

## USB Connectable Loggers

# TR-76Ui Features and Specs

### Measurement Items

Temperature, Humidity  
CO2 Concentration

### Data Collection

USB Connection

### Data Access

Local PC

### Warning Notification

External Alarm  
Terminal

The TR-76Ui is a three-channel data logger designed to simultaneously measure and record CO2 concentration, temperature and humidity. It includes an atmospheric pressure correction function for more reliable CO2 concentration measurements. The software "CO2 Recorder for Windows" enables the user to download data recorded by TR-76Ui to PC via USB connection, whereby data from all three channels can be simultaneously viewed in graph or table form.

### Measure and Record CO2, Temperature and Humidity with 1 Logger

With an internal CO2 Sensor, this data logger can simultaneously measure and record all 3 items.

### Large Logging Capacity of 8000 Data Sets

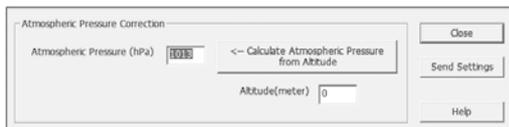
Record up to 8,000 sets of data of all three measurement channels.

### View All Data in One Graph

Using our software it is possible to view all three measurement items in one graph or one list. Easy to print and export data in text format (CSV).

### Correction for Atmospheric Pressure

This function enables the calculation of atmospheric pressure from the altitude at the measurement location; and then corrects for measurement errors due to atmospheric pressure.



### Warnings via Output Contact

If a preset limit is exceeded a warning can be issued using the output contact. This can be used in conjunction with external devices such as a ventilation device, siren or alarm.

\* please purchase the optional alarm connection cable (AC0101).

### Simple, Direct USB Connection

Settings and downloading can easily be done via PC. It is also possible to monitor current readings from the TR-76Ui connected to your PC.

### Easy Operation via Buttons

From the buttons on the logger face you can start and stop recording, make recording interval changes and switch display settings.

### Measure and Record Temperature and Humidity in a Wider Range with Greater Accuracy

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

Measurement Range for temperature is -20 to 70 °C and 0 to 99 %RH for humidity.

## TR-76Ui Specifications

|                              | TR-76Ui   |                           | TR-76Ui-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 (*1)       | 0 to 55 °C  | 10 to 95 %RH              | -25 to 70 °C   | 0 to 99 %RH (*2)                            |
| 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.                           |   |
|                              | CO2 Sensor (Internal)   |                           |  |   |
| Measurement Channels         | CO2 Concentration 1ch   |                           |  |   |
| Sensor                       | NDIR  |                           |  |   |
| Measurement Units            | ppm   |                           |  |   |
| Measurement Range            | 0 to 9,999 ppm  |                           |  |   |
| Accuracy                     | ±(50 ppm + 5 % of reading) at 5,000 ppm or less (*3)  |                           |  |   |
| 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               | Endless (Overwrite oldest data when capacity is full) or One Time (Stop recording when capacity is full)  |                           |  |   |
| LCD Display Items            | Measurements, Recording Status, Recording Mode, Battery Level, etc.<br>Measurements: CO2 concentration, Temperature or Humidity (fixed or alternating display)        |                           |  |   |
| Communication Interfaces     | USB Communication: USB 2.0 (Mini-B connector)<br>Serial Communication (*4)  |                           |  |   |
| External Alarm Terminal (*5) | Output Terminal: Open Drain Output<br>(Voltage when OFF: DC less than 30 V / Current when ON: less than 0.1 A / Resistance when ON: about 15 Ω)                       |                           |  |   |
| Power                        | AC Adaptor (AD-06A1 or AD-06C1) , AA Alkaline Battery LR6 x 4   |                           |  |   |
| Battery Life                 | Approx. 2 days (batteries only without AC adaptor) (*6)   |                           |  |   |
| Dimensions                   | H 96 mm × W 66 mm × D 46 mm (excluding protrusions and sensor)  |                           |  |   |
| Weight                       | Approx. 120g  |                           |  |   |
| Operating Environment        | Temperature: 0 to 45 °C,<br>Humidity: 90 %RH or less (no condensation)  |                           |  |   |
| Included Items               | AA Alkaline Battery LR6 x 4, AC Adaptor AD-06A1 or AD-06C1, USB Mini-B Cable US-15C, Temperature-Humidity Sensor THA-3001 or SHA-3151, Manual Set (Warranty Included) |                           |  |   |

\*1: Make sure to use the data logger within the operating environment as listed in the specifications.

\*2: 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.

\*3: 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 10 hPa 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.

\*4: Customers wishing to write their own software, please contact your local distributor for the serial communications protocol specifications. (Note: Optional serial communication cable TR-07C is also required.)

\*5: In order to use the external alarm terminal, please purchase the optional alarm connection cable (AC0101).

\*6: 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.