

- **HRG 40:** Hygrometer
- **HRG 40/T:** Thermo-hygrometer
accuracy +/- 2% RH , +/-0.4°C from 5 to 40°C
- **HRG 40L:** Low cost version
accuracy +/- 3.5% RH , +/-0.5°C to 25°C
- **HRG 40 /A:** Version with display
10000 pts LCD
- **Use in hard environment**
- **Protection rating IP65**



The HRG40 are air duct thermo-hygrometers, with robust conception. They are adapted for hard environment using. Their fully digital concept (included sensor) provide a high performance and stability measurement at long time.

Functionality:

The humidity transmitter HRG40 allows to measure relative humidity rate and provide this information by 4...20mA loop powered output signal. The HRG40/T version has a second insulated current loop for the temperature information.

General characteristics:

- cast aluminium box with epoxy coating
- closing by clip or screw, protection rating IP54 or IP65
- stainless steel 316 (d=13.5mm) dipping pipe
- connecting by screw terminals, 2.5mm² maxi output by 1 or 2 cable gland (temperature option)
- mechanical connection to process:
sliding connector 1/2" taper gaz,
pressure holding > 2 bars
- 9 to 36 Vdc loop powered power supply (2 insulated loops)
- protection against reverse polarity
- high burn out value (22mA) on sensor breaking,
- programmable response time,
- adjustment of offset measure possible,
- possibility to unplug the sensitive element.

Display: (HRG 40/A option)

- 4 digit LCD (STN), wide temperature range, 10000 points resolution.

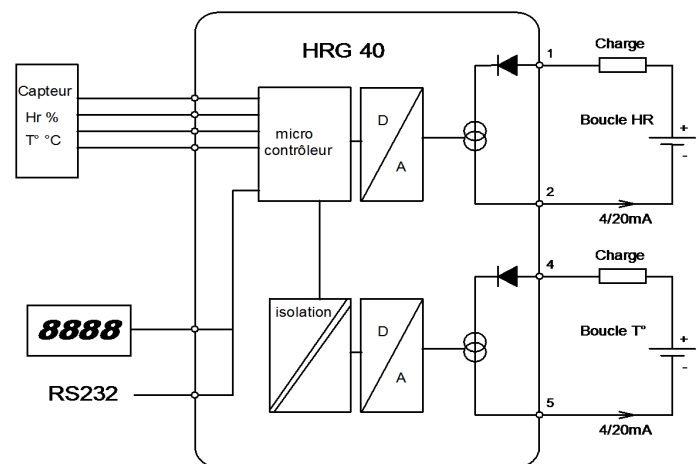
Test - Qualification:

- High operating life, about 1000 hours, in extreme environment, temperature up to 60°C, humidity up to 93%
- Resistance to immersion in water at 80°C for about 160 hours.
- Resistance to acid vapours at 75000 ppm for nitric, sulphuric and hydrochloric acids.
- Salt atmosphere resistance
- Low recovery time 10 seconds after 150 hours of condensation,
- Humidity hysteresis +/-1.5%.
- Long term reliability 0.5 % / years.
- Linearity better than 2% on 10% to 90% RH scale.

Maintenance:

The replacement of a dirty filter ensure a maximum life time and a fast response of the sensor. Do not try to clean the filter or the sensor.

Synoptic:



Version and order code:

Standard version: HRG40 :1 4...20mA output (HR)

option /T : + 4...20mA output (T°)
/A : + LCD 4 digits display
L : Low cost version

Options are cumulative.

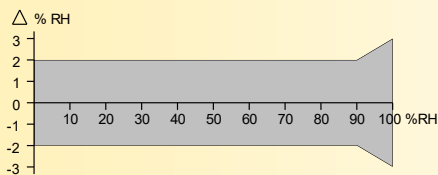
MEASURE

Relative humidity:

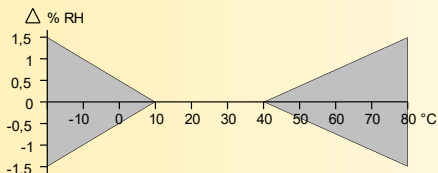
Measure range

0 ... 100 % HR

Accuracy



Temperature influence



Response time (90 %)

at 20 °C in still air

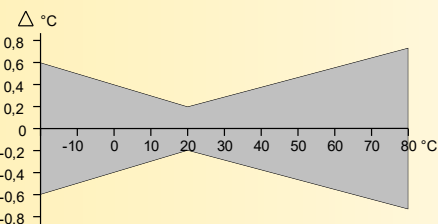
30 s with filter

Temperature (HRG40/T):

Measure range:

- 20 à +80 °C

Accuracy



POWER SUPPLY / OUTPUT

9 to 36 Vdc (in loop powered)

TYPE

RANGE

ACCURACY

Current

4 / 20 mA

± 0.01 mA (10bits resolution)

Power supply influence:

0.002 % / V

Load influence:

0.004 % / 100 Ohms

Load under 24Vdc 750 Ohms

ENVIRONMENT

Operating temperature

-20 to 60 °C

Storage temperature

-20 to 85 °C

Relative humidity

100 % not condensed

Protection

IP65

Weight

~ 600 g

Electromagnetic compatibility 2004/108/CE / Low Voltage Directive 2006/95/EC

Immunity standard for industrial environments
EN 61000-6-2Emission standard for industrial environments
EN 61000-6-4

EN 61000-4-2 ESD

EN 61000-4-8 AC MF

EN 55011

EN 61000-4-3 RF

EN 61000-4-9 pulse MF

group 1

EN 61000-4-4 EFT

EN 61000-4-11 AC dips

class A

EN 61000-4-5 CWG

EN 61000-4-12 ring wave

EN 61000-4-6 RF

EN 61000-4-29 DC dips



WIRING AND OUTLINE DIMENSIONS:

