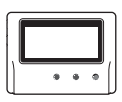
Thermo Recorder TR7 Series **TR-71nw / TR-72nw / TR-72nw-S / TR-75nw**

Please Read First

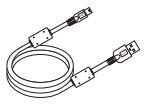
Package Contents

TR-71nw — Temperature 2ch


Data Logger

Temperature Sensor TR-0106 x 2

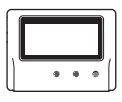
AA Alkaline Battery (LR6) x 2

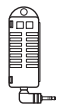

USB Mini-B Cable (US-15C)

Manual Set (Warranty Included)

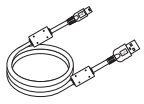
Registration Code Label

TR-72nw — Temperature 1ch, Humidity 1ch


Data Logger


Temperature-Humidity Sensor THA-3001

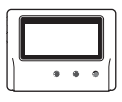
AA Alkaline Battery (LR6) x 2


USB Mini-B Cable (US-15C)

Manual Set (Warranty Included)

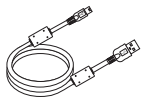
Registration Code Label

TR-72nw-S — Temperature 1ch, Humidity 1ch (High-Precision Type)


Data Logger

High Precision Temperature-Humidity Sensor SHA-3151

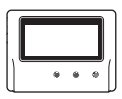
AA Alkaline Battery (LR6) x 2


USB Mini-B Cable (US-15C)

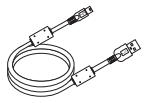
Manual Set (Warranty Included)

Registration Code Label

TR-75nw — Thermocouple (K, J, T, E, S, R) Temperature 2ch


Data Logger

AA Alkaline Battery (LR6) x 2


USB Mini-B Cable (US-15C)

Manual Set (Warranty Included)

Registration Code Label

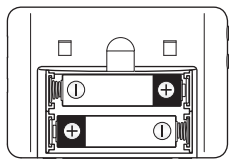
* Please prepare a thermocouple separately. T&D does not handle the sale of thermocouple sensors.

Getting Logger Ready for Installation

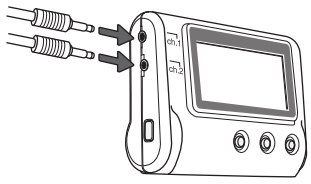
Battery Installation & Sensor Connection

Battery

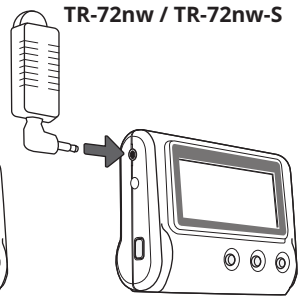
Make sure to use new batteries (including for replacement) and insert in the correct direction.



TR-71nw



TR-72nw / TR-72nw-S



About TR-71nw Internal Sensor

Channel 1 has an internal temperature sensor. When an external sensor is not connected, the internal sensor will be used.

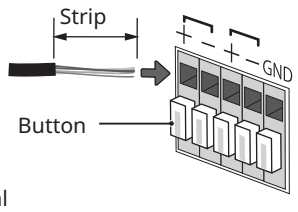
About TR-75nw Input Terminal

When connecting thermocouple wires to the input terminal, make sure that the positive and negative connections are in the proper order. If the polarity is incorrect, changes in temperature will be reversed (when the real temperature increases, the measured temperature will decrease).

Wiring Connections

Connect and disconnect the thermocouple wire from the hole while pressing the input terminal button with a screwdriver or other such tool.
Do not try to pull out the wire without pressing the button.

Compatible Wires: AWG 28–22
Single Wire: Ø 0.32–0.64 mm
Twisted Wire: 0.08–0.32 mm², Ø 0.12 mm or more in diameter
Recommended Wire: AWG 22
Stripping Length: 9–10 mm



Using GND

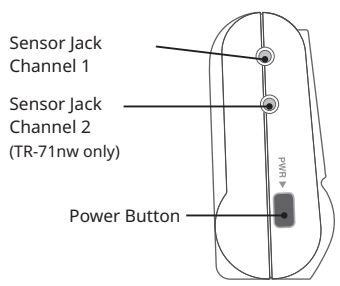
When using an external power supply, connect the GND terminal to ground to avoid noise affecting the measurement. If grounding is difficult, make sure that the sensor does not come into direct contact with conductive materials such as metal or water.

Sensor Type Setting

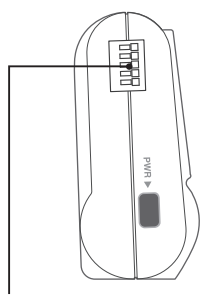
Set the sensor type in the software. (TR7 for Windows - [Start Recording] tab)

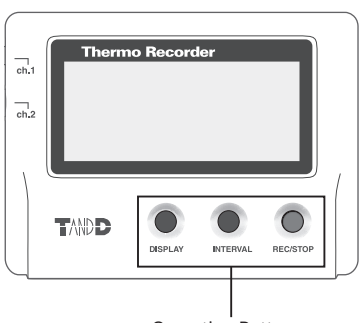
Part Names

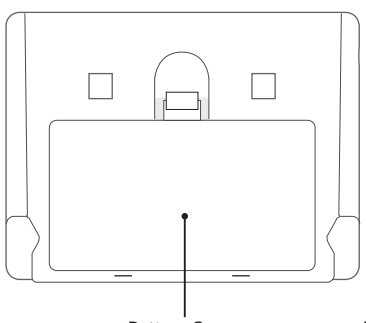
TR-71nw / TR-72nw / TR-72nw-S



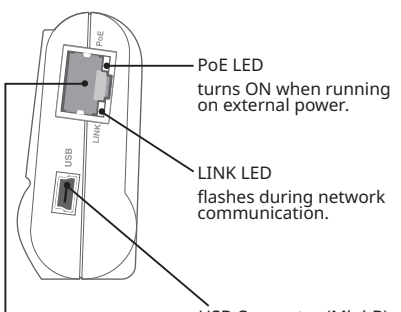
TR-75nw







TR-71nw / 72nw / 75nw (Wired LAN)



The Introductory Manual also explains operations using the operation buttons.

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 absolutely under no circumstance should be taken. The taking of such an action 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.

Picture Symbols

Denotes an important warning or caution.	Denotes a forbidden action.	Denotes an action that should not be carried out.

⚠ DANGER — To Prevent Serious Accidents

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 disassemble, repair or modify the unit and/or 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 product is not water resistant. If water or a foreign object enters the case, immediately remove batteries and stop using it.

Do not touch the unit or AC adaptor during thunder and lightning, as this may cause electrocution.

Do not handle the unit, remove batteries or cables with wet hands.

Do not drop or expose the unit to a strong impact.

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.

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 or the unit. This may cause overheating.

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.

For TR-75nw: Ch.1 and Ch.2 terminals are NOT electrically isolated from each other. Do not attach non-isolated thermocouple sensors to objects connected to a live voltage. This may cause a short circuit or an electrical shock.

⚠ DANGER — For Prevention of Serious Accidents with Batteries

Improper handling of batteries may cause leakage, overheating, fire or explosion, resulting in a serious accident or malfunction of the product.

- Never touch a leaking battery with bare hands. If it gets on your eyes, skin, or clothing, wash thoroughly with tap water. If it gets into your eyes, seek medical attention immediately.
- When installing batteries make sure that plus and minus are correct and do not short-circuit the terminals.
- When not using the product for long periods, make sure to remove the batteries.
- When resuming use of the product or changing the battery, make sure to use the correct type and size of battery.
- Ensure that the batteries are within their recommended expiration date.
- Do not mix used and unused batteries.
- Do not use leaking batteries.
- The supplied battery is non-rechargeable. Do not attempt to recharge it.
- Never disassemble, modify, crush, or cut a battery.
- Do not peel off or damage the battery label.
- Do not use the unit with batteries installed in or near fire, or place it into heating cookers or high-pressure containers. Serious danger may result from the accidental heating of batteries.
- Do not use or store the unit with batteries installed in environments with extremely high temperatures, and/or high and low pressure.
- Please regularly check and replace any batteries installed as backup for an external power supply. Aging batteries may corrode and/or leak.
- Do not use counterfeit or imitation batteries.
- Dispose of used batteries in accordance with local regulations.

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

- Areas exposed to direct sunlight
- Areas subject to direct flames or heaters, as well as areas in which hot air accumulates and creates extremely high temperatures
- Areas exposed to static electricity
- Areas exposed to strong magnetic fields
- Areas exposed to water leakage
- 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.
- When connecting the unit to your PC, make sure to follow all warnings and directions from your computer manufacturer.
- Do not insert any foreign objects into any of the units' jacks.
- Clean the product gently using a cloth dampened with a neutral detergent diluted in water. Do not use alkaline cleaners.
- Make sure to remove dust and dirt from plugs of any cables.
- Please confirm in advance the details regarding the network environment, the contract with an Internet service provider, and any other necessary equipment to enable network connection.
- Please be careful not to let a third party know of your registration code. The registration code cannot be reissued or changed.
- When using PoE, using shielded (STP) LAN cables may cause PoE not to function or the power receiving circuit to fail due to static electricity or potential difference. Use of unshielded (UTP) cables is recommended.

⚠ CAUTION — Notices about Sensors

- Make sure to use sensors within the measurement range indicated in the specifications for that sensor.
- 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.
- The included sensor is not water resistant. 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.

