

Ventilated radiation shield

Instruction for use

Application

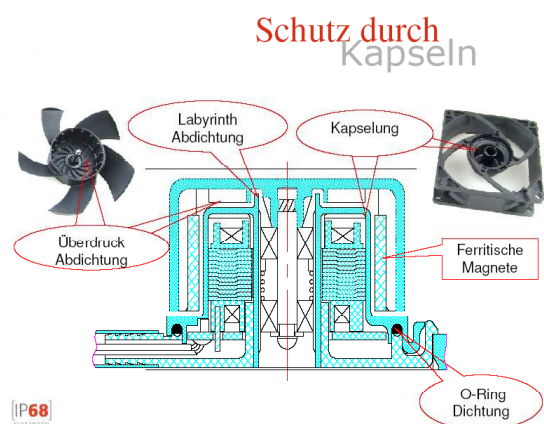


for the protection of an electronic thermometer and / or hygrometer against the influences of weather and radiation. The shield consists of white painted Aluminium. This design ensures a high reflectance and low thermal capacity and thus a very small influence of direct and indirect radiation on the measurement.

Construction and mode of operation

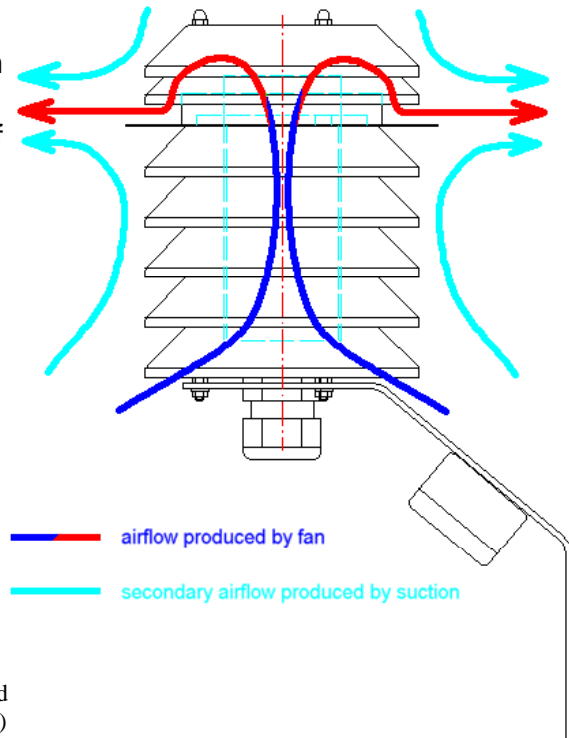
The artificial ventilation of the radiation shield consists of a brushless DC fan and a white-coated Aluminium tube with a diameter of 60 mm. The air velocity inside the tube is at least 1.5 m / s. This ensures an accurate measurement even with calm winds and low sun position.

The dust-and waterproof fan is due to its novel construction of a protection degree of IP68 and is therefore ideal suitable for outdoor use.



Due to the construction of the radiation shield a continuous airflow is achieved within as well as outside of the shield. The air is then blown out horizontally. A recirculation of the air will be avoided also at worst wind conditions.

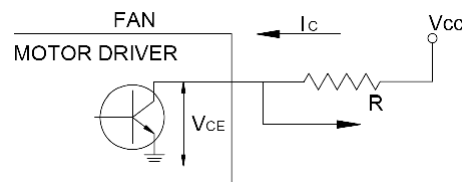
To monitor the fan speed, a frequency output proportional to the fan speed is available.



— air flow produced by fan
— secondary airflow produced by suction

Technical Data

| | |
|-------------------|--|
| supply voltage | : 10...30VDC, reverse polarity protected |
| power consumption | : < 3W (typ: 0,17A @12V) |
| noise | : 37dB(A) |
| type of bearing | : two ball bearings |
| live expectancy | : 70000h @ 40°C , 15...65%r.h. |
| air velocity | : >1.5 m/s within radiation shield |
| digital output | : 2Hz /revolution (nominal 140Hz @4200U) open collector, VCCmax 15V, I _c max 5mA, VCE(sat) max 1V, R> VCC/IC |



| | |
|-----------------------------------|--|
| suitable for | : series 4314xx and 4312xx |
| clamping diameter | : 9...14mm, (other clamping diameters optional available) |
| size of the ventilated space | : diameter 58 x 100mm |
| Mounting | : universal mast adapter for diameter 40 ... 80 mm, for mounting on vertical or horizontal masts |
| operation temperature | : -20 ... 70 °C |
| protection grade fan | : IP68 |
| protection grade terminal housing | : IP55 |
| material | : Aluminium, white coloured, stainless steel, terminal housing ABS |
| dimensions | : shield: diameter 160mm x height 180mm, total 160 x 225 x 380mm depth: 160mm |
| weight | : 1,6 kg |

Connection

| | |
|----------|-------------------------|
| Position | Connection |
| - | supply ground |
| + | supply 10...30 VDC |
| GND | frequency output ground |
| 6 | frequency output VCC |

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