Data Recorder TR-55i
User's Manual

Thank you for purchasing our product. Carefully read this instruction manual before using this Unit.

Outline of TR-55i
External Input Module Type
Screw proof (screwed for an input jack)
TR-55i is a Data Logger designed to measure and record different inputs from miniature/normal-sized inputs for an input jack for ten minutes, and pulse input. The factory default setting is Endless (recording interval set at 10 minutes) and Infrared Communication is Forbid (no communication with other devices).

Check the rubber packing for any cuts or scratches and close the cover as it is recommended. (Appropriate Tightening Torque: 20N cm

Battery Life (7): See "Estimated Battery Life" in this manual.
Dimensions: 164 mm x 67 mm x 44 mm (including projections and input modules)
Weight: About 160 g

Battery Life: About 16 months

Notes on Battery Installation
- After inserting the battery for the first time, if anything may appear or occur for about 10 seconds, this is not a malfunction.
- If a new battery has been installed and nothing appears in the display, please remove and reinset the battery. When inserting a battery, make sure no water or foreign objects get inside the case.
- Make sure that + and - are in the correct direction.

About Lithium Batteries
- Please store the lithium battery LS14250 in a place that is 20 °C or lower.
- When using lithium batteries other than LS14250 produced by SANYO, such as CR2, the product specifications cannot be guaranteed nor can the performance of some functions, such as the battery warning function.
- Please avoid using the CR2 in the following situations:
- Using the battery in an environment below -10 °C or above 30 °C
- Exposing the battery to continuous vibration such as in transportation
- When using a CR2 lithium battery, the tube is not necessary.
- To maintain waterproof capacity, when changing batteries also change the rubber packing and the dry-casing (alica gel). When using a CR2 lithium battery, please purchase the optional Maintenance Set (TR-5500) to replace the rubber packing and gelica. If you change the battery at this point, all recorded data will be saved.

If, at this time, a new battery is placed in the Unit, [CHECK] will appear on the display after which recording will begin again using the previously set recording conditions. Note however that all previously recorded data will have been lost.

Estimated Battery Life
The battery warning mark will appear based upon the calculation of battery use. This mark may not appear correctly if the same battery is taken out and put in, therefore do not remove the battery when only a new one is available. If infrared communication is set to be permitted, battery life will be shortened.

Other Marks or Messages on Display
Logging Capacity FULL
When Recording Mode has been set to "One Time" and the Unit reaches its logging capacity of 16,000 readings, recording will automatically stop and in the LCD the measurement and the word "FULL" will alternately appear.

Total Pulse Count
The cumulative number of pulses (Unit: P) will be displayed from 0 to 9999. The displayed count will be refreshed every one second, and upon exceeding 9999 the count will start over again from 0.

Check
If this appears, all data that was stored in the Unit will have been erased. This message will appear under the following conditions:
- The first time a battery was inserted after purchase
- When the battery is replaced after having taken out for a long period
- When the battery is replaced after the battery power has been lost

2. Connecting an Input Module
Insert an Input Module into the module jack. Once the Unit recognizes the module, the LCD display will change as shown below before and recording will start. (If you have purchased a Unit TR-55i-P, the Unit has been set by default to start recording upon installation of the battery.)

The factory default settings are as follows: Recording Interval at 10 minutes, Recording Mode at Endless, Infrared Communication at Forbidden.

When recording a temperature (°F / °C) will be displayed. Sensor type will be displayed under the measurement; the factory default setting is PT100.

When the recording method is set to "average value" for the TR-55i-V or TR-55i-mA, the battery warning mark will appear even after the battery has been inserted. If infrared communication is set to be permitted, battery life will be shortened.

3. How to Read the LCD Display

Basic LCD Display
- [REC] Mark
The recording status is shown as below. ON: Recording in progress BLINKING: Waiting for programmed start OFF: Recording stopped
- [M/ ] Mark
Displayed if the Input Module is not connected
- [bAtt] Mark
Displayed when the battery is too low. In this case, the battery replacement mark will appear.
- [Ir] Mark
The infrared communication status is shown here.

Temperature measurement (°F / °C) will be displayed. Sensor type will be displayed under the measurement; the factory default setting is Type K.

Display varies depending upon the model being used.

Basic LCD Display

Example of Display
Display varies depending upon the model being used.

Temperature measurement (°F / °C) will be displayed. Sensor type will be displayed under the measurement; the factory default setting is PT100.

Display varies depending upon the model being used.

Battery Replacement
1. When it is time for the battery to be replaced, a battery warning mark will appear.

Please change the battery as soon as possible if this mark appears.

2. After removing the battery, wait for about three seconds until [bAtt] appears in the Measurement and Message Area. Once this appears, please insert the new battery as quickly as possible.

Battery warning mark will appear before changing the battery; otherwise the battery warning mark may remain even after replacing the battery.

If you change the battery at this point, all recorded data will be saved.

3. If the battery is further left unchanged, the display will automatically shut off.

When the recording method is set to "average value" for the TR-55i-V or TR-55i-mA, the battery warning mark will appear even after the battery has been inserted. If infrared communication is set to be permitted, battery life will be shortened.

Estimated Battery Life
The battery warning mark will appear based upon the calculation of battery use. This mark may not appear correctly if the same battery is taken out and put in, therefore do not remove the battery when only a new one is available. If infrared communication is set to be permitted, battery life will be shortened.

