

Relative Humidity Probe with Remote Head**HP300/HP300T**

Data Sheet Issue 2 (Feb 2019)

Function: The HP300 probe is a wall mounting Relative Humidity probe with a remote interchangeable head. The remote head is housed in a plastic polycarbonate enclosure with the sensor supply and further signal conditioning housed in a DIN Rail Mounting enclosure. The relative humidity sensor is protected by a polypropylene cage as standard but can be fitted with a sintered bronze guard for greater protection.

Application: The HP300 probe is ideally suited for measuring relative humidity in areas where the operating temperature may exceed that suitable for the electronics, i.e. below -10°C or above 65°C , or, where the environment requires the head to be cleaned on a regular basis.



Option: The HP300T is a variant with a 3 wire PT100 in the head but with no conditioning in the HP300 SSCU. The cable will include wiring for the PT100 and if you need conditioning for this please see the BM303 (DC powered) or BD300 (AC powered) data sheets.

SPECIFICATIONS

Please note that the following are typical standard output ranges. We will manufacture instruments to cater for other output ranges within certain limitations. Please contact our internal sales department for further clarification.

The HP300 probe comprises two parts. The HP300 SSCU is the DIN rail mounting Supply and Signal Conditioning Unit and the HP300 RmtHd is the interchangeable Remote Head.

As the sensor used has a precision voltage output the heads are interchangeable.

HP300 SSCU (Supply and Signal Conditioning Unit)

Supply
115/230 Volt AC $\pm 15\%$ 50/60 Hz

Power Required
3 Watts maximum

OUTPUTS:
Sensor Supply
+5 Volt DC

RH (0 to 100%) Analogue Output DC Current
0 to 10mA into 10 to 2000 ohms
4 to 20mA into 10 to 1000 ohms
Other ranges as required
Minimum span 1mA
Maximum span 20mA

DC Voltage
0 to 1 Volt DC into 100 ohms min
0 to 10 Volt DC into 1K ohm min
1 to 5 Volt DC into 500 ohms min
Other ranges as required
Minimum span 1 Volt DC
Maximum span 10 Volt DC

HP300/HP300T RmtHd (Remote Head)

Supply
4 to 9 Volt dc
200 μA at 5 Volt dc

OUTPUTS:

Analogue Output
(Variable dependent upon supply voltage)
0.8 to 3.9 Volt dc @ 25°C representing 0 to 100% RH at 5 Volt supply

Interchangeability

The remote head is attached to the Supply and Signal Conditioning Unit by means of a 1 metre cable. This is terminated at the SSCU end with pins suitable for a screw terminal block and at the RmtHd end with a plug and captive screw.

GENERAL:

RH Measuring Range
0 to 98% RH

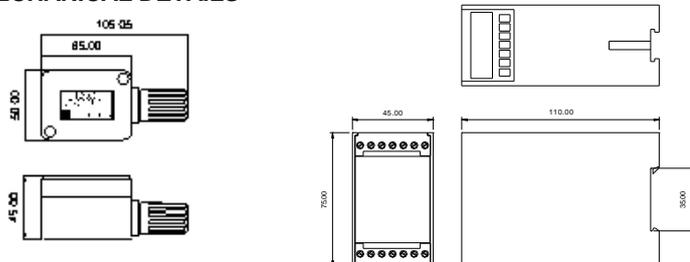
Accuracy
Relative Humidity: $\pm 3.5\%$ for 0 to 95% RH non-condensing

Operating Temperature Range
HP300 SSCU: -10 to $+65^{\circ}\text{C}$
HP300 RmtHd: -40 to $+85^{\circ}\text{C}$

Storage Temperature Range
HP300 SSCU: -20 to $+70^{\circ}\text{C}$
HP300 RmtHd: -40 to $+90^{\circ}\text{C}$

Operating/Storage Humidity Range
0 to 95% RH non-condensing

Weight
HP300 SSCU including 1 metre cable 350 gms
HP300 RmtHd 82 gms

MECHANICAL DETAILS**TERMINATION DETAILS**

Terminal
1 +5 Volt Sensor Supply
2 Sensor Output +ve
3 Sensor Output -ve
4 Unused
5 Unused
6 Unused
7 Unused

HP300 SSCU

Terminal
8 Output -ve
9 Output +ve
10 Unused
11 Unused
12 230 Volt AC Supply
13 115 Volt AC Supply
14 Neutral Supply

ORDERING DETAILS

- Specify probe type required; i.e. HP300T
- Specify RH output type and range required, i.e. 4 to 20mA
- Specify if Sintered Bronze Guard required

CABLE WIRING DETAILS

Blue – RH Sensor +5 Volt
Red – RH Sensor output +ve
Green – RH Sensor output -ve } If Fitted
White – PT100 +ve leg } HP300T
Black / Yellow – PT100 -ve legs } only