

Data Logger for Cloud Storage

TR-7 Series



Network / USB Data Loggers **TR-7wf/nw Series**
Infrared / USB Data Loggers **TR-7Ui Series**



Next Generation Data Loggers — Built for

Automatic Data Upload

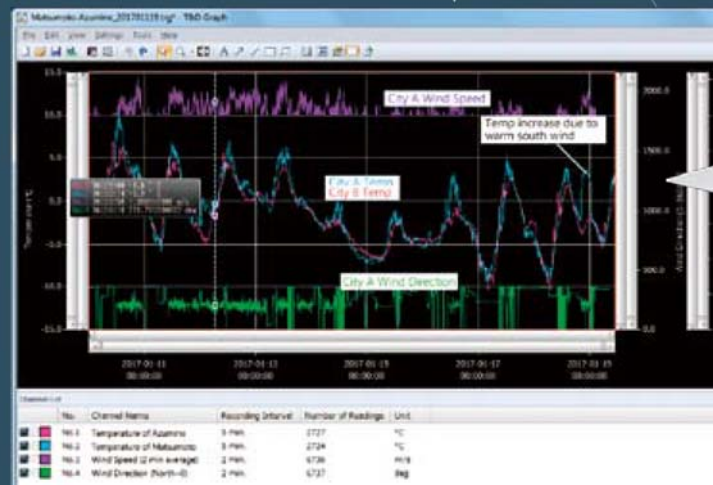
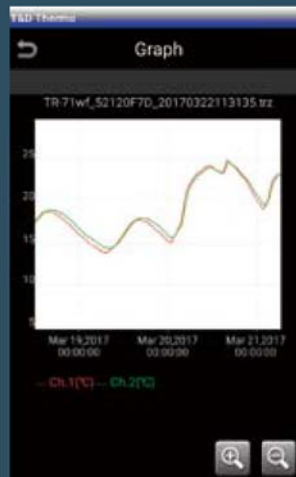
T&D Cloud Service
Free of Charge!

Direct Wireless
Communication
(TR-7wf only)

Wireless / Wired LAN

T&D
WebStorage
Service

Data Analysis using
Graph Tools



Temperature (2ch)

Temperature (2ch) - Thermocouple



Wireless
LAN
TR-71wf

Wired
LAN
TR-71nw



Wireless
LAN
TR-75wf

Wired
LAN
TR-75nw

Cloud Storage

Seamless Data Access

Automatic Data Upload to Cloud Storage

Equipped with either a wireless LAN (TR-7wf) or a wired LAN (TR-7nw), the TR-7wf/nw series data loggers can automatically upload recorded data to "T&D WebStorage Service" at programmable intervals.

Warning Notification

T&D WebStorage Service can be used to monitor incoming data and send out warning notification emails when user defined upper/lower limits are exceeded.

Direct Wireless Communication with Mobile Devices (TR-7wf)

By using our free Mobile App "T&D Thermo" with a TR-7wf, it is possible to download recorded data and change settings directly from a smartphone or tablet.

Data Viewing on PC, Smartphone or Tablet

Data uploaded to the cloud can be viewed from anywhere, anytime.

High-Accuracy Measurement with "-S" Type Models

TR-72wf-S and TR-72nw-S come with our new high precision temperature and humidity sensor, which has high environmental resistance and allows for reliable and accurate measurement in harsh environments.

Application Examples

- Managing temperature and humidity in hospitals, museums, and temperature controlled warehouses
- Performance testing of humidity and heat control in housing
- Managing temperature and humidity in server rooms
- Recording temperature and humidity in subways and train cars



Temperature / Humidity (1ch each)



Wireless LAN
TR-72wf

Wired LAN
TR-72nw



Wireless LAN
TR-72wf-S

Wired LAN
TR-72nw-S

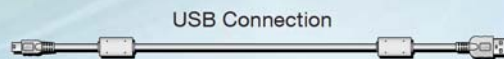
High-Precision Type

Easy-to-Use Data Loggers for Wide Variety of

Simultaneous Multi-Channel Measurement with One Device

Start Recording upon USB connection

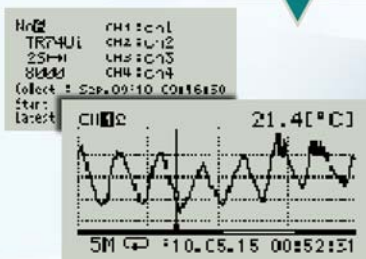
Data Analysis using Graph Tools



Download Recorded Data
Change Settings



Graph Display on a Data Collector



Graph View

Infrared Communication

Serial Communication



Temp / Humidity / Barometric-Pressure (1ch each)

Illuminance / UV Intensity / Temperature / Humidity (1ch each)



TR-73U



TR-74Ui



TR-74Ui-S

Measurements

Easy Data Download to PC via USB

The USB connection makes it easy not only to transfer recorded data directly from the data logger to your computer, but to monitor current readings on the PC screen.

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, barometric pressure, Illuminance and UV intensity, and CO2 concentration are available.

High-Accuracy Measurement with "-S" Type Models

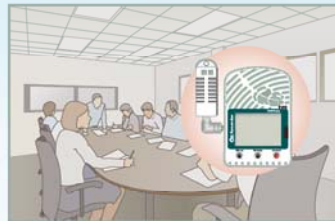
TR-74Ui-S and TR-76Ui-S come with our new high precision temperature and humidity sensor, which has high environmental resistance and allows for reliable and accurate measurement in harsh environments.

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 you one year's worth of measurements.

Application Examples

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



CO2 / Temperature / Humidity (1ch each)



TR-76Ui



TR-76Ui-S

Data Collector



TR-57DCi

Note:
This series does not
require the use of Data
Collection Devices.

Temperature Sensors for TR-71wf / 71nw / 73U

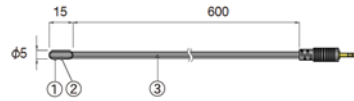
Measurement Range: -40 to 110°C, Sensor Temperature Durability: -50 to 115 °C,
Accuracy: Avg. $\pm 0.3^{\circ}\text{C}$ at -20 to 80°C, Avg. $\pm 0.5^{\circ}\text{C}$ at -40 to -20 °C / 80 to 110 °C

Materials: ① Thermistor ② TPE Resin-Shielded Sensor ③ TPE resin-shielded wire ④ M3 Crimp Terminal ⑤ Compaction Tube ⑥ Stainless Pipe (SUS304) ⑦ Stainless Pipe (SUS316)

*Only stainless section is water resistant.

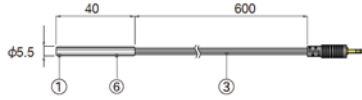
TR-0106

TPE Resin-Shielded Sensor
Response Time (90%):
Approx. 190 sec. (in air)



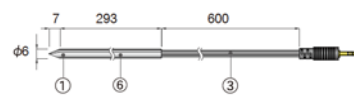
TR-0306

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



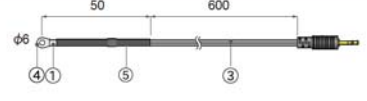
TR-0506

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



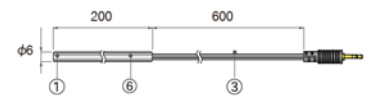
TR-0206

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



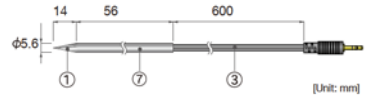
TR-0406

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



TR-0706

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



[Unit: mm]

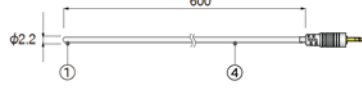
Temperature Sensors for TR-71wf / 71nw (Fluoropolymer Coated Type)

Measurement Range: -60 to 155°C, Sensor Temperature Durability: -70 to 180°C,
Accuracy: Avg. $\pm 0.5^{\circ}\text{C}$ at -20 to 80°C, Avg. $\pm 1.0^{\circ}\text{C}$ at -60 to -40°C / 80 to 100°C, Avg. $\pm 2.0^{\circ}\text{C}$ at 100 to 155°C

Materials: ① Thermistor ② Stainless Pipe (SUS316) ③ Fluoropolymer-Coated Compaction Tube ④ Fluoropolymer-Coated Electrical Wire

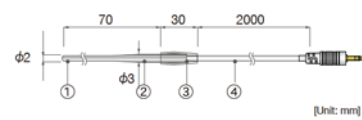
TR-1106

Fluoropolymer Coated Sensor
Response Time (90%):
Approx. 80 sec. (in air)
Approx. 7 sec. (in agitated water)



TR-1320

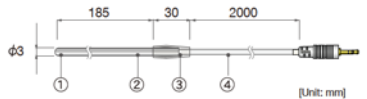
Stainless Protection Sensor
Response Time (90%):
Approx. 90 sec. (in air)
Approx. 3 sec. (in agitated water)



[Unit: mm]

TR-1220

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



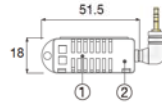
[Unit: mm]

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

Materials: ① Temp/Humidity Sensor ② Polypropylene Resin ③ ABS Resin ④ Vinyl Chloride Coated Electrical Wire ⑤ Halogen-Free Flame Resisting Jacket Cable

THA-3001

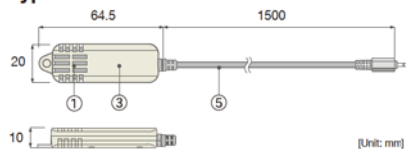
Measurement Range:
Temperature: 0 to 55 °C
Humidity: 10 to 95 %RH (no condensation*)
Accuracy:
Temperature: $\pm 0.5^{\circ}\text{C}$
Humidity: $\pm 5\% \text{RH}$ at 25 °C and 50 %RH
Response Time (90%): Approx. 7 min.



[Unit: mm]

SHA-3151 : High Precision Type

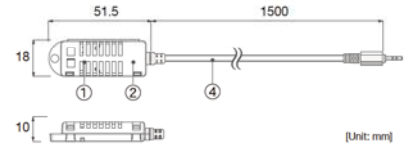
Measurement Range:
Temperature: -25 to 70°C,
Humidity: 0 to 99 %RH *1
Accuracy:
Temperature:
 $\pm 0.3^{\circ}\text{C}$ at 10 to 40°C,
 $\pm 0.5^{\circ}\text{C}$ at all other temperatures
Humidity: $\pm 2.5\% \text{RH}$ at 15 to 35°C / 30 to 80 %RH
Long Term Stability: $\pm 1\% \text{RH} / \text{yr}$, $\pm 0.1^{\circ}\text{C} / \text{yr}$ *2
Responsiveness: Response Time (90%): Approx. 7 min.



[Unit: mm]

THA-3151

Measurement Range:
Temperature: 0 to 55 °C
Humidity: 10 to 95 %RH
(no condensation*)
Accuracy:
Temperature: $\pm 0.5^{\circ}\text{C}$
Humidity: $\pm 5\% \text{RH}$ at 25 °C and 50 %RH
Response Time (90%): Approx. 7 min.



[Unit: mm]

*1: Do not expose to condensation, dampness, corrosive gases or organic solvents.

*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.

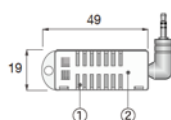
Temperature-Humidity Sensors for TR-73U

Measurement Range: Temperature 0 to 50 °C, Humidity 10 to 95 %RH
Accuracy: Temperature Avg. $\pm 0.3^{\circ}\text{C}$ at 0 to 50 °C, Humidity $\pm 5\% \text{RH}$ at 25 °C and 50 %RH

Materials: ① Temperature/Humidity Sensor ② Polypropylene Resin ③ Vinyl Coated Electrical Wire

TR-3100

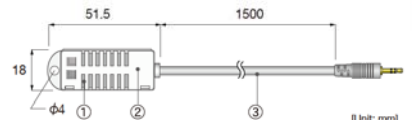
Response Time (90%):
About 7 min.



