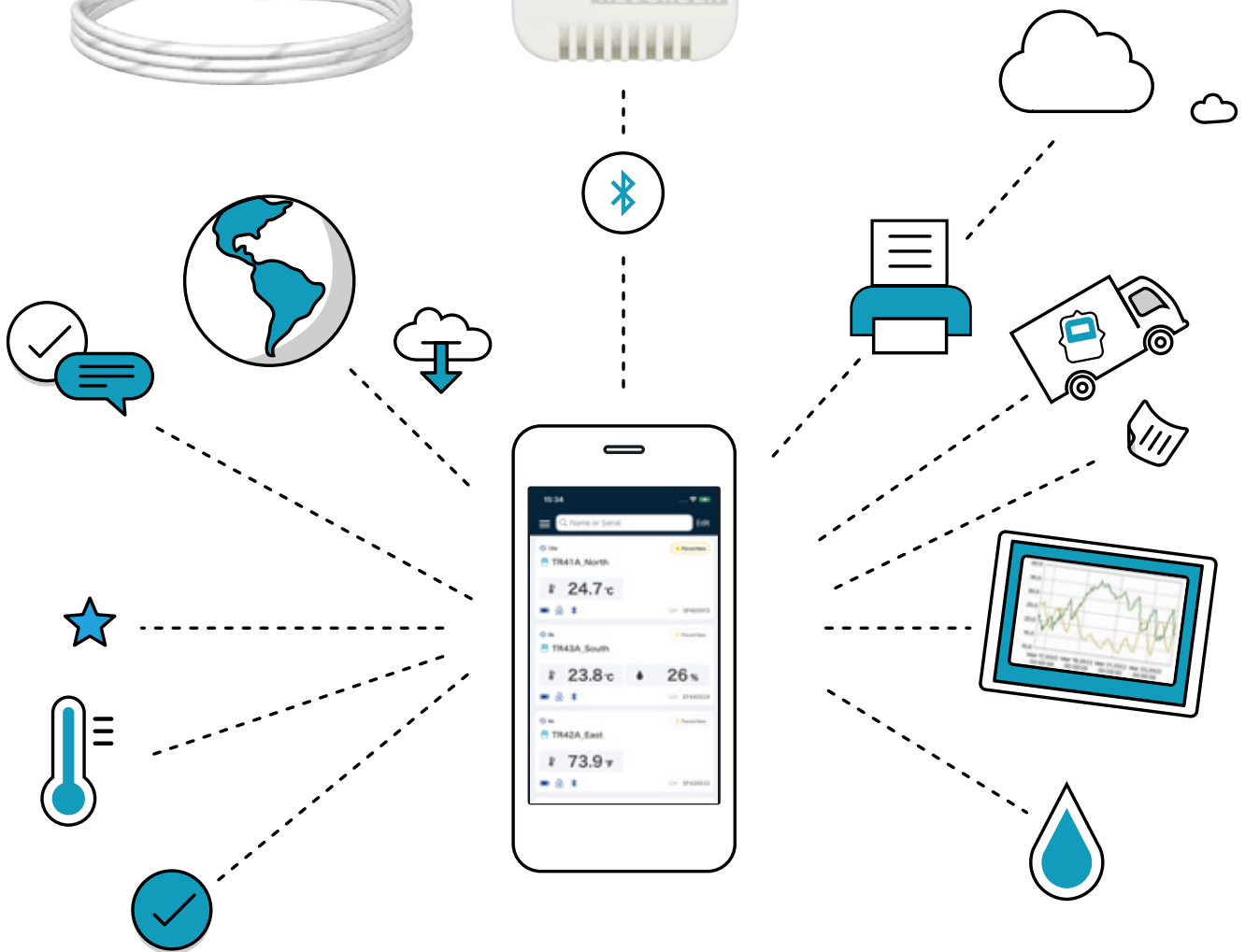


Easy Access to Your Data via Smartphone

# Bluetooth® Thermo Recorder

# TR4A series



# TR4A + Mobile Device = Quick Anywhere Anytime Access



Setting

Data Collection

View

Upload

Report Output

Data Analysis

## Easy Data Management via Bluetooth

### Easy Temperature/Humidity Measurement

The battery-powered TR4A series can be used for measurement at any site. Select a model according to your needs such as measurement items, range, and responsiveness.

