

AIRQINO AIR AWARE

Cod. 800506

Instructions manual



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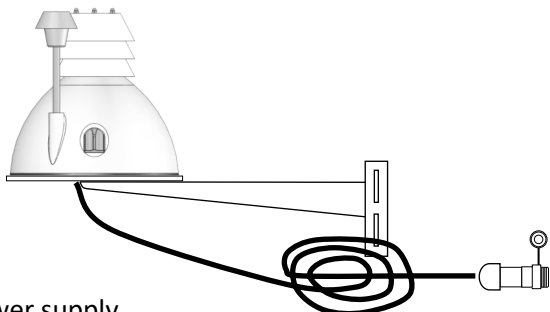
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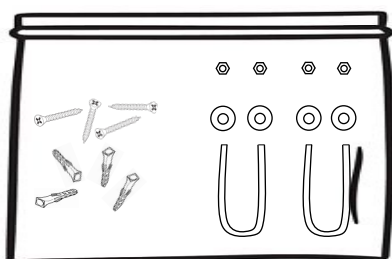
1. Airqino Outdoor Station with metal bracket and cable (9 mt)



2. Power supply



3. Bag with 4 screws, 4 plastic dowels and 2 cable ties



4. Instruction booklet



1. Intended Purpose

AIRQino stations resulted to be a robust tool for investigating air quality dynamics at a higher spatial and time-scales, providing further information compared to those provided by the sole reference station. These stations, installed over several key areas within a small municipality characterized by atmospheric pollutants and unfavourable weather conditions, were able to capture air pollutant dynamics continuously.

Please read and follow all instructions in this manual.

2. Labelling Symbols

Symbol	Meaning
	Caution, Consult User's Manual
	Caution, High Voltage
	This product conforms to the requirements of the applicable European Community directives.

3. Classification of Equipment

Item	Classification
Protection of Harmful Ingress of Water	IP44 outdoor use
Mode of Operation	Continuous

4. Warnings

General Warnings
CAUTION: To avoid the risk of electric shock
CAUTION: No modification of this equipment is allowed.
CAUTION: Do not restrict the air flow of the product.
CAUTION: Not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. Children should be supervised to ensure that they do not play with the appliance.
CAUTION: If the Power Cord is damaged in any way it must be replaced by a special cord or assembly available from the manufacturer or its service agent

5. Technical specifications

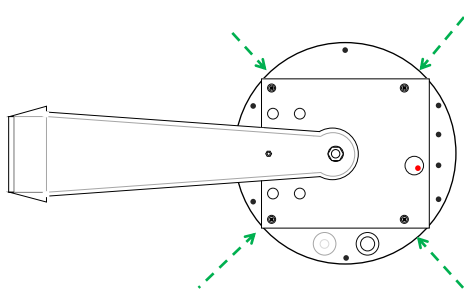
- a) Power Requirements: 110/230 VAC, 50/60 Hz, 5 W.
- b) Mounting: wall or pole installation.
- c) Operating Conditions: -30 / + 70°C, 0 - 100% Relative Humidity.

6. Instructions for Installation

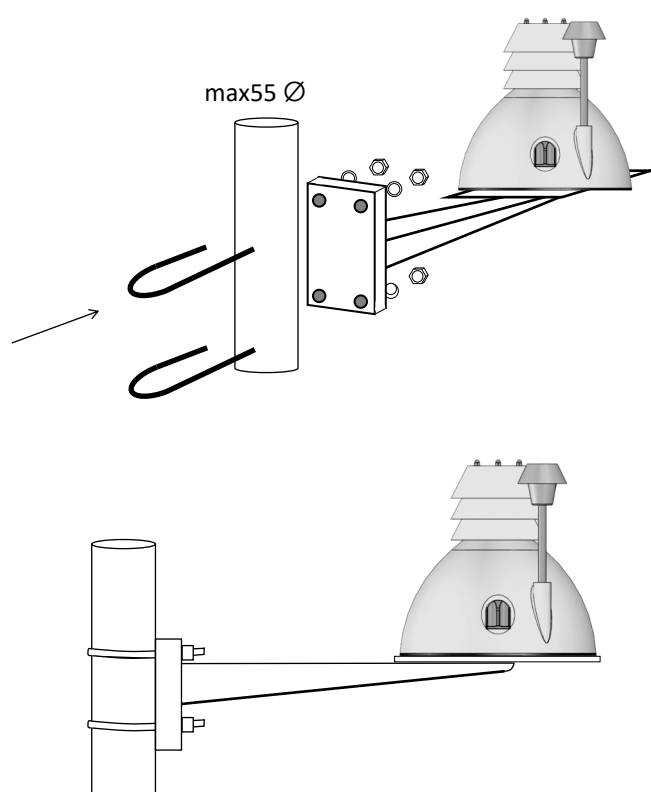
For the installation It must be considered that Airqino must be exposed to the outside of the house. Here are 3 examples. Please note that the power cord is approximately 9 meters long.

