












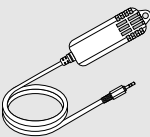



# Please Read First

TR-71wf  
TR-72wf  
TR-72wf-H

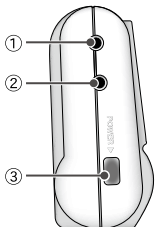
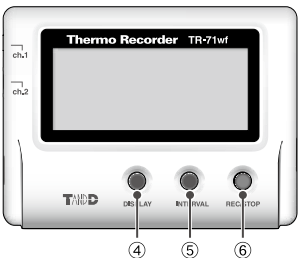
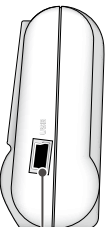
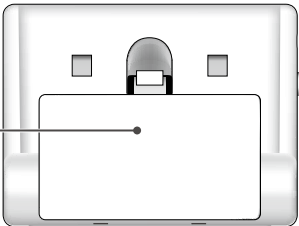
## Package Contents

TR-71wf				
				
TR-71wf	Temperature Sensor TR-0106 x 2	AA Alkaline Battery (LR6) x 2	Manual Set (Warranty Included) x 1	Registration Code Label

TR-72wf				
				
TR-72wf	Temperature / Humidity Sensor THA-3001 x 1	AA Alkaline Battery (LR6) x 2	Manual Set (Warranty Included) x 1	Registration Code Label

TR-72wf-H				
				
TR-72wf	High Precision Temperature/Humidity Sensor HHA-3151 x 1	AA Alkaline Battery (LR6) x 2	Manual Set (Warranty Included) x 1	Registration Code Label

## Part Names and Functions

[LEFT SIDE]	[FRONT]	[RIGHT SIDE]
		
		



① Sensor Jack Channel 1	For connecting a sensor	⑤ INTERVAL Button	Press to change recording/upload interval settings or view current settings.
② Sensor Jack Channel 2	For connecting a sensor (TR-71wf only)	⑥ REC/STOP Button	Press to start or stop recording.
③ POWER Button	Use this to turn the device ON and OFF.	⑦ USB Port	For connecting to PC with USB cable
④ DISPLAY Button	Press to change LCD display mode.	⑧ Battery Cover	

## 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>

	<b>DANGER</b>	These entries are actions that absolutely under no circumstance should be taken. The taking of such an action may cause serious personal physical damage or death.
	<b>CAUTION</b>	These entries are actions that if taken may lead to physical injury or damage to persons or things.

#### <Picture Symbols>

	Denotes an important warning or caution.		Denotes a forbidden action.		Denotes an action that should be carried out.
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	<b>DANGER To Prevent Serious Accidents</b>
	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 remove batteries and stop using it.
	Do not handle the unit, remove batteries or cables 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 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 battery, sensor, or cable other than those specified by T&D Corporation.
	Do not put anything on top of the cable. This may cause overheating.
	Do not disconnect the USB cable during USB communication. Doing so may cause adverse effects to the unit and/or PC.
	Make sure that 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 noise, immediately 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 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 document 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-3001 or THA-3151(option) 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-71wf	TR-72wf		TR-72wf-H	
Sensor (External) (*1)	TR-0106	THA-3001		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
Measurement Units	°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 [0 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 (*2)
Measurement Resolution	0.1°C	0.1°C	1%RH	0.1°C	0.1%RH
Responsiveness	Thermal Time Constant: 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) One Time (Recording automatically stops when capacity is full)				
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 Standard: IEEE 802.11b Security (*3): WEP (64bit/128bit), WPA-PSK(TKIP), WPA2-PSK(AES) WPS 2.0: Push Button Configuration Protocol: HTTP, DHCP, DNS USB Communication (*4) USB 2.0 (Mini-B connector)				
Power	AA Alkaline Battery x 2 (AA Ni-MH batteries may also be used), USB Bus Power (5V 200mA)				
Battery Life (*5)	With wireless LAN communication: Approx. 10 days to 1.5 years (Ex: Approx. 10 days when Auto-upload Interval is 1 min, 1 yr when 1 hr, 1.5 yrs when 12 hrs or more) Without wireless LAN communication: Approx. 1.5 years				
Dimensions	H 58 mm x W 78 mm x D 26 mm				
Weight	Approx. 100 g (including batteries)				
Operating Environment	Temperature: -10 to 60°C Humidity: 90 %RH or less (no condensation)				
Software					
Compatible OS (*6)	TR-7wf for Windows (For PC) Microsoft Windows 8 32 / 64 bit (*7) Microsoft Windows 7 32 / 64 bit Microsoft Windows Vista 32 bit (SP1 or later) Microsoft Windows XP 32 bit (SP3 or later) ThermoWEB (For Mobile Devices) Android 2.2 or later iOS 5.0 or later				

