

OY1700 LoRaWAN Particles meter

Product datasheet

LoRaWAN sensor that measures temperature, humidity and particulate matter (PM 10, PM2.5 and PM1.0), in indoor environments. Easy to use, configurable over the air and stylish in design to fit into indoor spaces.

Operating principle

Laser scattering	Yes
------------------	-----

Accuracy and range

Temperature accuracy	± 0,2 °C (conditions 0 °C to +50 °C)
----------------------	--------------------------------------

Temperature range	0 °C to +55 °C
-------------------	----------------

Humidity accuracy	± 2% (conditions 10-90% RH)
-------------------	-----------------------------

Humidity range	0% to 90% non-condensing
----------------	--------------------------

Particulate matters ranges	PM _{1.0} , PM _{2.5} , PM ₁₀
----------------------------	--

Accuracy of ± 0,1 °C and ± 1,5% humidity available upon request

Connectivity

Network	LoRaWAN
---------	---------

Frequency bands	868 MHz
-----------------	---------

Provisioning	Over the air & personalization
--------------	--------------------------------

Size

Size	111 x 77 x 26 mm
------	------------------

Weight	75g
--------	-----



Security

Algorithms	AES-128
------------	---------

Hardware	Cryptographic co-processor
----------	----------------------------

Features	Secure boot
----------	-------------

	Secure firmware upgrade
--	-------------------------

Hardware based ultra-secure key storage

OY1700 LoRaWAN Particles meter

Product datasheet

Power

Power source	5V-26V DC, USB power cable included, 0.25 A max current
--------------	---

Configuration

Measurement intervals	15 minutes, OTA configurable
Transmission intervals	15 minutes, OTA configurable
Measurement stabilization time	30 sec, configurable over the air

Unique App EUI available upon request

Enclosure

IP30

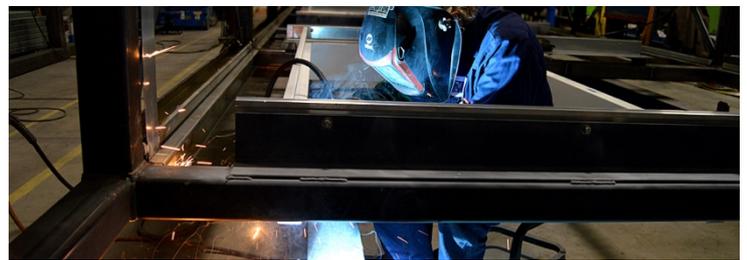
Certifications

RoHS compliant

CE

LoRaWAN

Especially small particles (PM_{2.5}) are dangerous because they can get into the deep parts of your lungs and even into the bloodstream. Particulate matter is often generated in industrial processes, such as welding, and combustion of gasoline, oil, diesel fuel or wood produce much of the PM2.5 pollution found in outdoor air.



Green, healthy building certifications

One of the primary use cases for the OY1700 LoRaWAN Particles meter is in the monitoring of air quality for green, healthy building certifications. Leading building certification standards require the monitoring of air quality parameters, such as particulate matter. With these certifications, real estate owners profile themselves on the international real estate market

High quality PM measurement

Talkpool's LoRaWAN sensor for particulate matter (PM) uses a laser scattering sample method as operating principle. In combination with this, there is a small fan in the device that briefly spins before a measurement is taken. This allows representative air to fill the sample area for a reliable measurement.



Air quality and human health

Particulate matter is one of the key parameters in air quality, related to human health. It consists of small particles, too small for the eye, that get affect human health at high dosages over time.