Weather Station KNX

Art. no.: 1870932

Operating instructions

1 Safety instructions

Electrical devices may only be mounted and connected by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.

These instructions are an integral part of the product, and must remain with the end customer.
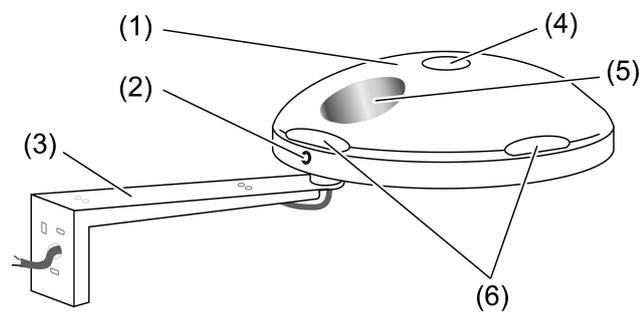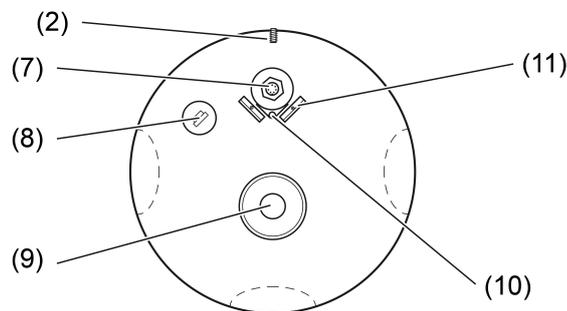
2 Device components

Figure 1: View

Figure 2: Underside view

(1)	Sensor head
(2)	Grub screw for locking
(3)	Fastening arm
(4)	Global radiation sensor
(5)	Precipitation sensor
(6)	Light and twilight sensors
(7)	Mounting for fastening arm with bus connection
(8)	Air humidity sensor
(9)	Wind speed and wind direction sensor
(10)	Temperature sensor
(11)	Guide blade (only if mounted on a mast)

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

The function of this device depends upon the software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer´s product database. Planning, installation and commissioning of the device are carried out with the aid of KNX-certified software. The latest versions of product database and the technical descriptions are available on our website.

Intended use

– Measurement and evaluation of weather data: Wind speed, Wind direction, Precipitation, Brightness, Global radiation Twilight, Temperature, Relative air humidity and Air pressure
– Installation on the outside of buildings, preferable in the roof and facade area
– Operation with additional power supply (see accessories)

Product characteristics

– Integrated GPS/GLONASS receiver for automated positioning
– Calculation of additional weather data: Absolute air humidity, chill temperature, comfort
– Function for shading control
– Integrated KNX bus coupling unit
– Measurement data acquisition and limit value monitoring
– Software logic modules for linking events
– Integrated heating

ℹ️ The measured values apply to the mounting location. Variations to other weather services – e.g. through local turbulence or areas with build-ups of air – are possible.

4 Information for electrically skilled persons

⚠️ **DANGER!**

Electrical shock on contact with live parts in the installation environment.

Electrical shocks can be fatal.

Before working on the device, disconnect the power supply and cover up live parts in the working environment.

4.1 Fitting and electrical connection
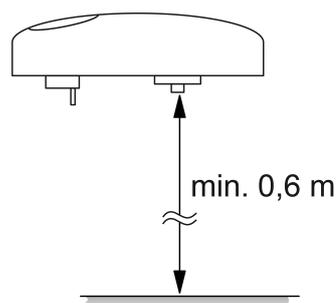
Selecting installation location

min. 0,6 m

Figure 3: Minimum distance to surfaces

Figure 4: Avoid spray water

$F_{max.} = 5\ N\ (500\ g)$
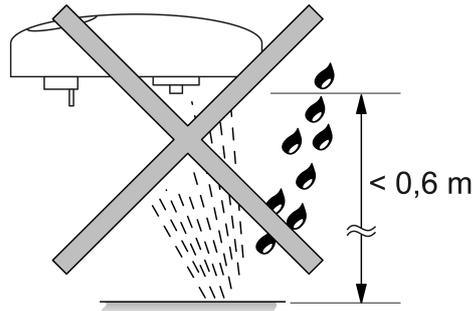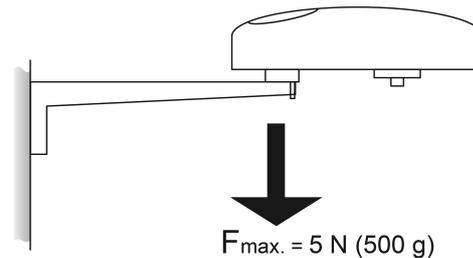
Figure 5: Maximum load on the fastening arm

Select a mounting selection in which the weather station is not influenced by local obstacles or shading, such as surrounding trees, chimneys, awnings, etc. The sensor must be able to detect wind, rain and ambient brightness without impedance. Avoid slipstream, shadow casting and light reflection.

