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GRAS



Option WRM (Version WRM 3b)

Installation and Operation Instructions - Version 2/18

Please read these instructions carefully and completely. Only gualified personnel may conduct work on the module! Before starting any work, it is mandatory to deflect static charge!

Symbols used:

🔊 = Wind = Rain

1 Concept

- Module for installation in SHEVS Control Centres / Controls. For compatibility see: www.kg-tectronic.de (Electronics - Control Centres / Controls - Options)
- In the case of wind / rain, a closing command is sent to the SHEVS Control Centre / Control. The command remains active as long as a sensor has responded, however, for a minimum of 6 minutes. ³ Alarm functions of the SHEVS Control Centre / Control have priority over the closing command.
- Sensitivity to wind and rain adjustable
- Selectable functions:
 - "Reduced sensitivity to wind" (for closing, an equally strong wind must last longer)
 - "Continuous heating rain sensor" (the rain sensor is heated continuously)
 - "Reduced closing time" (the minimum closing time is reduced from 6 to 3 minutes)
 - "Test" (mode for testing the function of the sensors)
- Indicators for wind 陷 and rain 🌧
- The connection of a wind sensor WM and/or rain sensor RS is required (accessory)

1.1 Accessory

- WM 1: Wind sensor for detecting wind speed
- RS 3: Heated rain sensor
- SK: Pedestal (40 cm high) for installation of the components WM and RS on a flat roof
- MB: Shackle for pole mounting for the components WM and RS (for pipes up to Ø 60 mm)

2 Putting into service / putting out of service

We do not assume any guarantee or liability for defects caused by faulty connection.

2.1 Installation / putting into service

- ${\it Y}$ The wind sensor should detect undisturbed wind as far as possible. Therefore, the sensors should be mounted, e.g., on a mast at least 2 m above the roof level.
- Observe regulations relating to lightning protection and installation (EN 62305, EN 60728-11)!
- \mathcal{Y} Perform work on the module only in de-energised condition!
- Put the SHEVS Control Centre / Control out of service as specified in the corresponding operating instructions to install the module. Snap the module to the designated place (see Layout diagram in the Operation Instructions of the SHEVS Control Centre / Control). Attach the flat ribbon cable and wire the module as specified in the enclosed connection diagram.
- Set the functions (see Section 4).
- Put the SHEVS Control Centre / Control back into service. The indicators 🏞 and 🌧 on the module light up briefly, the module is ready for operation. 1 If an indicator blinks / flashes, follow the instructions in Section 3.
- While putting into service, check the functions and indicators of the module (see Sections 3 and 4).

2.2 Putting out of service

 Putting out of service is as specified in the corresponding operating instructions of the SHEVS Control Centre / Control.

3 Functions, Operation and Maintenance

• Indicator 🂫 (Wind)

- lights up: The set threshold value was exceeded for a few seconds. A closing command is sent to the SHEVS Control Centre / Control.
- blinks: Individual gusts of wind already exceed the threshold value, but the closing command is not yet sent.
- flashes: Sensor is defective (no rotation detected in 48 h). A closing command is sent.
- When set to the highest sensitivity, the threshold value must be exceeded for approx. 4 s, and for approx.
 7 s when set to the lowest sensitivity, until the closing command is sent. See also "Setting the sensitivity" (below) and the function "Reduced sensitivity to wind" (Section 4).

• Indicator 🜧 (rain)

- lights up: The set threshold value was exceeded. A closing command is sent to the SHEVS Control Centre / Control.
- blinks: Short-circuit of the heating due to defect or faulty connection.
- flashes: Wire-break of sensor cable. A closing command is sent.
- If the indicator ♣ is lit, the rain sensor is heated. The sensor surface dries more quickly after rain and it can be ventilated again.

Setting the sensitivity for Wind P. / Rain #:

The sensitivity of the sensors can be adjusted with a screwdriver at the potentiometers \bowtie and m on the module:

- Rotating in a clockwise direction increases sensitivity.

Rotating in a counterclockwise direction reduces sensitivity.

Factory setting: highest sensitivity for both sensors.

 ${\it I}$ Too low sensitivity setting may lead to damage due to wind and rain!

• Maintenance:

Carry out the following tests / work once a year:

- Cleaning the rain sensor with a damp cloth, with a mild detergent, if necessary.
- Do not scour the sensor surface!
- Check the wind sensor for smooth-running.
- Functional testing of the sensors.
- Check whether all SHV and/or ventilation devices are properly closed.

4 Selectable functions

• "Reduced sensitivity to wind" DIP switch 1:

In position ON, the module is less sensitive to gusts of wind. The closing takes place only after the threshold value is exceeded for the increased response duration (approx. 8 to 13 s). Factory setting: OFF (normal sensitivity).

• "Continuous heating rain sensor" DIP switch 2:

In position ON, the rain sensor is heated continuously at reduced power. This prevents, for example, morning dew and incidental activation of the sensor caused by this. If the sensor is activated by rain, the heater operates at full power once again up to drying.

Factory setting: OFF (heating is active only in rain).

- "Reduced closing time" DIP switch 3: In position ON, the closing command is activated in rain for at least 3 minutes. Factory setting: OFF (activate for at least 6 minutes).
 - *When the function is activated, it must be ensured that SHV or ventilation devices are completely closed within 3 minutes.*
- "Test" DIP switch 4:

In position ON, the test function for putting into service / maintenance work is activated and the indicators (* / flicker. The closing command is activated. When a sensor responds, the corresponding indicator (* / lights up continuously (to be able to check it later on the module). Factory setting: OFF (Test function disabled).

 ${\it I}$ Disable the function again after putting into service / maintenance.

5 Technical Data

Туре	Option WRM
Part number	8101 0001 0002
Dimensions in mm (W x H x D)	55 x 57 x 26
Ambient temperature	-5 °C +40 °C
Relative humidity	20 % 80 %, non-condensing
Wind sensor WM , heated rain sensor RS	1 piece each
Adjustment range of sensitivity to wind	approx. 5 - 15 m/s (20 - 60 km/h,
	approx. wind force 3 - 7)
Adjustment range of sensitivity to rain	light to heavy rain
For mounting position, see Layout diagram in the Operation Instructions of the SHEVS Control Centre / Con-	
trol. Not suitable for outdoor use. Protect from direct sunlight, humidity and excessive formation of dust! Prefer-	

ably, the installation should be carried out in dry, heated rooms.

The requirements of Directives 2014/35/EU and 2014/30/EU are met.

6 Connection diagram

Wind and rain sensor



Wind sensor only



Colour code for resistors: 150k = brown/green/black/orange

7 Layout diagram



DIP switch W:S1:

- 1: Reduced sensitivity to wind
- 2: Continuous heating rain sensor
- 3: Reduced closing time
- 4: Test