One KNX®

GIRA

Operating instructions

Weather sensor with weather control unit
Item no.: 5146 00

Product image for illustrative purposes only

14/09/2026

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1 Safety instructions

Electrical devices may only be mounted and connected by a qualified electrician.

Serious injury, fire or damage to property possible. Read and follow these instructions completely.

These instructions are an integral part of the product and must remain with the customer.

2 Intended use

- Operation in the KNX or Gira One system
- The weather station detects temperature, brightness, wind speed and rain and sends these measured values to the weather control unit to be evaluated
- For use in private homes and relatively small offices and functional buildings
- Weather control unit: Installation in sub-distributor on top-hat rail in accordance with DIN EN 60715
- Weather sensor: Mounting on the wall of the building (where appropriate with mast mounting – item no. 5148 00)

3 Product features

- With the modular weather sensor system consisting of a weather sensor and weather control unit, the devices cannot be used individually
- The weather sensor detects wind, precipitation, brightness (3x) and temperature. This information is evaluated and processed by the weather control unit

4 Device components

Sensors Image 1

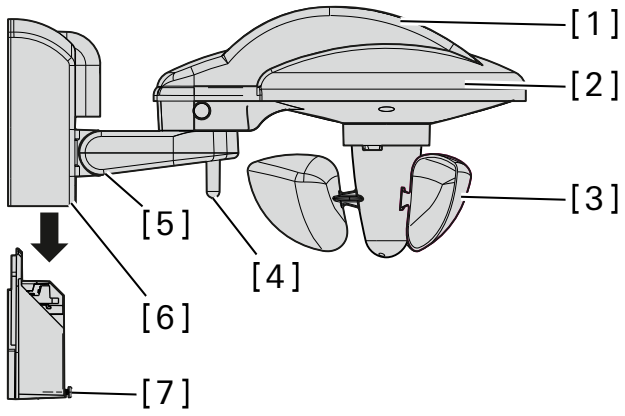

Image 1: Sensors

[1] Precipitation sensor with heating
[2] 3 brightness sensors
[3] Rotor
[4] Temperature sensor
[5] Screws
[6] Screws
[7] Wall mount with terminals (connection for power supply and weather control unit)

Brightness sensors Image 2

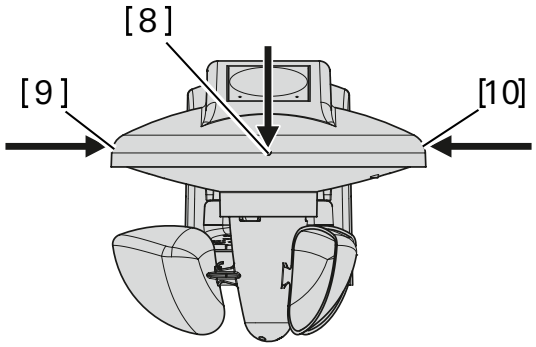

Image 2: Brightness sensors

[8] Front
[9] Left
[10] Right

Weather control unit Image 3

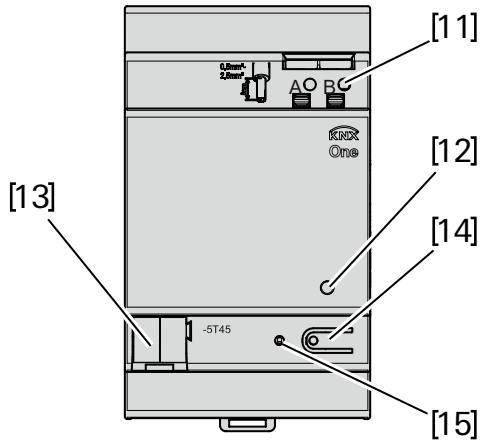

Image 3: Weather control unit

[11] Weather sensor connection (A/B)
[12] Weather sensor status LED
[13] Connection terminal
[14] Programming button
[15] Programming LED

Wall mount Image 4

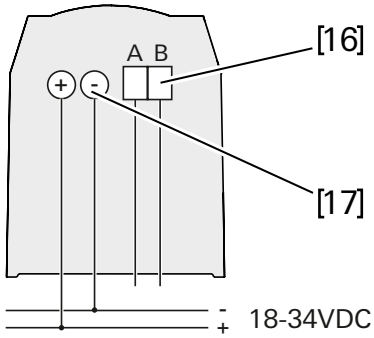

Image 4: Wall mount

[16] Weather control unit connection (A/B)
[17] Power supply connection (+/-)

5 Mounting and electrical connection

Weather control unit: to be installed in a distributor or small housing for quick fastening to the top-hat rail (in accordance with EN 60715).

Weather sensor: Mounting on the wall of the building (where appropriate with mast mounting – item no. 5148 00).

WARNING

Precipitation sensor becomes hot during operation.

Do not touch the precipitation sensor.

1. Do not mount the wind sensor Image 1 in a leeward position.
2. Avoid shadows (e.g. from masts etc.) and light reflections.
3. Observe the mounting position.
   Align so that the precipitation sensor is facing up and the wind wheel is facing down.
4. Mount the wall mount to the wall using the screws and washers provided (to comply with IP 44).
5. Guide the lines through the rubber seals and insert them into the terminals.
6. Loosen the screws [5].
7. Push the weather station into the wall mount from above.
8. Tighten the screws [6].
9. Align the weather station horizontally and tighten the screws [5].

For reliable use of the weather sensor, we recommend:

The use of Gira power supplies (item no. 1296 00, item no. 2570 00)

Regular maintenance of the weather sensor

6 Connection

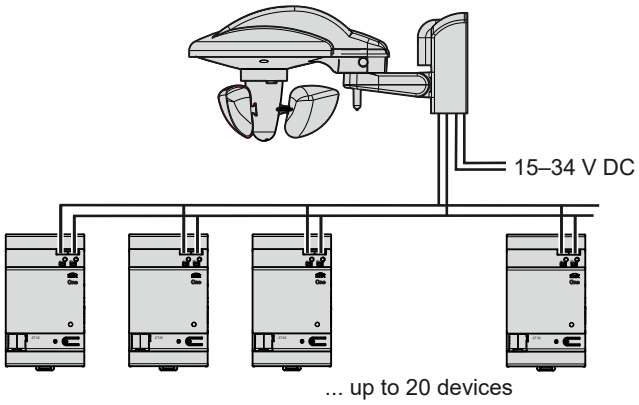

Image 5: Connection between weather sensor and weather control unit

Only one weather sensor is required per building and up to 20 weather control units can be connected.

1. Weather control unit: connect according to the figure, Image 4 and Image 5.
2. Weather sensor: Guide the cable for the electrical connection and for the connection to the weather control unit through the rubber seals provided.

3. Connect the line for the electrical connection to the power supply.
   Pay attention to the polarity (+/-).
4. Insert the line for the connection to the weather control unit into the plug terminal.
   Pay attention to the polarity (A/B).

Weather sensor status LED Image 3 [12]

flashing green = OK	Weather sensor data is received at intervals. If data packages are missing, this results in an error message.
red = error	No data from the weather sensor.

7 Start-up

Start-up takes place

– for the KNX system with ETS from version 5.7.7 or 6.0.2

or

– for the Gira One system with the Gira Project Assistant (GPA).

8 Technical data

Weather sensor

Ext. operating voltage Supply:	18–34 V DC
Internal energy consumption:	max. 5 W
Connection between weather sensor and weather control unit:	0.6 to 0.8 mm (bus line e.g. J-Y(St)Y 2 x 2 x 0.8)
Connection type:	push-lock terminal & connection terminal
Mounting type:	wall or mast mounting
Protection type:	IP44
Protection class:	III
Rated surge voltage:	0.8 KV
Ambient temperature:	-20°C to +55°C
Wind measurement range:	2 to 30 m/s
Brightness measurement range:	1 to 100,000 lux
Temperature measurement range:	-30°C to +60°C
Dimensions:	105 x 121 x 227 mm (H x W x D)

Weather control unit

KNX medium:	TP256
KNX start-up mode:	S mode
Rated voltage:	DC 21–32 V
	< 10 mA
Internal energy consumption:	max. 0.5 W
Bus connection:	0.6 to 0.8 mm (bus line e.g. J-Y(St)Y 2 x 2 x 0.8)
Maximum cable length between weather sensor and weather control unit:	1,000 m
Protection type:	IP20
Protection class:	III
Rated surge voltage:	0.8 KV
Number of weather control units that can be connected to a single weather sensor:	20
Ambient temperature:	-5°C to +45°C
Dimensions:	3 HP

9 Accessories

	Item no.:
Mast mounting ø 48 to 60 mm	5148 00
Power supply DC 24 V 300 mA	1296 00
Power supply DC 24 V 700 mA	2570 00

10 KNX

System information

This device is a product for the KNX system and complies with the KNX guidelines. Detailed specialist knowledge acquired in KNX training courses is required to understand the system.

The function of the device depends on the software. Detailed information on software versions and their scope of functions as well as the software itself can be found in the manufacturer's product database.

The device can be updated. Firmware can be easily updated using the Gira KNX Service App OTN (additional software).

The device is compatible with KNX Data Secure. KNX Data Secure provides protection against tampering in building automation and can be configured within the ETS project. Detailed specialist knowledge is required. For secure start-up, a device certificate is required, which has been attached to the device. During mounting, remove the device certificate from the device and store it in a safe place.

Device planning, installation and start-up all use ETS, from version 5.7.7 or 6.3.0.

10.1 Functions

- The components of the weather station, consisting of a weather sensor and a weather control unit, cannot be used separately.
- The weather sensor transmits the sensor values to the weather control unit, which evaluates the sensor information and sends it to the KNX bus.
- The weather sensor can communicate with up to 20 weather control units (5147 00).
- 10 sensor channels for wind, precipitation, temperature and brightness. Logical AND/OR linking can be created within the sensor channels to evaluate several sensor values together.
- Evaluation delay for all sensors to ensure reliable functionality.
- 8 sun protection channels for 8 façades with automatic sun protection function incl. evaluation delay, for reliable sun protection function.
- 2 objects for external brightness sensors.
- Predefined day-night object for switching between day/night mode incl. separate activation/deactivation function by the communication object.
- Communication object that provides information about communication faults between the weather sensor and the weather control unit.

10.2 Master reset

Master reset resets the device to its basic settings (physical address 15.15.255, firmware is retained). The devices then need to be restarted using the ETS.

Master reset deactivates the device security.

The device can then be put back into operation with the device certificate.

If, for example, the device is not functioning correctly due to incorrect configuration or commissioning, the loaded application program can be deleted from the device by performing a master reset. Master reset resets the device to its factory default state. The device can then be put back into operation by programming the physical address and the application program.

Performing a master reset

1. Switch off the bus voltage or disconnect the KNX connection terminal.
2. Press and hold the programming button.
3. Switch on the bus voltage or plug in the KNX connection terminal.
4. Release the programming button after approx. 5 seconds.

✓ The device performs a master reset.

✓ The device restarts and is in the factory default state.

10.3 Firmware update using the Gira KNX Service App OTN

The Gira KNX Service App OTN is available free of charge in the MY KNX Shop. Once you have installed and licensed it, you can update the devices.

You will need the necessary update files before you can update the devices. These are obtained automatically when you open an ETS project with the devices to be updated.

The firmware update can be carried out either unencrypted (non-secure) or encrypted (secure); the procedure is the same.

Note

Downgrades are not possible; only updates can be made.

11 Gira One

System information

This device is a product for the Gira One Smart Home system. The Gira One system is started up quickly and easily via the Gira Project Assistant, saving you time.

The Gira One Smart Home system enables the control and automation of lighting, heating and shading, connection to various third-party systems and much more. It can be operated via Gira One switches, from home via an app or remotely via a secure connection. Electricians can maintain the Gira One project remotely, free of charge.

Data transfer between the Gira One devices is encrypted. This provides protection against external access and manipulation by third parties.

Start-up can be carried out efficiently via the Gira Project Assistant (GPA), which is available free of charge. Function and security updates are also transferred to the Gira One devices via the GPA, free of charge.

Always use the latest version of the Gira Project Assistant (GPA). The Gira One system is based on the globally trusted KNX Smart Home standard.

11.1 Functions

- The components of the weather station, consisting of a weather sensor and a weather control unit, cannot be used separately.
- Automatic visualisation of sensor information in the Gira Smart Home App.
- 2x wind alarms so that the connected blinds are raised and automatically locked when the alarm is active. The status of the wind alarm is monitored on a cyclical basis.
- 1x precipitation alarm so that the skylights or roof domes close immediately and are automatically locked when the alarm is active. The status of the alarm is monitored on a cyclical basis.
- 1x frost alarm so that active movements of shutters are stopped and locked when the alarm is active to protect the shutter motor. The status of the alarm is monitored on a cyclical basis.
- 4x sun protection for 4 façades with automatic sun protection function incl. evaluation delay, for reliable sun protection function. Separate activation/deactivation function in the Gira Smart Home App.
- 1x day/night function for switching between day/night mode incl. separate activation/deactivation function in the Gira Smart Home App.
- Automatic information in the event of communication faults between the weather sensor and the weather control unit.

11.2 Master reset

The master reset resets the device to its basic settings (firmware is retained). The devices then need to be restarted via the GPA.

Performing a master reset

1. Switch off the bus voltage or disconnect the KNX connection terminal.
2. Press and hold the programming button.
3. Switch on the bus voltage or plug in the KNX connection terminal.
4. Release the programming button after approx. 5 seconds.

✓ The device performs a master reset.

✓ The device restarts and is in the factory default state.

11.3 Parameter list

Parameters that can be set via the GPA:

General

Temperature calibration	**-6.4 K to 6.3 K**
Correction value for the temperature measurement if the transmitted temperature deviates from the actual ambient temperature. Example: actual temperature = 20°C, transmitted temperature = 21°C, correction value = -1 K	

“No precipitation” reports	**sent immediately without delay time** **1 min.** **to** **15 min.**
Once the precipitation has stopped, status “0” is transmitted immediately [immediately without delay time] or only after a delay time [1 min. to 15 min.] has elapsed. Until then, status “1” is reported.	

Alarm

Wind alarm at wind speeds in excess of	**4 m/s (force 3)** **to** **30 m/s (force 11)**
Here you can specify the wind speed or wind force from which the wind alarm is to be triggered.	

“No wind alarm” report after	**1 min.** **to** **20 min.**
Once the wind has stopped, status “0” is transmitted after a delay time [1 min. to 20 min.] has elapsed. Until then, status “1” is reported.	

Frost alarm at temperature below	**0 to 10°C**
Set the temperature as the threshold for the frost alarm.	

No frost alarm if temperature is exceeded by	**1.0 K** **to** **2.5 K**
Select the temperature difference when the frost alarm is deactivated.	

Sun protection

Sensor	**Front sensor** **Left sensor** **Right sensor** **Maximum value of the three sensors**
Select a single sensor to detect the brightness values or use the maximum value of the three sensors.	

Activate sun protection from	30000 lx
The threshold is a fixed preset value that can only be changed on the device website or in the Gira Smart Home App. To make the change in the Gira Smart Home App, the “Display/operation” checkbox must be selected for the respective sun protection function.	

Activate sun protection after	1 min. to 20 min.
The switch-on delay is configured here. Once the threshold has been crossed, status “0” is transmitted after a delay time [1 min. to 20 min.] has elapsed. Until then, status “1” is reported.	

Deactivate sun protection after	1 min. to 20 min.
The switch-off delay is configured here. Once the levels have fallen below the threshold again, status “0” is transmitted after a delay time [1 min. to 20 min.] has elapsed. Until then, status “1” is reported.	

Message

Day mode when brightness is above	100 lx
The threshold is a fixed preset value that can only be changed on the device website or in the Gira Smart Home App. To make the change in the Gira Smart Home App, the “Display/operation” checkbox must be selected.	

Night mode when brightness is less than	20% of the threshold value 30% of the threshold value 50% of the threshold value
Select the difference for switching to night mode based on the threshold set for day mode.	

Switch to night mode after	**1 min.** **to** **20 min.**
The switchover delay is configured here. Once the levels have fallen below the threshold again, status “0” is transmitted after a delay time [1 min. to 20 min.] has elapsed. Until then, status “1” is reported.	

Switch to day mode after	**1 min.** **to** **20 min.**
The switchover delay is configured here. Once the threshold has been crossed, status “0” is transmitted after a delay time [1 min. to 20 min.] has elapsed. Until then, status “1” is reported.	

12 Warranty

The warranty is provided by the retailer in accordance with the statutory requirements.

Please hand over or send faulty devices postage paid and with a description of the problem to your sales representative (retailer/installation company/electronics retailer),

who will forward the devices to the Gira Service Centre.

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