

Nanoenvi EQ Datasheet

1.5.1

Envira Sostenible S.A.

Nanoenvi

ENVIRA 

Copyright © 2022 Envira Sostenible S.A.

Information contained in this publication regarding device applications and the like is provided only for your convenience and may be superseded by updates. These specifications refer only to received orders. Envira Sostenible S.A. disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product. All rights over the content, images, and pictures included in this document are reserved. No part of the documentation may be reproduced, transmitted, transcribed, or translated into any language, in any form or by any means, without prior written permission of Envira Sostenible S.A. Copyright © 2021 Envira Sostenible S.A. All rights reserved..

Tabla de contenidos

1. REVISION CONTROL	1
2. PRODUCT DESCRIPTION	2
2.1. Description	2
2.2. Product reference	3
3. Technical specifications	4
3.1. General specifications	4
3.2. Sensors	4
3.2.1. Pollutants	4
3.2.2. Particulate matter	5
3.2.3. Other	5
3.3. Communications	6
4. CONTACT	7
4.1. Contact details	7

Capítulo 1. REVISION CONTROL

Revision	Changes
V1.0.0	First version
V1.5.0	New sensors and communications added
V1.5.1	Added new variants and content reorganization

Capítulo 2. PRODUCT DESCRIPTION

2.1. Description



Nanoenvi EQ™ represents a new step in the monitoring of air pollutants. Modular design, allows monitoring multiple pollutants (NO₂, NO, NO_x, O₃, SO₂, H₂S, CO, CO₂) in a single equipment of compact size and completely autonomous. In addition, Nanoenvi EQ™ offers the possibility to measure suspended particles (PM₁, PM_{2.5}, PM₁₀), VOCs, noise and ambient parameters.

Nanoenvi# EQ™ allows you to create wireless air quality measurement networks. Its sensors collect data in places where there are no fixed air quality stations, or in a complementary way, allows to expand the field of action of these. Thanks to Nanoenvi EQ™'s wireless connections, the user receives air pollution data in real time from their computer, mobile or tablet, which allows rapid decision-making in unfavorable situations.

Nanoenvi# EQ™ uses the MQTT protocol for data sending and remote configuration. In this way the user can integrate Nanoenvi EQ™ with their own systems and explore the unlimited options offered by having real-time air quality data.

Additionally, Nanoenvi EQ#™ can be integrated with the viewing platform offered by Envira IoT, which has the ability to query history, detect trends and anomalies and even set up alerts based on the data collected.

2.2. Product reference

Brand	Product	Communications	Power supply	Sensors	Description
NE					All variants include ambient temperature, relative humidity and atmospheric pressure
	EQ				
		3G			3G mobile communications
		4G			4G mobile communications
		WiFi			WiFi wireless communications
		ETH			Ethernet wired communications
			PGC		Single-phase power grid 100-240 VAC continuously
			PGD		Single-phase power grid 100-240 VAC discontinuously + battery
			SP		Solar panel + battery
			PoE		Ethernet power supply
				AQ	Electrochemical sensors NOx, NO, NO2, O3, SO2, CO, H2S
				PM	PM1, PM2,5, PM10
				VOC	Volatile organic compounds
				NOISE	Sound meter (class 2, A filter)
				METEO	Solar radiation, rain, wind speed and wind direction
				CO2	Carbon dioxide, NDIR

Example: NE_EQ_ETH_PGD AQ_NO2/NO/CO/O3_PM_VOC



The user must select a communications variant and a power supply variant. The sensor variants can be combined as desired.



Up to 4 gases can be selected for sensor type AQ.



The pollutants O3 and SO2 require, in addition, NO2. For NOx, both NO and NO2 are required.

Capítulo 3. Technical specifications

3.1. General specifications

Power supply	100-240VAC @ 50-60Hz (PGD / PGC) PoE ++ (IEEE 802.3bt) Solar panel (included)
Maximum consumption power	30W (PGC / SP) 60W (PGD) 55W (PoE)
Average consumption power	2W
Battery	96Wh LiFePO4 (PGD / SP)
Autonomy	24x7
Operating conditions ambient	- 20 ~ 55°C / 0 ~ 99%RH (non-condensing)
Enclosure materials	ABS, polyurethane, aluminum y stainless steel
IP rating	IP65
Maximum weight	2Kg (PGC / PoE) 3,5Kg (PGD / SP)
Solar panel + support weight	3,2Kg (SP)
Dimensions	500x260x200 mm
Solar panel dimensions	560x350x25 mm
Communications	2G/3G 3G/4G/LTE Ethernet WiFi
Pollutants	NO, NO ₂ , O ₃ , SO ₂ , H ₂ S, CO, CO ₂ y COVs
Particulate matter	PM ₁ , PM _{2,5} y PM ₁₀
Other parameters	Temperature, relative humidity, atmospheric pressure, noise, rain, solar radiation, wind speed and wind direction
Acquisition period	Minutal
Sending period	From 1 minute to 10 minutes

3.2. Sensors

3.2.1. Pollutants

	NO	NO ₂	O ₃	SO ₂	H ₂ S	CO	CO ₂	COVs
Type	Electrochemical						NDIR	MEMS

	NO	NO₂	O₃	SO₂	H₂S	CO	CO₂	COVs
Units	ppb	ppb	ppb	ppb	ppb	ppm	ppm	ppm
Range	0 ~ 20 ppm	0 ~ 20 ppm	0 ~ 20 ppm	0 ~ 20 ppm	0 ~ 20 ppm	0 ~ 500 ppm	0 ~ 40000 ppm	0 ~ 10 ppm
Resolution	1 ppb	1 ppb	1 ppb	1 ppb	1 ppb	1 ppb	1 ppm	1 ppb
Operating ambient conditions	-30 ~ 40 °C	-30 ~ 40 °C	-30 ~ 40 °C	-30 ~ 40 °C	-30 ~ 50 °C	-30 ~ 50 °C	0 ~ 50 °C	-20 ~ 50 °C
	15 ~ 85 %RH	15 ~ 85 %RH	15 ~ 85 %RH	15 ~ 90 %RH	15 ~ 90 %RH	15 ~ 90 %RH	0 ~ 95 %RH	15 ~ 85 %RH
Operating life	24 months						>10 years	>10 years
Accuracy	±20 ppb	±20 ppb	±20 ppb	±20 ppb	±20 ppb	±100 ppb	±30 ppm	±100 ppb

3.2.2. Particulate matter

	PM₁	PM_{2,5}	PM₁₀
Type	Optical particle counter (OPC)		
Units	µg/m ³		
Range	0 ~ 1000 µg/m ³	0 ~ 2000 µg/m ³	0 ~ 10000 µg/m ³
Resolution	0,1 µg/m ³		
Operating ambient conditions	-10 ~ 50 °C		
	0 ~ 95 %RH		
Operating life	>10 years		
Accuracy	±2 µg/m ³	±3 µg/m ³	±4 µg/m ³

3.2.3. Other

	Temperature	Relative humidity	Atmospheric pressure	Solar radiation	Rain	Wind speed	Wind direction	Noise
Type	MEMS	MEMS	MEMS	Photodiode	Radar	Ultrasound	Ultrasound	Class 2
Units	°C	%RH	hPa	W/m ²	mm/h	°	m/s	dB _A
Range	-40 ~ 60 °C	0 ~ 100 %RH	100 ~ 1100 hPa	0 ~ 2000 W/m ²	0 ~ 200 mm/h	0 ~ 359 °	0 ~ 70 m/s	30 ~ 130 dB _A

	Temperature	Relative humidity	Atmospheric pressure	Solar radiation	Rain	Wind speed	Wind direction	Noise
Resolution	0,1 °C	0,5 %RH	0,1 hPa	0,1 W/m ²	0,1 mm/h	1 °	0,1 m/s	1 dB _A
Operating ambient conditions	-40 ~ 80 °C			-20 ~ 50 °C			-10 ~ 50 °C	
	0 ~ 100 %RH			0 ~ 100 %RH			5 ~ 80 %RH	
Operating life	>10 years							
Accuracy	±0.5 °C	±3 %RH	±1 hPa	±5 %	±5 %	±3 °	±3 %	±3 dB _A

3.3. Communications

3G	4G	WiFi	Ethernet
UMTS 800 / 850 / 900 / 1900 / 2100 MHz	LTE 800 / 850 / 900 / 1800 / 2100 / 2600 MHz	IEEE 802.11 b/g/n	10 / 100 Mbps
	UMTS 2100 / 2600 MHz	2,4 GHz	

Capítulo 4. CONTACT

4.1. Contact details

Envira IoT is a trademark of Envira Sostenible S.A.

Envira Sostenible S.A.
C.P.: 33428
Calle Ablanal Nº 11
Parque Tecnológico de Asturias
Llanera – Asturias
Spain

www.enviraiot.es
www.enviraiot.com
sostenible@envira.es

Sales and support service:
+34 985 73 39 52

Nanoenvi

www.enviraiot.es