[Unit: mm]

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: $\pm 5\%$
10 lx to 100 klx at 25 °C, 50 % RH
UV Intensity: $\pm 5\%$
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)

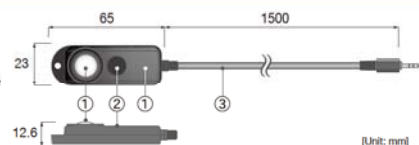
Operating Environment *2:

Temperature: -10 to 60 °C
Humidity: 90 %RH or less (no condensation)

Materials: ① Polycarbonate ② Glass ③ Vinyl chloride-shielded 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.



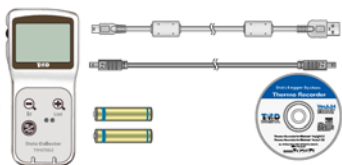
[Unit: mm]

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

TR-57DCi

Accessories:

Software CD-ROM,
USB Communication cable (US-15C),
AAA Alkaline Battery x 2,
Serial Communication Cable (TR-6C10)



Wall Attachment

TR-07K2

Accessories:

Lock Screw x 2,
Double-sided adhesive tape

Compatible Unit:

TR-71wf / 72wf / 71nw / 72nw / 73U / 74Ui
(Including S Type)

Materials: Polycarbonate

Note:

- Cracking may occur if polycarbonate is exposed to strong impact at temperatures of -30 °C or lower.



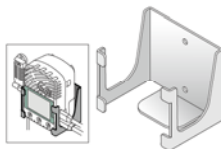
AT-76K1

Accessories:

Lock Screw x 2,
Double-sided adhesive tape

Compatible Unit: TR-76Ui (Including S Type)

Materials: Aluminum



Software Set for TR-7wf / 7nw

SO-15C1

Contents:

Software CD-ROM,
USB Communication cable (US-15C)



* The TR-7wf/nw series software set can be downloaded via the internet, but for those who prefer, a CD and USB cable set is available for purchase.

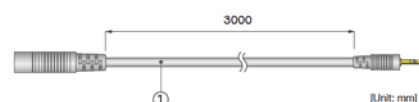
Sensor Extension Cable

Materials: ① Vinyl Coated Electrical Wire

TR-1C30

Temperature Durability:

-25 to 60 °C



[Unit: mm]

Temperature Sensor: TR-1106, TR-1220, TR-1320, TR-0106, TR-0206, TR-0306,
TR-0406, TR-0506, TR-0706

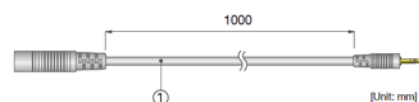
Temp-Humidity Sensor: THA-3001, THA-3151, SHA-3151

Illuminance-UV Sensor: ISA-3151

TR-5C10

Temperature Durability:

25 to 60 °C



[Unit: mm]

Compatible Sensors:

Temperature Sensor: TR-1106, TR-1220, TR-1320, TR-0106, TR-0206, TR-0306,
TR-0406, TR-0506, TR-0706

Temp-Humidity Sensor: THA-3001, THA-3151, SHA-3151, TR-3100 *

Illuminance-UV Sensor: ISA-3151

Temperature sensors can use up to 3 meters of extension cables.

Temp-Humidity sensors and Illuminance-UV sensors can use up to 9 meters of extension cables.

* Only 1 extension cable for TR-3100

Communication Cable

US-15C : USB Communication Cable



TR-6C10 : Serial Communication Cable

For communication between
TR-57DCi and TR-73U / 74Ui / 76Ui
(Including S Type)

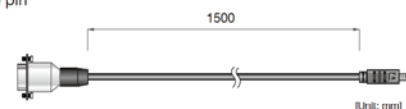


TR-07C : Serial Communication Cable

Connector Type:

Specialized Connector D-sub 9 pin

For communication between
PC and TR-73U / 74Ui / 76Ui
(Including S Type)

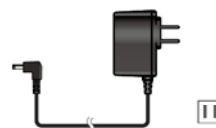


[Unit: mm]

