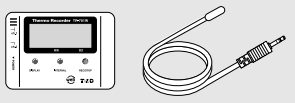
Please Read First

TR-701NW / 701AW
TR-702NW / 702AW
TR-702NW-H / 702AW-H

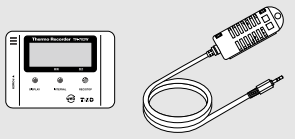
Package Contents

TR-701NW / 701AW



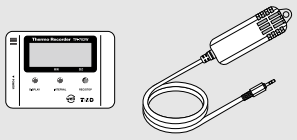
TR-701NW / 701AW — Temperature Sensor TR-0106 x 2

TR-702NW / 702AW



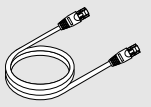
TR-702NW / 702AW — Temperature / Humidity Sensor THA-3151 x 1

TR-702NW-H / 702AW-H

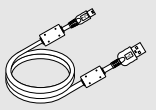


TR-702NW / 702AW — Temperature / Humidity Sensor HHA-3151 x 1

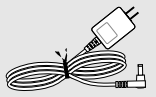
Common Accessories:



LAN Cable LN-20W x 1
(For TR-701NW / 702NW only)



USB Communication Cable
US-15C x 1



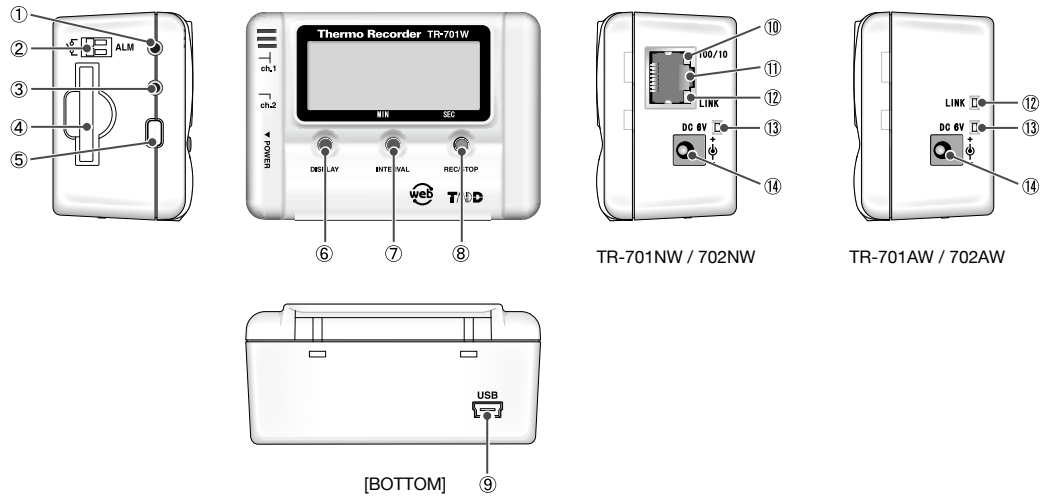
AC Adaptor
AD-0638 or AD-06C1 x 1

Software CD-ROM x 1

Coin Type Lithium Battery
CR-2032 x 1

Manual Set (Warranty Included) x 1
- Getting Started Guide
- Please Read First

Part Names and Functions



TR-701NW / 702NW

TR-701AW / 702AW

①	Sensor Jack Channel 1	For connecting a sensor	
②	External Output Terminal	For connecting a siren, buzzer, or other warning device.	
③	Sensor Jack Channel 2	For connecting a sensor (TR-701NW / 701AW only)	
④	Battery Case	Insert backup battery here.	
⑤	POWER Button*	Press to turn ON or OFF the device.	
⑥	DISPLAY Button*	Press to change LCD display mode.	
⑦	INTERVAL Button*	Press to make or change recording interval settings or view currently set recording interval.	
⑧	REC/STOP Button*	Press to start or stop recording.	
⑨	USB Port	For connecting to PC with USB cable	
⑩	100/10 Indicator LED	The orange LED will be on or off to indicate the communication speed. ON: 100Mbps, OFF: 10 Mbps	
⑪	LAN Port	For connecting LAN cable	
⑫	LINK Display LED	If properly connected to a network device such as a hub, the LED will be on (green).	
⑬	Power Monitor LED	While power is ON, the LED will be on (green).	
⑭	AC Adaptor Jack	For connecting the supplied AC adaptor	

* When [Button Lock] has been set to "ON" in the Settings Utility, the operation buttons will not be active.

