GEIGER
Antriebstechnik

Geiger-Funk

Sunshade controls

Solar-cell powered radio type sun- and twilight monitor

GF0022

Installation and Operating Instructions

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1 Introduction

By deciding to buy the solar-cell powered radio type sun- and twilight monitor GF0022 you have made a good choice. The device you have acquired is a high quality product made by Geiger.

The sensor **GF0022** enables the automatic operation of your rolling shutters and sunshade installations. The device has been designed for use in indoor areas (GF0022).

If used in indoor areas, all available functions of the device, i.e. operation with and without readjustment and/or twilight function, are freely selectable.

No labour-intensive and time-consuming laying of control lines is needed as all switching signals are transmitted via radio.

The following **radio receivers with integrated motor control** or **rolling shutter control with integrated radio receivers** can be used along with the solar-cell powered radio type sun- and twilight monitor **GF0022** as one operating unit:

- Radio-controlled motors series MODULARline GR45..(F0.)
- Radio-controlled motors series SOLIDline GU45..(F0.)
- GEIGER radio receivers

The solar-cell powered radio type sun- and twilight monitor GF0022 can be assigned to the different radio receivers as a single-, group- or central control device.

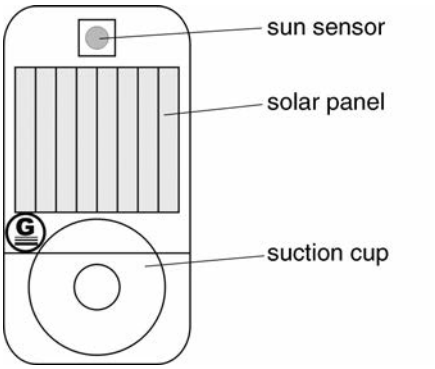
2 Safety information

- The control is determined for use within the limits of the specified application described in chapter 3 hereafter. If any unauthorised changes or modifications to the control are made, all warranty claims with regard to this product become extinct.
- Immediately after unwrapping of the control, it must be checked for damages.
  In the event of damages, the device must in no case be put into operation.
  Should damages have occurred, the supplier must be informed thereof immediately.
- If it is to be assumed that a safe operation of the control cannot be guaranteed, the control must immediately be taken out of operation and be protected against any unintentional or unauthorised operation. This assumption becomes real in the event the housing shows damages or if the device doesn't work any more.
- The responsibility for the compliance with the relevant regulations established by the power supply companies or the Union of German Electrical Engineers (VDE) is, according to VDE 0022, incumbent on the user and the related fitting firm.

3 Specified application

- The solar-cell powered radio type sun- and twilight monitor GF0022 has been designed exclusively for the driving and triggering of rolling shutters and sunshade installations (blinds, rolling shutters, etc.).
- Do not operate the **GF0022** with any radio receivers other than those authorised by Geiger.

4 Installation



The solar-cell powered radio type sun- and twilight monitor GF0022 suits for the control of rolling shutters or sunshade installations within the limits of a normal room (range approx. 15 metres).

Therefore, always make sure to choose the place of installation in such manner that there exists a direct sight contact line between the transmitter GF0022 and the receivers.

A suction cup enables to fix the device in an easy manner directly on the window pane.

With regard to the installation height at which the GF0022 is to be installed, please take note of the following:

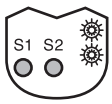
☞ If activated, the function "indoor sensor with readjustment" effects that the rolling shutter is always moved downwards until to the point where the sun still shines on the little sun sensor. The GF002 readjusts thus the travel performed by the rolling shutter in dependence on the position of the sun.

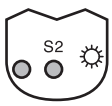
☞ If the "twilight function" has been activated in addition, the rolling shutter is being closed completely in the evening. In this case, the opening of the shutter on the next morning must either be triggered manually by means of a hand-held radio transmitter or via the clock-controlled Geiger-Funk radio transmitter GF0021.

5 Commissioning

The solar-cell powered radio type sun- and twilight monitor GF0022 operates wireless and is, thanks to the integrated solar module and the additional battery, completely autonomous.

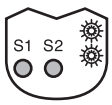
Sensor on

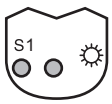
- Switch on the sensor by actuating the keys S1 and S2 both simultaneously for 1 second.
- 

Let the key go as soon as both LED's start flashing.
- Actuate the key S2 within 5 seconds.
- 

The green LED is lit.
The sensor is on

Sensor off

- Switch on the sensor by actuating the keys S1 and S2 both simultaneously for 1 second.
- 

Let the key go as soon as both LED's start flashing.
- Actuate the key S1 within 5 seconds.
- 

The red LED is lit.
The sensor is off

6 General functional description

6.1 Factory settings

- Indoor sensor with readjustment function
- Sunlight limiting value: 19 klx
- Twilight sensor disabled
- Twilight limiting value: 40 lx
- Cloud suppression time: 10 minutes
- Sensor deactivated

You should like to change the factory settings? In the affirmative, please read the chapters hereafter.

