P03/3
Weather Station

Replacement for P00 (3-wire), P01 and P02 for controls WS1, WS10, WS20, WS1000, WS1000 Touch, FS100 and PS8A

Technical specifications and installation instructions
Item number 30107

1. Description

The **P03/3 Weather Station** measures temperature, wind speed, brightness (eastern, southern and western sun). It recognizes precipitation and receives the time signal with a GPS receiver. Central European Time is output, daylight savings time is adjusted automatically according to the specifications of central europe.

Die P03/3 serves as replacement for the 3-wire P00, the P01 or the P02 for conservatory controls WS1, WS10, WS20, WS1000 and WS1000 Touch and for the facade control FS100 and evaluation unit PS8A.

With all control models except WS1000 Touch a jumper must be placed on the board of the waether station. Please refer to chapter “PCB Layout” auf Seite 2.

Functions:

- **Brightness measurement** with three separate sensors for east, south and west. Recognition of twilight/dawn with special filters
- **Wind measurement:** The wind strength measurement takes place electronically and thus noiselessly and reliably, even during hail, snow and sub-zero temperatures. Even turbulent air and anabatic winds in the vicinity of the weather station are recorded
- **Temperature measurement**
- Heated **precipitation sensor** (1.2 watts): No false reports as a result of fog or dew. Dries quickly after precipitation has stopped
- Integrated **GPS receiver**. Output of CET (Central European Time), automatic adjustment of daylight savings time.

1.1. Scope of delivery

- Weather station with a combination wall/pole mount
- Jumper (see chapter 2.2.4.)

1.2. Technical specifications

Housing	Plastic material
Colour	White / translucent
Mounting	On-wall
Degree of protection	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
Connection	Screw terminal
Conductor cross-section	Solid/fine-stranded conductors of up to 0.5...1.0 mm²
Stripping length	6 mm
Heating rain sensor	approx. 1.2 W
Measurement range temperature	-40…+80°C
Measurement range wind	0…35 m/s
Measurement range brightness	0 lux ... 99.000 lux

The product conforms with the provisions of EU directives.

2. Installation and commissioning

Installation, testing, operational start-up and troubleshooting should only be performed by an authorised electrician.

CAUTION!
Live voltage!
There are unprotected live components inside the device.
- Inspect the device for damage before installation. Only put undamaged devices into operation.
- Comply with the locally applicable directives, regulations and provisions for electrical installation.
- Immediately take the device or system out of service and secure it against unintentional switch-on if risk-free operation is no longer guaranteed.

Use the device exclusively for building automation and observe the operating instructions. Improper use, modifications to the device or failure to observe the operating instructions will invalidate any warranty or guarantee claims.
Operate the device only as a fixed-site installation, i.e. only in assembled condition and after conclusion of all installation and operational start-up tasks, and only in the surroundings designated for it.
Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.1. 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).

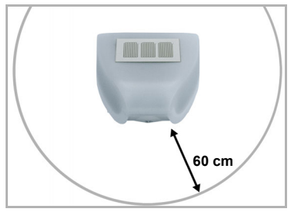


Fig. 1
There must be at least 60 cm of space below, to the sides and in front of the weather station left from other elements (structures, construction parts, etc.).

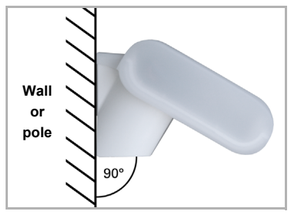


Fig. 2
The weather station must be mounted on a vertical wall (or a pole).

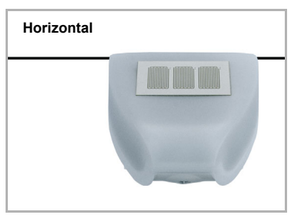


Fig. 3
The weather station must be mounted in the horizontal transverse direction (horizontally).

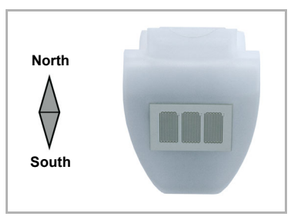


Fig. 4
For installation in the northern hemisphere, the weather station must be aligned to face south.

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

2.2. Mounting the sensor

2.2.1. 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.

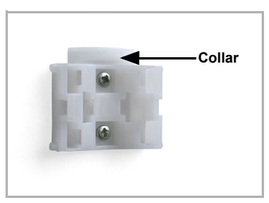


Fig. 5
When wall mounting: flat side on wall, crescent-shaped collar upward.

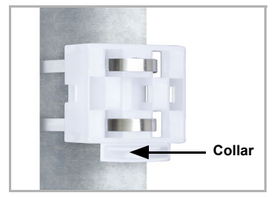


Fig. 6
When pole mounting: curved side on pole, collar downward.