Safety Precautions and Instructions

The following items should be strictly obeyed for the safe usage of this product, and for protecting yourself and other people from bodily harm and/or damage to property.

Explanation of Symbols

<Warning Symbols>

⚠ DANGER	These entries are actions that, if taken, may cause serious personal physical damage or death.
⚠ CAUTION	These entries are actions that if taken may lead to physical injury or damage to persons or things.

Explanation of Picture Symbols

△ Denotes an important warning or caution.	⃠ Denotes a forbidden action.	● Denotes an action that should be carried out.

⚠ DANGER To Prevent Serious Accidents

- Do not disassemble, repair or modify the unit and accessories.
- Do not use the unit in any environment that is exposed to chemicals and harmful gases. Doing so may cause corrosion and/or other danger to the unit. Also, coming in contact with hazardous substances may cause bodily harm to the user or people nearby.
- This unit is not water resistant. If water or a foreign object enters the case, immediately unplug the AC adaptor and stop using it.
- Do not handle the unit, remove the battery or unplug the AC adaptor with wet hands.
- This product has been designed for private and/or industrial use only. It should not be used in situations where strict safety precautions are necessary such as with medical equipment, or in systems directly or indirectly connected with human life or well-being.
- Do not drop or expose the unit to a strong impact.
- Do not connect any communication cables connected to the unit to telephone line outlets. Continued use may cause fire or electrocution.
- Do not cut or process the cords for the AC adaptor or the communication cables. Also, do not twist, pull on or swing any of the cords.
- To prevent damage to the unit from static electricity, remove static electricity from your body by touching metal around you (such as a door knob and window frame) before touching the unit.
- Place and store the unit and accessories out of the reach of children.
- We are not responsible for any damage, malfunction or trouble, whether direct or indirect, caused by the use of our product.
- Do not use any power, battery, sensor, or cable other than those specified by T&D Corporation.
- Do not put anything on top of the cable and/or AC adaptor. This may cause overheating.
- Do not disconnect the communication cable during USB, LAN, or wireless communication. Doing so may cause adverse effects to the unit and/or PC.
- Make sure that AC adaptor, sensor, and cable plugs are all inserted fully, so as not to cause an improper connection. Also, when unplugging the cable from the unit, do not pull the cord, but hold the connector to disconnect.
- If the unit produces heat, emits smoke or a strange smell, or makes unusual noises, immediately unplug the AC adaptor, remove the batteries, and stop using it. Also, unplug the unit from the PC.
- If the unit is not to be used for a long period of time, remove batteries. If left in the unit, the batteries may leak and lead to malfunctioning. Install new batteries when starting or re-starting to use a unit.

⚠ CAUTION Do not place or store in the following areas:

- Areas exposed to direct sunlight
- Areas exposed to excessive heat or high temperatures such as near fire or heating equipment
- Areas exposed to static electricity
- Areas exposed to strong magnetic fields
- Areas exposed to dampness
- Areas subject to condensation or wet areas
- Areas exposed to excessive vibration
- Areas exposed to excessive smoke, dust or dirt.

⚠ CAUTION Other Precautions

- Use the unit in the specified operating environment. Do not use it for any purpose other than for which it was designed.
- Condensation may occur inside the case when a unit is moved from one environment to another where there is a great difference in temperature.
- Do not use the unit in wet areas or places exposed to water such as bathroom.
- When connecting the unit to your PC, make sure to follow all warnings and directions from your computer manufacturer.
- We shall not guarantee the unit's operation if it has been connected to a PC using a USB hub or a USB extension cable.
- Do not insert any foreign objects into any of the units' jacks.
- If the unit gets dirty, wipe it with a clean cloth.
- Make sure to remove dust and dirt from plugs of the AC adaptor and/or any cables.
- Battery terminals may provide insufficient contact due to age or vibration. This may lead to data loss.
- If the unit is not to be used for a long period of time, for safety reasons please remove the battery. If left in the unit, the battery may leak and lead to malfunctioning.
- Please note that this Introductory Manual has been written based on the presupposition that details about contracts with an Internet provider, specific network environments and the set-up of any other necessary equipment to enable network connection has already been taken care of by the User and that connection has been confirmed as workable. T&D Corporation shall not be responsible for any damages which a contractor, a user or a third party may suffer, whether direct or indirect, due to the inability to communicate or use communication devices.