### Easy Data Download with Smartphone

The T&D Thermo App automatically detects your logger via Bluetooth. Once connection is established, recorded data can be downloaded directly with graphic view and configuration using your mobile device.

### Store Data in the Cloud

Recorded data retrieved by the mobile device can be uploaded to the cloud storage (T&D WebStorage Service) for anytime, anywhere access from a smartphone, tablet, or PC.

### Data Report Generation

Using the mobile app T&D Thermo or TR4 Report, you can create a data report in PDF format, which can then be printed, shared, or emailed.

### Compact, Robust Design for Tough Environments

Their palm-sized compact design with robust body expands the possibilities of installation locations. Built-in sensor type for extra durability and water protection (IP67) also available.

## T&D's Free-of-Charge Cloud Service

### T&D WebStorage Service for Anywhere Anytime Access



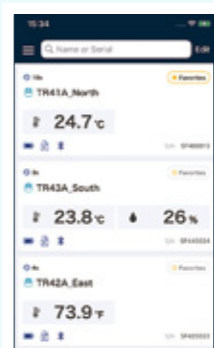
<https://webstorage-service.com/>

## Apps and Software for Your Needs

### iOS / Android T&D Thermo



Allows for smartphones/tablets to configure logger settings, collect and save data, display graphs, create reports, and upload to the cloud-based T&D WebStorage Service.



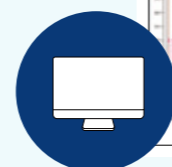
### iOS / Android TR4 Report



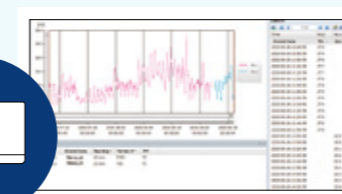
Specialized mobile app for generating PDF reports of recorded data for printing, emailing, saving and sharing.



### Windows T&D Graph



Allows access to data stored in the T&D WebStorage Service for data analysis on a Windows PC. Multiple data files can be loaded, graphed, combined and saved.



## Line Up Bluetooth® Thermo Recorder



### TR41A

**Internal Sensor for Better Water Protection**

Temperature 1ch (Internal Sensor)  
-40 to 80 °C  
IP67 Immersion Proof



### TR42A

**External Sensor for Quick Response**

Temperature 1ch (External Sensor)  
-60 to 155 °C  
IP64 Splash proof (rated for use in daily life)  
Optional Sensors Available



### TR43A

**Temperature / Humidity Measurement**

Temperature 1ch 0 to 55 °C  
Humidity 1ch 10 to 95 %RH  
IP64 : Splash proof (rated for use in daily life)  
\* Note that the temperature-humidity sensor is not water resistant.



### TR45

**Both TC/PT Sensor Compatible Unit**

Temperature 1ch (Thermocouple/PT Sensor)  
-199 to 1760 °C (depending on sensor type)  
Sensors Not Included