Fig. 7
Different mounting arms are available from Elsner Elektronik as additional, optional accessories for flexible installation of the weather station on a wall, pole or beam (pictures of sensors exemplary). Example of the use of a mounting arm: Due to flexible ball joints, the sensor can be brought into ideal position.

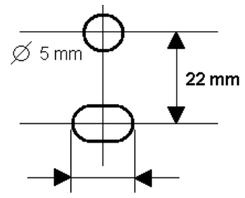
Fig. 8
Example use of the hinge arm mounting: With the hinge arm mounting, the weather station projects from beneath the roof overhang. Sun, wind and precipitation can act upon the sensors without hindrance.

Fig. 9
Example use of the hinge arm mounting: Fitting to a pole with worm drive hose clips

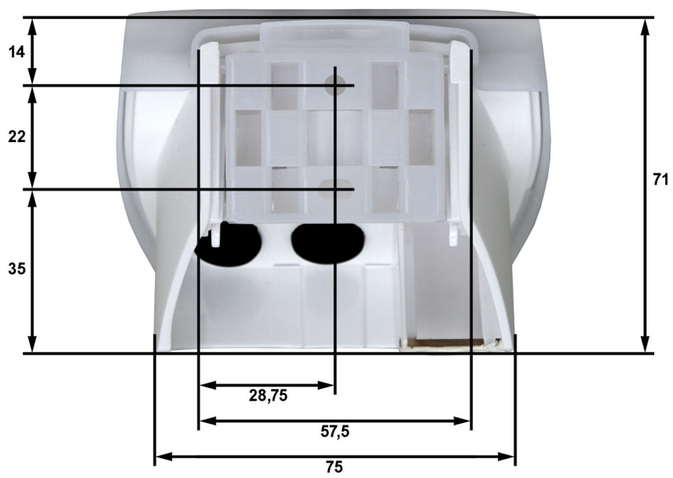
2.2.2. View of rear side and drill hole plan

Fig. 10 a+b
Drill hole plan

Dimensions of rear side of housing with bracket. Subject to change for technical enhancement.



Langloch 7,5 x 5 mm



2.2.3. Preparing the sensor

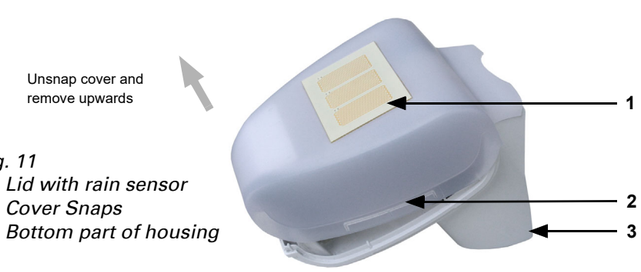


Fig. 11
1 Lid with rain sensor
2 Cover Snaps
3 Bottom part of housing

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).

Push the connecting cable through the rubber seal on the bottom of the weather station and connect the power and data cables to the terminals provided for this purpose. The supply cable to the weather station should be a maximum of 30 m long. 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.

2.2.4. PCB Layout

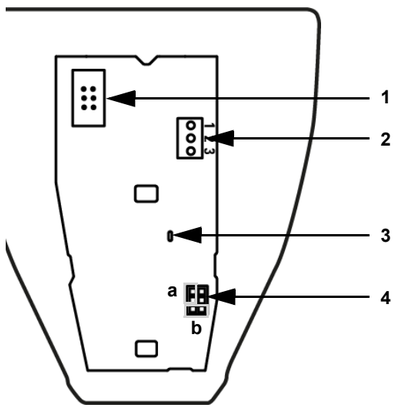


Fig. 12: Overview PCB
1 Socket for connecting cables to rain sensor in housing cover
2 Terminal for connection 1: +24 V DC | 2: „-“ | 3: Data
3 Control LED GPS receiver
4 Socket for jumper

Set jumper:

Please reboot the system after the setting of the jumper!

Control model	Jumper position
WS1000 Touch	no jumper
All other models up to production year 2001	jumper at position (a)
All other models from production year 2002 on	jumper at position (b)

2.2.5. 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”.

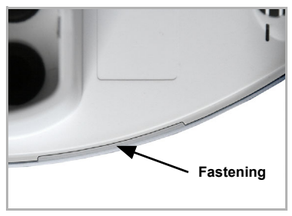


Fig. 13
Make sure the cover and bottom part are properly snapped together! This picture is looking at the closed sensor from underneath.

Fig. 14
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.

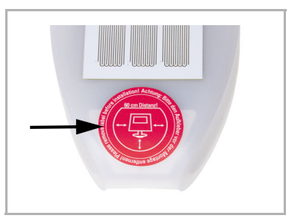


Fig. 15
After installation, remove the "distance" sticker on the top of the cover.

2.3. 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.

Remove all existing protection labels after installation.

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

2.4. 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.

3. Disposal

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