HYPER-TECH Systems

MAGNASCI

Temperature, Relative Humidity, Particulate matter PM1, PM2.5, PM10, Ozone O_3, Carbon Monoxide CO, Nitrogen Dioxide NO_2, Sulphur Dioxide SO

Features

- 6 high quality digital sensors tracking 9 air quality parameters
- Ambient monitoring, **1 PPB resolution for gases**
- **Multiple connectivity options** including GSM, WiFi, LoRaWAN, LTE-M, NB-IOT, Ethernet
- IP54 Rainproof enclosure for outdoor use
- Built-in air pump for active flow
- Alarms and notifications using built-in speaker
- Direct and Cloud data access via API
- USB port for power, data access, debug and configuration

Applications

- Ambient air / City monitoring
- Office and production space monitoring
- Smart cities
- IOT / Internet of things

Description

uRADMonitor CITY is an automated, fixed monitoring station that tracks a total of 9 important air quality parameters. It is compliant to international requirements on determining the Air Quality Index. It was specifically designed to meet the low concentrations levels in the ambient air. It is therefore intended for ambient air monitoring in homes, offices or cities. It comes in a IP54 enclosure for direct outdoor use. The data is exported to the uRADMonitor network and can be accessed in real time using the cloud API interface or directly via the local network.

Using the available connectivity options and the low power consumption this device can be deployed for a large variety of field applications. Its versatility is combined with a convenient cloud based data access with an API interface to access the measurements directly from the uRADMonitor cloud.

HYPER-TECH Systems

Sensors

The device uses a high quality laser scattering sensor to measure the Particulate Matter PM1.0, PM2.5 and PM10 concentration in air. Four additional sensitive electrochemical sensors measure traces of Carbon Monoxide, Sulphur Dioxide, Nitrogen Dioxide and Ozone in the air . A built in fan assures an active air flow stream across the sensing elements. A MEMS sensor reads ambient temperature and humidity.

SENSOR	PARAMETER	MIN	MAX	RESOLUTION	PRECISION	INTERVAL[1]	LIFESPAN[2]
MEMS	Temperature	-40 °C	+85 °C	0.5 °C	± 1°C	-40..+100°C	5 yr
	Humidity	0% RH	100% RH	1% RH	± 2%		
Laser Scattering	PM1	0 µg/m³	1000 µg/m³	1 µg/m³	±1%	-40..+85°C	5 yr
	PM2.5	0 µg/m³	1000 µg/m³	1 µg/m³	±1%		
	PM10	0 µg/m³	1000 µg/m³	1 µg/m³	±1%		
Electrochemical	Ozone	0 ppm	1 ppm	1 ppb	± 1.5%	-20..+50°C	2 yr [3]
Electrochemical	Nitrogen Dioxide	0 ppm	1 ppm	1 ppb	± 1.5%	-20..+50°C	2 yr [3]
Electrochemical	Sulphur Dioxide	0 ppm	1 ppm	1 ppb	± 1.5%	-20..+50°C	2 yr [3]
Electrochemical	Carbon Monoxide	0 ppm	10 ppm	1 ppb	± 1.5%	-20..+50°C	2 yr [3]

[1] Using the sensor outside the recommended temperature interval can shorten its lifespan
[2] Estimated for normal usage conditions. Device maintenance is recommended after the shortest sensor lifespan interval (2 years).
[3] Operating life time until 50% original signal degradation.

14 Odem ST. P.O.B. 7042 Petach Tikva 4917001, ISRAEL | Office: +972-3-924-3352
Fax: +972-3-9243385 | sales@hypertech.co.il | www.hypertech.co.il

2

Specifications

	uRADMonitor CITY
Sensors	all sensors
Supply Voltage	Mains supply 110V / 220V or internal 5V USB / 6-24V DC connectors
GPS / SDCARD / Battery / mobile use	optional
Enclosure Protection	IP54, Rainproof enclosure ready to install in the outdoor
Dimensions	25x20x15cm
Weight	3 kg
Recommended Use	Temperature: -20°C to +65°C Humidity: 0RH to 95RH

Usage conditions

- **Power supply:** Be careful when connecting the unit to mains voltage
- **Outdoor use and exposure to elements:** thanks to its protective outdoor enclosure, the uRADMonitor CITY can be used outdoors without any additional protection.
- **Precautions**: Do not expose the device to a large amount of dust such as in the woodworking centres. Do not expose the   appliance to solvents or to a large amount of concentrated vapours of chemicals (acetone, paints, alcohol, butane, propane, etc.), because the sensors can wear out, or the measurements may become inconclusive. Do not expose the apparatus to mechanical shocks. Wherever possible, mount the appliance in a vertical position to extend the life of the built-in fan mechanisms.
- **Installing the unit**

For mounting, use the holes in the housing. Ensure that you properly connect the power cord and if applicable the network cable and secure against vibration where necessary.