

Plugstation

Sônica + Qualidade do Ar



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The **Plugstation Sônica + Qualidade do Ar** is an integrated solution for environmental monitoring, combining high-precision sonic sensors with advanced air quality analysis. It measures temperature, humidity, atmospheric pressure, precipitation, wind speed and direction, as well as concentrations of PM2.5, PM10, CO, SO₂, NO₂ and O₃, providing reliable data for environmental management, decision-making, and compliance with technical requirements.



Technical Specifications

Parameter	Type	Description	
Network	Wi-Fi	802.11bgn 2,4Ghz Authentication Method Open/WPA/WPA2	
	2G / 3G / 4G	CDMA/HDR/GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA/HSPA+TDSCDMA/TDD LTE/FDD LTE	
Optional Networks	Ethernet	Additional communication module for RJ45 cable	
	Satelital	Additional Satellite communication module	
	LoRaWAN	Additional communication module LoRaWAN	
Processor	Dual Core	240Mhz (600DMIPS)	
Memory	SPI Flash	16MB	
Sensor Reading Interval	Minutes	1, 2, 3, 4, 5, 10 or 15 minutes (adjustable)	
Storage/Datalogger	Days	1, 2, 3 or 4 minutes	Online only (Plugminute)
		5 minutes	More than 90 days of data
		10 minutes	More than 180 days of data
		15 minutes	More than 270 days of data
GNSS Antenna	GPS	Global Navigation Satellite System	
Battery	Lithium Ion	4000mAh (rechargeable)	
	Type	Sealed	
	Minimum Duration	3 days (72 hours)	
	Lifespan	3 years (36 months)	
Operating Temperature	External	-10°C to +60°C	
Power Supply	Solar Panel	10W, 18V/600mA, Off-Grid	
	Adapter	Adapter 12V/3.36A	
Case	Polycarbonate	UV protected	
		IP66 protection rating	
Display	Monochrome	0.96", 128X64 pixels	
Registration	Anatel	07483-24-12364	
Sensor Ports	Connections	Three RS485 communication ports for sensors ModBus	



Meteorological Sensors

Parameter	Minimum	Maximum	Accuracy	Resolution
Air Temperature	-40° C	60° C	±0,3° C	0,01° C
Air Humidity	0%	100%	0,01%	±3% RH
Atmospheric Pressure	300	1.100 hPa	±1 hPa	0,1 hPa
Wind Speed	0 m/s	60 m/s	±3%	0,01 m/s
Wind Direction	0°	360°	±2°	0,1°
Precipitation	0 mm/h	200 mm/h	±10%	0,2 mm

Air Quality Sensors

Parameter	Minimum	Maximum	Accuracy	Resolution
PM2.5	0 µg/m ³	1.000 µg/m ³	± 10 %	1 µg/m ³
PM10	0 µg/m ³	1.000 µg/m ³	± 10 %	1 µg/m ³
Carbon Monoxide (CO)	0 ppm	12,5 ppm	± 1,5% F.S	≤ 10 ppb
Sulfur Dioxide (SO ₂)	0 ppb	2.000 ppb	± 1,5% F.S	≤ 10 ppb
Nitrogen Dioxide (NO ₂)	0 ppb	2.000 ppb	± 1,5% F.S	≤ 10 ppb
Ozone (O ₃)	0 ppb	2.000 ppb	± 1,5% F.S	≤ 10 ppb

Calculated Sensors

Parameter	Minimum	Maximum	Resolution
Heat Index	-30° C	60° C	0,1° C
Dew Point	-20° C	40° C	0,1° C
Delta T	0° C		0,1° C



Software

Parameter	Type	Description
Portal Web	Access	Portal for real-time visualization of data collected from the station
Availability	Uptime	Greater than 99.95%
Mobile App Android/iOS	Access	Apps for real-time visualization of station data
API	Integration	REST API enabling interoperability between systems
	Limit	5,000 free requests per month per Station
	Protocol	HTTPS
PlugAPI Pro	Access	Plans for more than 5,000 requests per month
NTCIP Protocol	Integration	Protocol enabling direct connectivity to the station. Complies with ANTT Resolution No. 3,323 of 11/18/2009
Historical Data	Availability	Dados históricos processados disponíveis por 5 anos