6.2 Representation of the indicator LED's

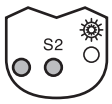
LED off

LED lit

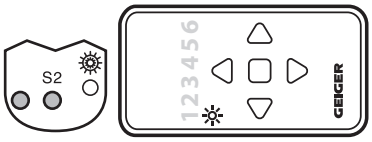
LED flashes

6.3 Learning of the transmitter

Actuate S2 for **3** seconds



Let the key go as soon as the red LED starts flashing



Hold the transmitter within **10** seconds after that in this position close to the sensor and actuate the indicated key on the transmitter. If the code is recognized, the LED goes off and the coding is stored.

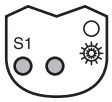
If no radio signal or valid code is being received, the LED goes off after **10** seconds.

6.4 Testing of the functions UP (opening) and DOWN (closing)

Note: in order to test the UP and DOWN function please make sure that:

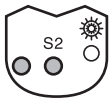
- the sun function is programmed on the receiver
- the sun function is activated on the transmitter

Actuate S1 for **3** seconds



Let the key go as soon as the green LED starts lighting.
→ The rolling shutter must move in upward direction now.

Actuate S2 for **3** seconds



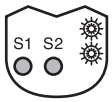
Let the key go as soon as the red LED starts lighting.
→ The rolling shutter must move in downward direction now.

Note: The sensor GF0022 is now ready for operation. If needed, the adjusted parameters can be changed (see chapter "Factory setting" on page 4).

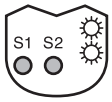
Note: The automatic sunshading of your rooms works only if the "sun automatic" function was unlocked beforehand at the receiver!

6.5 Sensor configuration

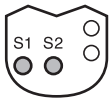
Actuate the keys **S1** + **S2** both simultaneously for **5** sec..



Both LED's start flashing after **1** second



Both LED's are lit after **3** seconds



Both LED's go off after **5** seconds

Red	Green	Configuration
○	☼	The twilight sensor is active only
☼	○	Indoor sensor / no readjustment / twilight sensor inactive
○	☼	Indoor sensor / no readjustment / twilight sensor active
☼	○	Indoor sensor / readjustment function active / twilight sensor inactive
☼	☼	Indoor sensor / readjustment function active / twilight sensor active
☼	☼	Outdoor sensor / twilight sensor inactive
☼	☼	Outdoor sensor and twilight sensor

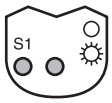
After that, let **both** keys go. ⟶ **The actual configuration is being displayed.** ↑

If no key is actuated within a 30 second time, the system exits the learning program without changing any values.

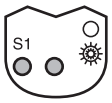
The key S2 enables to **change** the configuration. The key S1 enables to **store** it.

6.6 Checking of the luminous intensity and setting of limiting values

Actuate key **S1** for at least **5** seconds.



The green LED
is lit for **2** seconds

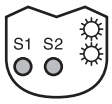


The green LED
flashes for **2** seconds

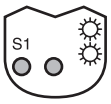
Continue to keep S1 depressed. The sensor compares the actual brightness with the adjusted limit and shows the result of this operation by means of the LED's, see table hereafter. This measuring operation is continued until you let the key S1 go.

Red	Green	Measuring result
○	☼	Actual luminous intensity < twilight limiting value
○	○	Actual luminous intensity is between the sunlight- and the twilight limiting value
☼	○	Actual luminous intensity > sunlight limiting value

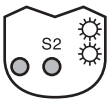
Both LED's are lit if letting the key S1 go. The sunlight limiting value can now be selected by means of the key S1 **or** the twilight limiting value by means of the key S2. The actually adjusted limiting value is now displayed by the LED's provided for this purpose as shown in the table hereafter



Let the key S1 go,
both LED's
are lit



Actuate the key S1



Actuate the key S2

The key **S2** enables **to change** the selected value.