AC Adaptors for TR-76Ui

AD-06A1

Cable Length: 1.8m
Input: AC 100 - 240V
Output: DC 6V 500mA
Frequency: 50 / 60 Hz
Plug Type: A



AD-06C1

Cable Length: 1.8m
Input: AC 100 - 240V
Output: DC 6V 1.0 A
Frequency: 50 / 60Hz
Plug Type: C



Specifications

		TR-71wf / 71nw	TR-72wf / 72nw		TR-72wf-S / 72nw-S		TR-75wf / 75nw
Measurement Channels		Temperature 2ch (Internal 1ch / External 2ch)	Temperature 1ch, Humidity 1ch (External)		Temperature 1ch, Humidity 1ch High Precision Type (External)		Temperature 2ch (External)
Sensor		Thermistor	Thermistor	Polymer Resistance	Thermistor	Polymer Resistance	Thermocouple: Type K, J, T, E, S, R ^{*1}
Measurement Units		°C, °F	°C, °F	%RH	°C, °F	%RH	°C, °F
Measurement Range	Internal Sensor	-10 to 60°C ^{*2}	-	-	-	-	-
	External Sensor	-40 to 110°C (Supplied Sensor) -60 to 155°C (Optional Sensor)	0 to 55 °C	10 to 95 %RH	-25 to 70 °C	0 to 99 %RH ^{*3}	K -199 to 1370 °C E -199 to 1000 °C J -199 to 1200 °C S -50 to 1760 °C T -199 to 400 °C R -50 to 1760 °C
Accuracy		Avg. ± 0.3°C -20 to 80°C Avg. ± 0.5°C -40 to -20°C / 80 to 110°C	±0.5°C	±5 %RH at 25 °C, 50 %RH	±0.3°C at 10 to 40 °C ±0.5°C all other temperatures	±2.5 %RH at 15 to 35 °C, 30 to 80 %RH	Thermocouple Measurement (Sensor inaccuracies not included) K, J, T, E : ±(0.5 °C + 0.3 % of reading) S, R : ±(1.5 °C + 0.3 % of reading) at 100°C or above Cold Junction Compensation ±0.5 °C at 10 to 40 °C ±0.8 °C other temperatures within the operating environment of the logger
Measurement Resolution		0.1 °C	0.1°C	1 %RH	0.1°C	0.1 %RH	K, J, T, E: 0.1°C S, R: approx. 0.2°C
Responsiveness		Thermal Time Constant: Approx. 75 sec. Response Time (90%): Approx. 190 sec.	Response Time (90%): Approx. 7 min.		Response Time (90%): Approx. 7 min.		-
LCD Display Items		Measurements (fixed or alternating display), Battery Warning Mark, etc.					
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) / One Time (Stop recording when capacity is full)					
Auto-upload Interval		Select from 15 choices: OFF (No auto-upload), 1, 2, 5, 10, 15, 20, 30 min. or 1, 2, 3, 4, 6, 12, 24 hrs.					
Communication Interfaces		TR-7wf: Wireless LAN Communication Standard: IEEE 802.11b (TR-71wf/72wf) / IEEE 802.11b/g/n (TR-75wf) Security ^{*4} : WEP (64bit/128bit), WPA-PSK(TKIP), WPA2-PSK(AES) WPS 2.0 : Push Button Configuration Protocol: HTTP ^{*5} , DHCP, DNS TR-7nw: Wired LAN Communication 100BASE-TX/10BASE-T (RJ45 Connector) Protocol: HTTP ^{*5} , DHCP, DNS USB Communication : USB 2.0 (Mini-B connector)					
Power ^{*6}		Battery: AA Alkaline x 2, AA Ni-MH x 2 External: USB Bus 5V 200mA, AC Adaptor AD-05A2 or AD-05C2, PoE IEEE 802.3af (TR-7nw only)					
Battery Life ^{*7}		With LAN communication: Approx. 10 days to 1.5 years Ex: Approx. 10 days when Auto-upload Interval is 1 min, 1 yr when 1 hr, 1.5 yrs when 12 hrs or more Without LAN communication: Approx. 1.5 years					With LAN communication: Approx. 10 days to 1 year Ex: Approx. 10 days when Auto-upload Interval is 1 min, 7 mos when 1 hr, 1 yr when 12 hrs or more Without LAN communication: Approx. 1 year
Dimensions		H 58 mm x W 78 mm x D 26 mm					
Weight		Approx. 55 g					
Operating Environment		Temperature: -10 to 60°C ^{*8} Humidity: 90 %RH or less (no condensation)					
Accessories		Temperature Sensor (TR-0106) x 2	Temperature-Humidity Sensor (THA-3001)		High Precision Temperature-Humidity Sensor (SHA-3151)		-
		AA Alkaline Battery LR6 x 2, Registration Code Label, USB Mini-B Cable US-15C, Manual Set (Warranty Included)					
Software Compatible OS ^{*9}		TR-7wf/nw for Windows / T&D Graph (For PC) Microsoft Windows 8 32 / 64 bit Microsoft Windows 7 32 / 64 bit Microsoft Windows Vista 32 bit (SP1 or later) T&D Thermo (For Mobile Devices) Android OS, iOS (For the compatible versions, please refer to our website.)					
Display Languages ^{*10}		English					

