

## Wireless Data Logger

## RTR-500 Series Data Loggers Features and Specs

## Measurement Items

Temp / Humidity / Illuminance / UV / CO2 / Voltage / 4-20mA / Contact / Pulse Count

## Data Collection

Wireless Communication with Data Collectors

The RTR-500 Series includes data loggers designed to measure and record a wide variety of items as well as a range of base stations to enable wireless collection of recorded data.

| Model                | Measurement Items                 | Measurement Range  | Notes   |
|----------------------|-----------------------------------|--|---|
| RTR-501 /501L        | Temperature 1ch (internal sensor) | -40 to 80°C<br>EN 12830 Compliant                                      | Gradual Response Time<br>Optimum Waterproof and Dustproof Capabilities                        |
| RTR-502 / 502L       | Temperature 1ch                   | -60 to 155°C<br>EN 12830 Compliant                                     | External Sensor for Quicker Response Time / Splashproof<br>Wide Selection of Optional Sensors |
| RTR-503 / 503L       | Temperature / Humidity 1ch Each   | 0 to 55°C / 10 to 95%RH  | Measure Temperature and Humidity  |
| RTR-507S / 507SL     | Temperature / Humidity 1ch Each   | -25 to 70°C / 0 to 99%RH   | Measure Temperature and Humidity ( High Precision )   |
| RTR-505-TC / 505-TCL | Temperature 1ch (Thermocouple)    | -199 to 1760°C   | For use with Thermocouple Sensor Types: K, J, T, S  |
| RTR-505-Pt / 505-PtL | Temperature 1ch ( Pt100, Pt1000 ) | -199 to 600°C  | Supports 3-wire and 4-wire Sensors<br>High Precision Measurement in Wide Temperature Range    |
| RTR-505-V / 505-VL   | Voltage 1ch                       | DC 0 to 22V<br>Min Resolution: 0.1mA                                   | Preheat Function / Scale Conversion   |
| RTR-505-mA / 505-mAL | 4-20mA 1ch                        | 0 to 20 mA   | Operational up to 40 mA / Scale Conversion  |
| RTR-505-P / 505-PL   | Pulse Count 1ch                   | Pulse Count: 0 to 61439<br>Input Signal: Contact Input / Voltage Input |   |

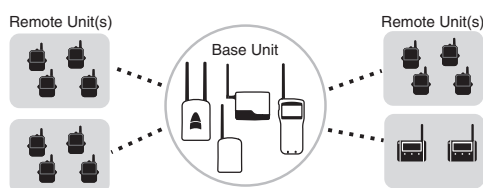
L-type models ( model names which include "L" ) are designed with a large capacity battery pack. Battery life of the L type is four times longer than that of the normal type.

The RTR-501 and RTR-502 data loggers comply with EN12830, the European Standard regarding Temperature recorders for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream.

| Model           | Measurement Items   | Measurement Range for Normal Type   | Measurement Range for H Type  | Notes   |
|-----------------|---|---|---|---|
| RTR-574 / 574-S | Illuminance<br>UV Intensity<br>Temperature<br>Humidity 1ch each | 0 to 130,000 lx<br>0 to 30 mW/cm <sup>2</sup><br>0 to 55°C<br>10 to 95%RH | 0 to 130,000 lx<br>0 to 30 mW/cm <sup>2</sup><br>-30 to 80°C / 0 to 99%RH | While recording possible to view cumulative illuminance and cumulative UV<br>Possible to detect changes in illuminance even under moonlight |
| RTR-576 / 576-S | CO2 Concentration<br>Temperature<br>Humidity 1ch each           | 0 to 9,999 ppm<br>0 to 55°C<br>10 to 95%RH                                | 0 to 9,999 ppm<br>-30 to 80°C<br>0 to 99%RH                               | For measuring CO2 concentration in living environments.<br>Auto Calibration Function  |

## Collect Data via Wireless Communication with a Base Unit

Data loggers in our RTR-500 Series only function as Remote Units and need to be used with one of our collection devices (Base Unit).



