**TEMPERATURE HiTESTERs**

- **3447-01 for HACCP Temperature Recording/Management (New!)**
  - Compatible with Platinum temperature-measurement resistors (Pt 100) (-100°C to 300°C)
  - Waterproof construction (IP67), 2-channel measurement
  - Accommodates a temperature probe with hand switch
  - Record temperature, time, and name of measurement object
  - Record using either interval (28,800 data items) or manual (7,200 data items) recording modes

- **3446-01 For Temperature Recording/Management in Energy Conservation Applications (New!)**
  - 1-channel recording for use with Thermocouple (Type K) sensors (-100°C to 1000°C)

- **3442(-03) With Water-resistant Construction for Use in Damp Environments**
  - Use with Thermocouple (Type K) sensor with water-resistant construction (-100°C to 1300°C*)
  - Max/min temperature recording

- **3441(-02) Basic Temperature HiTESTER**
  - Thermocouple (Type K) sensor (-100°C to 1300°C*)
  - A choice of temperature sensors for different applications

* Measurable temperature range varies according to temperature sensor type.
Temperature Management of Food Preparation

### 3446-01, 3447-01 Record data and memos using either manual or interval recording mode.

- 3447-01 has waterproof construction in both thermometer and sensor.
- 2-channel Class A temperature measurement using a platinum temperature-measurement resistor.
- Single-channel recording with 3446-01 using type K thermocouple (-100°C to 1000°C).
- Both provide two recording modes, manual and interval, allowing recording at arbitrary times or set intervals.
- Records product name and inspector name or pass/fail result along with temperature.
- Send data to a computer by RS-232C connection.
- Print recorded data*2 (using the optional 9670 printer).

### 3447-01 Measurement Specifications

- **Sensor type**: Platinum temperature-measurement resistor Pt 100 (3 line type)
- **Measurement range**: -100°C to 1000°C
- **Resolution**: ±0.1% rdg. ±0.5°C
- **Water resistance**: IP67 (EN60529:1991)
- **Measurement accuracy, thermometer**: ±0.2°C resolution
- **Sampling rate**: 1 second
- **Interval Recording**: Recording Time
  - 2 seconds: 16 hours
  - 5 seconds: 1 day, 6 hours
  - 10 seconds: 3 days, 8 hours
- **Data items recorded**: Time, temperature, item, ID, comparator test result: Max 28,800 (with the 3447-01; 14,400 with 2-ch recording)
- **Communications interface**: RS-232C (using dedicated cable)

### 3446-01 Measurement Specifications

- **Sensor type**: Type K thermocouple
- **No. of inputs**: 1 channel
- **Measurement range**: -100°C to 1000°C
- **Resolution**: ±0.1% rdg. ±0.1°C
- **Water resistance**: IP67 (EN60529:1991)
- **Measurement accuracy, thermometer**: ±0.2% rdg. ±0.2°C
- **Sampling rate**: 1 second
- **Interval Recording**: Recording Time
  - 0.5 second: 2 hours
  - 1 second: 1 day
  - 1.5 seconds: 2 days
  - 2 seconds: 3 days
  - 2.5 seconds: 5 days
  - 3 seconds: 8 days
- **Data items recorded**: Time, temperature, item, ID, comparator test result: Max 7,200 (for the 3447-01: 4,800 with 2-ch recording)
- **Communications interface**: RS-232C (using dedicated cable)

### 3446-01 / 3447-01 Common Specifications

- **Maximum recording time in interval recording mode**
  - Interval recording: Relationship between recording interval and maximum recording time are as shown below:
  - *1 Maximum recording time in interval recording mode
  - When using only interval recording, the relationship between recording interval and maximum recording time are as shown below:
<table>
<thead>
<tr>
<th>Recording Interval</th>
<th>Maximum Recording Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 seconds</td>
<td>16 hours</td>
</tr>
<tr>
<td>5 seconds</td>
<td>1 day, 6 hours</td>
</tr>
<tr>
<td>10 seconds</td>
<td>3 days, 8 hours</td>
</tr>
</tbody>
</table>

- **Manual recording**: Temperature by key operation.
- **Input/output**: 1 channel.
- **Display**: LCD (12 characters), ID display (1 channel).
- **Screen Display**: LCD display, item display, ID display, item display.
- **Result display**: buzzer output.
- **Specifications**: Clock, data read-out, display hold, real-time control, auto power save, data backup, communications interface, operating temperature/humidity range, storage temperature/humidity range, dimensions/weight, accessories.
- **Operating conditions**: 0 to 40°C, 80% RH or less (non-condensing).
- **Power supply**: 4 LR03 (AAA) alkaline dry cell batteries.
- **Maximun rated power**: 60 mA.
and Storage, Support for Electronic Device Temperature Control

### Settings can be made from and data transferred to a connected computer

When a PC is connected to the 3446-01/3447-01, it can be used to make various settings (item, ID, comparator), or to store recorded data transferred from the Temperature HiTESTER. Computerization of temperature management can greatly increase work efficiency. The optional 9674 RS-232C Package is used for PC communications.

