GB CE

20 000 085 - **1**

Eltako

Weather data multi sensor
WMS

Temperature at mounting location:
-20°C up to +50°C.
Storage temperature: -25°C up to +70°C.
Relative humidity:
annual average value <75%.

The weather data multi sensor WMS sends the current weather details, including brightness from three points of the compass (0...99.000 Lux), wind (0...35 m/s) rain and temperature (-40...+80°C) to the MSR12-UC, FWG14MS or FWS61-24V DC connected in series once per second.

Functions:

- **Brightness measurement** with three separate sensors for east, south and west. Recognition of twilight/dawn.
- **Wind speed measurement:** by means of a nonwearing electronic sensor. No damage from storm or hail as with mechanical anemometers.
- **Temperature measurement**
- Heated **precipitation sensor** (1.2 watts): No false reports as a result of fog or dew. Dries quickly after precipitation has stopped.
- Sending cycle for data 1 second.

Installation and commissioning

Installation position:

Choose an installation position in the building where wind, rain and sun can be measured unhindered by the sensors. The weather station must not be installed underneath any structural parts from which water can still drip onto the rain sensor after it has stopped raining or snowing. The weather station must not be shaded by anything, such as building structures or trees.

At least 60 cm of clearance must be left all round the weather station.

This facilitates correct wind speed measurement without eddies.

The distance concurrently prevents spray (raindrops hitting the device) or snow (snow penetration) from impairing the measurement. It also does not allow birds to bite it.

Please take note that an extended awning does not shade the device from sun and wind.

Temperature measurements can also be affected by external influences such as by warming or cooling of the building structure on which the sensor is mounted, (sunlight, heating or cold water pipes).

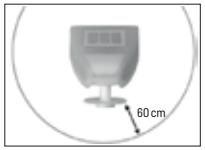


Fig. 1
There must be at least 60 cm of space below, to the sides and in front of the weather station left from other elements (structures, construction parts, etc.

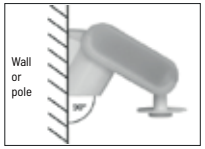


Fig. 2
The weather station must be mounted on a vertical wall (or a pole).

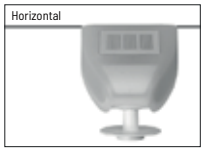


Fig. 3
The weather station must be mounted in the horizontal transverse direction (horizontally).

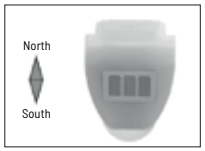


Fig. 4
For installation in the northern hemisphere, the weather station must be aligned to face south. For installation in the southern hemisphere, the weather station must be aligned to face north.

Mounting the sensor

Attaching the mount

The sensor comes with a combination wall/pole mount. The mount comes adhered by adhesive strips to the rear side of the housing. Fasten the mount vertically onto the wall or pole.

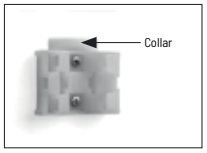


Fig. 5
When wall mounting: flat side on wall, crescent-shaped collar upward.

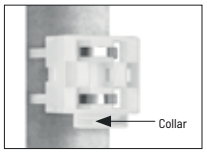
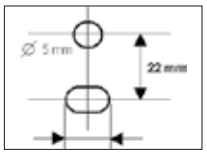


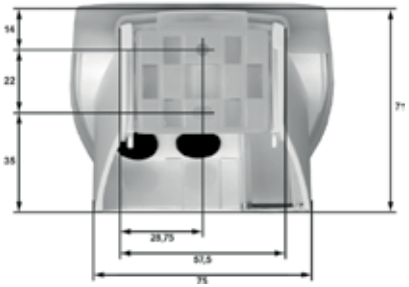
Fig. 6
When pole mounting: curved side on pole, collar downward.

View of rear side and drill hole plan



Long hole 7,5 x 5 mm

Fig. 7 a+b
Drill hole plan.
Dimensions of rear side of housing with bracket.
Subject to change for technical enhancement.



Preparation of the sensor

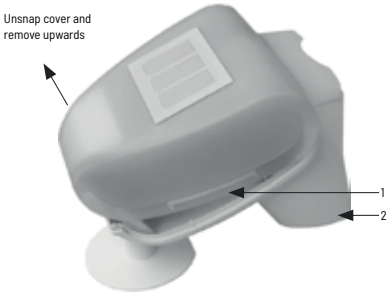


Fig. 8
1 Cover Snaps
2 Bottom part of housing

The weather station cover with the rain sensor snaps in on the left and right along the bottom edge (see figure). Remove the weather station cover. Proceed carefully, so as **not to pull off the wire** connecting the PCB in the bottom part with the rain sensor in the cover (wire with push-connector).

