

# Thermo Recorder TR7Aseries









### For Easy Worldwide Access and Notification

Our new TR7A includes multi-communication methods and auto-upload of data to the cloud function plus a new array of features and functions.



Specification		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 : $\pm (0.5 \degree C + 0.3 \% \text{ of reading})$ at $-100\degree C$ or above Type S, R : $\pm (1.5\degree C + 0.3 \% \text{ of reading})$ at $100\degree C$ or above Cold Junction Compensation $\pm 0.5\degree C$ at 10 to 40 °C $\pm 0.8\degree C$ 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)					
Measurement Mode (TR71A/75A only)		Normal Mode: Max/Min values and ALM display based on the readings on the LCD Vaccine Mode (*4): Max/Min values and ALM display based on the recorded values					
LCD Display Items		Measurements, ALM Display, Recording Status, Recording Mode,Battery Warning Mark, Communication Status, 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 (*5): HTTP, HTTPS, SNTP, DHCP, DNS         Bluetooth Communication         Bluetooth 4.2 (Bluetooth low energy)         USB 2.0 (Mini-B connector)					
Power		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 to 15 months (*7)(*8)					
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)					
Included Items		Temperature Sensor TR-0106 x 2	Temperature-Humic THA-3001 x 1	dity Sensor	High Precision Te Sensor SHA-3151 x 1	mperature-Humidity	(Sensor not provided)
		AA Alkaline Battery LR6 x 2, Registration Code Label, USB Mini-B Cable US-15C, Manual Set (Warranty Included)					
Software (*8)		PC Software (Windows) TR7 for Windows T&D Graph T&D Data Server Mobile Application (iOS, Android) T&D Thermo					

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

Compatible wire sizes are as follows. Single Wire : 00.32 to 00.65 mm (AWG 28 - 22), Twisted Wire : 0.08 to 0.32 mm2 (AWG 28 - 22), 00.12 mm or more in diameter, Stripping Length : 9 to 10 mm

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\*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 riself 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: CVaccine mode complies with the CDC (Centers for Disease Control and Prevention) requirements for vaccine management.
\*5: Client function. HTTP(S) proxy supported.
\*6: Battery life is highly dependant on the Auto-upload interval; at 1 min will give 10 days of usage, and at 12 hours or more will yield the maximum lifetime.
\*7: Shows the estimated battery life with Bluetooth ON. It will be 1.2 times longer with Bluetooth OFF.
\*\*\* Shows the estimated battery life with Auto-LINDA ON

\*8: Shows the estimated battery life with Auto-Upload ON.

The specifications listed above are subject to change without notice.

### **TR7A** Series Options

### Temperature Sensors for TR71A

### Measurement Range: -40 to 110°C Accuracy: Avg. ±0.3°C at -20 to 80°C, Avg. ±0.5°C at -40 to -20°C / 80 to 110°C Note: Can be extended by 3 meters with the Extension Cable TR-1C30 / TR-5C10 **TPE Resin-Shielded Sensor TR-0106** 600 27 15 TPE Mold TPE Cable The mistor Non-waterproof Unit: mm Response Time (90%): Approx. 190 sec. (in air) Waterproof Capacity: None

### Screw-down Sensor **TR-0206** 600 27 50 Þ4.5 3**E**II Thermistor ShrinkTube TPE Cable M3 Crimp Terminal (aluminium) Non-waterproof Unit: mm Response Time (90%): Approx. 210 sec. (in air) Waterproof Capacity: None

### **Stainless Protection Sensor**



Measurement Range: -60 to 155°C Accuracy: Avg. ±0.5°C at -40 to 80°C, Avg. ±1.0°C at -60 to -40°C / 80 to 100°C, Avg. ±2.0°C at 100 to 155°C Note: Can be extended by 3 meters with the Extension Cable TR-1C30 / TR-5C10





### TR7A Series Options

### Temperature-Humidity Sensors for TR72A / 72A-S

Conditions for Use:

Do not expose to condensation, dampness, corrosive gases or organic solvents. Continued use may cause a decrease in the sensor's accuracy and sensitivity even under normal operational conditions.

Note: Can be extended by 9 meters with the Extension Cable TR-1C30 / TR-5C10



### **High Precision Temp-Humidity Sensors**

### SHA-3151





tures above 60°C, accuracy of humidity measurements will decrease over time. Also, humidity cannot be measured at temperatures below -20°C. Accuracy:

Temperature ±0.3°C at 10 to 40°C ±0.5°C all other temperatures Humidity ±2.5%RH at 15 to 35°C, 30 to 80%RH Response Time (90%): Approx. 7 min. Long Term Stability: ±1%RH/yr, ±0.1°C/yr

### Sensor Extension Cables



### TR-5C10



Temperature Durability: -25 to 60°C

Waterproof Capacity: None 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 Conditions for Use:

Temperature sensors can use up to 3 meters of extension cables. Temp-Humidity sensors can use up to 9 meters of extension cables.



### **AC Adaptors**

### AD-05A2 AC Adaptor (FCC)

USB Mini-B Type

Input: AC 100 - 240 V Output: DC 5 V, 1 A Frequency: 50 / 60 Hz Cable Length: 1.5 m

Plug Type: A Compatible Devices: Data Logger TR71A / 72A / 72A-S / 75A



**AD-05C2** 

AC Adaptor (CE)

USB Mini-B Type Input: AC100-240V Output: DC5V, 1A Frequency: 50 / 60 Hz Cable Length: 1.5 m Plug Type: C Compatible Devices: D

Cable Length: 1.5 m Plug Type: C Compatible Devices: Data Logger TR71A/72A/72A-S/75A

Note: When using with TR7A Series the logger body will become hot. Also note that the data logger itself will generate heat and the internal sensor will measure a temperature higher than actual; we recommend using an external temperature sensor.

### Wall Attachment

### TR-07K2



Included Items: Lock Screws for fastening to wall, Double-Sided Adhesive Tape

### **Communication Cable**

### **US-15C**

#### For Communication with PC

USB Mini-B Type Cable Length: 1.5m



# Software for Purchase S0-TD1 T&D Software Software Included:



RTR500BW for Windows (US/EU) RTR500BM for Windows (US/EU) RTR500BC for Windows (US/EU) RTR-500DC for Windows (US/EU) RTR-600 Settings Utility (US) TR7 for Windows CO2 Recorder for Windows Illuminance UV Recorder for Windows MCR for Windows T&D Recorder for Windows T&D Pata Server T&D Graph

Note: Optional DVD-ROM that contains the Windows software for current T&D products. Software can be downloaded from T&D's Website, but for those who prefer, a DVD is available for purchase.

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