^{*1}: Compatible wire sizes are as follows. Single Wire : ϕ 0.32 to ϕ 0.65 mm (AWG 28 - 22), Twisted Wire : 0.08 to 0.32 mm² (AWG 28 - 22), ϕ 0.12 mm or more in diameter, Stripping Length : 9 to 10 mm
^{*2}: When Auto Upload is used frequently, the measurement of the internal sensor may rise by around 0.3°C. When using external power, the data logger itself generates heat and the internal sensor will report a temperature much higher than ambient; we recommend using an external temperature sensor in this case.

^{*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}: The WPS feature is not available when WEP(64bit/128bit) or WPA-PSK (TKIP) is selected in Access Point Settings. If you wish to use the WPS feature, please select WPA2-PSK (AES) or disable wireless security.

^{*5}: HTTP client. Proxy supported (for firmware version 1.05 or above for TR-71wf/72wf).

^{*6}: When using external power, the internal temperature of the logger rises.

^{*7}: Battery life varies depending upon multiple factors including frequency of communication, LAN environment, ambient temperature, recording interval, 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.

^{*8}: -10 to 45°C when using external power. (TR-7nw only)

^{*9}: For installation, it is necessary to have Administrator (Computer Administrator) rights.

^{*10}: 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.

	TR-74Ui		TR-74Ui-S	
Temperature-Humidity Sensor (External)	THA-3151		SHA-3151 (High-Precision Type)	
	Thermistor	Polymer Resistance	Thermistor	Polymer Resistance
Measurement Channels	Temperature 1ch	Humidity 1ch	Temperature 1ch	Humidity 1ch
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 at 25 °C, 50 %RH	±0.3°C at 10 to 40 °C ±0.5°C at all other temperatures	±2.5 %RH at 15 to 35 °C, 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 (External)	ISA-3151			
Measurement Channels	Illuminance: 1ch UV intensity: 1ch			
Measurement Units	Illuminance: lx, klx UV Intensity: mW/cm ²			
Measurement Range	Illuminance: 0 lx to 130 klx UV Intensity: 0 to 30 mW/cm ²			
Units of Cumulative Measure- ment	Cumulative Illuminance: lxh, klxh, Mlxh Cumulative amount of UV Light: mW/cm ² h, W/cm ² h			
Display Range of Cumulative Measurement	Illuminance: 0 lxh to 90 Mlxh UV Intensity: 0 mW to 62 W/cm ² h			
Accuracy	Illuminance: 10 lx to 100 klx: ±5 % at 25 °C, 50 %RH UV Intensity: 0.1 to 30 mW/cm ² ±5 % at 25 °C, 50 %RH ^{*2}			
Relative Spectral Response	Illuminance: Approximated to the CIE standard response function V (λ) UV Intensity: 260 to 400 nm (UVA / UVB)			
Measurement Resolution	Illuminance: Minimum of 0.01 lx UV Intensity: Minimum of 0.001 mW/cm ²			
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	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. - Measurements: Illuminance / UV Intensity / Temperature / Humidity / Cumulative Illuminance / Cumulative amount of UV Light - Display Pattern: Alternating or Fixed display - Display Digits: Up to 4 digits			
Communication Interfaces	USB Communication Infrared Communication: IrPHY 1.2 low power ^{*3} Serial Communication: RS-232C ^{*4}			
Power	AA Alkaline Battery x 1			
Battery Life ^{*5}	Approx. 6 months			
Dimensions	H 55 mm x W 78 mm x D 18 mm			
Weight	Approx. 40 g			
Operating Environment	Temperature: -10 to 60 °C Humidity: 90 %RH or less (no condensation)			
