RICOH
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Powered by
solid-state dye-sensitized solar cells

# RICOH EH Environment Sensor D201/D202


## Compact/maintenance-free design with support for sensing of multiple information

## RICOH EH Environment Sensor D201/D202*1

The RICOH EH Environment Sensor D201 and water- and dust-resistant model D202 are equipped with RICOH EH DSSC dye-sensitized solar cells developed by RICOH. The RICOH EH DSSC that sensors are equipped with has high power generation performance even with weak light from indoor lighting, and it was developed by applying organic photoconductor technology RICOH has cultivated through the development of multifunction printers (MFPs).

**No need to replace batteries!**

**Powered by indoor lighting alone**

**Power generation at temperatures of -30 °C to 60 °C**


### Operation in low light
Can operate in light conditions such as those near the wall of a warehouse or factory.

### Wide range of temperatures
Can be used in temperature conditions ranging from -30 °C to 60 °C.

### Ultra-compact size
Ultra-compact size allows for installation in any location.

### Five types of sensing
Temperature, humidity, ambient light, atmospheric pressure, and built-in lithium-ion battery voltage can be measured.

### PC and smartphone linkage
Software for Windows® PCs and smartphones is available. Monitoring can be started with ease.*2

*1 RICOH EH Environment Sensor D202 is water- and dust-resistant model. *2 Compatible with Windows® 10 and with Android™ 9 or later.

## Usage environment examples

### Catch temperature, humidity, ambient light, atmospheric pressure, etc. in various environments

**Temperature and humidity control in factories and warehouses**

Temperature and humidity can be monitored to enable heat stroke alerts* and appropriate product management. It can also be used for air pressure control to prevent insect contamination.
* Separate software development required

**Temperature control of refrigerators and freezers**

Refrigerated and frozen food display shelves are monitored in sales areas where temperature changes are likely to occur. Temperature changes are automatically recorded to make management easier.

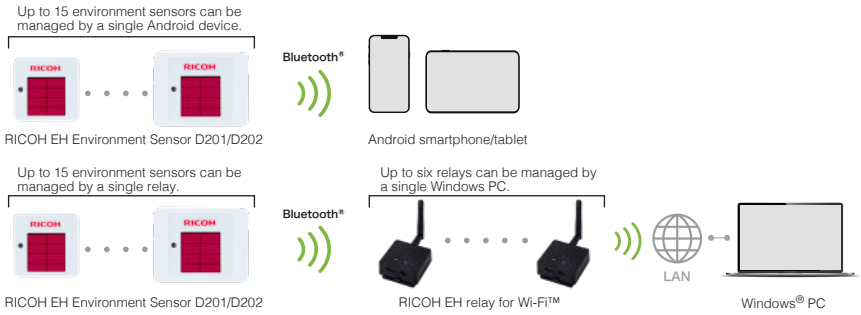
**Temperature control of office spaces**

Temperature, humidity, and ambient light of office spaces can be monitored to check whether the working environment is appropriate in terms of air conditioning equipment operating status and the like and to implement energy-saving measures.

## Equipment list

| Category | Product name |
|---|---|
| Environment sensor | RICOH EH Environment Sensor D201 |
| | RICOH EH Environment Sensor D202 |
| Relay | RICOH EH relay for Wi-Fi™ |
| Software | RICOH EH Sensor for Android™ |
| | RICOH EH Sensor for Windows® |

## System configuration




## RICOH EH Environment Sensor D201/D202 main specifications

| Item | Specifications |
|---|---|
| Power supply | RICOH EH DSSC (28 mm × 32 mm) |
| Parameters measured | Temperature, humidity*, ambient light, atmospheric pressure, and built-in lithium-ion battery voltage |
| Ranges of measurement, resolutions | Temperature: -30 °C to 60 °C, 0.1 °C Humidity: 0% RH to 100% RH, 0.1% RH Ambient light: 0 lx to 10000 lx, 0.1 lx<br>Atmospheric pressure: 300 hPa to 1100 hPa, 0.1 hPa Voltage of built-in lithium-ion battery: 1.70 V to 2.80 V, 0.01 V |
| Measurement accuracy | Temperature: ±1 °C Humidity: ±3% RH Ambient light: ±15% (reference) Atmospheric pressure: ±1 hPa Voltage of built-in lithium-ion battery: ±0.1 V |
| Measurement interval | Default: 300 seconds Setting range: 5 to 600 seconds (can be changed as desired from management software for Android) |
| Wireless specification | Bluetooth® Low Energy |
| Requirements for nonstop operation | Illuminated by 200 lx 5000 K LED for 8 hours a day (at 300 sec. measurement interval) |
| Operation environment | -30 °C to 60 °C For interior use only (ambient light 1500 lx or less) |
| Size | RICOH EH Environment Sensor D201: W 43 mm x D 41 mm x H 14 mm RICOH EH Environment Sensor D202: W 60 mm x D 47 mm x H 14 mm |
| Weight | RICOH EH Environment Sensor D201: 19 g RICOH EH Environment Sensor D202: 23 g |
| Water- and dust-resistant functionality | RICOH EH Environment Sensor D201: None RICOH EH Environment Sensor D202: IP44 |

* D202 response to sudden changes in humidity is inferior to that of D201.

| | |
|---|---|
| Cautions for using EH Environment Sensor | ● RICOH EH Environment Sensor D201 and RICOH EH relay for Wi-Fi™ are not water- and dust-resistant. ● Generation ability will be reduced if the solar cell light-receiving face becomes dirty. If foreign matter adheres to the face, immediately remove it. ● This product is designed for indoor use. Please avoid using it outdoors. Operation at 1500 lx or less from LEDs or florescent lamps is recommended. ● Avoid using under direct sunlight. ● Please note that RICOH bears no responsibility for falling of or damage to this environment sensor due to installation by the customer. ● RICOH shall not be liable for any loss or damage caused by your use of or inability to use the product. ● Do not use this product as a data acquisition tool for equipment requiring special quality and reliability (aerospace equipment, nuclear power control systems, transportation equipment, transport equipment, combustion equipment, safety devices, life support equipment, etc.) where failure or malfunction could endanger human life or cause bodily harm. |
| Storage and transportation | ● This product should be stored at a temperature of -30 to 60 °C and at a humidity no greater than 90% RH at 40 °C. ● Avoid storing under direct sunlight. ● The recommended storage environment is at room temperature with low light (in a drawer, cardboard box, etc.). |



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● Inquiries and orders:


Specifications as of Aug 2022.