#### 9674 RS-232C Package (Optional)
- **Package contents**: RS-232C cable, PC software on CD-ROM
- **RS-232C cable** (cable length: 2 m; Connector on PC side: Dsub-9 pin; Connector on thermometer side: Dedicated connector)
- **PC software** (Windows 95/98/Me/NT 4.0/2000/XP compatible)
  - Functions: Item/ID setting, comparator setting, data list display, graph display, printing, file storage (in proprietary format or text format)

#### 3441/3442 Extended Operation, Max/Min Temperature Recording, Water-resistant Construction (3442 only)

The 3442 has a water-resistant construction for use in damp environments. Measurement in damp environments is possible by using the thermometer in combination with the 9472 or 9475 temperature probe. Choose from 9 different temperature sensors (optional), according to your application. Switching between °C/°F display (3441-02, 3442-03)

#### 3441/3442 Specifications (accuracy at 23°C ±5°C, 80% RH or less)

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Type K thermocouple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>-100°C to 1300°C (-148°F to 2372°F)</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1°C (100°C to 199°C), 0.5°C (200°C to 899°C), 1°C (900°C to 1300°C)</td>
</tr>
<tr>
<td>Measurement accuracy, thermometer</td>
<td>±0.1°C (±0.2°C) (from -100°C to 199°C), ±0.5°C (±1.0°C) (200°C to 899°C), ±1°C (±2.0°C) (900°C to 1300°C)</td>
</tr>
<tr>
<td>Accuracy of thermometer is added</td>
<td>±0.1% rdg. ±0.8°C (from -100°C to 199°C), ±0.1% rdg. ±1.6°F (200°C to 899°C), ±0.2% rdg. ±1.8°F (900°C to 1300°C)</td>
</tr>
<tr>
<td>Temperature coefficient</td>
<td>0.03°C/°C (from -100°C to 199°C) / 0.054°F/°F (200°C to 899°C)</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>2 / second</td>
</tr>
<tr>
<td>Display</td>
<td>LCD display</td>
</tr>
<tr>
<td>Auto power save</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Operating environment</td>
<td>Indoors, at altitude up to 2000 m</td>
</tr>
<tr>
<td>Usable temperature/humidity range of main unit</td>
<td>0 to 40°C (32°F to 104°F), 80% RH or less (non-condensing)</td>
</tr>
<tr>
<td>Storage temperature/humidity range of main unit</td>
<td>-10 to 50°C (14°F to 122°F), 80% RH or less (non-condensing)</td>
</tr>
<tr>
<td>Pollution index</td>
<td>2</td>
</tr>
<tr>
<td>Over-voltage category</td>
<td>I</td>
</tr>
<tr>
<td>EMC</td>
<td>EN55011, EN50082</td>
</tr>
<tr>
<td>Water-resistant construction</td>
<td>EN60529:1991 IP54</td>
</tr>
<tr>
<td>Power supply</td>
<td>4 R6P manganese dry cell batteries or 4 LR6 alkaline batteries (AAA)</td>
</tr>
<tr>
<td>Maximum rated power</td>
<td>35 mA</td>
</tr>
<tr>
<td>Continuous operating time</td>
<td>200 hours (using manganese batteries)</td>
</tr>
<tr>
<td>Dimensions/weight</td>
<td>Approx. 150 x 155 x 240 mm (6.0 x 6.1 x 9.4 in), approx. 596 g (1.3 lb)</td>
</tr>
<tr>
<td>Accessories</td>
<td>Batteries, strap band</td>
</tr>
</tbody>
</table>
**Related Products**

**Management of temperature recordings**

The 3412-50 produces a voltage output of 1 mV per degree Centigrade. Using the thermometer and recorder together allows recording of temperature variations.

* The CE marking does not pertain to the waterproof structure. Also, the recorder, 9036 AC adapter, 9094 output cord, and temperature probes are optional.

---

**3412-50 TEMPERATURE HITESTER**

Range: -50°C to 999°C (-58 to 1830°F). Sensor : Thermocouple K (CA). Unit accuracy: ±0.2% f.s. ±1dgt. Analog output: 1mV / °C. Power supply: 6F22 battery.