Temperature and humidity sensor
Hygrasgard RPFF-1

Art. nr. 5009.1

Data sheet of Hydrasgard with instruction on connection to the Greenspec AFP02 or AFP lite

Temperature and humidity sensor Hydrasgard

Art. nr. 5009.1

The hydrasgard tempearture sensor type RPFF-1 is a new product in the Greenspec sensor line.

It is a temperature and humidity sensor suitable for monitoring in greenhouses in non-condensing circumetances.

The housing of the electronics is small and IP65 proof.

The sensor is encased in a metal rod, with around the temperature and humidity electronic head a protective porous cover. This cover protects the humidity sensor from droplets and from fine dust. This will lead to a long lifetime. The cover can be replaced in case of clogging.

The sensor temperature can be set in 4 ranges. For the standard greenhouse the range 0-50 °C is preset, but this can be changed to measure also freezing temperaturs and also a higher range can be set.

Application

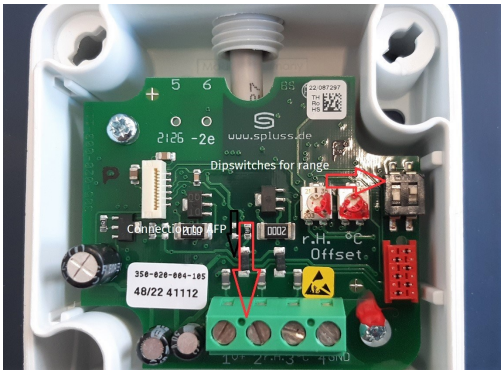
Measurement of temperature inside and outside of greenhouses.

Set up the system:

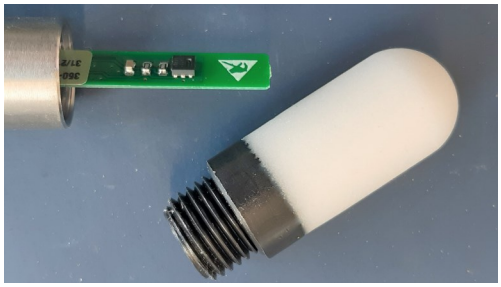
Electrical connection to AFP, programming details and calibration see rear side.

Hydrasgard RPFF-1

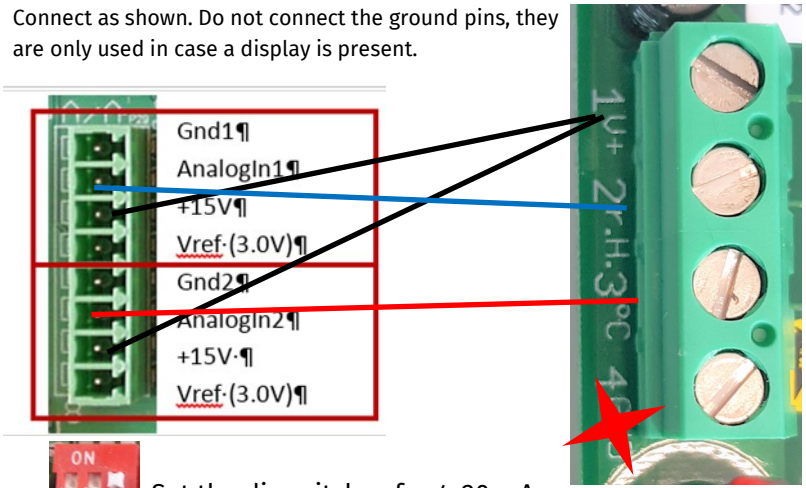
Electronic board, dipswitches for range on the right side



Protective dust cover, can be replaced.

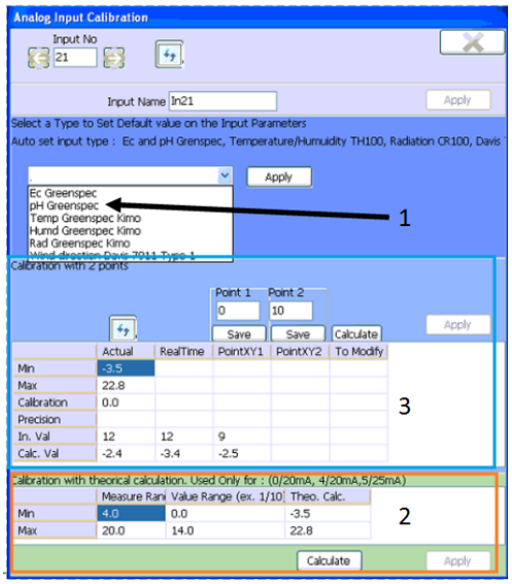


Connect as shown. Do not connect the ground pins, they are only used in case a display is present.



Set the dipswitches for 4-20 mA

Software configuration in the AFP input menu and calibration



Identify the sensor in AFP config: both sensors have to be identified
Select type Analog, select the correct input numbers, give the names Temp and rH. Open the calibration menu.
Select for the humidity the settings of the Kimo humidity.
Select for the temperature the settings of the Kimo temperature 0-50 °C.
The standard settings appear in box 3. You can now check this.
For each of them then click calculate and apply.

Adjusting the Temperature and humidity sensor: they are precalibrated at the factory
But it can be calibrated for accuracy.

Calibration with 2 points
If the values are not correct, calibrate in box 2 by hand:
Write down the theoretical values of the 2 points in the boxes at Point 1 and Point 2.
Put the sensor in condition 1, wait until stable and click save. Repeat for condition 2.
Then click calculate
For humidity special salinity salt boxes are available.

Set the dipswitch for different ranges as follows:

Measuring range in °C	DIP1	DIP2
-35-+35	ON	ON
-35-+80	OFF	OFF
0-50 (default)	OFF	ON
0-80	ON	OFF

Technical specifications

General data	Hydrasgard RPFF-1
Mechanical construction	Dimensions (L x B) housing 72x64x38mm, weight approx. 0,1kg, Dimensions (L x B) sensor diameter 16 mm, length 142 mm, weight incl. cable approx. 0,2 kg
Materials	Housing polymer, electronic boards polymer, sensor metal
Input parameters humidity	Measuring range 0-100%, but non-condensing Repeatability 2% at 20 to 80%, else 3%
Input parameters humidity	Measuring range -35 – 80 °C, range can be set as 0-50 °C, 0-80 °C, -35-+35 °C, -35-+80 °C Repeatability 0,2 °C at 25 °C
Output parameters	Current range 4 ... 20 mA, Measuring error 5% of current output range
Electrical connection data	Power supply 15-24 VDC Power consumption <5 W
Process conditions	Electronic board: operating temperature range -5 . +60 °C Sensor: 35 – 80 °C
Ambient conditions	Storage temperature –10 ... +70 °C Ingress protection IP 65 Electromagnetic compatibility acc. to EN 61326:1997 / A1:1998 Subject to modification.

GREEN SPEC

Horticulture automation

Groningen, The Netherlands

www.greenspec.nl / info@greenspec.nl