

• **SHL18-mA: Hygrometer**
 4...20mA 2-wire current loop output

• **SHL18-v: Hygrometer**
 0...10V voltage output

• **SHL18T-v: Thermo-hygrometer**
 two 0...10V voltage outputs

• **Application:**

*Humidity and temperature in room measurement,
 Humidity and temperature in air duct measurement,
 Humidity and temperature measurement in oven or sterile room,
 Mounting with flange or "P" shape clamp*



Thermo-hygrometer for ambient or air duct measurement in harsh environment conditions (dirty atmosphere). The measure concept, fully digital, provide a excellent repeatability and a great long-term stability suitable for low cost applications.

Description:

Hygrometric probe for measure of ambient relative humidity and provide an proportional analog output signal (0...10V or 4...20mA). In option the device can have a temperature measure with a second analog output signal 0...10V.

General characteristics:

- Body of probe in 316L stainless steel, 17.2 mm diameter, IP54 (Length 70 mm without cable gland and filter).
- Sensitive element protected by a sintered brass tip
- Mounting with clamp or sliding flange (for air duct)
- 0.5mm² shielded output cable. 2m length (other length on request)
- 24Vdc rating power supply
- Reverse polarity protection
- Conformal coating.

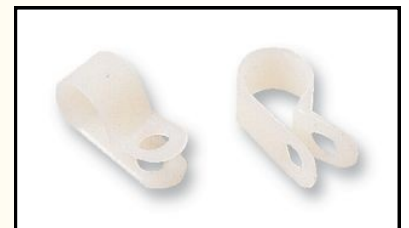
Implementation / maintenance :

- install the probe in air flow to improve the response time
- Avoid the near of walls or heating elements that could disturb the measurement. Do not expose directly to rain or sun
- In dusty environment, clean the filter after remove it with compressed air. Do not touch the sensitive element.

Tests / qualifications :

Excellent life time: around 1000 hrs in extreme environment , temperature 60°C, 93% humidity.
 Resistance to immersion in water with 80°C temperature, around 160hrs.
 Resistance to nitric, sulphuric and hydrochloric acids, within the limit of 75000 ppm.
 Resistance to saline environments.
 Recovery time of around 10s after 150 hrs of condensation, (response of measure element out off filter).
 Humidity hysteresis +/-1.5%. Long term stability : 0.5 % / years.
 Linearity greater than 2% in the range 10% to 90% RH.

Mounting : polyamide clamp (standard)



Mounting : sliding JPC type flange (for air duct or through-panel mounting)



Version and order code:

[Request a quote](#)

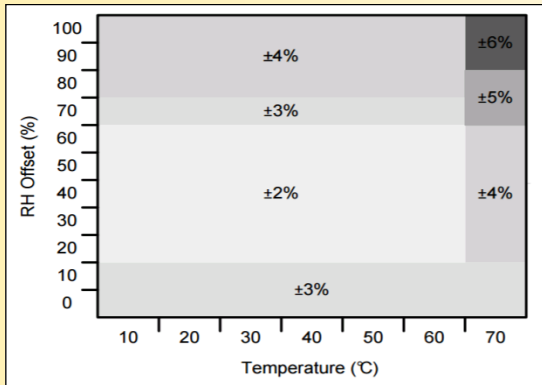
- SHL18-mA :** Hygrometer, output: 4...20mA / 0....100% RH
- SHL18-v :** Hygrometer, output: 0...10V / 0....100% RH
- SHL18T-v :** Thermo-Hygrometer, 2 outputs:
 Humidity: 0...10V / 0....100% RH
 Temperature: 0...10V / -20....+80°C
 Temperature measure range optional 0...10V / -40....+80°C
 Temperature measure range optional 0...10V / 0....+100°C
- option /JPC : air duct mounting flange
- option /L : cable length to be defined (2m standard)

INPUT

Humidity:

Measurement range 0 ... 100 % RH

Accuracy :

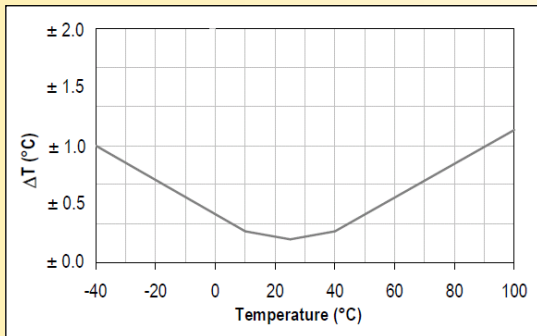


Temperature:

Measurement range: -20 ... +80°C (standard),

Optional range : -40 ... +80°C or 0 ... 100°C

Accuracy :



Response time RH and T° 15 second typical (63%)

Repeatability +/- 0.1% ; +/- 0.1°C

Linearity < 0.2 %

Hysteresis +/- 1% RH

Long term stability +/- 0.5% /year ; +/- 0.04°C /year

POWER SUPPLY

Rating voltage: 24 Vdc (18..32V)

consumption: 2 mA @ 24Vdc SHL18-v version

SORTIE (10bits resolution)

SHL18-v	RANGE	ACCURACY
Humidity	0...10 V	+/- 0.02 V
temperature	0...10 V	+/- 0.02 V

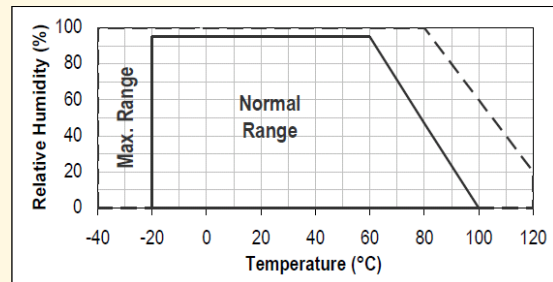
SHL18-mA

Humidity	4...20 mA	+/- 0.01 mA
power supply influence:		0.002 % / V
Load influence:		0.004 % / 100 Ohms
Max load (24Vdc)	750 Ohms	

ENVIRONMENT

Operating temperature	-40 to +80 °C
Storage temperature	-40 to +85 °C
humidity	100 %
weight	~ 100 g
Protection	IP5x

Operating conditions:



Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
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:

