

## HUMIDITY TRANSMITTER HMD60U

## HUMIDITY AND TEMPERATURE TRANSMITTER HMD60Y

### MOUNTING

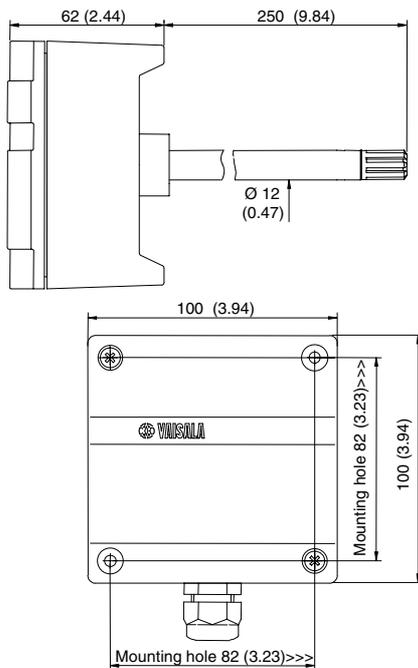


Figure 1 Dimensions of the HMD60U/Y

The HMD60U/Y humidity and temperature transmitters are two-wire transmitters. They are duct mounted, and the electronics can be disconnected without dismantling the installation.

Mount the transmitter with two screws. Place the drilling template on the duct surface and drill the holes as indicated. Remember to drill an additional hole for calibration purposes. The calibration can be conveniently performed on site with the HMI41 or HM70 portable indicator equipped with an appropriate probe and optional calibration cable.

### GROUNDING

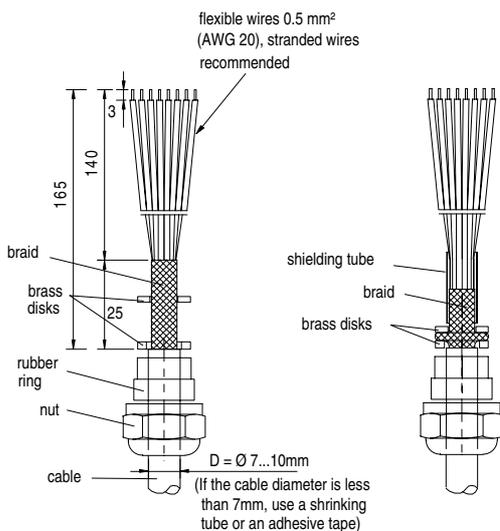
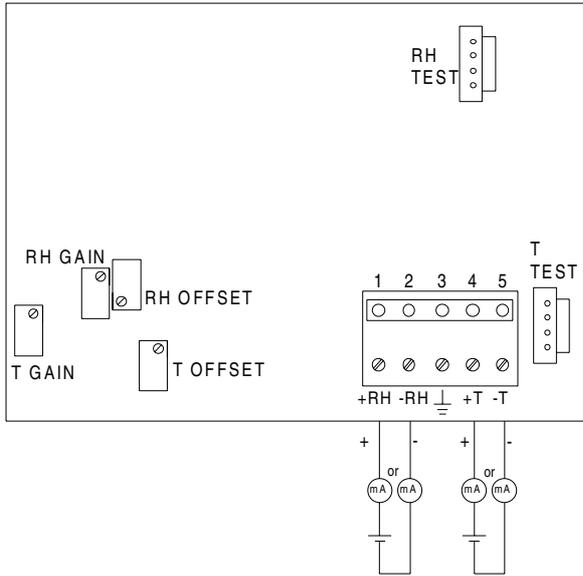


Figure 2 Signal cable grounding with bushing 18941HM

Open the lid and mount the cable bushing set 18941HM. Do the grounding according to Figure 2. When connecting the signal cable to the transmitter housing, fold the cable braid between the brass disk in order to achieve the best EMC performance. **Do not leave the bare shield of the connected wires so that it can shortcircuit the electronics!**

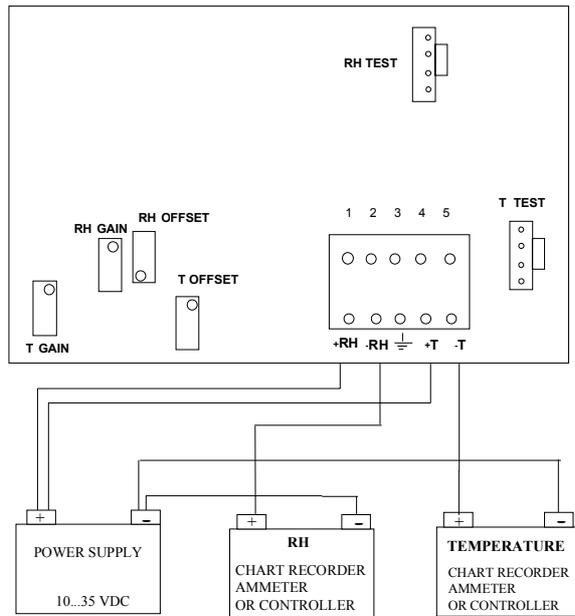
**ELECTRICAL CONNECTIONS**



*Figure 3a. Electrical connections.*

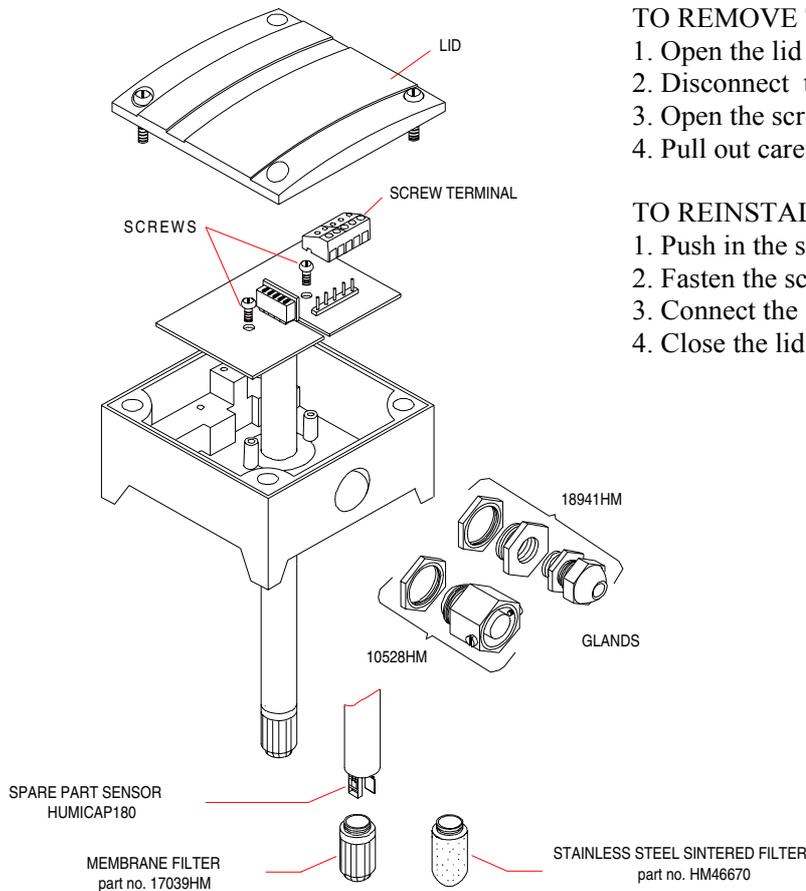
Signal cables are connected to a removeable 5-pole screw connector. Make the connections according to Figure 3a above. RH test and T test connectors are used with the HMI41 or HM70 indicator equipped with an appropriate probe and optional calibration cable.

Figure 3b shows the same connections in alternative way.



*Figure 3b. Electrical connections.*

## ELECTRONICS



### TO REMOVE THE SENSOR HEAD:

1. Open the lid
2. Disconnect the screw terminal
3. Open the screws (2 pcs)
4. Pull out carefully

### TO REINSTALL THE SENSOR HEAD:

1. Push in the sensor head
2. Fasten the screws
3. Connect the screw terminal
4. Close the lid

*Electronics (can be disconnected), accessories, spare parts*

## ONE-POINT RH-CALIBRATION

The accuracy is recommended to be checked at least once a year; the interval depends on the operating conditions and the required accuracy of the measurement. The transmitter calibration can be conveniently checked with the HMI41 or HM70 indicator equipped with an appropriate probe and optional calibration cable. If adjustment is needed, use the one-point calibration potentiometer. If you prefer to calibrate the HMD60U/Y transmitters against saturated salt solutions, use LiCl (11 %RH) and NaCl (75 %RH) solutions.

## REPLACEMENT OF THE HUMICAP SENSOR AND THE FILTER

Remove the damaged sensor and insert a new one. Recalibrate the transmitter. Replace a dirty filter (membrane or sintered) to ensure a maximum lifetime and a fast response for the sensor. Do not attempt to clean the filter.

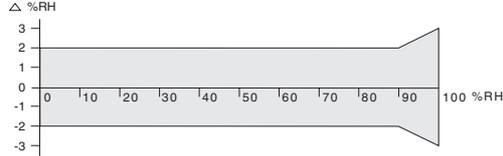
## TECHNICAL DATA

### Relative humidity

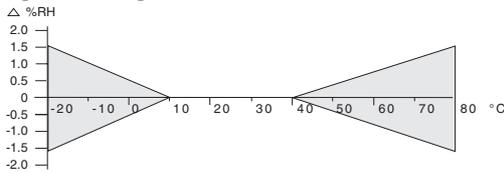
Measurement range 0...100 %RH

Output signal

Accuracy at +20 °C



Temperature dependence



Humidity sensor HUMICAP®180

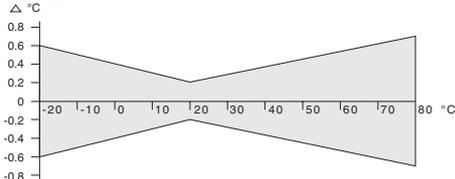
Response time (90%)

at 20 °C in still air 15 s with membrane filter

### Temperature (Y model only)

Measurement range -20...+80 °C

Accuracy



Linearity better than 0.1 °C

Temperature sensor Pt 1000 IEC 751 class B

### General

Supply voltage 10...35 VDC ( $R_L = 0\Omega$ )

20...35 VDC ( $R_L = 500\Omega$ )

Output signal 4...20 mA

Operating temperature range:

electronics -5...+55 °C

sensor head -40...+80 °C

Storage temperature range -40...+80 °C

Housing:

sensor head stainless steel  
electronics housing cast aluminium

Cable lead-through:

bushing for 7...10 mm (PG9)  
cable (housing IP65 /  
NEMA 4),  
part no. 18941HM  
or armoured cable glands part no. 10528HM

Sensor protection:  
standard

membrane filter  
(part no. DRW010525)

option

stainless steel sintered  
filter

(part no. HM46670)

Connections

screw terminals

0.5...1.5 mm<sup>2</sup>

### Electromagnetic compatibility

The emission and immunity tests have been performed according to standard EN 61326-1:1997 + Am 1:1998, Electrical equipment for measurement, control and laboratory use- EMC requirements; Light environment.

#### Emissions:

##### Test

Radiated  
interference

Setup according to Performance

CISPR16

class B

#### Immunity:

##### Test

Electrostatic  
discharge

Setup according to

EN/IEC 61000-4-2

Electrical fast  
transients

EN/IEC 61000-4-4

RF-radiated  
fields

EN/IEC 61000-4-3

\*GSM-field  
immunity

ENV50204:1995

criteria A

(\*additional test)



### GUARANTEE

Vaisala issues a guarantee for the material and workmanship of this product under normal operating conditions for one year from the date of delivery. Exceptional operating conditions, damage due to careless handling or misapplication will void the guarantee.