⚠ CAUTION Notices about Sensors

- Do not connect any sensor to the unit other than those specified by T&D Corporation.
- Make sure to use sensors within the measurement range indicated in the specifications for that sensor.
- If extremely severe temperature changes occur, it may result in large errors in humidity measurement. Once the sensor's temperature becomes stable, the measurements will return to normal.
- Do not connect the sensor to any data logger other than those specified by T&D Corporation.
- Do not expose the sensor to a strong impact. This may adversely affect measurement accuracy and cause damage or malfunction.
- When the sensor is not to be used for a long period of time, please store it at normal temperature and humidity.
- Do not use the sensor on the human body.
- Continued use may cause a decrease in the sensor’s accuracy and sensitivity even under normal operational conditions. If the sensor is being used in a smoky or dusty environment, the surface of the sensor will accumulate impurities causing a further decrease in the sensor's performance.
- The included sensor is not water resistant. Do not allow the sensor to become wet. If the sensor gets wet, immediately remove the sensor from the unit and wipe it with a clean cloth as soon as possible. Then allow the sensor to dry in normal room temperature before using it again.
- When using the THA-3151 in an environment where the humidity is under 30 %RH, the measurements may sometimes fluctuate. This is not abnormal.
- Do not expose to condensation, dampness, corrosive gases, or organic solvents (or insecticides for High Precision Temperature/Humidity Sensors).

Specifications

	TR-701NW / 701AW	TR-702NW / 702AW		TR-702NW-H / 702AW-H	
Sensor (External)	TR-0106	THA-3151		HHA-3151 (High-Precision Type)	
	Thermistor	Thermistor	Polymer Resistance	Platinum Resistance	Electrostatic Capacitance
Measurement Channels	Temperature 2ch	Temperature 1ch, Humidity 1ch		Temperature 1ch, Humidity 1ch	
Units of Measurement	°C, °F	°C, °F	%RH	°C, °F	%RH
Measurement Range	-40 to 110°C (supplied sensor) -60 to 155°C (Optional Sensor: Fluoropolymer Coated Type)	0 to 55°C	10 to 95 %RH	-30 to 80°C	0 to 99 %RH
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 [10 to 50°C] ± 0.5°C [all other temperatures]	± 2.5%RH [at 25°C, 10 to 85%RH] ± 4.0%RH [at 25°C, 0 to 10% or 85 to 99%RH] At temperatures other than 25°C and ≥ 0°C, add ±0.1%RH per degree of difference from 25. Humidity Hysteresis ±1.5%RH or lower *1
Measurement Resolution	0.1°C	0.1°C	1%RH	0.1°C	0.1%RH
Responsiveness	Thermal Constant Time: Approx. 75 sec. Response Time (90%): Approx. 190 sec.	Response Time (90%): Approx. 7 min.		Response Time (90%): Approx. 7 min.	Response Time (90%): Approx. 20 sec.
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)				
Communication Interfaces	- TR-701NW/702NW: Wired LAN RJ45 Connector 100 Base-TX / 10 Base-T AutoMDI / MDI-X - TR-701AW/702AW: Wireless LAN Internal wireless LAN antenna IEEE 802.11b / g WEP(64bit/128bit) /WPA-PSK (TKIP) /WPA2-PSK (AES) - USB Communication (For Setup)				
External Alarm Terminal	<Output Terminal: Photo Mos Relay Output> Voltage when OFF: AC/DC less than 50V Current when ON: less than 0.1 A Resistance when ON: about 35Ω				
Communications Protocol	HTTP, SMTP (POP before SMTP, SMTP-AUTH <LOGIN>), FTP, SNTP, DHCP, DNS				
Power	Main Power: AC Adaptor (AD-0638 or AD-06C1) / Backup Power: Coin Type Lithium Battery (CR-2032) *2				
Data Backup*3	Approx. 3 months (backup battery only without AC adaptor)				
Dimensions	H 55 × W 78 × D 37 mm				
Weight	TR-701NW / 702NW / 702NW-H : approx. 82 g, TR-701AW / 702AW / 702AW-H : approx. 80 g (including battery, excluding sensor)				
Operating Environment	Temperature: -10 to 60°C, Humidity: 20 to 80%RH (no condensation)				
Software	**TR-700W for Windows**				
Compatible OS *4*	Microsoft Windows 8 32 / 64bit English*5 Microsoft Windows 7 32 / 64bit English Microsoft Windows Vista 32 bit (SP1 or later) English				
Supported Browsers *6	<Desktop Browser> Internet Explorer (6.0 or later), Firefox (15.0 or later), Chrome (22.0 or later), Safari (6.0 or later) <Mobile Browser> Safari (iOS), Chrome (iOS, Android), Firefox (Android)				
Other (*7)	The Microsoft .NET Framework 4 Client Profile is required.				

