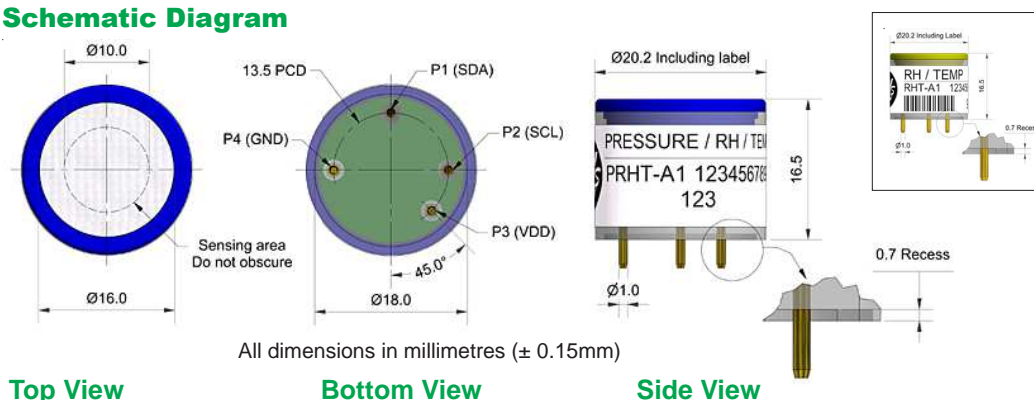




# PRHT-A1 and RHT-A1 Pressure and Humidity Sensors

**Figure 1 Schematic Diagram**



Top View

Bottom View

Side View

All dimensions in millimetres ( $\pm 0.15\text{mm}$ )

When measuring air quality, gas, particle and VOC sensors must be compensated correctly for temperature and relative humidity; PID and NDIR sensors also require pressure correction.

These sensors provide a simple digital solution for those environmental measurements and can be located next to the gas sensors - an important solution to an air quality problem.

The RHT-A1 measures both temperature and relative humidity; the PRHT-A1 measures temperature and relative humidity, plus barometric (absolute) pressure. Both sensors provide a digital, corrected output via an I2C interface, direct to your microprocessor.

The PRHT-A1 and RHT-A1 solve three requirements when measuring air quality:

1. Temperature and humidity measurement sensors must be kept away from heat sources
2. Temperature and relative humidity sensors should be next to the sensors to be compensated
3. The humidity sensor should respond as fast as the gas sensors

## PERFORMANCE

Temperature error	$^{\circ}\text{C}$	$\pm 0.2$
RH error	%RH	$\pm 2$
Pressure error max	hPa/ mbar	$\pm 4$
Pressure error typical	hPa/ mbar (constant T)	$\pm 0.5$
Pressure error typical	hPa/ mbar ( $-10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ )	$\pm 1$

## ENVIRONMENTAL

Temperature range	$^{\circ}\text{C}$	- 40 to + 80
Humidity range	% RH	0 to 95
Weight	g	6

## ELECTRICAL

Voltage range PRHT-A1	VDC	2.3 to 3.6 V
Voltage range RHT-A1	VDC (typ)	3.3
	VDC (max)	2.3 to 5.5
Current measuring	$\mu\text{A}$	< 850
Current idle mode PRHT-A1	$\mu\text{A}$	4
Current idle mode RHT-A1	$\mu\text{A}$	2

## I2C INTERFACE

SDA/ SDL and SCL pins (1mm dia)



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

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