Preferred mounting on a freestanding mast. If mounted on house walls, the measurement of wind and brightness in particular can be distorted.

Do not mount it below or next to building sections, from which water can drip onto the device.

Select the mounting location so that the weather station will be accessible.

In the case of flat roofs, locate the weather station as close to the centre of the roof as possible.

Minimum distance to surfaces below the weather station: 0.6 m (Figure 3). Otherwise, the sensors on the underside may get damaged by penetrating spray water (Figure 4).

Direct sunlight, chimneys or other waste gas or ventilation systems affect the temperature measurement.

Do not operate in the vicinity of radio transmitter systems. Doing so will compromise function.

ⓘ   Do not connect more than 3 weather stations in a KNX line.

Mounting weather station without fastening arm on freestanding mast

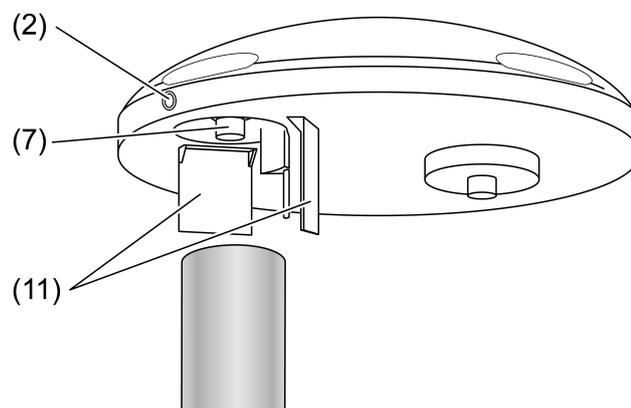

Figure 6: Mounting on freestanding mast without fastening arm

Use mast with outer diameter <25 mm and inner diameter >19 mm.

■   Mount enclosed guide blade (11) in the fields provided next to the connection (7).

ⓘ   If mounted on a mast without the guide blade, no correct wind direction measurement is possible due to the resulting turbulences.

■   Route the power supply line through the mast.

■   Attach the 7-pin plug to the connection (7). Tighten threaded ring with max. 0.5 Nm.

■   Mount weather station onto the mast and align. The grub screw (2) must be pointing north.

■   Tighten grub screw (2) with max. 0.6 Nm.

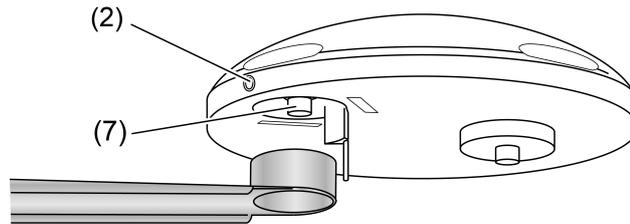## Mounting weather station with fastening arm on mast or wall

Figure 7: Mounting with fastening arm

Mount enclosed fastening arm onto a suitable mast or wall.

The enclosed hose clamps are suitable up to a maximum mast diameter of 60 mm.

ⓘ   If mounted on the supplied fastening arm, do not mount the enclosed guide blade.

■   Mast mounting: Attach fastening arm to mounting mast using the enclosed hose clamps.

■   Wall mounting: Attach fastening arm to the wall through the boreholes (Figure 8) using suitable screws.

■   Route the power supply line along the underside of the fastening arm and guide the 7-pin plug through the open pipe socket at the end of the fastening arm.

■   Attach the 7-pin plug to the connection (7). Tighten threaded ring with max. 0.5 Nm.

■   Mount weather station onto the mast and align. The grub screw must be pointing north.

■   Tighten grub screw with max. 0.6 Nm.

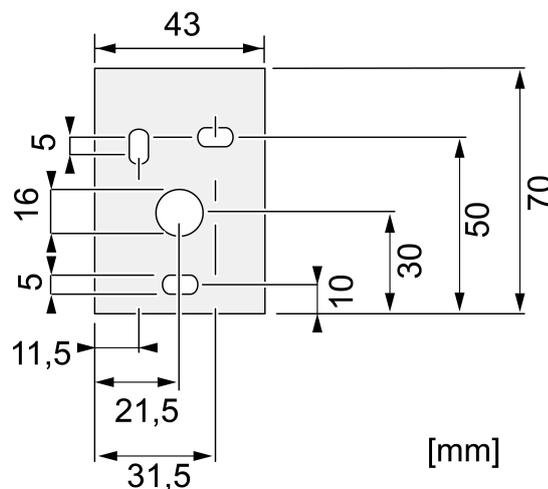■   Route the power supply line through the cable bushing into an installation pipe.