Temperature-Humidity 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.
- The temperature-humidity sensors will with normal use experience losses in precision and sensitivity over time due to degradation. If the sensor is being used in an unsuitable environment (smoky or dusty places) it may be necessary to change the sensor sooner.
- When using the sensor 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.

Thermocouple Sensors

- We do not handle the sale of Thermocouple sensors. Please prepare a commercially available sensor.

TR-71nw / TR-72nw / TR-72nw-S / TR-75nw - Specifications

		TR-71nw	TR-72nw		TR-72nw-S		TR-75nw
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
Accuracy		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 at 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 : ± (0.5 +0.003 x t)°C at −100°C or above Type S, R : ± (1.5 +0.003 x t)°C at 100°C or above t=absolute value of measurement in °C **Cold Junction Compensation** ±0.5°C at 10 to 40°C ±0.8°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		Response Time (90%): Approx. 190 sec.	Response Time (90%): Approx. 7 min.		Response Time (90%): Approx. 7 min.		-

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 (Stop recording 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	Wired LAN Communication 100BASE-TX/10BASE-T (RJ45 Connector) Protocol : HTTP(*4), DHCP, DNS USB Communication 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(*5), PoE IEEE 802.3af (*6)	
Battery Life (*7)	Approx. 10 days to 1.5 years	Approx. 10 days to 1 year (*7)
Dimensions	H 58 mm x W 78 mm x D 26 mm	
Weight	Approx. 55 g	
Operating Environment	Temperature: −10 to 60°C (*8), Humidity: 90 %RH or less (no condensation)	
Software (*9)	**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.
The input terminal block (screwless type) supports AWG 28–22 wires (single wire: Ø0.32–0.64 mm; twisted wire: 0.08–0.32 mm², Ø0.12 mm or more in diameter; Stripping Length: 9–10 mm). Recommended wire size: AWG 22.
*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 itself 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: HTTP client. Proxy supported.
*5: The optional AC adaptor "AD-05A2" (Type A Plug) can be used in the USA and Canada, and "AD-05C2" (Type C Plug) in Europe. For usage in other countries, please contact your local distributor.
*6: When using PoE, use of STP (shielded) cables may cause PoE failure or device malfunction. We strongly recommend using UTP cables.
*7: Battery life in the table above is for two AA Alkaline type batteries, and varies depending upon multiple factors including frequency of communication, network 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.
*8: -10 to 45°C when using external power.
*9: Free software download and information on OS compatibility is available on the Software page of our website at https://tandd.com/software/.
The specifications listed above are subject to change without notice.

Compliance Information

FCC Statement

This device complies with Part 15 of the Federal Communications Commission (FCC) rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:
TandD US, LLC
Santa Fe, New Mexico
https://tandd.com/

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To comply with the limits for the Class B digital device, pursuant to Part 15 of the FCC Rules, this device must be installed in computer equipment certified to comply with the Class B limits.

All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

ISED Statement

This digital apparatus complies with CAN ICES-3(B)/NMB-3(B).

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CE Statement

Hereby, T&D Corporation declares that this device is in compliance with EMC Directive 2014/30/EU.
The full text of the EU declaration of conformity is available at the following internet address:
https://tandd.com/manual/pdf/doc-tr7nw-series.pdf

WP·LS
WessexPower
Solutions for High-tech Instrumentation
www.wessexpower.co.uk
LSTechnology
E-commerce Instrumentation
www.loggershop.co.uk
Telephone +44(0)1929 459 459 | Email sales@WPLS.co.uk

Disclaimers

In order to properly use this product, please carefully read all documents that accompany the product before using.

- All rights of this document and attached documents belong to T&D Corporation (hereinafter referred to as "the Company"). It is prohibited to use, duplicate and/or arrange a part or whole of them without the permission of the Company.
- Microsoft and Windows are registered trademarks 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 the Company or of their respective owners.
- Specifications, design and other contents outlined in this document are subject to change without notice.
- Please follow the safety precautions outlined in this document and 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 distributor where you purchased this product or the Company of any mistakes, errors or unclear explanations in this document and attached documents.
- The Company's liability for the product shall be limited to repair or replacement in accordance with our free repair policy, as stated on the included warranty card. The Company shall not be liable for any lost profits, business interruption, other consequential damages, indirect damages, punitive damages, or damages based on a claim for compensation from a third party that the Customer incurs as a result of a failure or malfunction of the product. However, if due to the Company's intentional or gross negligence the Customer suffers damages, the Company shall be liable for damages up to the amount paid by the Customer for such product.
- This document and attached documents cannot be reissued, so please keep them in a safe place.
- Please read the included warranty card 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 your nearest T&D office.

https://tandd.com/purchasing/

2025.08 16508120031 (9th Edition)