Accessories	Illuminance-UV Sensor ISA-3151, Temperature-Humidity Sensor THA-3151		Illuminance-UV Sensor ISA-3151, High Precision Temperature-Humidity Sensor SHA-3151	
	AA Alkaline Battery LR6, USB Mini-B Cable US-15C, Software CD-ROM, User's Manual Set (Warranty Included)			
Software Compatible OS ^{*6}	Illuminance UV Recorder for Windows Microsoft Windows 10 32/64 bit Microsoft Windows 8 32/64 bit Microsoft Windows 7 32/64 bit Microsoft Windows Vista 32 bit (SP1 or later)			
Display Languages ^{*7}	English			

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

^{*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}: 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. When infrared communication function is enabled, battery life may be shortened if the unit is used under the inverter type fluorescent lighting.

^{*6}: For installation, it is necessary to have Administrator (Computer Administrator) rights.

^{*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.

Specifications

	TR-76Ui		TR-76Ui-S	
Temperature-Humidity Sensor (External)	THA-3001		SHA-3151 (High-Precision Type)	
	Thermistor	Polymer Resistance	Thermistor	Polymer Resistance
Measurement Channels	Temperature 1ch	Humidity 1ch	Temperature 1ch	Humidity 1ch
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 at 25 °C, 50 %RH	±0.3°C at 10 to 40 °C ±0.5°C at all other temperatures	±2.5 %RH at 15 to 35 °C, 30 to 80 %RH
Measurement Resolution	0.1 °C		0.1 °C	
Responsiveness	Response Time (90%): Approx. 7 min.		Response Time (90%): Approx. 7 min.	
CO2 Sensor (Internal)	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 ^{*3}			
Measurement Resolution	Minimum of 1 ppm			
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, Battery Level, etc. Measurements: CO2 concentration, Temperature or Humidity (fixed or alternating display)			
Communication Interfaces	USB Communication Infrared Communication: IrPHY 1.2 low power ^{*4} Serial Communication: RS-232C ^{*5}			
External Alarm Terminal ^{*6}	Output Terminal: Open Drain Output (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	Approx. 2 days (batteries only without AC adaptor) ^{*7}			
Dimensions	H 96 mm x W 66 mm x D 46 mm (excluding protrusions and sensor)			
Weight	Approx. 120 g			
Operating Environment	Temperature: 0 to 45 °C Humidity: 90 %RH or less (no condensation)			
Accessories	Temperature-Humidity Sensor THA-3151		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)			
Software Compatible OS ^{*8}	CO2 Recorder for Windows Microsoft Windows 10 32/64 bit Microsoft Windows 8 32/64 bit Microsoft Windows 7 32/64 bit Microsoft Windows Vista 32 bit (SP1 or later)			
Display Languages ^{*9}	English			

^{*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 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.

^{*4}: If you wish to use infrared communication to download recorded data, it is necessary to purchase the Data Collector TR-57DCi (sold separately).

^{*5}: 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.)

^{*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. Battery life may be shortened if the unit is used under inverter type fluorescent lighting.

^{*8}: For installation, it is necessary to have Administrator (Computer Administrator) rights.

^{*9}: 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.

