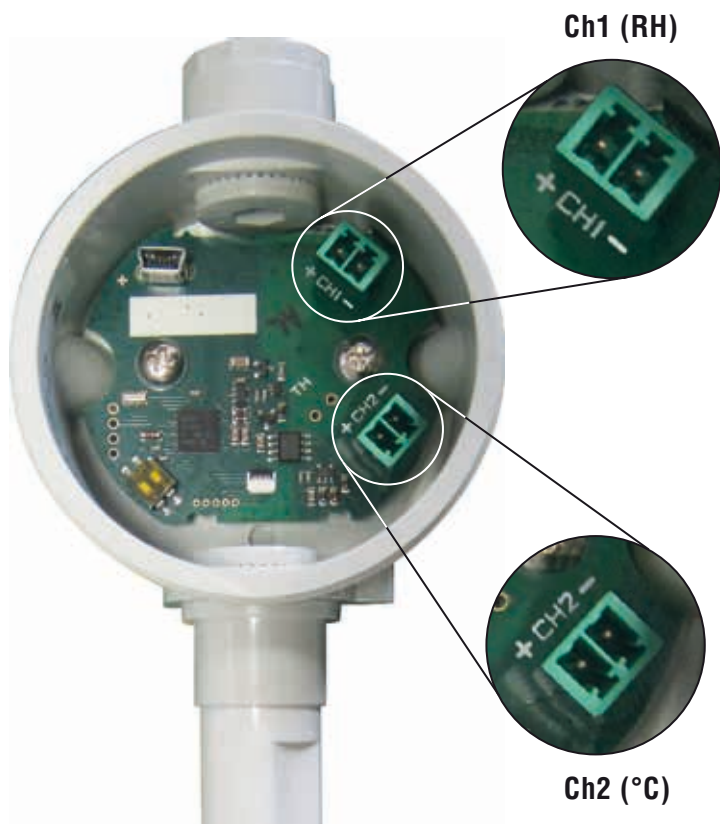
Carry out the electrical wiring by connecting only one wire to each terminal, according to the following diagram, checking that the power supply is the same as that indicated on the instrument and that the load current absorption is no higher than the maximum electricity current permitted.

It is also recommended to:

- Adequately protect the circuits connected to the instrument with devices (e.g. fuses) suitable for the circulating currents.
- Use cables with insulation appropriate to the voltages, temperatures and operating conditions.
- Make sure that the input sensors cables are kept away from supply cables and other power cables in order to avoid the induction of electromagnetic disturbances.

If shielded cables are used for wiring, it is recommended to connect the protective shield to earth at one side only.

### 3.2.1 Electrical wiring

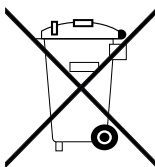


## 4 PROBLEMS AND MAINTENANCE

### 4.1 Cleaning

We recommend cleaning of the instrument only with a slightly wet cloth using water and not abrasive cleaners or solvents.

### 4.2 Disposal



The appliance (or the product) must be disposed of separately in compliance with the local standards in force on waste disposal.

## 5 WARRANTY AND REPAIRS

The instrument is under warranty against manufacturing flaws or faulty material, that are found within 18 months from delivery date. The warranty is limited to repairs or to the replacement of the instrument.

The eventual opening of the housing, the violation of the instrument or the improper use and installation of the product will bring about the immediate withdrawal of the warranty effects.

In the event of a faulty instrument, either within the period of warranty, or further to its expiry, please contact our sales department to obtain authorisation for sending the instrument to our company.

The faulty product must be shipped to Ascon Tecnologic with a detailed description of the faults found, without any fees or charge for Ascon Tecnologic, except in the event of alternative agreements.

