



Global radiation sensor



The Global Radiation Sensor GBS01 was invented for solar radiation detection in conjunction with the UVR control units. This sensor facilitates system start-up, allowing more accurate “upshifting” to the priority consumer in multiple circuit solar systems. A collector tracking system can be built when using two sensors. It can also be applied for pure measuring purposes due to its accuracy.

The Global Radiation Sensor has the following features

- Detection across a broad wavelength range
- Linear measuring range up to 1,400 watts/m²
- Calibrated by pyranometer as comparison standard
- Accuracy: +- 5% plus +-50 watts
- Output signal corresponds to that of a temperature sensor KTY (10W = 1K)
- Sensor type "GBS" can be set for the controllers ESR21, ESR31, UVR61-3, UVR63, UVR63H and UVR1611.
- The "Solar radiation" measured variable is set for controllers with X2 technology.
- Connection to an undefined sensor input of the controller is possible, while observing the polarity **blue = sensor mass, brown = sensor input**
- Cable length: 2 m

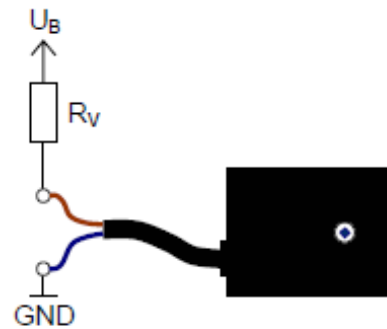
Dimensions

Width: 43.5 mm, length: 61 mm, depth: 14.5 mm

Additional information for the connection of the GBS to third party controls:

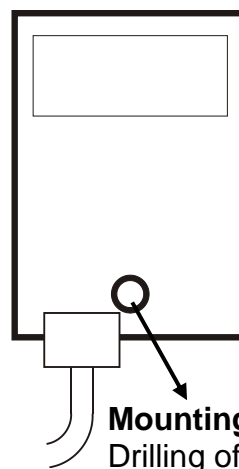
For use of the sensor connected to other controls the following values are to be selected for R_v (according to E12 standard resistor values):

Operating voltage U_B	Pre-resistance R_v
3,3V	1k8 – 2k2
5V	4k7 – 5k1
10V	8k2
12V	10k
24V	22k



The sensor supplies an output voltage, which increases linearly with increasing solar radiation. The values for this must be taken from the following table.

Global radiation [W/m^2]	Sensor output voltage [V]
0	1,211
100	1,290
200	1,368
300	1,447
400	1,525
500	1,604
600	1,682
700	1,761
800	1,840
900	1,918
1000	1,997
1100	2,075
1200	2,154
1300	2,233



Mounting:
Drilling of the 5mm hole on the rear side of the sensor

Output voltage depending on irradiation angle:

