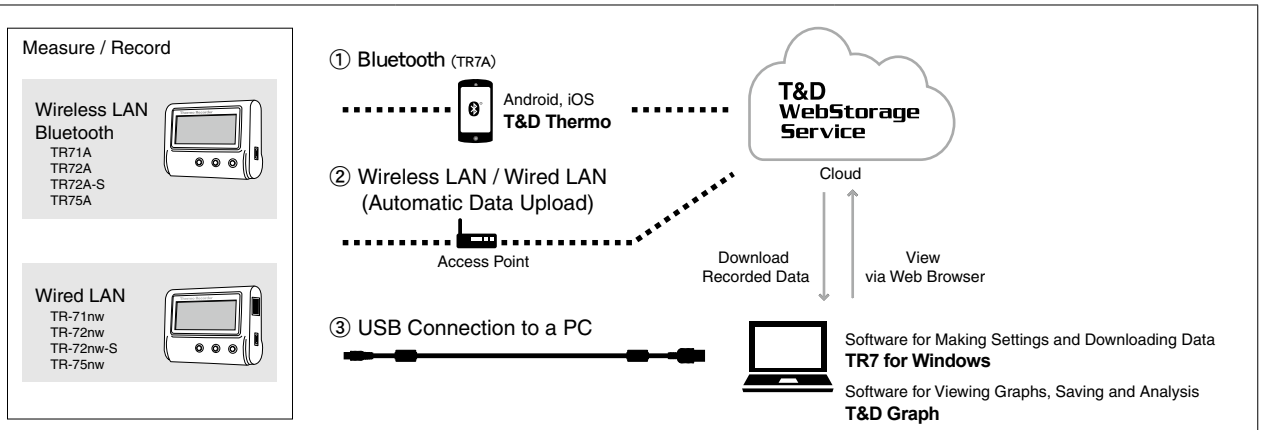
Nov. 2021

Data Logger for Cloud Storage

TR7 Series Features and Specs

Measurement Items	Data Collection	Data Access	Warning Notification
Temperature Humidity	LAN, Bluetooth®, USB Connection	T&D WebStorage Service, Intranet, Local PC	E-mail

TR7 Series, with multiple types of communication interface (Wireless/Wired LAN, Bluetooth®, and USB) have been designed to meet your temperature and humidity data management environment and needs.



* T&D WebStorage Service is a free cloud-based storage service provided by T&D Corporation. A LAN based environment with Internet connection is necessary to use this service.

* The Bluetooth® trademark and logo are registered trademarks owned by Bluetooth SIG, Inc. T&D Corporation uses these marks under license.

①Data Collection via Bluetooth (wb)

The "T&D Thermo" app (for Android, iOS) allows you to carry out operations such as making settings, downloading recorded data, viewing graphs, creating reports and sharing data via smartphones and tablets.

②Auto-Upload to Cloud via LAN

Recorded data can be automatically uploaded to our T&D WebStorage Service via wireless LAN or wired LAN. This allows for the accessing of recorded data from any smartphone or PC with an Internet connection. TR7A Series support secure (HTTPS) communication.

③Simple and Safe USB Communication

By simply connecting a logger to PC via USB, it is possible to make settings, download recorded data, view data in graph and list format, and create a PDF report.

* The necessary software can be downloaded free of charge.

Model	Measurement Items	Measurement Range	Notes
TR71A / TR-71nw	Temperature 2ch	-60 to 155 °C	The measurement range depends on the sensor type. Wide selection of optional sensors available
TR72A / TR-72nw	Temperature / Humidity 1ch Each	0 to 55 °C / 10 to 95%RH	
TR72A-S / TR-72nw-S	Temperature / Humidity 1ch Each	-25 to 70 °C / 0 to 99%RH	The supplied sensor for the S model provides higher accuracy to ±2.5%RH
TR75A / TR-75nw	Temperature 2ch (Thermocouple)	-199 to 1760 °C	For use with Thermocouple Sensor Types: K, J, T, E, S, R

Sending Warning Report Mails

Warning e-mails can be sent upon T&D WebStorage Service receiving warning information from the data logger.

