Weather Station Sonic Anemo + Rain for XL3

WIND SPEED & DIRECTION AND TEMPERATURE SENSOR

The ultrasonic Weather Station Sonic Anemo + Rain is designed to be used with XL3 Acoustic Analyzer. Rugged design, no moving part and one single cable for the data transmission and power supply makes it robust and easy to use.

Benefits

- Rugged design (no moving parts)
- Low power consumption
- One single cable (USB-A) for power supply and data transmission

Features

- Configured for operation with XL3 via a USB-A connection
- Wind speed, wind direction, temperature collection
- Logging interval of min, max and avg from 1 sec to 1 hour
- Data compatible with Data Explorer SW for markers generation
- Data stream through XL3 API

Delivery contents

- Weather Station Sonic Anemo + Rain with integrated datalogger
- 5m cable
- Adapter for vertical support
- Mounting accessories
- Installation and User Manual

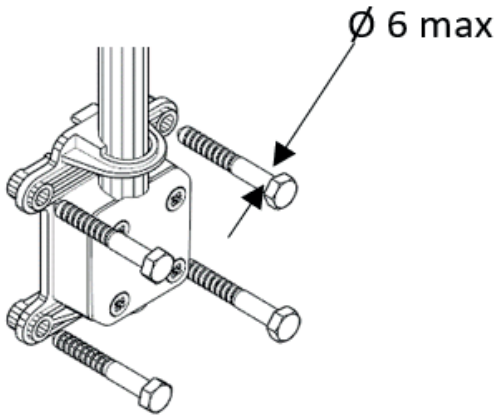
Installation and operation

Prepare the masthead for mechanical installation using the provided template for screwing. Ensure that the Weather Station Sonic Anemo + Rain sensor is oriented to face North, with the North mark located underneath the sensor. Whenever possible, avoid placing the sensor near cables that may cause high levels of radio interference.

The Weather Station Sonic Anemo + Rain comes with a mounting bracket allowing two mounting methods:

On a vertical surface:

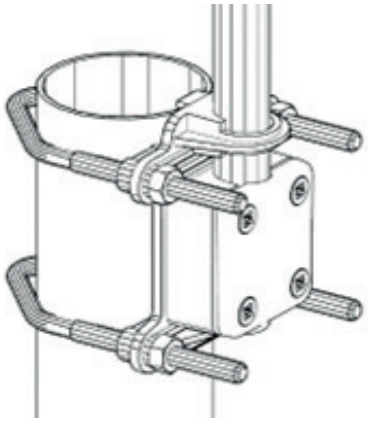
(the sleeper screws are not supplied)



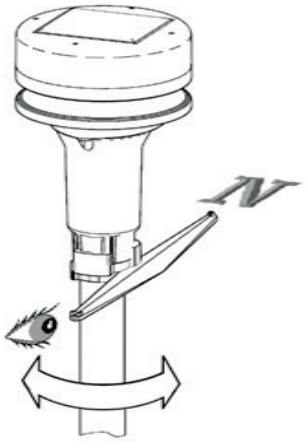
On apole

Pole diameter: Ø 35 mini ; Ø 48 maxi.

Max. tightening torque: 1.5 N.m



The sensor must be aligned to North. An alignment tool is supplied for this purpose. Clip the tool on the tube and slide it so that it snaps into the dedicated slots. Do not tamper with the slots. The tool must gently find its place. Slightly loosen the 4 screws that hold the tube. Align the tool - and the sensor - to North. Tighten the screws. Remove tools after use.



Note: Magnetic deviation must be considered to reference the measurements to True North.

Note: for mounting on a vertical surface, Glomex® RA106BRACKET and RA106BRACKINOX brackets are compatible. (see example opposite, not supplied)

To establish the connection between Weather Station Sonic Anemo + Rain and the XL3 Acoustic Analyzer, simply plug the cable into the USB A socket on the bottom of your XL3.

XL3 data sample

The XL3 Acoustic Analyzer logs weather data as a .txt file, similar to noise data. Here is an example of weather data stored with a logging period of 1 sec:

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XL3 Weather Logging:
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# Hardware Configuration
    Device Info:        XL3, SNo. A3A-00493-D1, FW1.38
    Sensor S1:          LCJ Capteurs, SNo. 0724SDU008, USB
    Time Zone:          Europe/Paris (UTC +02:00 DST)

# Measurement Setup
    Log-Interval:       00:00:01.0

# Time
    Start:              2024-10-03, 15:35:51

# Weather Log Results
    Date            Time            Speed_Min   Speed_Avg   Speed_Max   Dir_Min   Dir_Avg   Dir_Max     Temp
                                          S1          S1          S1        S1        S1        S1       S1
    [YYYY-MM-DD]    [hh:mm:ss]         [m/s]       [m/s]       [m/s]     [deg]     [deg]     [deg]    [degC]
    2024-10-03      15:35:59            0.80        1.20        1.70         0       359       323     18.0
    2024-10-03      15:36:00            0.80        1.27        1.60        11         8       341     18.0
    2024-10-03      15:36:01            1.10        1.20        1.30         7        12        20     18.0
    2024-10-03      15:36:02            1.40        1.80        2.30        11        25        44     18.0
    2024-10-03      15:36:03            1.90        2.03        2.10         4        15        23     18.0
    2024-10-03      15:36:04            2.10        2.33        2.50        18        21        24     18.0
    2024-10-03      15:36:05            1.70        1.90        2.10        23        25        30     18.0
    2024-10-03      15:36:06            1.90        2.03        2.20        28        29        30     18.0
    2024-10-03      15:36:07            1.80        2.10        2.30        17        22        27     18.0
    2024-10-03      15:36:08            1.70        1.87        2.10        27        31        35     18.0
    2024-10-03      15:36:09            2.40        2.50        2.60        30        33        35     18.0
    2024-10-03      15:36:10            2.20        2.45        2.60        22        27        30     18.0
    2024-10-03      15:36:11            2.50        2.67        2.80        37        37        39     18.0
    2024-10-03      15:36:12            2.70        2.83        3.00        33        37        43     18.0
    2024-10-03      15:36:13            2.60        2.90        3.30        30        32        39     18.0
    2024-10-03      15:36:14            2.20        2.47        2.70        25        36        41     18.0
    2024-10-03      15:36:15            1.40        1.77        2.20        29        32        39     18.0
    2024-10-03      15:36:16            0.60        1.05        1.40        27        30        34     18.0
    2024-10-03      15:36:17            0.40        0.47        0.60        18        29        44     18.0
    2024-10-03      15:36:18            0.00        0.17        0.40        44       224       224     18.0
```

Technical Specifications	
Output data format	Serial link TTL 3V
Information transmitted	Min, Max, Avg W. Speed, Min, Max, Avg. W. Direction, Temperature
Output rate	Up to 1Hz
Wind module sensitivity	0.25 m/s
Wind module resolution	Up to 0.05 m/s
Wind module dynamic	0.12 to 40 m/s
Direction sensitivity	+/- 1,5°
Direction resolution	Up to 1°
Operating temperature	-15°C (without icing) to +55°C
Connection	USB-A
Weight	Head = 180 g | Complete set = 240 gr
Typical wind speed accuracy	• At 2.1 m/s: ±12% / ±0.35 m/s • At 3.0 m/s: ±6% / ±0.30 m/s • At 18.0 m/s: ±5% / ±0.75 m/s
Typical wind direction accuracy	• At 2.1 m/s: ±10° • At 3.0 m/s: ±6° • At 18.0 m/s: ±2°
Order Information NTi Audio #	600000751