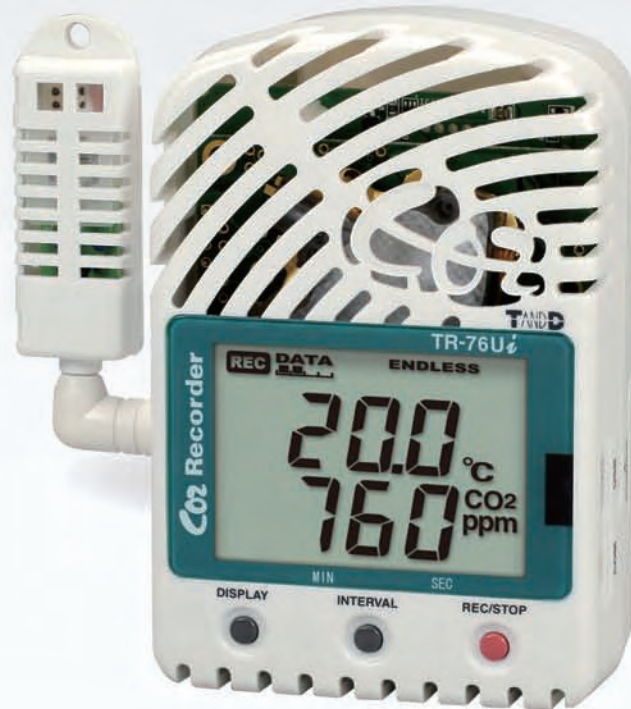# TR-76Ui

CO2, Temperature and Humidity Data Logger
Infrared / USB Communication Type

CO2, Temperature and
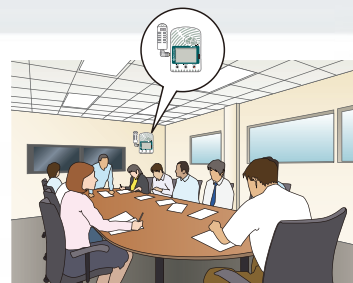Humidity : 1 CH each

Outline

The TR-76Ui CO2 Recorder is a three-channel data logger designed to simultaneously measure and record CO2 concentration, temperature and humidity. Making atmospheric pressure settings for the measurement location ensures more stable and accurate CO2 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.
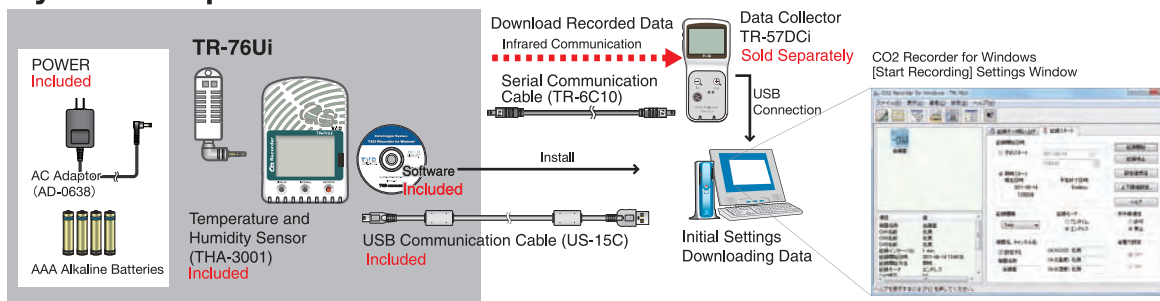
Features

- Wide CO2 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 CO2 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

POWER
Included

AC Adapter
(AD-0638)

AAA Alkaline Batteries

TR-76Ui

Temperature and
Humidity Sensor
(THA-3001)
Included

Software
Included

USB Communication Cable (US-15C)
Included

Download Recorded Data
Infrared Communication

Serial Communication
Cable (TR-6C10)

Install

Data Collector
TR-57DCi
Sold Separately

USB
Connection

Initial Settings
Downloading Data

CO2 Recorder for Windows
[Start Recording] Settings Window

Specifications

Device Type	TR-76Ui		
Measurement Channels	CO2 Concentration (1 Ch)	Temperature (1 Ch)	Humidity (1 Ch)
Unit of Measurement	ppm	℃	%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℃	10 to 90%RH
Measurement Accuracy	± 50ppm + 5% of reading *1 (at 5,000 ppm or less)	± 0.5℃	±5%RH (at 25℃ and 50%RH)
Measurement Resolution	Minimum of 1ppm	0.1℃	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℃ / Humidity: 90%RH or less (no condensation)		
Accessories	Temperature and Humidity Sensor (THA-3001), AC Adaptor (AD-0638), AA Alkaline Battery (LR6) x 4 USB Communication Cable (US-15C) x 1, Software (CD-ROM), Manual Set (Warranty Included)x 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).
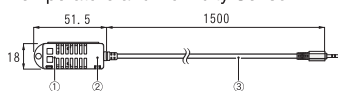*3: Battery life varies depending upon the measuring environment, frequency of communication, type of battery, and the battery performance.
*4: For installation, it is necessary to have Administrator (Computer Administrator) rights.

Optional Sensor
Unit : mm
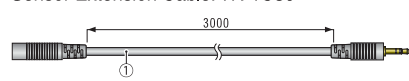
Temperature and Humidity Sensor: THA-3151

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℃
Operating Environment
　Temperature: 0 to 55℃
　Humidity: under 95%RH (no condensation)

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

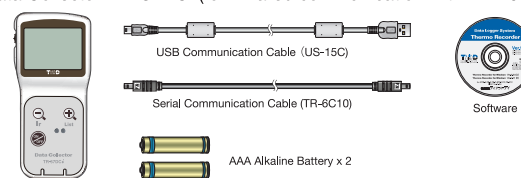### Sensor Extension Cable: TR-1C30

Cable Length: 3 meters
Temperature Durability: -25 to 60℃

Materials:
①Vinyl Chloride Coated Electrical Wire

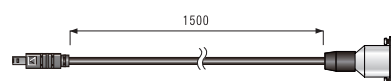*Possible to use up to three extension cables per sensor (THA-3001/THA-3151)

Options

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

USB Communication Cable（US-15C）

Serial Communication Cable (TR-6C10)

AAA Alkaline Battery x 2

Software

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

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