*1: When used in environments where temperature and humidity are over the values of 50°C 75%, 60°C 50%, 70°C 35%, and 80°C 25%, sensor hysteresis may fluctuate by values greater than ±1.5%RH. Under certain circumstances, it may take some time to return to normal measurement capability.
*2: The supplied lithium battery is for data backup during power failure and for emergency use only. Note that network communication cannot occur when using only the battery.
*3: Battery life varies depending upon the ambient temperature and the 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: If you are using Windows 8, please note that our software is designed to be used in "Desktop" mode only.
*6: The latest information on supported browsers are available on our T&D Website.
*7: During the installation process of the software, if not present, .NET Framework 4 Client Profile will be installed automatically.
The specifications listed above are subject to change without notice.

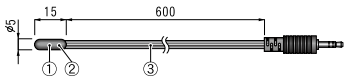
Options

Temperature Sensor (For TR-701NW / 701AW)

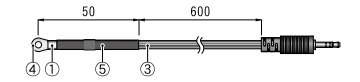
Materials	① Thermistor ② TPE Resin ③ TPE Resin-Shielded Wire ④ M3 Crimp Terminal ⑤ Compaction Tube ⑥ Stainless Pipe (SUS304) ⑦ Stainless Pipe (SUS316)
Temperature Measurement Range	-40 to 110°C
Sensor Temperature Durability	-50 to 115°C
Temperature Measuring Accuracy	Avg. ± 0.3°C [-20 to 80°C], Avg. ± 0.5°C [-40 to 20°C / 80 to 110°C]
Waterproof Capacity	None (Only the stainless pipe is waterproof)

Unit: mm

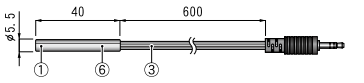
TR-0106 TPE Resin-Shielded Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 190 sec. (in air)



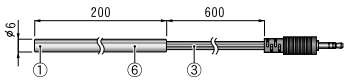
TR-0206 Screw-down Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 210 sec. (in air)



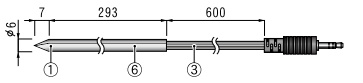
TR-0306 Stainless Protection Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 11 sec. (in agitated water)



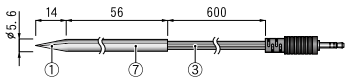
TR-0406 Stainless Protection Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 15 sec. (in agitated water)



TR-0506 Stainless Protection Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 10 sec. (in agitated water)



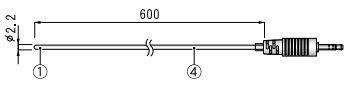
TR-0706 Stainless Protection Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 11 sec. (in agitated water)



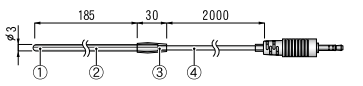
Temperature Sensor: Fluoropolymer Coated Type (For TR-701NW / 701AW)