## 6 TECHNICAL DATA

### 6.1 Input characteristics

**RH Range:** 0... 100% RH;

**RH Accuracy:** Typical:  $\pm 3\%$  ( $\pm 5\%$  max.) between 10... 90%;

**Temperature Range:** -30... 100°C;

**Temperature Accuracy:**  $\pm 0.5^\circ\text{C}$  between -20... 80°C;

**Dew point range:** 0... 50°C;

**Delta temperature ( $\Delta T$ ):** Ambient temperature – dew point temperature;

**Thermistor:** Optional discrete thermistor to replace second 4... 20 mA channel (Single channel version only). Thermistor to be read directly by user. 10 K NTC, data on request.

### 6.2 Output characteristics (Ch1, Ch2)

**Output type:** 2 wire (4... 20 mA) current loop;

**Output Range:** 4... 20 mA;

**Connection type:** screw terminal type 4 connections in 2 distinct parts;

**Max. Output:**  $> 20.5\text{ mA}$ ;

**Min. Output:**  $< 3.9\text{ mA}$ ;

**Accuracy:** (mA output / 2000) or  $5\mu\text{A}$ , whichever is the greater;

**Current loop effect:**  $0.2\mu\text{A/V}$ ;

**Thermal drift:**  $0.1\mu\text{A}/^\circ\text{C}$ ;

**Max. output load:**  $[(V_{\text{supply}} - 10)/20]\text{ k}\Omega$  (es:  $700\Omega$  @  $24\text{ V}$ );

**Note:** CH1 = main supply channel and must be powered, CH2 acts as slave to CH1.

### 6.3 General characteristics

- Sampling time: 3 seconds;  
Start-up time: < 10 s, I out < 4 mA during start-up;  
Power supply: 10... 30 VDC;  
Operating temperature:  
Electronics housing: -20... 70°C;  
Probe: -30... 100°C.
- Approvals:
- EMC - BS EN 61326:**  
Electrical equipment for measurement control and laboratory use.  
*ANNEX A*  
Immunity test requirements for equipment intended for use in industrial locations.  
*ANNEX F*  
Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning.
- IEC 61000-4-2:** Electrostatic discharge;  
**IEC 61000-4-3:** EM fields;  
**IEC 61000-4-4:** Transient Burst (output);  
**IEC 61000-4-5:** Surge (output).

 The required configuration must be specified at order time. If the range is not specified, the transmitter is shipped with default values:  
CH1: 0 ... 100% RH (error signal: 21.5 mA);  
CH2: 0 ... 50 ° C (error signal: 21.5 mA).

### 7 ORDER CODE

|                                                    |    |                                                                                                            |  |  |  |  |
|----------------------------------------------------|----|------------------------------------------------------------------------------------------------------------|--|--|--|--|
| MODEL                                              |    |                                                                                                            |  |  |  |  |
| H2 = Relative Humidity and Temperature Transmitter |    |                                                                                                            |  |  |  |  |
| H2                                                 | a: | CASE                                                                                                       |  |  |  |  |
|                                                    |    | D = Duct mounting<br>W = Wall mounting                                                                     |  |  |  |  |
|                                                    | b: | CHANNEL no.                                                                                                |  |  |  |  |
|                                                    |    | H- = 1 Channel (single)<br>HP = 2 Channels (double)                                                        |  |  |  |  |
|                                                    | c: | PORBE LENGHT (DUCT ONLY)                                                                                   |  |  |  |  |
|                                                    |    | 01 = 150 mm<br>02 = 250 mm<br>-- = Wall mounting standard (132.80 mm)                                      |  |  |  |  |
|                                                    | d: | FILTER                                                                                                     |  |  |  |  |
|                                                    |    | 0 = Not present<br>R = Stainless steel sintered filter                                                     |  |  |  |  |
|                                                    | e: | TEMPERATURE RANGE                                                                                          |  |  |  |  |
|                                                    |    | 0 = Not calibrated<br>1 = -30... +70°C<br>2 = -20... +30°C<br>3 = 0... +50°C (standard)<br>4 = 0... +100°C |  |  |  |  |
|                                                    |    |                                                                                                            |  |  |  |  |

H2 - a b c d e

