Data Logger
for Cloud Storage

TR-7wf Series

Thermo Recorder TR-72wf

Web

REC ENDLESS DATA

72%

DISPLAY   INTERVAL   REC/STOP

Thermo Recorder TR-71wf

ch.1

Web

ch.2

REC ONETIME DATA

71.0℃

T AND D

DISPLAY   INTERVAL   REC/STOP

and **Infrared / USB Data Loggers**
TR-7Ui Series

T AND D

Easy-to-Use Data Loggers for Wide Variety of Measurements

Simultaneous Multi-Channel Measurement with One Device

Data Analysis using Graph Tools

Start Recording upon USB connection

TR-73U
- Barometric Pressure
- Temperature • Humidity

USB Connection

Download Recorded Data
Change Settings

TR-74Ui / 74Ui-H
- Illuminance • UV Intensity
- Temperature • Humidity

Graph Display on a Data Collector

TR-76Ui / 76Ui-H
- CO2 • Temperature
- Humidity

Infrared Communication

Serial Communication

Graph View

Transmit Recorded Data to PC via USB Connection

Easy USB connection, for one device or for as many devices as your PC has ports for, makes it easy to gather current readings from the connected device(s) to your computer and view those readings in the computer display.

Data Loggers for a Variety of Measurements

The TR-7Ui series data loggers are designed to simultaneously measure and record a variety of measurements. In addition to temperature and humidity, TR-73U can record barometric pressure, TR-74Ui models take care of Illuminance and UV intensity, and TR-76Ui models log CO2 concentration.

Get Temperature and Humidity in a Wider Range with Greater Accuracy

H-type models (model names which include "H") come with our high precision temperature/humidity sensor. Features include a humidity measurement accuracy of ±2.5%, as well as the wide range measurement of temperature from -30 to 80 °C and humidity from 0 to 99%RH.

Large Logging Capacity: 8000 Data Sets

One data set consists of readings for all channels in that type of unit. If set at a recording interval of 60 minutes, it gives the user one year's worth of measurements.

Application Examples

- For managing temperature and humidity in hospitals, museums, and temperature controlled warehouses
- Managing CO2, temperature and humidity in schools: from kindergartens to universities
- For research studies on photosynthesis and growth of plants
- Measuring the degree of air tightness in packaging during transportation
- For management of illuminosity and UV light (to prevent deterioration of exhibits) in art museums and other exhibit forums

Simple startup upon connection to PC
- **Monitor multiple channels of data in trend graph**

Temperature (2ch)

TR-71wf

Measurement Range
Temperature:
−40 to 110 °C (Supplied Sensor)
−60 to 110 °C (Optional Sensor:
Fluoropolymer Coated Type)
Temperature Sensors (TR-0106 x 2) Included

Temperature / Humidity

TR-72wf

Measurement Range
Temperature: 0 to 55 °C
Humidity: 10 to 95 %RH
Temperature/Humidity Sensor (THA-3001)
Included

High Precision Type

TR-72wf-H

Measurement Range
Temperature: −30 to 80 °C
Humidity: 0 to 99 %RH
High Precision Temperature/Humidity Sensor
(HHA-3151) Included

Temp/Humidity/Barometric-Pressure

TR-73U

Measurement Range
Temperature:
−10 to 60 °C (Internal Sensor)
0 to 50 °C (Supplied Sensor)
−40 to 110 °C (Optional Sensor)
Humidity: 10 to 95 %RH (Supplied Sensor)
Barometric Pressure:
750 to 1100 hPa (Internal Sensor)
Temperature/Humidity Sensor (TR-3100)
Included

Illuminance / UV Intensity / Temperature / Humidity

TR-74Ui

Measurement Range
Illuminance: 0 lx to 130 klx
UV Intensity: 0 to 30 mW/cm^2
Temperature: 0 to 50 °C
Humidity: 10 to 95 %RH
Display Range of Cumulative Measurement:
Illuminance 0 lxh to 90 Mlxh
UV Intensity 0 mW to 62 W/cm^{2}h
Temperature/Humidity Sensor (THA-3151) and
Illuminance UV Sensor (ISA-3151) Included

High Precision Type

TR-74Ui-H

Measurement Range
Illuminance: 0 lx to 130 klx
UV Intensity: 0 to 30 mW/cm^2
Temperature: −30 to 80 °C
Humidity: 0 to 99 %RH
Display Range of Cumulative Measurement:
Illuminance 0 lxh to 90 Mlxh
UV Intensity 0 mW to 62 W/cm^{2}h
High Precision Temperature/Humidity Sensor
(HHA-3151) and Illuminance UV Sensor
(ISA-3151) Included

CO2 / Temperature / Humidity

TR-76Ui

Measurement Range
CO2: 0 to 9,999 ppm
Temperature: 0 to 50 °C
Humidity: 10 to 95 %RH
Temperature/Humidity Sensor (THA-3001)
Included

High Precision Type

TR-76Ui-H

Measurement Range
CO2: 0 to 9,999 ppm
Temperature: −30 to 80 °C
Humidity: 0 to 99 %RH
High Precision Temperature/Humidity Sensor
(HHA-3151) Included

Data Collector

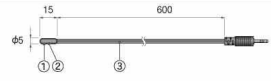Infrared Communication Type

TR-57DCi

Compatible Devices
Infrared Communication: TR-74Ui / 76Ui
(Including H Type)
Cable Communication: TR-73U / 74Ui / 76Ui
(Including H Type)
Storage Capacity: Up to 256,000 readings
When downloading units at full logging capacity:
10 units of TR-73U, TR-76Ui
7 units of TR-74Ui
• When downloading units at non-full logging
capacity, it can store and manage up to 250
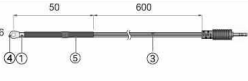downloading sessions.
• Not compatible with TR-7wf series loggers.

Temperature Sensors for TR-71wf / 73U

Measurement Range: –40 to 110°C, Sensor Temperature Durability: –50 to 115 °C,
Accuracy: Avg. ±0.3°C [–20 to 80°C], Avg. ±0.5°C [–40 to –20 °C / 80 to 110 °C]

Materials: ① Thermistor ② TPE resin-shielded sensor ③ TPE resin-shielded wire ④ M3Screw Hole ⑤ Compaction Tube ⑥ Stainless Pipe (SUS304) ⑦ Stainless Pipe (SUS316)　*Only stainless section is water resistant.
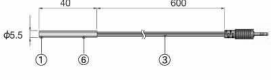
TR-0106
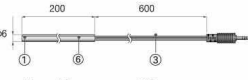TPE Resin-Shielded Sensor
Response Time (90%):
　Approx. 190 sec. (in air)

TR-0206
Screw-down Sensor
Response Time (90%):
　Approx. 210 sec. (in air)

TR-0306
Stainless Protection Sensor
Response Time (90%):
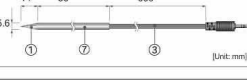　Approx. 11 sec. (in agitated water)

TR-0406
Stainless Protection Sensor
Response Time (90%):
　Approx. 15 sec. (in agitated water)

TR-0506
Stainless Protection Sensor
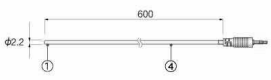Response Time (90%):
　Approx. 10 sec. (in agitated water)

TR-0706
Stainless Protection Sensor
Response Time (90%):
　Approx. 11 sec. (in agitated water)
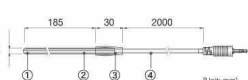
[Unit: mm]

Temperature Sensors for TR-71wf (Fluoropolymer Coated Type)

Measurement Range: –60 to 155°C, Sensor Temperature Durability: –70 to 180°C,
Accuracy: Avg. ±0.5°C [–40 to 80°C], Avg. ±1.0°C [–60 to –40°C / 80 to 100°C], Avg. ±2.0°C [100 to 155°C]

Materials: ① Thermistor ② Stainless Pipe (SUS316) ③ Fluoropolymer-Coated Compaction Tube ④ Fluoropolymer-Coated Electrical Wire
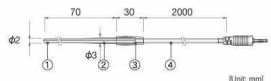
TR-1106
Fluoropolymer Coated Sensor
Response Time (90%):
　Approx. 80 sec. (in air)
　Approx. 7 sec. (in agitated water)

TR-1220
Stainless Protection Sensor
Response Time (90%):
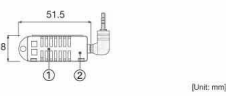　Approx. 150 sec. (in air)
　Approx. 7 sec. (in agitated water)

TR-1320
Stainless Protection Sensor
Response Time (90%):
　Approx. 90 sec. (in air)
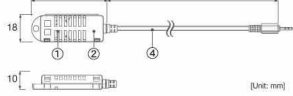　Approx. 3 sec. (in agitated water)

[Unit: mm]

Temperature / Humidity Sensors for TR-72wf / 74Ui / 76Ui

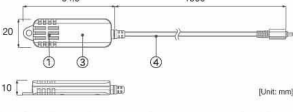Materials: ① Temp/Humidity Sensor ② Polypropylene Resin ③ Polycarbonate ④ Vinyl Chloride Coated Electrical Wire

THA-3001
Measurement Range: (*1)
　Temperature: 0 to 55 °C
　Humidity: 10 to 95 %RH (no condensation)
Accuracy:
　Temperature: ±0.5 °C
　Humidity: ±5 %RH [at 25 °C and 50 %RH]
Response Time (90%): Approx. 7 min.

THA-3151
Measurement Range : (*1)
　Temperature: 0 to 55 °C
　Humidity: 10 to 95 %RH (no condensation)
Accuracy:
　Temperature: ±0.5 °C
　Humidity: ±5%RH [at 25 °C and 50 %RH]
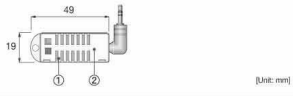Response Time (90%): Approx. 7 min.

HHA-3151 : High Precision Type
Measurement Range: (*1)
　Temperature: –30 to 80 °C
　Humidity: 0 to 99 %RH
Accuracy:
　Temperature:
　±0.3 °C [0 to 50 °C],
　±0.5 °C [at all other temperatures]
　Humidity:
　±2.5%RH [at 25°C, 10 to 85 %RH], ±4%RH [at 25°C, 0 to 10 %RH or 85 to 99 %RH]
　At temperatures other than 25 °C and ≥ 0 °C, add ±0.1%RH per degree of difference from 25.
　Humidity Hysteresis: ±1.5 %RH or lower (*2)
Response Time (90%):
　Temperature: Approx. 7 min.
　Humidity: Approx. 20 sec.
Long Term Stability: ±1 %RH/yr, ±0.1 °C/yr (under normal operational conditions) (*1)

[Unit: mm]

*1: Do not expose to condensation, dampness, corrosive gases, or organic solvents (or insecticides for High Precision Temperature / Humidity Sensors).
*2: When used in environments where temperature and humidity are over the values of 50°C75%, 60 °C 50%, 70 °C 35%, and 80 °C 25%, sensor hysteresis may fluctuate by values greater than ±1.5 %RH. Under certain circumstances, it may take some time to return to normal measurement capability.
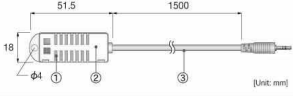
Temperature / Humidity Sensors for TR-73U

Measurement Range: Temperature 0 to 50 °C, Humidity 10 to 95 %RH
Accuracy: Temperature Avg. ± 0.3°C [0 to 50 °C], Humidity ±5%RH [at 25 °C and 50 %RH]

Materials: ① Temperature/Humidity Sensor ② Polypropylene Resin ③ Vinyl Coated Electrical Wire
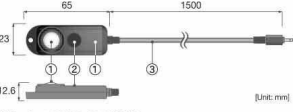
TR-3100
Response Time (90%):
　About 7 min.

TR-3110
Response Time (90%):
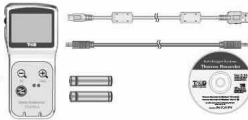　About 7 min.

[Unit: mm]

Illuminance / UV Sensor for TR-74Ui

ISA-3151
Measurement Range:
　Illuminance: 0 lx to 130 klx
　UV Intensity: 0 to 30 mW/cm²
Accuracy: (*1)
　Illuminance: ±5 % [10 lx to 100 klx at 25 °C, 50 % RH]
　UV Intensity: ±5% [0.1 to 30 mW/cm² at 25 °C, 50 %RH]
Relative Spectral Response:
　Illuminance: Approximated to the CIE standard response function V (λ).
　UV Intensity: 260 to 400 nm (UVA / UVB)
Operating Environment : (*2)
　Temperature: –10 to 60 °C
　Humidity: 90 %RH or less (no condensation)

Materials: ① Polycarbonate ② Glass ③ Vinyl Coated Electrical Wire
*1: Compared to the value measured by the T&D standard sensor for calibration under our calibration light source.
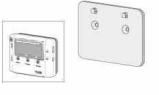*2: Do not expose to condensation, dampness, corrosive gases, or organic solvents.

[Unit: mm]

Data Collector for TR-73U / 74Ui / 76Ui

TR-57DCi
Accessories:
　Software CD-ROM,
　USB Communication cable (US-15C),
　AAA Alkaline Battery x2,
　Serial Communication Cable (TR-6C10)

Wall Attachment

TR-07K2
Accessories:
　Lock Screw x2,
　Double-sided adhesive tape
Compatible Unit:
　TR-71wf / 72wf / 73U / 74Ui (Including H Type)
Materials: Polycarbonate
Note:
- Cracking may occur if polycarbonate is exposed to strong impact at temperatures of –30 °C or lower.

AT-76K1
Accessories:
　Lock Screw x 2,
　Double-sided adhesive tape
Compatible Unit: TR-76Ui (Including H Type)
Materials: Aluminum

Software Set for TR-71wf / 72wf / 72wf-H
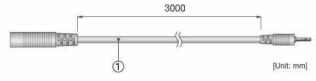
SO-15C1
Contents:
　Software CD-ROM,
　USB Communication cable (US-15C)
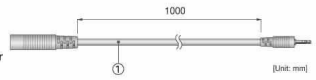
Sensor Extension Cable

Materials: ① Vinyl Coated Electrical Wire

TR-1C30
Temperature Durability:
　–25 to 60 °C

Compatible Sensors:
　Temperature / Humidity Sensors (THA-3001, THA-3151, HHA-3151) (*1)
　Illuminance / UV Sensor (ISA-3151) (*1),
　Temperature Sensors (TR-1106, TR-1220, TR-1320, TR-0106, TR-0206, TR-0306, TR-0406, TR-0506, TR-0706) (*2)

*1: Possible to use up to three cables per sensor.
*2: Only one cable per sensor. Using an extension cable with the TR-73U may lead to measurement errors of +0.3 °C at room temperature, and +0.5 °C at –50 °C.
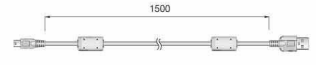
TR-5C10
Temperature Durability:
　–25 to 60 °C
Compatible Sensors:
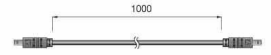　Temperature / Humidity Sensor
　TR-3100 (*3)

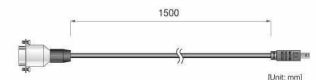*3: Only one cable per sensor.

Communication Cable

US-15C : USB Communication Cable

TR-6C10 : Serial Communication Cable
For communication between
TR-57DCi and TR-73U / 74Ui / 76Ui

TR-07C : Serial Communication Cable
Connector Type:
　Specialized Connector D-sub 9 pin
For communication between
PC and TR-73U / 74Ui / 76Ui

[Unit: mm]

Specifications

Data Collector TR-57DCi	
Compatible Devices	TR–7Ui Series: TR–71Ui / 72Ui / 74Ui / 76Ui / 77Ui TR–7U Series: TR–71U / 72U / 73U TR–7S Series: TR–71S / 72S TR–5i Series: TR–51i / 52i / 55i-TC / 55i-Pt / 55i-V / 55i-mA / 55i-P TR–5S Series: TR–51S / 52S TR–5 Series: TR–51A / 52 RTR–5 Series: RTR–51 / 51A / 52 / 52A / 52Pt / 53 / 53A, RVR–52A (including L types) Others: VR–71

Storage Capacity	Up to 256,000 readings
	
	When downloading from units filled to logging capacity:
	  - 16 units of TR-71Ui / 72Ui / 77Ui
	  - 10 units of TR-73U / 76Ui
	  - 7 units of TR-74Ui
	  - 16 units of TR-51i / 52i
	  - 15 units of TR-55i
	
	When downloading from units of any type containing small amounts of data, it can store and manage up to 250 download sessions.

Communication Interfaces	<Between TR–57DCi - Data Logger(s)>
	Infrared Communication (IrPHY 1.2 low power):
	  TR–7Ui Series, TR–5i Series (*1)
	Serial Communication (RS-232C):
	  TR–7Ui / 7U / 7S Series, VR–71 (*2)
	Optical Communication (proprietary protocol):
	  TR–5i / 5S / 5 Series, RTR–5 Series
	
	<Between TR–57DCi - PC>
	USB Communication
	Serial Communication (RS-232C) (*3)

Power	AAA Alkaline Battery (LR03) x 2 AAA Ni-MH batteries, AC adaptor (AD–0638), or USB bus power may also be used.
Battery Life	About 100 days at 1 hour of daily use (*4)
Dimensions	H 125 mm x W 58 mm x D 25.8 mm (excluding protrusions)
Weight	Approx. 110 g (including batteries)
Operating Environment	Temperature: 0 to 50 °C Humidity: 90 %RH or less (no condensation)
Accessories	AAA Alkaline Battery (LR03) x 2, USB Communication Cable (US–15C), Serial Communication Cable (TR–6C10), Software (CD-ROM), User's Manual Set (Warranty Included)
Software Compatible OS (*5)	Microsoft Windows 8 32 / 64 bit (*6) Microsoft Windows 7 32 / 64 bit Microsoft Windows Vista 32 bit (SP1 or later) Microsoft Windows XP 32 bit (SP3 or later)
Display Languages (*7)	English

*1: Infrared Communication can be used only to download recorded data, and not to make recording settings.
*2: The following cables are necessary for serial communication with data loggers : TR–6C10 (included) for TR–7Ui/7U series, and TR–4C10 (optional) for TR–7S series and VR–71.
*3: The optional serial communication cable TR-07C is necessary for serial communication with PC.
*4: Battery life varies depending upon the ambient temperature in which it is used, the frequency of communication, and the 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.
*5: For installation, it is necessary to have Administrator (Computer Administrator) rights.
*6: If you are using Windows 8, please note that our software is designed to be used in "Desktop" mode only.
*7: We recommend using an operating system in the same language as the display language. Operation in different languages is not guaranteed.
The specifications listed above are subject to change without notice.