

# TR-76Ui

CO<sub>2</sub>, Temperature and Humidity Data Logger  
Infrared / USB Communication Type

## TR-76Ui



CO<sub>2</sub>, Temperature and Humidity : 1 CH each

### Outline

The TR-76Ui CO<sub>2</sub> Recorder is a three-channel data logger designed to simultaneously measure and record CO<sub>2</sub> concentration, temperature and humidity. Making atmospheric pressure settings for the measurement location ensures more stable and accurate CO<sub>2</sub> measurements. The supplied software 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. By using a Data Collector TR-57DCi (sold separately), it is possible to collect recorded data from the TR-76Ui via infrared communication and immediately check the collected data on the spot.

### Features

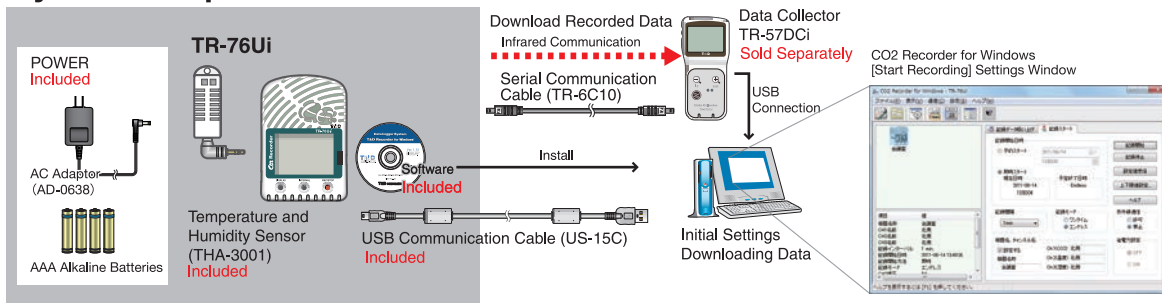
- ❖ Wide CO<sub>2</sub> measurement range of up to 5,000 ppm
- ❖ Logging capacity of 8,000 data sets (One data set consists of readings for all three channels.)
- ❖ Warning monitoring function with contact signal output
- ❖ Simultaneously view all three measurement items in one easy-to-read graph
- ❖ Possible to save data as text for use with common spreadsheet software
- ❖ Transmit recorded data to PC via USB connection

### Application Examples

- Managing CO<sub>2</sub> concentration, temperature and humidity in schools and office buildings
- For energy-saving measures such as ventilation and air conditioning controls
- For research studies on photosynthesis and growth of plants
- To use in estimations of ventilation



## System Setup



## Specifications

Device Type	TR-76Ui		
Measurement Channels	CO2 Concentration (1 Ch)	Temperature (1 Ch)	Humidity (1 Ch)
Unit of Measurement	ppm	°C	%RH
Sensor	NDIR Sensor (Internal)	External Sensor (THA-3001)	
Measurement Range	0 to 5,000 ppm (display range is up to 9,999 ppm)	0 to 45°C	10 to 90%RH
Measurement Accuracy	± 50ppm + 5% of reading *1 (at 5,000 ppm or less)	± 0.5°C	±5%RH (at 25°C and 50%RH)
Measurement Resolution	Minimum of 1ppm	0.1°C	1%RH
Response Time (90%)	15 min.	7 min.	
Recording Intervals	1, 2, 5, 10, 15, 20, 30 sec./ 1, 2, 5, 10, 15, 20, 30, 60 min. (Total of 15 choices)		
Logging Capacity	8,000 data sets (One data set consists of readings for all three channels in TR-76Ui)		
Recording Modes	Endless / One Time		
LCD Display Items	Recording Status, Amount of Recorded Data, Communication Status, Recording Mode, Battery Level, Measurements, Unit of Measurement		
Communication Interfaces	USB / Serial (RS-232C) / Infrared Communication*2		
Communication Time	When downloading one unit at full logging capacity (8,000 data sets) USB Communication: Approx. 45 sec. / Infrared Communication: Approx. 60 to 80 sec.		
Infrared Communication	IrPHY 1.2 low power		
Power	AC Adaptor (AD-0638), AA Alkaline Battery (LR6) × 4		
Battery Life *3	Approx. 2 days without AC Power		
External Alarm Terminals	Output Terminal: Open Drain Output (Voltage when OFF: DC less than 30V / Current when ON: less than 0.1A / Resistance when ON: about 15Ω)		
Dimensions / Weight	H96 x W66 x D46 mm (excluding protrusions and sensor) / Approx. 220g (including 4 batteries and sensor)		
Operating Environment	Temperature: 0 to 45°C / Humidity: 90%RH or less (no condensation)		
Accessories	Temperature and Humidity Sensor (THA-3001), AC Adaptor (AD-0638), AA Alkaline Battery (LR6) × 4 USB Communication Cable (US-15C) × 1, Software (CD-ROM), Manual Set (Warranty Included) × 1		
Compatible OS with Software*4	Microsoft® Windows® 7 32 / 64bit English, Microsoft® Windows Vista® 32bit English, Microsoft® Windows® XP 32bit (SP2 or higher) English		

\*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: If you wish to use infrared communication to download recorded data, it is necessary to purchase the separately sold Data Collector (TR-57DCi).

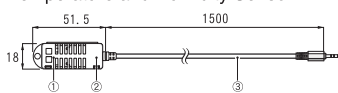
\*3: Battery life varies depending upon the measuring environment, frequency of communication, type of battery, and the battery performance.

\*4: For installation, it is necessary to have Administrator (Computer Administrator) rights.

### Optional Sensor

Unit : mm

#### Temperature and Humidity Sensor: THA-3151

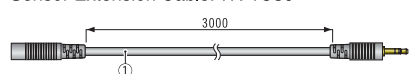


- Materials:  
 ① Temperature and Humidity Sensor  
 ② Polypropylene Resin  
 ③ Vinyl Chloride Coated Electrical Wire

Cable Length: 1.5 meters  
 Sensor Response Time: (90%) in about 7 min.  
 Humidity Measurement Range: 10 to 95%RH  
 Temperature Measurement Range: 0 to 55°C  
 Operating Environment  
 Temperature: 0 to 55°C  
 Humidity: under 95%RH (no condensation)

Measurement Accuracy  
 Temperature: Avg. ± 0.3°C  
 Humidity: ±5%RH (at 25°C and 50%RH)  
 Conditions for Use: In places with no dew condensation, water leakage or effects from corrosive gas or organic solvents.

#### Sensor Extension Cable: TR-1C30



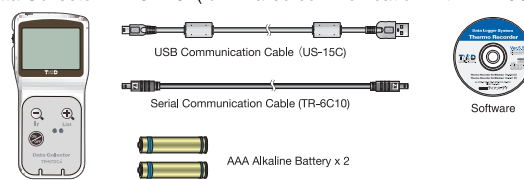
Cable Length: 3 meters  
 Temperature Durability: -25 to 60°C

- Materials:  
 ① Vinyl Chloride Coated Electrical Wire

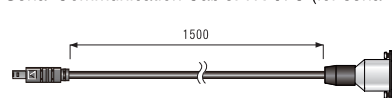
\*Possible to use up to three extension cables per sensor (THA-3001/THA-3151)

### Options

#### Data Collector: TR-57DCi (for infrared communication with TR-76Ui)



#### Serial Communication Cable: TR-07C (for serial communication with PC)



Cable Length: 1.5 meters  
 Connector Type: Specialized Connector D-sub9pin

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