The collected data can then be transmitted to a PC by a variety of methods such as USB, E-mail, or FTP. Moreover, various functions, such as the monitoring of current readings and warning notification, make it a powerful data management system.

\* Select a Base Unit according to the type and scale of the measuring environment.

## Measure and Record Temperature and Humidity in a Wider Range with Greater Accuracy (RTR-507S / 507SL / 574-S / 576-S)

The supplied sensor for the S-model provides higher accuracy to  $\pm 2.5\%$  RH.

Measurement Range for temperature is -25 to 70°C and 0 to 99 %RH for humidity.

# RTR-501 / 502 / 503 / 507S Specifications

|                             | RTR-501 / 501L   | RTR-502 / 502L   | RTR-503 / 503L  |                        | RTR-507S / 507SL  |                                       |
|-----------------------------|--|--|---|------------------------|---|---------------------------------------|
| Measurement Channels        | Temperature 1ch (Internal)   | Temperature 1ch  | Temperature 1ch   | Humidity 1ch           | Temperature 1ch Humidity 1ch (High Precision Type)                          |                                       |
| Sensor                      | Thermistor   | Thermistor   | Thermistor  | Polymer Resistance     | Thermistor  | Polymer Resistance                    |
| Measurement Units           | °C, °F   | °C, °F   | °C, °F  | %RH                    | °C, °F  | %RH                                   |
| Measurement Range           | -40 to 80°C  | -60 to 155°C   | 0 to 55 °C  | 10 to 95 %RH           | -25 to 70 °C  | 0 to 99 %RH (*1)                      |
| Accuracy                    | Avg.±0.5 °C  | Avg.±0.3°C at -20 to 80 °C<br>Avg.±0.5°C at -40 to -20°C, 80 to 110°C<br>Avg.±1.0 °C at -60 to -40 °C, 110 to 155 °C   | Avg.±0.3 °C   | ±5 %RH at 25 °C, 50%RH | ±0.3°C at 10 to 40 °C<br>±0.5°C all other temperatures                      | ±2.5 %RH at 15 to 35 °C, 30 to 80 %RH |
| Measurement Resolution      | 0.1°C  | 0.1°C  | 0.1°C   |                        | 0.1 °C  | 0.1 %RH                               |
| Responsiveness              | Thermal Time Constant: Approx. 15 min.<br>Approx. 25 min. ( L Type )<br>Response Time (90%): Approx. 35 min.<br>Approx. 47 min. ( L Type )   | Thermal Time Constant: Approx. 30 sec. ( in air )<br>Approx. 4 sec. ( in agitated water )<br>Response Time (90%): Approx. 80 sec. ( in air )<br>Approx. 7 sec. ( in agitated water ) | Response Time (90%): Approx. 7 min.   |                        | Response Time (90%): Approx. 7 min.   |                                       |
| Logging Capacity            | 16,000 readings  | 16,000 readings  | 8,000 data sets<br>One data set consists of readings for multiple channels. |                        | 8,000 data sets<br>One data set consists of readings for multiple channels. |                                       |
| Recording Interval          | Select from 15 choices: 1, 2, 5, 10, 15, 20, 30 sec. or 1, 2, 5, 10, 15, 20, 30, 60 min.   |  |   |                        |   |                                       |
| Recording Mode (*2)         | Endless ( Overwrite oldest data when capacity is full ) or One Time ( Stop recording when capacity is full )   |  |   |                        |   |                                       |
| LCD Display Items           | Measurements (alternating display for multiple channel devices), Battery Life Warning, etc.  |  |   |                        |   |                                       |
| Communication Interfaces    | Short Range Wireless Communication<br>•FCC Part15 Section247 / IC RSS-210<br>Frequency Range: 902 to 928MHz, RF Power: 7mW<br>•ETSI EN 300 220<br>Frequency Range: 869.7 to 870MHz, RF Power: 5mW<br>Optical Communication |  |   |                        |   |                                       |
| Wireless Transmission Range | Approx. 150 meters (500 ft) if direct and unobstructed   |  |   |                        |   |                                       |
| Power                       | Lithium Battery: LS14250 x 1<br>L Type: Large Capacity Battery Adaptor Kit ( RTR-500B1 ) (*3)<br>External Power Adaptor Kit ( RTR-500A2: sold separately ) (*4)  |  |   |                        |   |                                       |
| Battery Life (*5)           | Approx. 10 months<br>L Type: About 4 years   |  |   |                        |   |                                       |
| Dimensions                  | H 62 mm x W 47 mm x D 19 mm<br>L type: H 62 mm x W 47 mm x D 46.5 mm<br>Antenna length: 24 mm  |  |   |                        |   |                                       |
| Weight                      | Approx. 50 g<br>L Type: approx. 65 g   |  |   |                        |   |                                       |
| Operating Environment       | -40 to 80°C<br>-30 to 80°C during wireless communication   |  |   |                        | -40 to 80°C<br>-10 to 80°C during wireless communication (*6)               |                                       |
| Waterproof Capacity         | IP67: Immersion proof  | IP64: Splash proof ( rated for use in daily life ) (*7)  | IP64: Splash proof ( rated for use in daily life ) (*7)                     |                        | IP64: Splash proof ( rated for use in daily life ) (*7)                     |                                       |
| Accessories                 | Temperature Sensor TR-5106<br>Temperature-Humidity Sensor TR-3310<br>High Precision Temperature-Humidity Sensor SHB-3101   |  |   |                        |   |                                       |
| Compatible Base Units       | Lithium Battery LS14250 or Large Capacity Battery Adaptor Kit RTR-500B1, Strap ( Not included with L type models ), Manual ( Warranty included )   |  |   |                        |   |                                       |
|                             | RTR-500, RTR-500NW/500AW, RTR-500DC, RTR-500MBS-A  |  |   |                        |   |                                       |

\*1: When continually used in environments with temperatures above 60°C, accuracy of humidity measurements will decrease over time. Also, humidity cannot be measured at temperatures below -20°C.

\*2: Only "Endless" is available when using RTR-500W for Windows or RTR-500MBS for Windows.

\*3: When using RTR-500B1 it is necessary to purchase Lithium Battery ( LS26500 ). For details, contact your local authorized distributor.

\*4: RTR-500A2 should not be used with the RTR-501, as it will cause the RTR-501 to display a higher than actual temperature reading of up to 3°C.

\*5: Battery life varies depending upon multiple factors including ambient temperature, recording interval, frequency of communication, and battery performance. All estimates are based on operations carried out with a new battery and are in no way a guarantee of actual battery life.

\*6: When wireless communication is performed in an environment below -10°C, measurement may fail or may not be accurate.

\*7: This is the waterproof capacity of the data logger with the sensor connected. Note that the temperature-humidity sensor is not water resistant.

The specifications listed above are subject to change without notice.

# RTR-505 Specifications

|   | RTR-505-TC/<br>505-TCL   | RTR-505-Pt/<br>505-PtL   | RTR-505-V /<br>505-VL   | RTR-505-mA/<br>505-mAL   | RTR-505-P/<br>505-PL   |
|---|--|--|---|--|--|
| Measurement Channels  | Temperature 1ch  | Temperature 1ch  | Voltage 1ch   | 4-20mA 1ch   | Pulse Count 1ch  |
| Sensor  | Thermocouple:<br>Type K, J, T, S   | Pt100, Pt1000<br>3-wire, 4-wire (*1)   | -   | -  | -  |
| Measurement Units   | °C, °F   | °C, °F   | V, mV   | mA   | P  |
| Measurement Range   | K -199 to 1370 °C<br>J -199 to 1200 °C<br>T -199 to 400 °C<br>S -50 to 1760 °C   | -199 to 600 °C   | 0 to 22 V   | 0 to 20 mA<br>Operational up to 40mA   |  |
| Accuracy (*2)   | Thermocouple Measurement<br>K, J, T :<br>±(0.3°C+0.3% of reading)<br>S :<br>±( 1°C+0.3% of reading)<br>Cold Junction Compensation<br>±0.3 °C<br>at 10 to 40 °C<br>±0.5 °C<br>at -40 to 10 °C, 40 to 80 °C                  | ±(0.3 °C+0.3 % of reading)<br>at 10 to 40 °C<br>±(0.5 °C+0.3 % of reading)<br>at -40 to 10 °C, 40 to 80 °C | ±(0.5 mV+0.3% of reading)<br>at 10 to 40 °C<br>±(1 mV+0.5% of reading)<br>at -40 to 10 °C, 40 to 80 °C  | ±(0.05 mA+0.3% of reading)<br>at 10 to 40 °C<br>±(0.1mA+0.3% of reading)<br>at -40 to 10 °C, 40 to 80 °C | Input Signal:<br>Non-voltage Contact<br>Input<br>Voltage Input ( 0 to 27 V)<br>Detection Voltage:<br>Lo 0.5 V or less<br>Hi 2.5 V or more<br>Input Impedance:<br>Approx.100 KΩpull up<br>Chattering Filter:<br>ON 15 Hz or less<br>OFF 3.5 kHz or less |
| Note: The temperature range shown above represents the operating environment of the Input Module. |  |  |   |  |  |
| Measurement Resolution  | K, J, T : 0.1 °C<br>S : 0.2 °C   | 0.1 °C   | Up to 400 mV : 0.1 mV<br>Up to 800 mV : 0.2 mV<br>Up to 999 mV : 0.4 mV<br>Up to 3.2 V : 1 mV<br>Up to 6.5 V : 2 mV<br>Up to 9,999 V : 4 mV<br>Up to 22 V : 10 mV | 0.01 mA  | Maximum Count:<br>61,439/Recording Interval  |
| Logging Capacity  | 16,000 readings  |  |   |  |  |
| Recording Interval  | Select from 15 choices: 1, 2, 5, 10, 15, 20, 30 sec. or 1, 2, 5, 10, 15, 20, 30, 60 min.   |  |   |  |  |
| Recording Mode (*3)   | Endless ( Overwrite oldest data when capacity is full ) or One Time ( Stop recording when capacity is full )   |  |   |  |  |
| LCD Display Items   | Measurements, Battery Life Warning, etc.   |  |   |  |  |
| Communication Interfaces  | Short Range Wireless Communication<br>•FCC Part15 Section247 / IC RSS-210<br>Frequency Range: 902 to 928MHz, RF Power: 7mW<br>•ETSI EN 300 220<br>Frequency Range: 869.7 to 870MHz, RF Power: 5mW<br>Optical Communication |  |   |  |  |
| Wireless Transmission Range   | Approx. 150 meters (500 ft) if direct and unobstructed   |  |   |  |  |
| Power   | Lithium Battery LS14250 x 1<br>L Type: Large Capacity Battery Adaptor Kit RTR-500B1 (*4)<br>External Power Adaptor Kit RTR-500A2   |  |   |  |  |
| Battery Life (*5)   | Approx. 10 months<br>L Type: About 4 years   |  |   |  |  |
| Dimensions  | H 62 mm x W 47 mm x D 19 mm<br>L type: H 62 mm x W 47 mm x D 46.5 mm<br>Antenna length: 24 mm  |  |   |  |  |
| Weight  | Approx. 50 g<br>L Type: approx. 65 g   |  |   |  |  |
| Operating Environment   | -40 to 80°C<br>-30 to 80°C during wireless communication   |  |   |  |  |
| Waterproof Capacity   | IP64: Splash proof ( rated for use in daily life ) (*6)  |  |   |  |  |
| Accessories   | Input Module<br>TCM-3010   | Input Module<br>PTM-3010   | Input Module<br>VIM-3010  | Input Module<br>AIM-3010   | Input Cable<br>PIC-3150  |
| Compatible Base Units   | RTR-500, RTR-500NW/500AW, RTR-500MBS-A, RTR-500DC  |  |   |  |  |

\*1: In the case of a 4-wire sensor, one wire will be left unused.

\*2: For RTR-505-TC and RTR-505-Pt, sensor inaccuracies are not included.

\*3: Only "Endless" is available when using RTR-500W for Windows or RTR-500MBS for Windows.

\*4: When using RTR-500B1 it is necessary to purchase Lithium Battery (LS26500). For details, contact your local authorized distributor.

\*5: Battery life varies depending upon multiple factors including ambient temperature, recording interval, frequency of communication, and battery performance. All estimates are based on operations carried out with a new battery and are in no way a guarantee of actual battery life.

\*6: This is the waterproof capacity of the data logger with the Input Module connected. The Input Module itself is not water resistant.

The specifications listed above are subject to change without notice.

# RTR-574 / 574-S Specifications

|   | RTR-574  |                          | RTR-574-S   |   |
|---|--|--------------------------|---|---|
| Temperature-Humidity Sensor             |  |                          |   |   |
| Measurement Channels                    | Temperature 1ch  | Humidity 1ch             | Temperature 1ch   | Humidity 1ch                                |
| Sensor                                  | THA-3151   |                          | SHA-3151 High-Precision Type  |   |
|   | Thermistor   | Polymer Resistance       | Thermistor  | Polymer Resistance                          |
| Measurement Units                       | °C, °F   | %RH                      | °C, °F  | %RH   |
| Measurement Range                       | 0 to 55 °C   | 10 to 95%RH              | -25 to 70 °C  | 0 to 99 %RH (*1)                            |
| Accuracy                                | ±0.5 °C  | ± 5%RH<br>at 25°C, 50%RH | ±0.3°C<br>at 10 to 40 °C<br>±0.5°C<br>all other temperatures                          | ±2.5 %RH<br>at 15 to 35 °C,<br>30 to 80 %RH |
| Measurement Resolution                  | 0.1 °C   | 1%RH                     | 0.1 °C  | 0.1 %RH                                     |
| Responsiveness                          | Response Time (90%): Approx. 7 min.  |                          | Response Time (90%): Approx. 7 min.   |   |
| Illuminance-UV Sensor                   |  |                          |   |   |
| Measurement Channels                    | Illuminance: 1ch<br>UV Intensity: 1ch  |                          |   |   |
| Sensor                                  | ISA-3151   |                          |   |   |
| Measurement Units                       | Illuminance: lx, klx<br>UV Intensity: mW/cm <sup>2</sup>   |                          |   |   |
| Measurement Range                       | Illuminance: 0 lx to 130 klx<br>UV Intensity: 0 to 30 mW/cm <sup>2</sup>   |                          |   |   |
| Units of Cumulative Measurement         | Cumulative Illuminance: lxh, klxh, Mlxh<br>Cumulative amount of UV Light: mW/cm <sup>2</sup> h, W/cm <sup>2</sup> h  |                          |   |   |
| Display Range of Cumulative Measurement | Illuminance: 0 lxh to 90 Mlxh<br>UV Intensity: 0 mW to 62 W/cm <sup>2</sup> h  |                          |   |   |
| Accuracy                                | Illuminance 10 lx to 100 klx: ±5 % at 25°C, 50 %RH<br>UV Intensity 0.1 to 30 mW/cm <sup>2</sup> : ±5% at 25°C, 50 %RH (*2)   |                          |   |   |
| Relative Spectral Response              | Illuminance : Approximated to the CIE standard response function V ( λ )<br>UV Intensity: 260 to 400 nm ( UVA / UVB )  |                          |   |   |
| Measurement Resolution                  | Illuminance : Minimum: 0.01 lx<br>UV Intensity : Minimum of 0.001 mW/cm <sup>2</sup>   |                          |   |   |
| Responsiveness                          | Response Time (90%) 3 sec. at recording interval of 1 sec., 6 sec. at other intervals  |                          |   |   |
| Logging Capacity                        | 8,000 data sets ( One data set consists of readings for all channels in that type of unit. )   |                          |   |   |
| Recording Interval                      | Select from 15 choices: 1, 2, 5, 10, 15, 20, 30 sec. or 1, 2, 5, 10, 15, 20, 30, 60 min.   |                          |   |   |
| Recording Mode (*3)                     | Endless ( Overwrite oldest data when capacity is full ) or One Time ( Stop recording when capacity is full )   |                          |   |   |
| LCD Display Items                       | Measurements, Battery Life Warning, etc.<br>•Measurements: Illuminance / UV Intensity / Temperature / Humidity / Cumulative Illuminance / Cumulative amount of UV Light<br>•Display Pattern: Alternating or Fixed display<br>•Display Digits: Up to 4 digits     |                          |   |   |
| Communication Interfaces                | Short Range Wireless Communication<br>•FCC Part15 Section247 / IC RSS-210<br>Frequency Range: 902 to 928MHz, RF Power: 7mW<br>•ETSI EN 300 220<br>Frequency Range: 869.7 to 870MHz, RF Power: 5mW<br>Optical Communication<br>Serial Communication: RS-232C (*4) |                          |   |   |
| Wireless Transmission Range             | Approx. 150 meters ( 500 ft ) if direct and unobstructed   |                          |   |   |
| Power                                   | AA Alkaline Battery x  |                          |   |   |
| Battery Life (*5)                       | Approx. 4 months   |                          |   |   |
| Dimensions                              | H 55 mm x W 78 mm x D 18 mm<br>Antenna Length: 60 mm   |                          |   |   |
| Weight                                  | Approx. 45 g   |                          |   |   |
| Operating Environment                   | Temperature: -10 to 60°C, Humidity: 90 %RH or less ( no condensation )   |                          |   |   |
| Accessories                             | Temperature-Humidity Sensor THA-3151<br>Illuminance-UV Sensor ISA-3151   |                          | High Precision Temperature-Humidity Sensor SHA-3151<br>Illuminance-UV Sensor ISA-3151 |   |
|   | AA Alkaline Battery LR6, USB Mini-B Cable US-15C, Manual ( Warranty Included )   |                          |   |   |
| Compatible Base Units                   | RTR-500, RTR-500NW/500AW, RTR-500DC, RTR-500MBS-A  |                          |   |   |

\*1: When continually used in environments with temperatures above 60°C, accuracy of humidity measurements will decrease over time. Also, humidity cannot be measured at temperatures below -20°C.

\*2: Compared to the value measured by the T&D standard sensor for calibration under our calibration light source.

\*3: Only "Endless" is available when using RTR-500W for Windows or RTR-500MBS for Windows.

\*4: For communication with the Data Collector RTR-500DC (Note: Optional serial communication cable TR-6C10 is required.)

\*5: Battery life varies depending upon multiple factors including ambient temperature, recording interval, frequency of communication, and battery performance. All estimates are based on operations carried out with a new battery and are in no way a guarantee of actual battery life.

The specifications listed above are subject to change without notice.



## RTR-576 / 576-S Specifications

|                              | RTR-576  |                              | RTR-576-S  |   |
|------------------------------|--|------------------------------|--|---|
| Temperature-Humidity Sensor  |  |                              |  |   |
| Measurement Channels         | Temperature 1ch  | Humidity 1ch                 | Temperature 1ch  | Humidity 1ch                                |
| Sensor                       | THA-3001   |                              | SHA-3151 High-Precision Type                                 |   |
|                              | Thermistor   | Polymer Resistance           | Thermistor   | Polymer Resistance                          |
| Measurement Units            | °C, °F   | %RH                          | °C, °F   | %RH   |
| Measurement Range (*2)       | 0 to 55 °C   | 10 to 95%RH                  | -25 to 70 °C   | 0 to 99 %RH (*3)                            |
| Accuracy                     | ±0.5 °C  | 5 %RH<br>at 25 °C,<br>50 %RH | ±0.3°C<br>at 10 to 40 °C<br>±0.5°C<br>all other temperatures | ±2.5 %RH<br>at 15 to 35 °C,<br>30 to 80 %RH |
| Measurement Resolution       | 0.1 °C   | 1 %RH                        | 0.1 °C   | 0.1 %RH                                     |
| Responsiveness               | Response Time ( 90% ): Approx. 7 min.  |                              | Response Time (90%): Approx. 7 min.                          |   |
| CO2 Sensor ( Internal )      |  |                              |  |   |
| Measurement Channels         | CO2 Concentration 1ch  |                              |  |   |
| Sensor                       | NDIR   |                              |  |   |
| Measurement Channels         | CO2 Concentration 1ch  |                              |  |   |
| Measurement Units            | ppm  |                              |  |   |
| Measurement Range            | 0 to 9,999 ppm   |                              |  |   |
| Accuracy                     | ±( 50 ppm + 5% of reading ) at 5,000 ppm or less (*1)  |                              |  |   |
| Measurement Resolution       | Minimum of 1 ppm   |                              |  |   |
| Responsiveness               | Response Time ( 90% ): Approx. 1 min.  |                              |  |   |
| Logging Capacity             | 8,000 data sets ( One data set consists of readings for all channels in that type of unit. )   |                              |  |   |
| Recording Interval           | Select from 15 choices: 1, 2, 5, 10, 15, 20, 30 sec. or 1, 2, 5, 10, 15, 20, 30, 60 min.   |                              |  |   |
| Recording Mode (*4)          | Endless ( Overwrite oldest data when capacity is full ) or One Time ( Stop recording when capacity is full )   |                              |  |   |
| LCD Display Items            | Measurements, Battery Level, etc.<br>Measurements: CO2 concentration, Temperature or Humidity ( fixed or alternating display )   |                              |  |   |
| Communication Interfaces     | Short Range Wireless Communication<br>•FCC Part15 Section247 / IC RSS-210<br>Frequency Range: 902 to 928MHz, RF Power: 7mW<br>•ETSI EN 300 220<br>Frequency Range: 869.7 to 870MHz, RF Power: 5mW<br>Optical Communication<br>Serial Communication: RS-232C (*5) |                              |  |   |
| Wireless Transmission Range  | Approx. 150 meters (500 ft) if direct and unobstructed   |                              |  |   |
| External Alarm Terminal (*6) | Output Terminal: Open Drain Output<br>( Voltage when OFF: DC less than 30V / Current when ON: less than 0.1A / Resistance when ON: about 15Ω )   |                              |  |   |
| Power                        | AC Adaptor AD-06A1 or AD-06C1, AA Alkaline Battery x 4   |                              |  |   |
| Battery Life (*7)            | Approx. 2 days ( batteries only without AC adaptor )   |                              |  |   |
| Dimensions                   | H 96 mm x W 66 mm x D 46 mm<br>Antenna Length: 60 mm   |                              |  |   |
| Weight                       | Approx. 125 g  |                              |  |   |
| Operating Environment        | Temperature: 0 to 45°C<br>Humidity: 90 %RH or less ( no condensation )   |                              |  |   |
| Accessories                  | Temperature-Humidity Sensor THA-3001   |                              | High Precision Temperature-Humidity Sensor SHA-3151          |   |
|                              | AA Alkaline Battery LR6 x 4, AC Adaptor AD-06A1 or AD-06C1, USB Mini-B Cable US-15C, Software CD-ROM, User's Manual Set ( Warranty Included )  |                              |  |   |
| Compatible Base Units        | RTR-500, RTR-500NW/500AW, RTR-500MBS-A, RTR-500DC  |                              |  |   |

\*1: Stated value is the measurement accuracy of the CO2 sensor when Auto Calibration is operating properly. A change in atmospheric pressure directly influences the reading of CO2, which can cause measurement errors; a decrease in pressure by 10hPa results in a relative decrease in CO2 by 1.6%. In such a case, we recommend carrying out the "Atmospheric Pressure Correction" function found in CO2 Recorder for Windows.

\*2: Make sure to use the data logger within the operating environment as listed in the specifications.

\*3: When continually used in environments with temperatures above 60°C, accuracy of humidity measurements will decrease over time. Also, humidity cannot be measured at temperatures below -20°C.

\*4: Only "Endless" is available when using RTR-500W for Windows or RTR-500MBS for Windows.

\*5: For communication with the Data Collector RTR-500DC (Note: Optional serial communication cable TR-6C10 is required.)

\*6: In order to use the external alarm terminal, please prepare a compatible connector: JST PAP-04V-S.

\*7: Battery life varies depending upon multiple factors including ambient temperature, recording interval, frequency of communication, and battery performance. All estimates are based on operations carried out with a new battery and are in no way a guarantee of actual battery life.

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