Wireless Anemometer

Model
AN-3D

The AN-3 wireless stationary anemometer offers great practicality by allowing the sensor unit to be installed more than 1km away from the controller unit, without the need to run wires or change batteries as it has an internal battery that is constantly charged using solar energy.

The sensor unit is built with 3 high-strength aluminum blades attached to an aluminum rotor and stainless steel shaft with double shielded bearings, specially developed to provide high precision even at low speeds.

The AN-3 also has a temperature sensor, relative humidity sensor and input for an anemoscope to indicate wind direction (optional), making it a versatile product for various applications.

The controller unit has an LCD display for viewing measurements in real time, 2 programmable analog outputs, 2 programmable relay outputs, 1 RS-485 serial output for remote monitoring (software included) and audible indication and visual indication via LEDs on the front panel.

The presets can be programmed to meet the speeds specified in safety brazilian standards NR-12, NR-18, NR-34, NR-35, NR-37 or any other speed defined by the user. It can be configured with 3 units of measurement: km/h (kilometers per hour), m/s (meters per second) or kn (knots).

Applications

The AN-3 anemometer can be used in the construction sector, agriculture, wind and solar farms, the naval sector/ports, airports, the oil sector, power towers and others. They are ideal for use in transport machinery installed outdoors to lift or move objects or loads (cranes, seesaws, suspended baskets, PTA work platforms, cable cars, conveyors or overhead cranes, etc.).

Order Coding

AN - 3D - ☐ - ☐

INDOOR/ OUTDOOR USE	ANALOG OUTPUT
O = Outdoor (solar cell)	B = 0~20mA or 4~20mA
I = Indoor (direct power supply)	C = 0~10V or 2~10V
	D = 0~5V or 1~5V

TECHNICAL SPECIFICATIONS

Especifications on Measurement

Wind Speed Scale	0~150 km/h - 0~42 m/s - 0~81 kn
Wind Speed Resolution	0,1 km/h - 0,01 m/s - 0,01 kn
Accuracy in the range of 2~40 m/s	+/- 3% f the reading + 0,2m/s
Starting Speed	< 0,2 m/s
Wind Direction Resolution*	16 positions (cardinal, collateral and sub-collateral points)
Temperature Scale	-40°C ~ 60,0ºC
Temperature Accuracy	+/- 0,2°C (typical)
Relative Humidity Scale	10%Ur ~ 90%Ur
Relative Humidity Accuracy	+/- 2%Ur (typical)

* * Anemoscope is an optional item, sold separately.

Radio Transmitter Specifications

Applied Technology	LoRa Spread Spectrum Technology
Communication Frequency	433MHz (410,125MHz ~ 493,125MHz)
Frequency Channels	83
Maximum Transmission Power	22dBm - (selection option 22dBm, 17dBm, 13dBm ou 10dBm vía programming)
Transmission range*	Approximately 1000m with aimed antennas and in ideal situations
Transmission rate	Programmable in 2s, 5s, 10s, 15s, 20s, 30s, 60s, 90s, 120s or 300s

* Considering that the battery is 100% charged, with favorable weather conditions and no signal obstructions.
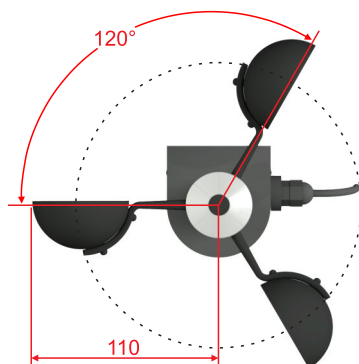
Controller Unit Specifications