TR7A Series: Max/Min and ALM Display on LCD

In addition to the measurements of two channels, TR7A models can display the maximum and minimum values and warning notification (ALM) for each channel on the LCD.

TR7A Series: Large Logging Capacity of 30,000 Readings per Channel

TR7A models can record up to 30,000 data readings in each of the two channels. If set at a recording interval of 30 minutes, it gives the user about 1.7 years worth of measurements.

TR71A: For Vaccine Temperature Management

The TR71A meets or exceeds CDC requirements for VFC, and can be set to [Vaccine Mode] for managing vaccine temperature.

Data Management on Intranet

You can set up a PC as a data destination by installing our free-of-charge "T&D Data Server" software. Functions such as saving received recorded data, monitoring and graph display with a web browser, and warning mail transmission are available even in environments where you cannot use the cloud service.

* "T&D Data Server" will add support for the TR7A within 2021.

TR7A Series Specifications

	TR71A	TR72A		TR72A-S		TR75A
Measurement Channels	Temperature 2ch	Temperature 1ch, Humidity 1ch		Temperature 1ch, Humidity 1ch		Temperature 2ch
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: Fluoropolymer Coated Type)	0 to 55 °C	10 to 95 %RH	-25 to 70 °C	0 to 99 %RH (*3)	Type K: -199 to 1370 °C Type J: -199 to 1200 °C Type T: -199 to 400 °C Type E: -199 to 1000 °C Type S: -50 to 1760 °C Type R: -50 to 1760 °C
Accuracy	(Supplied Sensor) Avg. ± 0.3°C at −20 to 80°C Avg. ± 0.5°C at −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) Type K, J, T, E : ±(0.5 °C + 0.3 % of reading) at −100°C or above Type 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	Type K, J, T, E: 0.1°C Type S, R: Approx. 0.2°C
Responsiveness	(Supplied Sensor) Response Time (90%): Approx. 190 sec.	Response Time (90%): Approx. 7 min.		Response Time (90%): Approx. 7 min.		-

Logging Capacity	30,000 data sets (One data set consists of readings for all channels.)
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 Warning Mark, etc. - Measurements: Ch1 & Ch2 current values / Ch1 Max & Min values / Ch2 Max & Min values - Display Pattern: Alternating or Fixed display
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	Wireless LAN Communication : IEEE 802.11b/g/n (2.4GHz only) Security: WPA/WPA2-PSK(AES/TKIP) WPS 2.0: Push Button Configuration Protocol (*4): HTTP, HTTPS, DHCP, DNS Bluetooth Communication: Bluetooth 4.2 (Bluetooth low energy) USB Communication: USB 2.0 (Mini-B connector)
Power (*5)	Battery: AA Alkaline LR6 x 2, AA Ni-MH x 2 External: USB Bus 5V 200mA, AC Adaptor AD-05A2 or AD-05C2
Battery Life (*6)	Approx. 10 days (Auto-upload interval 1 min, Rec interval ≥10 sec) Approx. 1 year (Auto-upload interval 1 hr, Rec interval ≥10 sec) Approx. 15 months (Auto-upload interval ≥12 hr, Rec interval ≥10 sec) *1.2 times longer with Bluetooth OFF *Approx. 1.5 yrs with Bluetooth & Auto-Upload OFF
Dimensions	H 58 mm x W 78 mm x D 26 mm
Weight	Approx. 55 g
Operating Environment	Temperature: -10 to 60°C, Humidity: 90 %RH or less (no condensation)
Accessories	Temperature Sensor TR-0106 x 2 / Temperature-Humidity Sensor THA-3001 x 1 / High Precision Temperature-Humidity Sensor SHA-3151 x 1 / (Sensor not provided) AA Alkaline Battery LR6 x 2, Registration Code Label, USB Mini-B Cable US-15C, Manual Set (Warranty Included)