\*1: With the TR-71wf, it is also possible to measure temperature with the internal sensor. However, the measurement range is restricted to the operating environment for the whole device.  
\*2: 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.  
\*3: The WPS feature is not available when WEP(64bit/128bit) or WPA-PSK(TKIP) is selected in Access Point Settings. If you wish to use the WPS feature, please select WPA2-PSK(AES) or disable wireless security.  
\*4: Optional USB Mini-B Cable US-15C is required for USB communication.  
\*5: Battery life varies depending upon the frequency of communication, wireless 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.  
\*6: For installation, it is necessary to have Administrator (Computer Administrator) rights.  
\*7: If you are using Windows 8, please note that our software is designed to be used in "Desktop" mode only.  
\*8: We recommend using an operating system in the same language as the display language. Operation in different languages is not guaranteed.  
The specifications listed above are subject to change without notice.

Important Notices and Disclaimers

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.

- All rights of the attached documents belong to T&D Corporation. It is prohibited to use, duplicate and/or arrange a part or whole of the attached documents without the permission of T&D Corporation.
- Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries.
- Windows Vista is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- Google, Android, and Google Play are trademarks or registered trademarks of Google Inc.
- Apple and App Store are trademarks or registered trademarks of Apple, Inc. in the U.S. and other countries.
- All registered trademarks, company names, product names and logos mentioned herein or for products being used are the 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.

TR-7wf Series Warranty

Product under Warranty (Excluding Accessories)	<input type="checkbox"/> TR-71wf <input type="checkbox"/> TR-72wf <input type="checkbox"/> TR-72wf-H
Warranty Period	1 year from date of purchase
Date of Purchase	
Customer's name	
Address	
Phone No.	
Distributor's name	
Address	
Phone No.	
Object of Repair	Main Unit (excluding sensors and any other options.)
Method of Repair	Send in for Repair

Provisions for Free Repair

1. If the unit does not work properly despite the fact that the customer used it properly and in line with the manual, the Unit shall be repaired free of charge through the distributor which sold the unit.
2. If the customer requests free repair because of trouble within the warranty period, bring or send the unit along with the warranty to the distributor.
3. If you have moved after purchasing, or there are difficulties contacting the distributor from which you purchased the unit, please contact T&D directly for service.
4. Free repair is not available in the following cases even though it is within the warranty period:
  1. Trouble or damage was caused by careless operation, natural disaster, fire, public pollution, or use of a power source other than specified.
  2. If repair, adjustment, disassembly or modification of the unit has been carried out by a person other than a T&D authorized engineer.
  3. Trouble or damage was caused by transportation, movement or dropping of the unit after purchase.
  4. Failure to submit the warranty or failure to fill in all items required in the warranty.
5. The warranty cannot be reissued.

This warranty only promises customers free repair within the period and conditions clarified in this warranty. Therefore, the customer's legal rights will not be limited by this warranty. For further information on repair and other service questions after the termination of the warranty period, contact your distributor.

