

RuntalAire®

A1-EA Series Sensor Instruction

01 Introduction

RuntalAire® A1-EA is a series of wireless sensors, which need to connect with the RuntalAire® L-4-EA controller. It combines temperature and humidity sensors with PM2.5 sensor(A1-EA-PM2.5) or CO₂ sensor(A1-EA-CO₂). It is suitable for indoor environmental quality measurement.

02 Model Specification

Name	Model	Build-in Sensors	Communication
PM2.5 Sensor	A1-EA-PM2.5	Temperature Humidity,PM2.5	Wireless
CO2 Sensor	A1-EA-CO ₂	Temperature Humidity,CO ₂	Wireless



03 Parameters

Name	Range	Resolution	Precision
Temperature	-10℃ ~ 50℃	0.1℃	1℃
Humidity	1 ~ 99%RH	1%RH	3%RH
CO2	0~5000ppm	1ppm	$\pm(75\text{ppm}+10\% \text{ of reading})$
PM2.5	0 ~ 999 ug/m3	1ug/m ³	$\leq 100\mu\text{g}/\text{m}^3$: $\pm 10\mu\text{g}/\text{m}^3$ $>100\mu\text{g}/\text{m}^3$: $\pm 10\% \text{ of reading}$

04 Indicator light

PM2.5 value	Air quality	Display color
0 ~ 35ug/m ³	A	Green
36 ~ 75ug/m ³	B	Blue
76 ~ 150ug/m ³	C	Red
>150ug/m ³	C	Red

CO ₂ value	Air quality	Display color
< 600ppm	A	Green
600 ~ 1000ppm	B	Blue
>1000ppm	C	Red



05 Technical parameters

Power supply: Battery /USB 5V.

Appearance size: 86mm*86mm.

Appearance material: PC+ABS flame retardant.

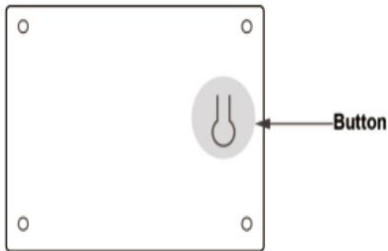
Working environment: no condensation at -10-50 °C and 5-90%RH.

06 Operation

There is a button at the back of the RuntalAire® A1-EA sensor.

- ❖ Turn on the sensor: Press the button once.
- ❖ Turn off the sensor: Press the button for 6 seconds.
- ❖ On/off the indicator light: Press the button once as the sensor is running.





Back of the A1-EA

07 Connect to the Controller

Please refer to “L-4-EA Controller Manual” for details.

Before connection, please make sure the sensor is on. Set the controller to sensor connection module. Press S3  + S4  for 3 seconds, and the air quality icon (green leaf) in the middle of the controller screen will be blinking.

Press the button at the back of the sensors for 3 times until the indicator light is red and blinking. When the sensor is connected to the controller, the indicator light stops blinking and the air quality icon(green leaf) at the controller will be lighted all the time.

08 Charging

When the sensor is connected to the USB cable, if the battery power is less than 100%, the sensor will be charged automatically.

Then indicator light will blink every 10 seconds, and will stop blinking after charging.



9 Safety instructions

Commissioning and maintenance must be carried out by certified technicians.

During use, it should be kept away from heat sources, high pressure, and not in contact with water. To charge the sensor, please use a 5V charger. It is strictly forbidden to directly connect to high voltage, high current charging, which will flow through the battery and damage it or make the battery heat, smoke, deform or burn.

When not in use for a long time, please store the sensor well. Leave the battery in a half-charged state. During use, if the battery leakage sticks to the skin or clothes, please rinse with water to avoid skin discomfort. In case the electrolyte gets into the eyes, rinse with clean water as soon as possible, do not rub the eyes, and send it to the hospital immediately.



FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and



can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Important Note:

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ISED Statement

This device complies with Industry Canada license - exempt RSS standard(s).

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.



The digital apparatus complies with Canadian CAN ICES
- 3 (B)/NMB - 3(B).

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Informations sur l'exposition RF

L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux RF. L'appareil peut



être utilisé dans des conditions d'exposition portables sans restriction.

This radio transmitter (ISED certification number: 28014-L4EA) has been approved by Industry Canada to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (ISED certification number: 28014-L4EA) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