*1: Compatible wire sizes are as follows.
Single Wire : ϕ 0.32 to ϕ 0.65 ㎜ (AWG 28 - 22), Twisted Wire : 0.08 to 0.32 ㎟ (AWG 28 - 22), ϕ 0.12 ㎜ or more in diameter, Stripping Length : 9 to 10 ㎜
*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: Client function. HTTP(S) proxy supported.
*5: When using external power, the internal temperature of the logger rises.
*6: 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.
The specifications listed above are subject to change without notice.

TR-7nw Series Specifications

	TR-71nw	TR-72nw		TR-72nw-S		TR-75nw
Measurement Channels	Temperature 2ch	Temperature 1ch, Humidity 1ch		Temperature 1ch, Humidity 1ch (High-Precision Type)		Temperature 2ch
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: Fluoropolymer Coated Type)	0 to 55 °C	10 to 95 %RH	-25 to 70 °C	0 to 99 %RH (*3)	Type K: -199 to 1370 °C Type J: -199 to 1200 °C Type T: -199 to 400 °C Type E: -199 to 1000 °C Type S: -50 to 1760 °C Type R: -50 to 1760 °C
Accuracy	Avg. ±0.3°C at −20 to 80 °C Avg. ±0.5°C at −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) Type K, J, T, E: ±(0.5 °C + 0.3 % of reading) at −100°C or above Type 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	Type K, J, T, E: 0.1 °C Type S, R: approx. 0.2 °C
Responsiveness	Response Time (90%): Approx. 190 sec.	Response Time (90%): Approx. 7 min.		Response Time (90%): Approx. 7 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 (fixed or alternating display), Battery Warning Mark, etc.	
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	Wired LAN Communication 100BASE-TX/10BASE-T (RJ45 Connector) Protocol: HTTP (*4), DHCP, DNS USB Communication : USB 2.0 (Mini-B connector)	
Power (*5)	Battery: AA Alkaline LR6 x 2, AA Ni-MH x 2 External: USB Bus 5V 200mA, AC Adaptor AD-05A2 or AD-05C2, PoE IEEE 802.3af	
Battery Life (*6)	Approx. 10 days (when Auto-upload interval is 1 min) Approx. 1 year (when Auto-upload interval is 1 hr) Approx. 1.5 years (when Auto-upload interval is 12 hr or more) *Approx. 1.5 yrs with Auto-Upload OFF	Approx. 10 days (when Auto-upload interval is 1 min) Approx. 7 months (when Auto-upload interval is 1 hr) Approx. 1 year (when Auto-upload interval is 12 hr or more) *Approx. 1 yr with Auto-Upload OFF
Dimensions	H 58 mm x W 78 mm x D 26 mm	
Weight	Approx. 55 g	
Operating Environment	Temperature: -10 to 60°C (*7), Humidity: 90 %RH or less (no condensation)	
Accessories	Temperature Sensor TR-0106 x2 / Temperature-Humidity Sensor THA-3001 x1 / High Precision Temperature-Humidity Sensor SHA-3151 x1	(sensor not provided)
	AA Alkaline Battery LR6 x 2, Registration Code Label, USB Mini-B Cable US-15C, Manual Set (Warranty Included)	

*1: Compatible wire sizes are as follows.
Single Wire : ϕ 0.32 to ϕ 0.65 ㎜ (AWG 28 - 22), Twisted Wire : 0.08 to 0.32 ㎟ (AWG 28 - 22), ϕ 0.12 ㎜ or more in diameter, Stripping Length : 9 to 10 ㎜
*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: HTTP client. Proxy supported.
*5: When using external power, the internal temperature of the logger rises.
*6: 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.
*7: -10 to 45°C when using external power.
The specifications listed above are subject to change without notice.