

## TR-5i Series - Compact Waterproof Temperature Data Logger



Our compact waterproof TR-5i Series data loggers are capable of measuring and recording temperature in normal outdoor conditions as well as in harsher frozen environments or frozen storage. They are equipped with a Warning Monitoring Function, an Adjustment Function, and an Infrared Communication Function. Recorded data can be collected from a TR-5i Series Logger via one of our compatible Communication Ports or Data Collectors.

The compact design allows the user to place a TR-5i Data Logger almost anywhere without worrying about space. Also, its durable body with waterproof and dustproof capacity makes it possible to be used in harsh environments.

### **TR-51i:**

The TR-51i with an internal temperature sensor offers superior waterproof capacity and moderate response time; it is suitable for use in transportation and storage, as well as, in harsh environments.

### **TR-52i:**

The TR-52i with an external temperature sensor is highly versatile and ideal for use in situations where a quicker response (compared to TR-51i) is required.

One Data Logger can store up to 16,000 readings. At a recording interval of 10 minutes that would equal about 111 days, and at an interval of 60 minutes that would equal about 22 months of non-stop consecutive recording.

\*The supplied software “T&D Recorder for Windows” provides 15 recording interval choices (from 1 second to 60 minutes) to meet your needs.

|                                     | TR-51i                         | TR-52i                                                                                                                                            |
|-------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement Item                    | Temperature                    | Temperature                                                                                                                                       |
| Measurement Channels                | 1 Ch (Internal Sensor Type)    | 1 Ch (External Sensor type)                                                                                                                       |
| Measurement Range                   | -40 to 80°C                    | -60 to 155°C                                                                                                                                      |
| Response Time<br>(in 90% still air) | About 35 min.                  | -                                                                                                                                                 |
| Measurement Accuracy                | Avg. $\pm 0.5^{\circ}\text{C}$ | Avg. $\pm 0.3^{\circ}\text{C}$ : -20 to 80°C<br>Avg. $\pm 0.5^{\circ}\text{C}$ :<br>-40 to -20°C/ 80 to 110°C<br>Avg. $\pm 1.0^{\circ}\text{C}$ : |

|                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                           |                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
|                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                           | -60 to -40°C/ 110 to 155°C                       |
| Measurement Display Resolution                                                                                                                                                                                                                                        | 0.1°C                                                                                                                                                                                                                                     |                                                  |
| Logging Capacity                                                                                                                                                                                                                                                      | 16,000 Readings                                                                                                                                                                                                                           |                                                  |
| Recording Start Method                                                                                                                                                                                                                                                | Immediate / Programmed                                                                                                                                                                                                                    |                                                  |
| Recording Mordes                                                                                                                                                                                                                                                      | Endless / One Time                                                                                                                                                                                                                        |                                                  |
| Recording Interval                                                                                                                                                                                                                                                    | Select from 1,2,5,10,15,20 and 30 sec. / 1,2,5,10,15,20,30 and 60 min.                                                                                                                                                                    |                                                  |
| LCD Displayed Items                                                                                                                                                                                                                                                   | Measured Temperature, Recording Status, Recording Mode, Infrared Communication Status, Battery Life Warning, Unit of Measurement, Full(Storage Capacity FULL), Unconnected Sensor, Measurement Range Exceeded, Upper/Lower Limit Exceeded |                                                  |
| Communication Interfaces                                                                                                                                                                                                                                              | Optical Communication / Infrared Communication                                                                                                                                                                                            |                                                  |
| Infrared Communication                                                                                                                                                                                                                                                | IrPHY 1.2 low power                                                                                                                                                                                                                       |                                                  |
| Communication Time                                                                                                                                                                                                                                                    | When downloading 1 Unit at full logging capacity:<br>- Optical Communication: About 24 sec. (TR-57DCi), About 25 sec. (TR-50U2 / 50U), About 160 sec. (TR-57U),<br>- Infrared Communication: About 55 sec. (TR-57DCi)                     |                                                  |
| Power (*1)                                                                                                                                                                                                                                                            | Lithium battery LS14250 x 1 (Lithium battery CR2 also okay)                                                                                                                                                                               |                                                  |
| Battery Life (*2)                                                                                                                                                                                                                                                     | Maximum 4 years<br>(2 years if it's been selected to "Permit" infrared communication)                                                                                                                                                     |                                                  |
| Waterproof Capacity                                                                                                                                                                                                                                                   | IP67 (Immersion proof)                                                                                                                                                                                                                    | IP64 (Splash resistant)                          |
| External Dimensions                                                                                                                                                                                                                                                   | H62mm x W47mm x D19mm (Excluding protrusions and External Sensor)                                                                                                                                                                         |                                                  |
| Weight                                                                                                                                                                                                                                                                | About. 54g<br>including battery                                                                                                                                                                                                           | About. 55g<br>including battery/excluding sensor |
| Operating Environment                                                                                                                                                                                                                                                 | -40 to 80°C<br>When using Lithium Batteries (CR2) sold in stores: -20 to 60°C                                                                                                                                                             |                                                  |
| Data Collection Devices                                                                                                                                                                                                                                               | Communication Port: TR-50U2, TR-50U<br>Data Collectors: TR-57DCi, TR-57U, RTR-57U                                                                                                                                                         |                                                  |
| (*1) The included Lithium Battery (LS14250) is not sold in stores. Please purchase the "Optional Battery Set TR-11P2" for replacement.                                                                                                                                |                                                                                                                                                                                                                                           |                                                  |
| (*2) Battery life depends upon the measuring environment, recording interval, and quality of the battery being used. When infrared communication function is enabled, battery life may be shortened if the unit is used under the inverter type fluorescent lighting. |                                                                                                                                                                                                                                           |                                                  |