- When recording mode is set to "average value" for the TR-55i-V or TR-55i-mA, the battery warning mark will appear even after the battery has been inserted.
- When the recording interval is less than ten seconds, or measuring in an environment below -20 °C or above 60 °C,

Note:"
Notes on Battery Installation
- After inserting the battery for the first time, if anything may appear or occur for about 10 seconds, this is not a malfunction.
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- When inserting a battery, make sure no water or foreign objects get inside the case.
- Make sure that + and - are in the correct direction.
- Please store the lithium battery LS14250 in a place that is 20 °C or lower.
- When using lithium batteries other than LS14250 produced by SANYO, such as CR2, the product specifications cannot be guaranteed nor can the performance of some functions, such as the battery warning function.
- Please avoid using the CR2 in the following situations:
- Using the unit in an environment below -10 °C or above 30 °C
- Exposing the unit to continuous vibration such as in transportation
- When using a CR2 lithium battery, the tube is not necessary.
- To maintain waterproof capacity, when changing batteries also change the rubber packing and the dry-casing (alica gel). When using a CR2 lithium battery, please purchase the optional Maintenance Set (TR-5500) to replace the rubber packing and gelica.

During playback, please make sure to download any necessary data and proceed with charging the battery. The battery warning mark may appear sooner than noted above.
- If the battery terminal (+) and - are shorted, the recording interval may be increased by 0.1 or more.

Notes on Changing the Battery
When replacing a battery, please make sure to download any necessary data and proceed with charging the battery. The battery warning mark may appear sooner than noted above.
- If the battery terminals (+) and - are shorted, the recording interval may be increased by 0.1 or more.

- Downloading of data cannot occur while the battery is removed.

4.20mA measurement (Unit: mA) will be displayed.

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1. **How to Read the LCD Display (continued from previous page)**

![Warning LCD Display]

Using the software that comes with the Communication Port or Data Collector, you can make settings for the Upper / Lower Limits and Warning Judgement Time. If a measurement exceeds one of the set limits, the warning LED and a message will be displayed.

**Warning Setting (Set Limit Exceeded)**

**Upper Limit Exceeded**
If a measurement exceeds the set upper limit, the measurement value and [UL] will alternately appear on the LCD screen.

**Lower Limit Exceeded**
If a measurement exceeds the set lower limit, the measurement value and [LL] will alternately appear on the LCD screen.

**Starting the Warning Monitoring Function**
If these settings are made in an environment where any of the limits is being exceeded and recording is started, the monitoring function will enter “wait” mode. Once a measurement returns to within the limits, the monitoring function will begin to operate.

**How to Turn Off a Warning**
- Start recording from the software.
- In the software use [Clear Warning] (only with TR-502U and TR-50U).
- Download the recorded data only when successfully completed.
- Produce a condition so that [CHECK] is displayed.

**Notes on Optical Communication**
- Please do not place the unit in areas exposed to direct sunlight or incandescent light, or near other infrared devices. It may cause malfunction or trouble with the unit.
- Please do not use or store the unit in unusual temperature environments.
- If the unit becomes drop-proofed, it may cause malfunction and damage.
- Do not touch the display when using the unit.
- If condensation occurs on the inside of the case, it may cause malfunction and damage.
- Do not place the unit in areas with high humidity.

2. **Communicating with your Computer**

By using the software “T&D Recorder for Windows (TR-5,7xU)” supplied with the Communication Port or Data Collector, it is possible to communicate with a PC. For details about how to make recording settings, download recorded data and other operations, please see the User’s Manual that comes with the Communication Port or Data Collector.

The latest version of “T&D Recorder for Windows (TR-5,7xU)” can be downloaded free of charge from our website. (TR-55i can be used with Ver. 2.0 or higher.)

3. **How to Communicate with the Computer**

1. **Follow directions as issued in the software to connect the Communication Port or Data Collector to your PC.**

2. **Place the Data Logger on the Communication Port or Data Collector making sure to align the optical communication areas and slitted areas.**

4. **Using a PC allows the following:**

- It is possible to change recording settings in the Unit, download recorded data to a PC, and view downloaded data.

**Recording Settings for the Unit**
The factory default settings are as follows. Recording Interval at 10 minutes, Recording Start at Immediate Start, Recording Mode at Endless, Infrared Communication at Forbid.

![Recording Interval]

<table>
<thead>
<tr>
<th>Interval</th>
<th>1, 2, 5, 10, 15, 30, and 60 seconds or 1, 2, 3, 5, 15, 30, 60, and 90 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling</td>
<td>After the start of recording, the reading will be recorded at the set time interval.</td>
</tr>
<tr>
<td>Start</td>
<td>Recording will start at the set time and date.</td>
</tr>
<tr>
<td>End</td>
<td>Date and time are not displayed.</td>
</tr>
</tbody>
</table>

**Notes on Optical Communication**
- Please do not place the unit in areas exposed to direct sunlight or incandescent light, or near other infrared devices. It may cause malfunction or trouble with the unit.
- Please do not use or store the unit in unusual temperature environments.
- If the unit becomes drop-proofed, it may cause malfunction and damage.
- Do not touch the display when using the unit.
- If condensation occurs on the inside of the case, it may cause malfunction and damage.
- Do not place the unit in areas with high humidity.

**Notices about Infrared Communication**
- Do not place the unit in areas exposed to direct sunlight or incandescent light, or near other infrared devices. It may cause malfunction or trouble with the unit.
- Please do not use or store the unit in unusual temperature environments.
- If the unit becomes drop-proofed, it may cause malfunction and damage.
- Do not touch the display when using the unit.
- If condensation occurs on the inside of the case, it may cause malfunction and damage.
- Do not place the unit in areas with high humidity.

**Notes about the Input Modules**
- When using a Data Collector, you can download recorded data, view the data in graph form, and make all necessary recording settings without connecting to a PC.