RADIONODE®

The most innovated data logger

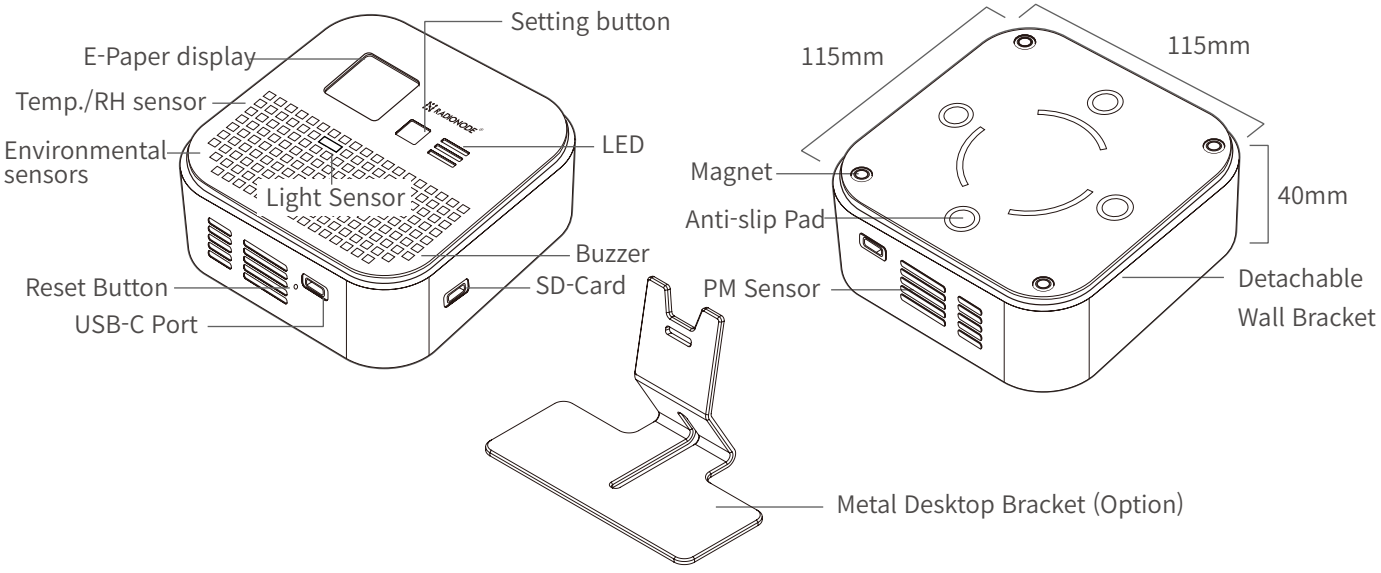
Smart IAQ Transmitter via LoRaWAN

RN320-PMT

- Long Range Wireless / LoraWAN ®
- IAQ smart optimizer algorithm
- 3 Color LED Indicator (Best, Moderate, Bad)
- E-Paper Display
- Loud Buzzer 97dBA
- Long Battery Life (17000mAh)
- MicroSD Card supported
- Easy Installation with Magnet and Wall Bracket

Radionode RN320 series is battery operated wireless environmental sensor. It is professionally designed for our valuable customer to have E-paper display, microSD card, loud buzzer, three color LED and unbelievable battery capacity. Using Lorawan ® technology, Radionode customers can easily set up wide range sensor network in a short time. the user can intuitively check the current status of sensor using the three color LED and ePaper Display. Also, the loud buzzer is the easiest and most useful feature to quickly alert nearby users of danger. The RN320 model has a retransmission function, so it does not drop measurement samples. You can easily register your product to the Radionode365 service by scanning the QR code on the surface of the product once. With Radionode365, you can utilize all aspects of remote monitoring, even in areas with poor radio conditions. Plus, you can keep all your data permanently by using the built-in microSD card. This RN 320-PMT model has an embedded high performance IAQ sensor With 17000mAh battery, RN320-PMT can be operated up to 1 year.

Hardware



Certificate

Contact Information

- www.radionode365.com
- master@dekist.com

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RN320-PMT Specifications

Wireless Telecomm-unications	• LoraWAN ® V1.0.3 ,OTAA/ABP ClassA • CN470/IN865/RU864/EU868/US915/AU915/ KR920/AS923 TX : 20dBm Sensitivity : -137 dBm @ 300 bps
Internal sensor	1 : PM2.5 (ug/m3) 5 : CO2 (ppm) 2 : PM10 (ug/m3) 6 : CO (ppm) 3 : LIGHT(lx) 7 : TEMP (°C) 4 : HCHO (ug/m3) 8 : RH (%)
Supported Range	• Particulate Matter : 0 ~ 1,000 ug/m3 • Light : 0 ~ 140,000 lx • Formaldehyde : 0 ~ 1,960 ug/m3 • CO2[1] : 0 ~ 15,000 ppm • CO : 0 ~ 1,000 ppm • TEMP : -20 ~ 50 °C (-4 ~ 122°F) • RH : 1 ~ 99 %
Resolution	• Particulate Matter : ±10% • Light : 0.0005 lx • Formaldehyde : ≤0.01ppm • CO2 : ±(50 ppm + 5% of reading) • CO : 0.5PPM • Temp: 0.1 °C • R.H.: 0.1 %RH

Cross - Sensitivity	Gas	Concentration(PPM)	HCHO(PPM)
	H2	200	11.2
	NO2	5	0.7
	SO2	10	3.6
	H2S	25	53.6
	C2H5OH	200	98.8
	CO	400	97.8
	NO	100	7.5
	C2H4	50	41.1
	Gas	Concentration(PPM)	CO(PPM)
	H2	200	100
	C2H4	100	100

Operating Condition	-20 ~ 80 °C / 5 ~ 95% (Non condensing)
Material	PC, PS
Buzzer	97dBA @10cm
Display	• A mode : all 8 channel • B mode : PM2.5 • C mode : CO2 Sensor values are displayed in a large for easy viewing.
External Memory	Option (16GB microSD, only supports SLC and MLC options)

IAQ Smart LED status	the IAQ Smart Optimizer algorithm to all sensor data		
	LED status	IAQ status	IAQ levels
	GREEN	GOOD	0 ~ 100
	ORANGE	Moderate	101 ~ 250
	RED	Polluted	251 ~ 500
Set Mode	• Display Off Mode: Confirm mode OFF, Display OFF • ECO Mode : Confirm mode OFF, Display ON • Normal : Confirm mode ON, Display ON		
Battery	3.6V Li-SOCL2 X 2EA (17000mAh) * Power consumption per mode will be updated soon.		
USB Port	Configuration Port CALIBRATION is processed with this port.		
Button	• Menu BUTTON • Reset button(below)		
Installation Types	• Magnet & Screw for wall mount (Option) • Desktop bracket for Table mount (Optional accessory)		
Weight	360g (with Battery)		

1) The CO2 sensor Specified CO2 Measurement Range 400-2000ppm

Basic Requirements

• LoRaWAN Gateway :
Radionode LoraWAN gateway or Others

Application

• Agricultural greenhouse
• Building management
• Medicine and medical goods storage sites
• Semiconductor production lines

Product Components

• RN320 IAQ Wireless Transmitter
• C-Type Battery (2EA)
• Wall Bracket (1EA)
• USB C cable

LoRaWAN Payload Decoder

• github.com/radionode/RN300-Series-LoraWAN

Cautions

- Avoid exposure to organic solvents, coatings, medicine, oil, and high-concentration gases.
- Prevent excessive impact or vibration.
Warm up the module for at least 5 minutes before initial use.
- Do not use the module in systems related to human safety.
- Avoid using the module in environments with strong air convection.
- Do not expose the module to high-concentration organic compounds.