1. PLACED ON A TABLE OR BOX

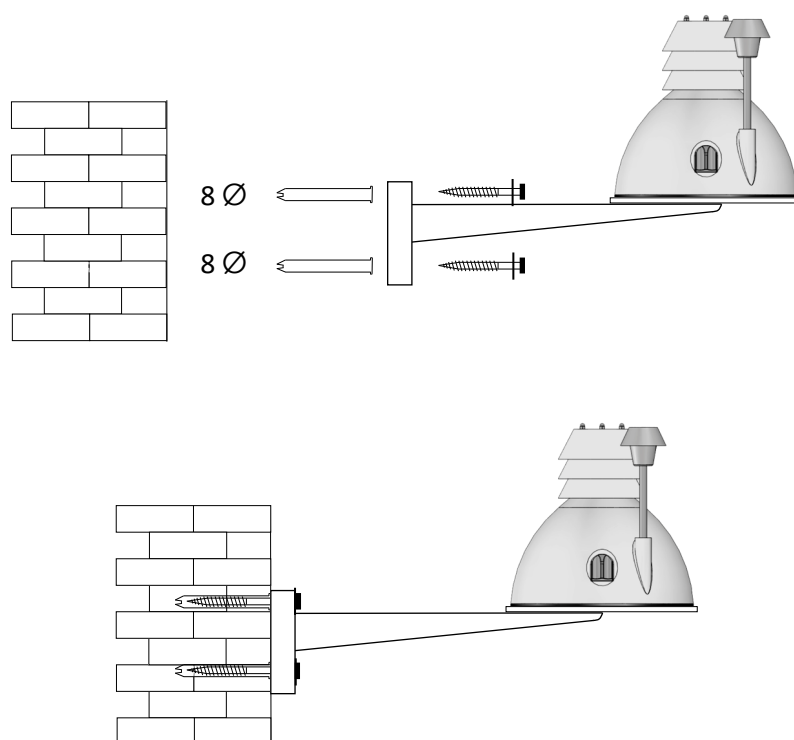
Remove the 4 screws to separate the bracket



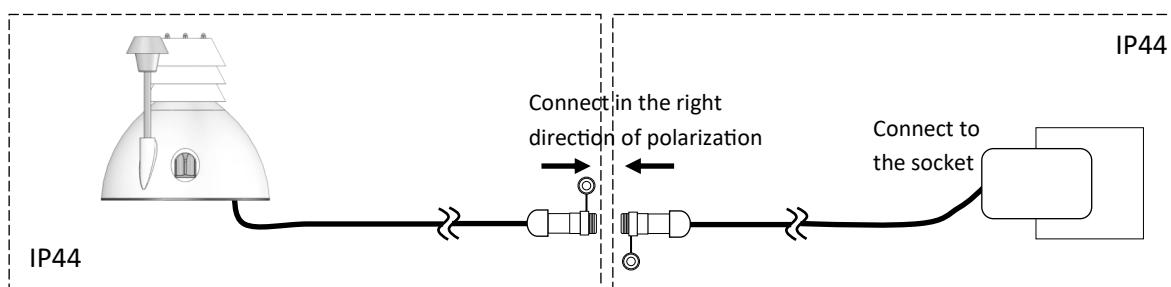
7. MOUNTING THE AIRQINO ON VERTICAL POLE