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| Specification            | TR41A   | TR42A  | TR43A  |                            | TR45   |   |
|--------------------------|---|--|--|----------------------------|--|---|
| Measurement Channels     | Temperature 1ch   | Temperature 1ch  | Temperature 1ch, Humidity 1ch  |                            | Temperature 1ch  |   |
| Sensor                   | Thermistor (Internal)   | Thermistor   | Thermistor   | Polymer Resistance         | Thermocouple:<br>Type K, J, T, S, R<br>(Not provided)  | Pt100, Pt1000<br>(3-wire, 4-wire*1)<br>(Available as option)  |
| Measurement Units        | °C, °F  | °C, °F   | °C, °F   | %RH                        | Connection Terminal (M3.5)   |   |
| Measurement Range        | -40 to 80 °C  | -60 to 155 °C  | 0 to 55 °C   | 10 to 95 %RH               | Type K : -199 to 1370 °C<br>Type J : -199 to 1200 °C<br>Type T : -199 to 400 °C<br>Type S : -50 to 1760 °C<br>Type R : -50 to 1760 °C  | -199 to 600 °C  |
| Accuracy                 | Avg. ±0.5 °C  | Avg. ±0.3 °C<br>at -20 to 80 °C<br>Avg. ±0.5 °C<br>at -40 to -20 °C, 80 to<br>110 °C<br>Avg. ±1.0 °C<br>at -60 to -40 °C, 110 to<br>155 °C | ±0.5 °C  | ±5 %RH<br>at 25 °C, 50 %RH | <b>Thermocouple<br/>Measurement (Sensor<br/>inaccuracies not<br/>included)</b><br>Type K, J, T :<br>±(0.5 °C + 0.3 % of<br>reading)<br>at -100°C or above<br>Type S, R :<br>±(1.5 °C + 0.3 % of<br>reading)<br>at 100°C or above<br><b>Cold Junction<br/>Compensation</b><br>±0.5 °C<br>*at 10 to 40 °C<br>±0.8 °C<br>*at -40 to 10 °C, 40 to<br>80 °C | ±(0.3 °C + 0.3 % of<br>reading)<br>*at 10 to 40 °C<br>±(0.5 °C + 0.3 % of<br>reading)<br>*at -40 to 10 °C, 40 to<br>80 °C |
| Measurement Resolution   | 0.1 °C  | 0.1 °C   | 0.1 °C   | 1 %RH                      | Type K, J, T, E: 0.1 °C<br>Type S, R : Approx. 0.2 °C  | 0.1 °C  |
| Responsiveness           | Response Time (90%) :<br>Approx. 35 min.  | Response Time (90%) :<br>Approx. 80 sec.(in air)<br>Approx. 7 sec.<br>(in agitated water)  | Response Time (90%) : Approx. 7 min.   |                            | -  | -   |
| Logging Capacity         | 16,000 readings   | 16,000 readings  | 8,000 data sets<br>(One data set consists of readings for multiple<br>channels.) |                            | 16,000 readings  |   |
| 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 (alternating display for multiple channel devices), Recording Status, Battery Life Warning, etc. |  |  |                            |  |   |
| Communication Interfaces | Bluetooth 4.2 (Bluetooth Low Energy)  |  |  |                            | Bluetooth 4.1 (Bluetooth Low Energy)   |   |
| Communication Time       | Data Download Time (full logger) : Approx. 15 seconds   |  |  |                            | Data Download Time (full logger) : Approx. 1.5<br>minutes  |   |
| Power                    | Lithium Battery (LS14250) x 1   |  |  |                            |  |   |
| Battery Life (*2)        | Approx. 1.5 years (*3)  |  |  |                            | Approx. 1 year (*3)  |   |
| Dimensions               | H 62 mm x W 47 mm x D 19 mm(excluding protrusions and sensor)   |  |  |                            | H 62 mm x W 47 mm x D 26.5 mm<br>(excluding protrusions and sensor)  |   |
| Weight                   | Approx. 45 g  |  |  |                            | Approx. 50 g   |   |
| Operating Environment    | -40 to 80 °C<br>-30 to 80 °C during wireless communication  |  |  |                            | Temperature : -40 to 80 °C<br>(-25 to 80 °C during wireless communication)<br>Humidity : 90 %RH or less<br>(no condensation)   |   |
| Waterproof Capacity      | IP67: Immersion proof   | IP64: Splash proof (rated for use in daily life) (*4)  |  |                            | None   |   |
| Accessories              | -   | Temperature Sensor<br>TR-5106  | Temp-Humidity Sensor THB3001   |                            | Cable Clamp  |   |
|                          | Lithium Battery LS14250, Registration Code Label, Strap, User's Manual (Warranty Included)                    |  |  |                            |  |   |
| Software (*5)            | Mobile Applications (iOS, Android)<br>T&D Thermo, TR4 Report  |  |  |                            | Mobile Applications (iOS, Android)<br>T&D Thermo, ThermoREC, ThermoStorage,<br>TR4 Report  |   |

\*1: In the case of a 4-wire sensor, one wire will be left unused.

\*2: Battery life varies depending upon multiple factors including ambient temperature, recording interval, usage of applications, 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.

\*3: Estimated battery life when recording data at an interval of more than 10 seconds and displaying a graph in the app once a day.

\*4: This is the waterproof capacity of the data logger with the sensor connected. Note that the temperature-humidity sensor is not water resistant.

\*5: Free app download and information on OS compatibility is available on the Software page of our website at [tannd.com/software/](http://tannd.com/software/).

The specifications listed above are subject to change without notice.