Materials	① Thermistor ② Stainless pipe (SUS316) ③ Fluoropolymer Compaction Tube ④ Fluoropolymer-Coated Electrical Wire
Temperature Measurement Range	-60 to 155°C
Sensor Temperature Durability	-70 to 180°C
Temperature Measuring Accuracy	Avg. ± 0.5°C [-40 to 80°C], Avg. ± 1.0°C [-60 to -40°C / 80 to 100°C], Avg. ± 2.0°C [100 to 155°C]
Waterproof Capacity	IPX7 immersion proof (sensor/cable)

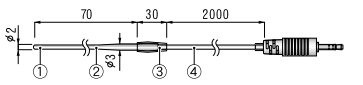
TR-1106 Fluoropolymer Coated Sensor
Cable Length: 0.6 m
Response Time (90%): Approx. 80 sec. (in air) / Approx. 7 sec. (in agitated water)



Stainless Protection Sensor TR-1220
Cable Length: 2 m
Response Time (90%): Approx. 150 sec. (in air) / Approx. 7 sec. (in agitated water)

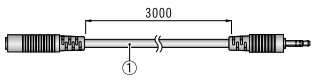


Stainless Protection Sensor TR-1320
Cable Length: 2 m
Response Time (90%): Approx. 90 sec. (in air) / Approx. 3 sec. (in agitated water)



Sensor Extension Cable

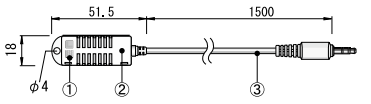
TR-1C30 Extension Cable
Cable Length: 3 m
Materials: ① Vinyl Coated Electrical Wire



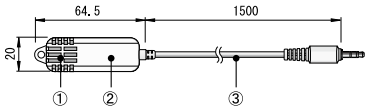
* Only one extension cable per temperature sensor. Using an extension cable may lead to measurement errors of +0.3°C at room temperature, and +0.5°C at -50°C.
* Possible to use up to three extension cables per temperature/humidity sensor

Temperature/Humidity Sensor (For TR-702NW / 702AW)

THA-3151 Temperature/Humidity Sensor
Cable Length: 1.5 m
Materials: ① Temp/Humidity Sensor ② Polypropylene Resin ③ Vinyl Chloride Coated Electrical Wire
Conditions for Use: Do not expose to condensation, dampness, corrosive gases or organic solvents.



HHA-3151 High Precision Temperature/Humidity Sensor
Cable Length: 1.5 m
Materials: ① Temp/Humidity Sensor ② Polycarbonate ③ Vinyl Chloride Coated Electrical Wire
Conditions for Use: Do not expose to condensation, dampness, corrosive gases or organic solvents.



AC Adaptor

AD-0638 (for US) / AD-06C1 (for EU) AC adaptor

Cable Length: 1.8 m
Input Voltage: AC100 to 240V 50/60Hz
Output Voltage (AD-0638): DC6V 500mA
Output Voltage (AD-06C1): DC6V 1A

Notices about using this Product

In order to properly use this product, please carefully read all documents that accompany the product before using.
T&D Corporation accepts no responsibility for any malfunction of and/or trouble with this product or with your computer that is caused by the improper handling of this product and will deem such trouble or malfunction as falling outside the conditions for free repair outlined in the attached warranty.

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- All registered trademarks, company names, product names and logos mentioned herein or for products being used are the property or registered property of T&D Corporation or of their respective owners.
- Specifications, design and other contents outlined in the attached documents are subject to change without notice.
- Please follow the safety precautions outlined in the attached documents carefully. We cannot guarantee nor are we responsible for safety if this product is used in any manner other than was intended.
- On-screen messages in the attached documents may vary slightly from the actual messages.
- Please notify the shop where you purchased this product or T&D Corporation of any mistakes, errors or unclear explanations in the attached documents.
- T&D Corporation accepts no responsibility for any damage or loss of income caused by the use of our product.
- Accompanying documents cannot be reissued, so please keep them in a safe place.
- Please read the warranty and provisions for free repair carefully.

For product information or questions contact us at:

T&D Corporation

For product inquiries, please contact your local distributor. Visit T&D Website for the distributors list.

If you can not find a distributor in your area, please contact our main office in Japan or one of our branch offices in Europe or America.

http://www.tandd.com/about_tandd/contactus/

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