Connect the data cable to terminals A and B. Connect the power supply (24 V DC) to terminals 1+ and 2-. Make sure the connection is correct!

Push the connecting cable through the rubber seal on the bottom of the weather station and connect the power and bus cables to the terminals provided for this purpose.

The connection is by typical telephone cable (J-Y(ST)Y 2×2×0,8).

The connection cable must be plugged in between the cover and circuit board.

Please pay attention to the correct connection!

Overview of terminal designations

WMS	MSR12	FWS61	FWG14MS
1 ->	MS1	1 (+)	+ of WNT
2 ->	MS2	2 (-)	- of WNT
A ->	MSA	A	RSA
B ->	MSB	B	RSB

PCB Layout

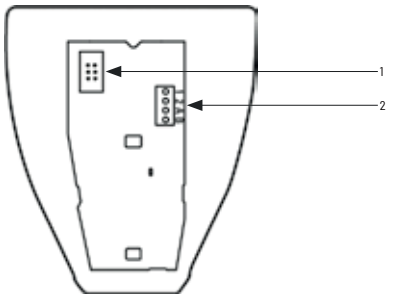


Fig. 9: Overview PCB
1 Connecting cables to rain sensor in housing cover
2 Terminal for connection 1: +24 V DC | 2: '-'
A: data | B: data

Mounting the sensor

Close the housing by putting the cover back over the bottom part. The cover must snap in on the left and right with a definite 'click'.

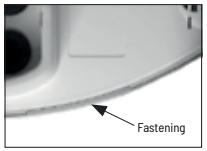


Fig. 10
Make sure the cover and bottom part are properly snapped together! This picture is looking at the closed sensor from underneath.

Fig. 11
Push the housing from above into the fastened mount. The bumps on the mount must snap into the rails in the housing.

To remove it, the sensor can be simply pulled upwards out of the mount, against the resistance of the fastening.

Fig. 12
After installation, remove the 'distance' sticker on the top of the cover.

Notes on mounting and commissioning

Do not open weather station if water (rain) might ingress: even some drops might damage the electronic system.

Observe the correct connections. Incorrect connections may destroy the weather station or connected electronic devices.

Please take care not to damage the temperature sensor (small blank at the bottom part of the housing.) when mounting the weather station. Please also take care not to break away or bend the cable connection between the blank and the rain sensor when connecting the weather station.

The correct wind value may only be supplied about 30 seconds after the supply voltage has been connected.

Maintenance of the weather station

WARNING
Risk of injury caused by components moved automatically!

The automatic control can start system components and place people in danger.

Always isolate the system from the mains for servicing and cleaning.

The device must regularly be checked for dirt twice a year and cleaned if necessary. In case of severe dirt, the sensor may not work properly anymore.

ATTENTION
The device can be damaged if water penetrates the housing.

Do not clean with high pressure cleaners or steam jets.

Disposal

After use, the device must be disposed of in accordance with the legal regulations. Do not dispose of it with the household waste!

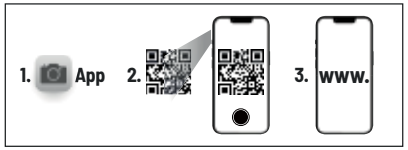
Technical data

Housing	plastic
Color	white / translucent
Surface mounting	
Protection class	IP 44
Dimensions	approx. 96×77×118 (W×H×D, mm)
Weight	approx. 160 g
Ambient temperature	operation -30...+50°C, storage -30...+70°C
Operating voltage	24 V DC ±10%
Connection	screw terminal
Conductor cross section	rigid/flexible conductors up to 0.5...1.0mm²
Stripping length	6 mm
Current	max. 130 mA, residual ripple 10%
Data output	RS485
Heating rain sensor	ca. 1.2 W
Measuring range temperature	-40...+80°C
Measuring range wind	0...35 m/s
Measuring range brightness	0 ... 99.000 Lux

The product is compliant with regulations the EU directives.

Manuals and documents in further languages:

https://eltako.com/redirect/WMS



Must be kept for later use!

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49/2023 Subject to change without notice.