TR-73U			
Sensor	TR-3100 (External) ^{*1}		Barometric Pressure Sensor (Internal)
	Thermistor	Polymer Resistance	
Measurement Channels	Temperature 2ch	Humidity 1ch	Barometric Pressure 1ch
Measurement Units	°C, °F	%RH	hPa
Measurement Range	0 to 50 °C (Supplied Sensor) -40 to 110 °C (Optional Sensor)	10 to 95 %RH	750 to 1100 hPa
Accuracy	Avg. ±0.3 °C 0 to 50 °C	±5 %RH at 25 °C, 50 %RH	±1.5 hPa
Measurement Resolution	0.1 °C	1 %RH	±0.1 hPa
Responsiveness	Response Time (90%): Approx. 7 min.		4 or 40 seconds if recording interval is 10 sec. or more.
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. / 1, 2, 5, 10, 15, 20, 30, 60 min.		
Recording Mode	Endless (Overwrite oldest data when capacity is full) One Time (Recording automatically stops when capacity is full)		
LCD Display Items	Measurements (fixed or alternating display), Battery Warning Mark, etc.		
Communication Interfaces	USB Communication Serial Communication: RS-232C ^{*2}		
Power	AA Alkaline Battery x 1		
Battery Life ^{*3}	Approx. 10 months		
Dimensions	H 55 mm x W 78 mm x D 18 mm		
Weight	Approx. 40 g		
Operating Environment	Temperature: -10 to 60 °C Humidity: 90 %RH or less (no condensation)		
Accessories	AA Alkaline Battery LR6, USB Mini-B Cable US-15C, Temperature-Humidity Sensor TR-3100 x 1, Software CD-ROM, User's Manual Set (Warranty Included)		
Software Compatible OS ^{*4}	T&D Recorder for Windows (TR-5, 7xU) Microsoft Windows 10 32/64 bit Microsoft Windows 8 32/64 bit Microsoft Windows 7 32/64 bit Microsoft Windows Vista 32 bit (SP1 or later)		
Display Languages ^{*5}	English		

- ^{*1}: It is also possible to measure temperature with the internal sensor. However, the measurement range is restricted to the operating environment for the whole device.
- ^{*2}: 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.)
- ^{*3}: 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.
- ^{*4}: For installation, it is necessary to have Administrator (Computer Administrator) rights.
- ^{*5}: 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.

Data Collector TR-57DCi	
Compatible Devices	TR-7Ui Series: TR-74Ui / 76Ui / 73U (including S types) TR-5i Series: TR-51i / 52i / 55i-TC / 55i-Pt / 55i-V / 55i-mA / 55i-P Others: VR-71
Storage Capacity	Up to 256,000 readings When downloading from units filled to logging capacity: - 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) - Optical Communication For TR-5i Series - Infrared Communication: IrPHY 1.2 low power For TR-7Ui Series, TR-5i Series ^{*1} - Serial Communication: RS-232C For TR-7Ui Series, VR-71 ^{*2} Between TR-57DCi - PC - USB Communication - Serial Communication: RS-232C ^{*3}
Power	AAA Alkaline Battery x 2, AAA Ni-MH Battery x 2, USB bus power, AC adaptor AD-06A1 or AD-06C1
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
Weight	Approx. 90 g
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 ^{*6}	T&D Recorder for Windows (TR-5, 7xU) ^{*5} Microsoft Windows 10 32/64 bit Microsoft Windows 8 32/64 bit Microsoft Windows 7 32 / 64 bit Microsoft Windows Vista 32 bit (SP1 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 series, and TR-4C10 (optional) for VR-71.
- ^{*3}: The optional serial communication cable TR-07C is necessary for serial communication with PC.
- ^{*4}: Battery life varies depending upon multiple factors including ambient temperature, 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.
- ^{*5}: For TR-74Ui and TR-76Ui, only the data downloaded via TR-57DCi can be used with "T&D Recorder for Windows".
- ^{*6}: For installation, it is necessary to have Administrator (Computer Administrator) rights.
- ^{*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.



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