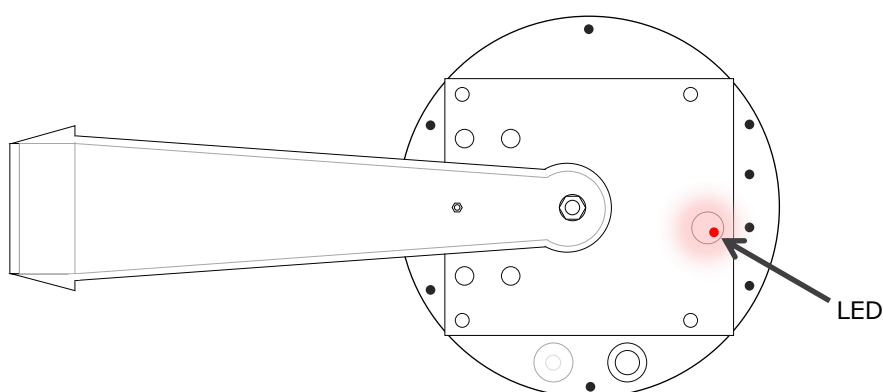
8. MOUNTING THE AIRQINO ON THE WALL



AFTER INSTALLING THE AIRQINO, CONNECT THE POWER SUPPLY CABLE TO THE AIRQINO AND THE PLUG TO THE MAIN AC 110/230 Vac 50/60 Hz



1. At startup, the LED flashes once per second (slow flashing); If the LED is off, check that the power cable is connected correctly.
2. If the instrument encounters a FAIL condition (modem, sd-card, internal memory) within 10 seconds the LED starts flashing 5 times per second (fast flashing);
3. If the modem has no GSM coverage, after 10 minutes the LED changes from slow flashing to fast flashing;
4. In case of normal operation, the flashing is kept slow.



FLASHING LED TABLE

Number of Led's flashing	Component being checked	Timing	Status
Led off	Unit	Power supply connection	Check connector of power supply
5 flash for second	modem, sd-card, internal memory	After 10 seconds	FAIL condition
1 flash for second	GSM connection	After 10 seconds	Search connection
5 flash for second	GSM connection	after 10 minutes	FAIL condition
1 flash for second	Unit	Startup	OK

8. General Features

Power

Supply	Expected lifespan	Notes
Consumption 3.5W		
External DC power supply unit	>5 years	Switching power supply unit 12Vdc@3.5A 42W IP44 included

Particles

Sensor	Type	Units	Range#1	Resolution#3	Accuracy#4
PM10#5	Optical particle counter	µg/m3	0-1000 µg/m3	1.0	10%
PM2.5#5	Optical particle counter	µg/m3	0-1000 µg/m3	1.0	10%

Gas sensors

Sensor	Type	Units	Range#1	Resolution#3	Accuracy#4
NO2	MOS-type gas sensors	µg/m3	0-5000 µg/m3	5.0	15%
O3	Semiconductor	µg/m3	0-1000 µg/m3	1.0	15%
CO	MOS-type gas sensors	mg/m3	0-30 mg/m3	0.03	15%

Additional sensors

Air temperature	Solid state	°C	-40 / + 80	0.3	5%
Air humidity	Solid state	%	0 – 100	1.0	5%

Sensor life

Sensor type	Expected lifespan	Notes
Solid state	>2 years	See standard operating procedure
Optical particle counter	>1 years	Maintenance dependent on applications & settings
Electrochemical sensor	>1 years	Maintenance dependent on applications & settings

Physical

Enclosure	Environmental	Mounting	Size & weight
ABS, protection IP44	Temperature range: -30°C to +70°C Humidity range: 0 to 100% RH Tested in North Pole scientific campaign	Steel mounting bracket for walls / posts and installation screws set included	Length: 210 mm Height: 220mm Weight: 0.9kg Bracket: 350mm x 120 mm x 0.6 Kg

Communications	Measurement period	Transmission frequency	Server software	Data access
Raw data sent to remote server via 3G/4G SIM	1 second, moving average 120 seconds	4 minutes	Web browser based, processing of sensor output to give reading, database storage on secure server	Tables, graphs, data download, multi-user access, optional API data access

AIRQINO MONITORING STATION WAS DEVELOPED IN COLLABORATION WITH NATIONAL RESEARCH COUNCIL

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9. Maintenance

AIRQino stations were tested in extreme environment and harsh conditions and resulted to be a robust and reliable. The sensors require periodical maintenance, is suggested yearly recalibration and periodical cleaning procedure. Cleaning procedure and timing are strictly related to environmental condition, suggested every 6 months.

For calibration procedure is necessary to use a certified laboratory. Standard maintenance and cleaning procedures can be operated by the users.

9. Guarantee

Airqino device is covered by legal guarantee as described in the European directive 1999/44/EC