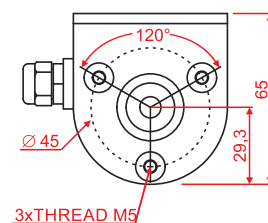|	
Display	Alphanumeric LCD with digital backlight and contrast adjustment
Indications	Visual indication on LCD, visual indication of presets (LEDs) and audible indication
Sound pressure level	85dB (for local warning only - use relays to switch larger sirens)
Relay outputs / Presets	2 NO relays - 7A/250Vac (resistive)
Relay functions	Comparison of greater than or equal to, less than or equal to or programmable cyclic alarm
Analog outputs	2 outputs (one for wind speed and the other programmable)
Analog Output Specifications	Active and programmable 0~20mA or 4~20mA (maximum 500Ω)
Serial Output	RS-485 (Modbus RTU protocol) - Monitoring software included

General Specifications

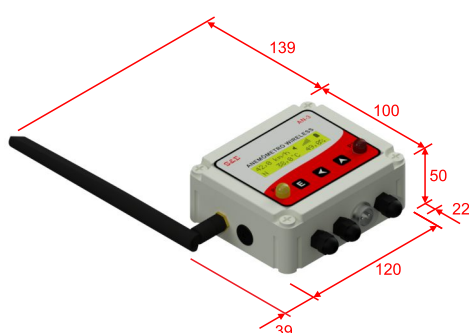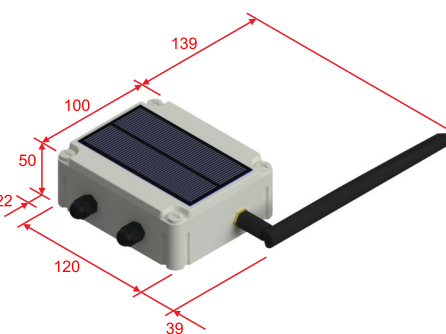|	Sensor Unit	Transmitter Unit	Controller Unit
Operating temperature	0 ~ 60°C (without heater)	-10 ~ 60°C	
Degree of Protection	IP65	IP65	IP60
Housing and shaft material	epoxy-painted aluminum		
Housing Material	Polyamide with 33% fiberglass	ABS	ABS + Polycarbonate
Power supply	3.7V 3000mAh 18650 replaceable lithium battery		9~30Vdc / 85~265Vac
Battery life	> 2 years (considering 8 hours of sun daily)		
Dimensions	Ø220 x 215mm de altura	159 x 122 x 50mm	159 x 122 x 50mm
Approximate weight	1.30kg (without packaging and brackets)		

DIMENSIONS AND FIXING BRACKETS
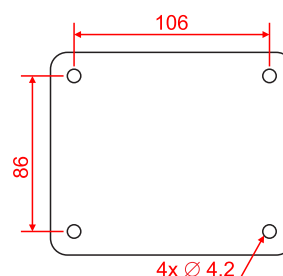
Sensor Unit

120°
110
120
95

Drilling for Fixing

120°
∅ 45
3xTHREAD M5
65
29,3

Controler Unit

139
100
50
22
120
39

Transmission Unit

139
100
50
22
120
39

Drilling for Fixing

106
86
4x ∅ 4,2

*Measures in mm

Fixing Brackets

SP-01

Low-cost 90º fixing bracket, ideal for installation on the edges of vertical walls or support columns.

Suitable for fixing to masts, towers, bars, etc.

It can withstand severe weather conditions as it is made from carbon steel with epoxy electrostatic paint.

SP-04

Horizontal fixing bracket that allows the sensor unit to be moved away from the fixing point to avoid errors caused by air rotation.

Suitable for cranes, ships, buildings and overhead cranes, etc.

It can withstand harsh weather conditions as it is made from carbon steel with epoxy electrostatic paint.

SP-06

Swivel mounting bracket for use on cranes where the sensor unit is kept horizontally aligned regardless of the inclination of the boom.

It has fastening systems that allow easy removal when the crane is not in use or is being transported (only one fastener).

It can withstand harsh weather conditions, as it is made from carbon steel with epoxy electrostatic paint

SP-05

Vertical fixing bracket that allows the sensor unit to be raised from the fixing point to avoid errors caused by air rotation.

Suitable for cranes, ships, buildings, conveyors and overhead cranes, etc.

It can withstand harsh weather conditions as it is made from carbon steel with epoxy electrostatic paint.