T&D CORPORATION

Options

Unit: mm

Temperature Sensors (For TR-71wf) -----

Materials	①Thermistor ②TPE Resin ③TPE Resin-Shielded Wire ④M3 Crimp Terminal ⑤Compaction Tube ⑥Stainless Pipe (SUS304) ⑦Stainless 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/ 80 to 110°C]
Waterproof Capacity	None (Only the stainless pipe is waterproof)

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

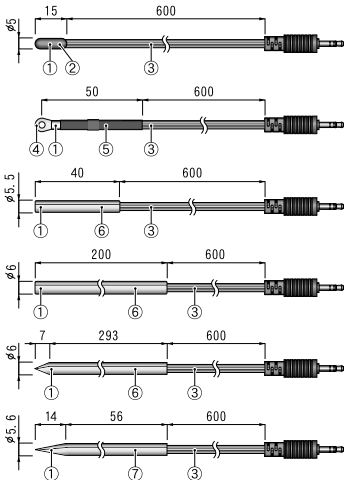
Cable Length: 0.6 m  
Response Time (90%): Approx. 15 sec. (in agitated water)

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 Sensors: Fluoropolymer Coated Type (For TR-71wf) -----

Materials	①Thermistor ②Stainless pipe (SUS316) ③Fluoropolymer Compaction Tube ④Fluoropolymer-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

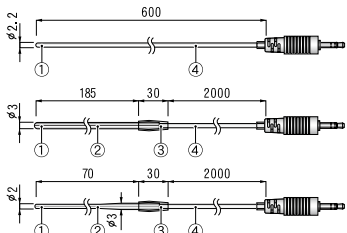
Cable Length: 0.6 m  
Response Time (90%): Approx. 80 sec. (in air) / Approx. 7 sec. (in agitated water)

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)

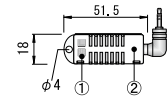


Temperature/Humidity Sensors (For TR-72wf) -----

- \* Do not expose to condensation, dampness, corrosive gases, or organic solvents (or insecticides for High Precision Temperature/Humidity Sensors)
- \* 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.

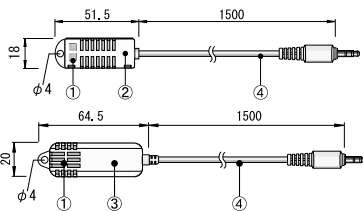
	THA-3001	THA-3151	HHA-3151
Materials	①Temp/Humidity Sensor ②Polypropylene Resin ③Polycarbonate ④Vinyl Chloride Coated Electrical Wire		
Temperature Measurement Range	0 to 55°C		-30 to 80°C
Humidity Measurement Range	10 to 95 %RH		0 to 99 %RH
Temperature Measuring Accuracy	± 5°C [at 25°C, 50%RH]		±0.3°C [0 to 50°C], ±0.5°C [at all other temperatures]
Humidity Measuring Accuracy	± 5%RH [at 25°C, 50%RH]		±2.5% (at 25°C, 10 to 85%RH), ±4.0 %RH [at 25 °C, 0 to 10 %RH 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
Waterproof Capacity	None		

THA-3001 Temperature/Humidity Sensor



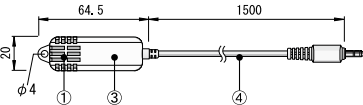
THA-3151 Temperature/Humidity Sensor (Cable Type)

Cable Length: 1.5 m



HHA-3151 High Precision Temperature/Humidity Sensor

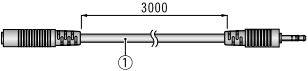
Cable Length: 1.5 m



Sensor Extension Cable-----

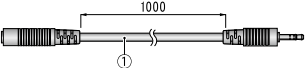
TR-1C30 Extension Cable

Cable Length: 3 m Materials: ①Vinyl Coated Electrical Wire  
\* Possible to use only one cable per temperature sensor.  
\* Possible to use up to three cables per temperature/humidity sensor.  
Cannot be used with the TR-5C10.



TR-5C10 Extension Cable

Cable Length: 1 m Materials: ①Vinyl Coated Electrical Wire  
\* Possible to use only one cable per sensor.



Others-----

US-15C USB Communication Cable

Cable Length: 1.5 m

TR-07K2 Wall Attachment

Materials: Polycarbonate  
Included: Screw x 2 and Double-sided Tape x 1

SO-15C1 Software Set

Contents:  
Software CD-ROM (TR-7wf for Windows, T&D Graph),  
USB Communication cable (US-15C)

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/](http://www.tandd.com/about_tandd/contactus/)