Figure 8: Fastening arm – dimensions for boreholes

Mounting and connecting the device

■   Connect bus line and external power supply to power supply line.

red	KNX+

Black	KNX–
orange	AC/DC 24 V ~/+
brown	AC/DC 24 V ~/-

ⓘ The sensor head is translucent. Therefore, do not stick or write on the sensor head.
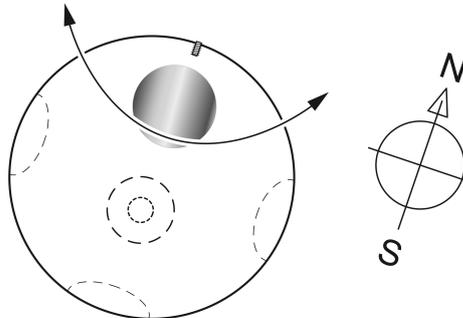
Aligning the device

Figure 9: Orienting the weather station

■ Align the sensor head in the appropriate direction or - depending on the detailed on-site circumstances - according to the alignment of the facade (Figure 9).

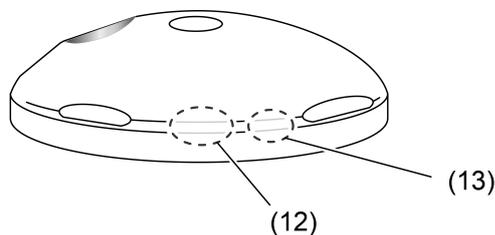## 4.2 Commissioning

Commissioning the device

Figure 10: Position of the programming LED and reed contact

■ Switch on the bus voltage.
■ Switch on supply voltage.
■ Hold the supplied programming magnet by the integrated reed contact (12).
   The programming LED (13) indicates the programming state blue.

■ Assign physical addresses and load application software into the device.
■ Note the physical address on adhesive labels on the underside.
   The device is ready for operation.

5 Technical data

Supply

Rated voltage	AC 24 V SELV (± 10%)
Rated voltage	DC 21 ... 32 V SELV
Current consumption	100 ... 400 mA (dependent on the weather)
Protection class	III

Connecting cable

somfy.

Cable type	LiYCY 4xAWG26
Length connecting cable	5 m
Total length per line	15 m
Number of weather stations	max. 3 (per line)

KNX
KNX medium	TP256
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Current consumption KNX	max. 5 mA

Ambient conditions
Ambient temperature	-30 ... +60 °C
Storage/transport temperature	-25 ... +70 °C
Degree of protection	IP 44 (in position for use)

Housing
Dimensions Ø×H	130×68 mm
Weight	approx. 230 g

Wind direction sensor
Measuring range	1...360°
Resolution	1°
Accuracy	± 10° (laminar wind stream)

Wind speed sensor
Measuring range	approx. 0 ... 40 m/s
Resolution	0.1 m/s
Accuracy ≤ 10 m/s	± 1 m/s
Accuracy >10 m/s	± 5 %

ℹ️ Accuracy as RMS average value over 360°.

Temperature sensor
Measuring range	-30 ... +60 °C
Resolution	0.1 K
Accuracy	± 1 K (Wind > 2 m/s, for -5 ... +25 °C)

Precipitation sensor
Measuring range	yes/no
Accuracy	Fine drizzle

Brightness sensors

Number	4
Measuring range	approx. 0 ... 150 klx
Spectral range	475 ... 650 nm
Resolution	1 klx
Accuracy	± 3 %

Twilight sensor

Measuring range	approx. 0...900 lx
Resolution	1 lx
Accuracy	± 10 lx

Air pressure sensor

Measuring range	300 ... 1100 hPa
Resolution	0.01 hPa
Accuracy	± 0.5 hPa

Humidity sensor

Humidity sensor	
Measuring range	0 ... 100 % rel. humidity
Resolution	0.1 % rel. humidity
Accuracy	± 10% rel. humidity (20°C)
abs. humidity	0 ... 400 g/m³
Resolution	0.01 g/m³

Global radiation

Measuring range	0 ... 1300 Watt/m²
Resolution	1 Watt/m²
Accuracy	± 10 %
Spectral range	350 ... 1100 nm

ⓘ   All accuracy specifications relate to the respective measuring range end value.

6   Accessories

animeo Power Supply DC	1860093

TP   Install with twisted pair cable.

S   Commissioning is done with software (ETS).

CE   Somfy hereby declares that the radio equipment covered by these instructions is in compliance with the requirements of Radio Directive 2014/53/EU and the other essential requirements of the applicable European Directives. The full text of the EU declaration of conformity is available at www.somfy.com/ce.

We care about our environment. Do not dispose of the appliance with usual household waste. Give it to an approved collection point for recycling.

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