



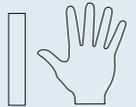
It's in the air ...
... quality does indeed
make a difference!



References
Waterworks
Dry air storage
Crawl spaces
etc.

SA3

SA3 SURFACE ADAPTOR KIT FOR SA20



Description

SA3 Surface Adaptor kit is an option for SA20 for using the sensor as a surface sensor, ex. on cold pipes in water works, pump stations, water power stations, sewage treatment works.

For eliminating condense on the cold pipes you should use: SA3 + DA20 or DCC + Cotes dehumidifier.

This automatic dehumidification system will eliminate condense on the cold pipes with a minimum of energy consumption of the dehumidifier.

Principle of operation

If the surrounding air to a cold pipe has a dew point higher than the pipe surface temperature, water will condense on the pipe. The air around the pipe will be cooled, and if the dew point temperature (at 100 %RH) is reached, water from the air will precipitate on the pipe.

The SA3 sensor kit is placed on the pipe (diameter bigger than 250 mm) and the SA20 is placed in the SA3 kit. The SA3 design then ensures that the temperature and %RH measured at the sensor is at the cold pipe

temperature. If the %RH measured at the sensor is lower than 100, ex. 85 %RH, there will be no condensation on the pipe. If therefore ex. 85 %RH is adjusted as the set value on DA20 or DCC, the connected dehumidifier will maintain 85 %RH at the place of the sensor. This does not mean that the room air is 85 %RH. If the pipe surface temperature is 8 °C and the room air is ex. 15 °C, the humidity in the room is 53 %RH.

An advantage of using SA3 and measuring directly on the pipe is, that the system works also at varying pipe surface temperatures. The common used control system, measuring the dew point of the room air, should not be used at varying pipe surface temperature. This only works automatic if the lowest possible pipe temperature is adjusted as the set value for the dew point – but this will increase energy consumption of the connected dehumidifier.

If different pipes are the critical point at different periods, more sensors can be connected. If our DCC controller is used, up to 3 sensors can be connected. The coldest of the 3 pipes will then control the dehumidifier.

Specifications

Supply voltage	12 to 24 V =/~
Operating temperature range	-40°C to +60°C
Power Consumption	< 10mA
Construction	Black Aluminium, Polyamide tip and metal filter
Connection	M12 & 4 pole connector

Temperature

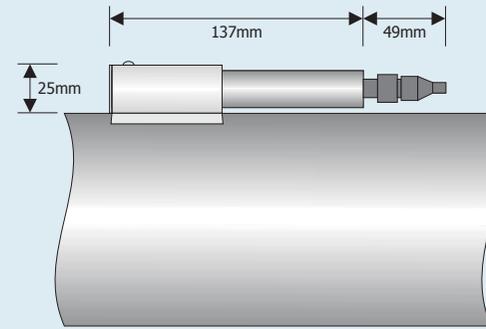
Measurement range	-40°C to +60°C
Resolution	0.1 °C
Accuracy	+/- 0.5°C 0 to 40°C +/- 1.5°C -40 to +60°C
Repeatability	0.1 °C
Response time	10 Sec
Output -40°C to +60°C	0-10V

Humidity

Range	0 to 100% RH
Resolution	0.1 % RH
Accuracy	+/- 2% in 0 to 90% RH +/- 4% in 90 to 100%
Repeatability	+/- 0.1 % RH
Response time	10 Sec
Non linearity	<1 %
Hysteresis	+/-1 %
Long term stability	< 1 % RH/year
Output 0 to 100%RH	0-10V

Additional options

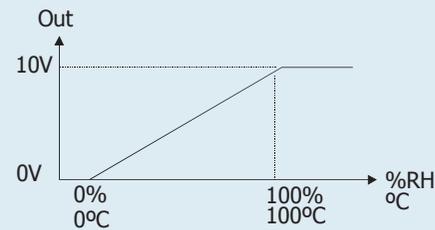
Outputs (Humidity and Temp) 10 bit digital or 4-20mA
Connector cable. Various lengths.



4 Temp Out 3 Hum Out



1 Supply Gnd 2 Supply Vcc



SA3

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Distributor