

# Bluetooth® Data Logger

## TR4A Series Features and Specs

### Measurement Item

Temperature  
Humidity

### Data Collection

Smart phone/Tablet  
(via Bluetooth)

### Data Access

Smart phone/Tablet  
WebStorage Service

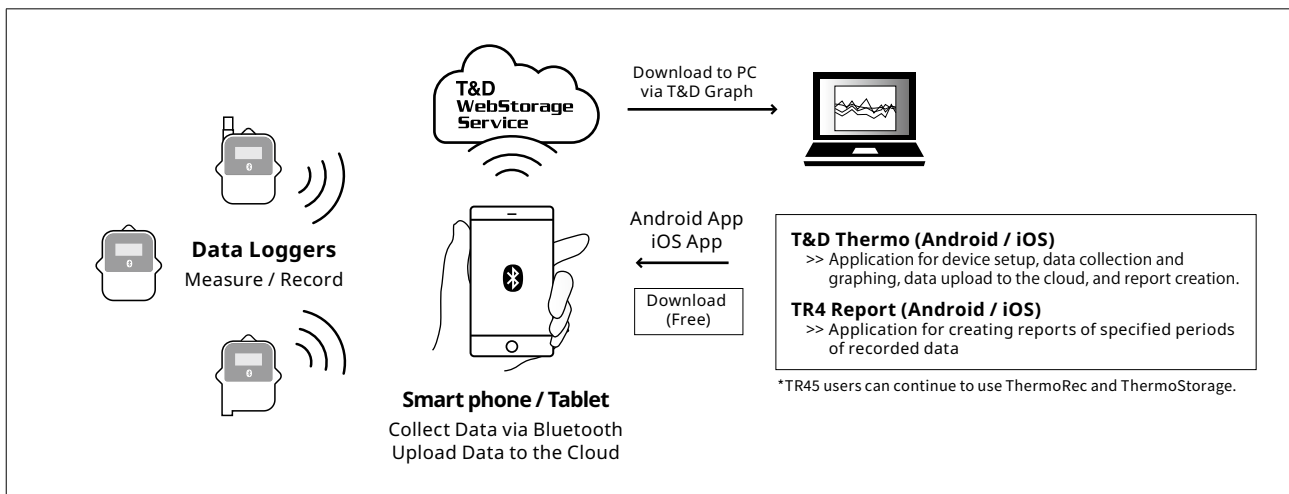
### Warning Notification

None

The TR4A series data loggers feature Bluetooth technology and allow setup, data download and graph view from smartphones and tablets. Downloaded data can then be uploaded to the free cloud-based "T&D WebStorage Service" for analysis using a browser or graph software. It is also possible to generate PDF reports using a dedicated mobile application.

TR41A and TR42A come with a temperature sensor (TR41A is built-in type) and are waterproof. TR43A comes with a temperature-humidity sensor. TR45, for use with thermocouple and Pt sensors\*, is versatile and suitable for specialized applications.

\* The sensor is not provided with the TR45. Please purchase separately.



Model Number	Measurement Item	Measurement Range	Notes
TR41A	Temperature 1ch (Internal Sensor)	-40 to 80 °C	Gradual Response Time Immersion Proof
TR42A	Temperature 1ch (External Sensor)	-60 to 155 °C	Quick Response External Sensor (included) Splash Proof (rated for use in daily life) Wide Selection of Optional Sensors
TR43A	Temperature / Humidity 1ch Each	0 to 55 °C, 10 to 95 %RH	Temperature and Humidity Measurement
TR45	Temperature 1ch (Thermocouple / Pt sensor supported)	Thermocouple    -199 to 1760 °C	For use with Thermocouple Sensor Types: K, J, T, S, R
		Pt                      -199 to 600 °C	Supports 3-wire & 4-wire Pt 100/1000 Sensor Optional Pt100 sensors with selectable pipe dimensions and cable lengths

### Common Features

#### Bluetooth Connection with Smartphone

Bluetooth allows easy communication between mobile devices and loggers in range. Use the apps for settings, data collection and graphing, data upload to the cloud-based "T&D WebStorage Service", and report creation.

#### 15 Recording Intervals and Large Logging Capacity for Long-Term Recording

One logger can measure and record up to 16000 readings. Select from 15 recording interval choices from 1 second to 60 minutes.

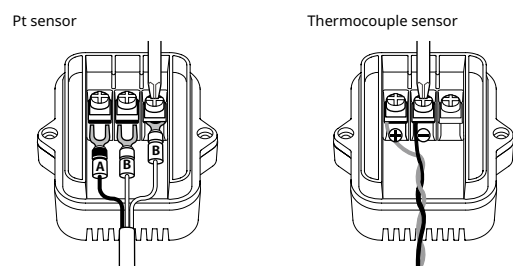
If set at a 60-minute recording interval, that gives you 666 days of non-stop consecutive recording.

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### TR45 Features

#### Each Logger is both Thermocouple/Pt Sensor Compatible

The screw terminals on the back of the data logger make it possible to connect either Thermocouple or Pt sensors.



# TR4A Series Specifications

	TR41A	TR42A	TR43A		TR45		
Measurement Channels	Temperature 1ch	Temperature 1ch	Temperature 1ch, Humidity 1ch		Temperature 1ch		
Sensor	Thermistor (Internal)	Thermistor	Thermistor	Polymer Resistance	Thermocouple Type K, J, T, S, R *1 (Not provided)	Pt100, Pt1000 (3-wire, 4-wire*2) (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 Type J: -199 to 1200 °C Type T: -199 to 400 °C Type S: -50 to 1760 °C Type R: -50 to 1760 °C	-199 to 600 °C	
Accuracy	Avg. ± 0.5 °C	Avg. ± 0.3 °C at -20 to 80 °C Avg. ± 0.5 °C at -40 to -20 °C, 80 to 110 °C Avg. ± 1.0 °C at -60 to -40 °C, 110 to 155 °C	±0.5 °C	±5 %RH at 25 °C, 50 %RH	Thermocouple Measurement (Sensor inaccuracies not included) K, J, T: ±(0.5 °C + 0.3 % of reading) at -100°C or above 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 *at -40 to 10 °C, 40 to 80 °C	±(0.3 °C + 0.3 % of reading) *at 10 to 40 °C ±(0.5 °C + 0.3 % of reading) *at -40 to 10 °C, 40 to 80 °C	
Measurement Resolution	0.1 °C	0.1 °C	0.1 °C	1 %RH	K, J, T: 0.1 °C S, R: 0.2 °C	0.1 °C	
Responsiveness	Response Time (90%): Approx. 35 min.	Response Time (90%): Approx. 80 sec. (in air) Approx. 7 sec. (in agitated water)	Response Time (90%): Approx. 11 min.		-	-	
Logging Capacity	16,000 readings		8,000 data sets (One data set consists of readings for multiple 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 minutes		
Power	Lithium Battery LS14250 x 1						
Battery Life (*3)	Approx. 1.5 years (*4)				Approx. 1 year (*4)		
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 (excluding protrusions and sensor)		
Weight	Approx. 45 g				Approx. 50 g		
Operating Environment	Temperature: -40 to 80 °C (-30 to 80 °C during wireless communication)				Temperature: -40 to 80 °C (-25 to 80 °C during wireless communication) Humidity: 90 %RH or less (no condensation)		
Waterproof Capacity	IP67: Immersion proof	IP64: Splash proof (rated for use in daily life) (*5)				None	
Accessories	-	Temperature Sensor TR-5106	Temp-Humidity Sensor THB3001		Cable Clamp		
	Lithium Battery LS14250, Registration Code Label, Strap, User's Manual (Warranty Included)						

\*1: We do not handle the sale of Thermocouple sensors.

\*2: In the case of a 4-wire sensor, one wire will be left unused.

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

\*5: This is the waterproof capacity of the data logger with the sensor connected. Note that the temperature-humidity sensor is not water resistant. The specifications listed above are subject to change without notice.