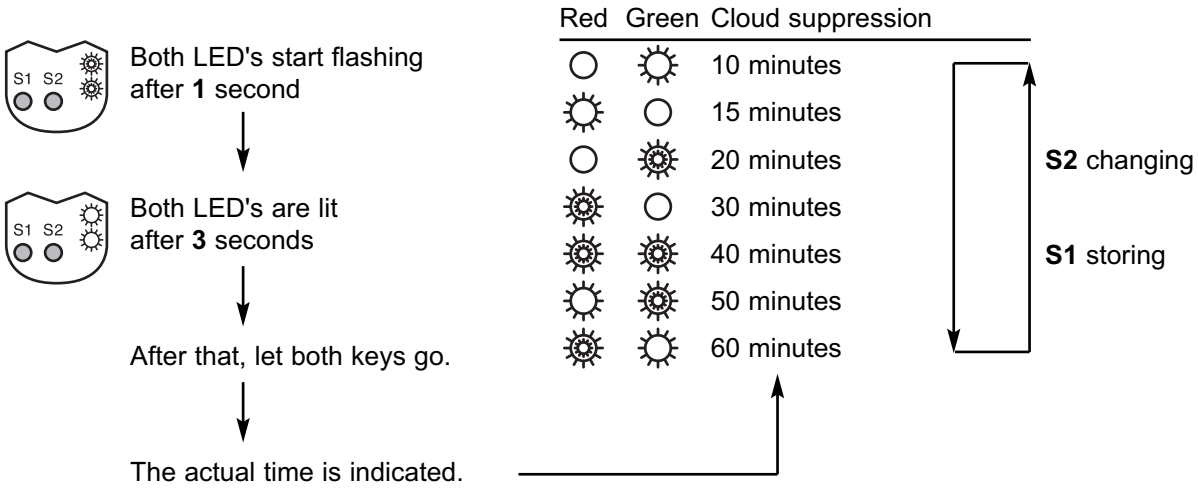
The key **S1** enables **to store** the changed value.

To change the second limiting value, the "limit adjustment" procedure must be repeated.

Red	Green	S1 sunlight limit	S2 twilight limit
○	☼	6 klx	15 lx
☼	○	9 klx	25 lx
○	☼	13 klx	40 lx
☼	○	19 klx	60 lx
☼	☼	28 klx	100 lx
☼	☼	41 klx	150 lx
☼	☼	60 klx	230 lx

6.7 Cloud suppression time

Actuate the keys **S1** and **S2** both simultaneously for **3** seconds.

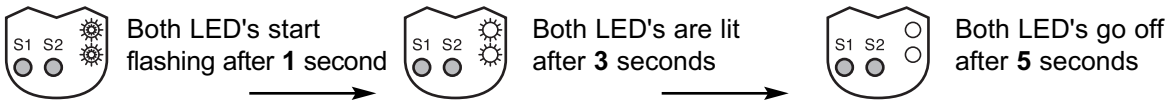


If no key is actuated within a 30 second time, the system exits the learning program without changing any values.

The key S2 enables to **change** the time. The key S1 enables to **store** it.

6.8 Restoration of the factory settings and indication of the actual program version

Actuate the keys **S1** and **S2** both simultaneously for **5** seconds



Continue to keep the keys **S1** and **S2** for at least **10** seconds.

After expiry of another 10 seconds, the actual program version is being displayed. First of all, the red LED is on for 2 seconds. After that, the green LED starts flashing and the actual program version is being displayed, see table below.

After that, the red LED is lit again. A random code is then being stored and the sensor reset to the initial **factory settings**.

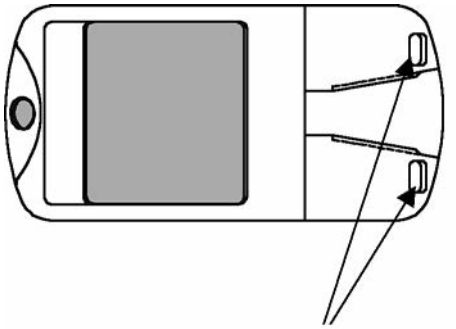
If the LED breaks forth, let the keys go.

Green LED: number of flashes	Program version
6	1V5

6.9 Replacement of the battery

If operated normally, the life of the battery inserted in the device, comes to approx. 4 years.

To replace the battery, remove the holder along with the suction cup from the sensor housing. Then use a screw driver to press the two noses that are locked into place in the openings down and, at the same time, slightly backwards as shown below. After that, the cover of battery compartment can be removed and the battery be replaced.



Use a screw driver to press the locking noses down.

7 Disposal

7.1 General

In the event the device should have become useless, always make sure to dispose it of in compliance with the relevant legal rules and regulations currently operative and in force.

7.2 Disposal of spent batteries and/or accumulators

Consumers are, according to the Battery Directive, obliged by law to return all spent batteries and/or accumulators. The disposal of spent batteries and accumulators via the normal household refuse is prohibited!

8 Technical Data

Protection type	IP 42
Transmit frequency	434,92 MHz
Temperature range	-0°C to +50°C
Dimensions	41 x 79 x 15 mm
Power supply	3V type CR2032 button cell

9 Declaration of conformity

We hereby state and declare that the device described in these operating instruction complies with the basic requirements and relevant prescriptions established and laid down in the EC directive 1999/5/EG and that it is authorised for use in all member states of the EU and in Switzerland without the need of any prior registration. To learn more about the Declaration of Conformity pertaining to this device, please visit our website at: **www.geiger.de**

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