## INFRARED THERMOMETER

Model: TM-939 *ISO-9001, CE, IEC1010* 







## High Temp. + Type K/J/R/E/T Infrared THERMOMETER

Model: TM-939

| FEATURES                                                                                                                    |                                                                         |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|--|--|--|
| * -20 °C to 650 °C Wide range IR temperature measurement.                                                                   | * Data hold function for stored the desired value on display.           |  |  |  |  |
| * Infrared thermometer, non-contact temperature                                                                             | * Memory function to record the maximum & minimum                       |  |  |  |  |
| measurement, -20 $^{\circ}\mathrm{C}$ to 650 $^{\circ}\mathrm{C}$ ( -4 $^{\circ}\mathrm{F}$ to 1202 $^{\circ}\mathrm{F}$ ), | reading with recall.                                                    |  |  |  |  |
| precision for none contact temperature measurement.                                                                         | * Build the REL button, useful for relative measurement.                |  |  |  |  |
| * Emissivity adjustment for IR thermometer.                                                                                 | * Sensor select button on the front panel, easy to change               |  |  |  |  |
| * Laser guide for IR thermometer.                                                                                           | different type probe.                                                   |  |  |  |  |
| * 2 in 1, Infrared thermometer + Thermocouple ( Type                                                                        | * RS 232 data output, easy cooperate with computer.                     |  |  |  |  |
| K/J/T/E/R ) thermometer.                                                                                                    | <ul> <li>Optional data acquisition software for data record.</li> </ul> |  |  |  |  |
| Thermocouple probe accepts 5 different types : type K,   * Auto power shut off saves battery life.                          |                                                                         |  |  |  |  |
| type J, type T, type E, type R.                                                                                             | * Built-in low battery indicator.                                       |  |  |  |  |
| * Microcomputer circuit with high performance.                                                                              | * Heavy duty & compact housing case with stand.                         |  |  |  |  |
| * Build in °C & °F select button on the front panel.                                                                        | * 006P DC 9V battery poer supply.                                       |  |  |  |  |

| GENERAL SPECIFICATIONS |                                              |                 |                                                |  |  |  |
|------------------------|----------------------------------------------|-----------------|------------------------------------------------|--|--|--|
| Display                | 51 mm x 32 mm supper large LCD               | Memory Recall   | Memorize the Maximum, Minimum                  |  |  |  |
|                        | display, 15 mm (0.6") digit size.            |                 | reading with recall.                           |  |  |  |
|                        |                                              | Offset          | For thermocouple thermometer offset            |  |  |  |
| Measurement            | Infrared thermometer                         | Adjustment      | adjustment by pushing button on front panel.   |  |  |  |
|                        | ( Non contact temperature measurement )      | Over Indication | Show " ".                                      |  |  |  |
|                        | 2. Thermocouple probe, type K/J/T/E/R        | Data Output     | RS232 PC serial interface.                     |  |  |  |
| Functions              | °C, °F, Data hold, Memory (Max., Min.), Po   |                 | Alkaline or heavy duty type,                   |  |  |  |
|                        | Relative measurement,                        |                 | DC 9V battery, 006P, MN1604 ( PP3 )            |  |  |  |
|                        | Emissivity adjustment (IR thermometer).      |                 | or equivalent.                                 |  |  |  |
| Resolution             | 1 degree or 0.1 degree.                      | Power           | Approx. DC 10 mA ( laser guide off ).          |  |  |  |
| Circuit                | Exclusive microcomputer circuit, the         | Consumption     | Approx. DC 19 mA ( with laser light on ).      |  |  |  |
|                        | software build in linearity correction       |                 | * Above consumption value is caculated         |  |  |  |
|                        | instead the traditional hardware circuit.    |                 | under the function of IR thermometer.          |  |  |  |
| IR Emissivity          | Range: 0.20 to 1.00.                         | Operating       | 0 to 50 ℃ (32 to 122 °F).                      |  |  |  |
| Adjustment             | Adjustment by pushing button on front panel. | Temperature     |                                                |  |  |  |
| IR Sensor              | Thermocouple pie.                            | Operating       | Less than 80% RH.                              |  |  |  |
| IR Measure             | 6 to 12 micro meter.                         | Humidity        |                                                |  |  |  |
| Wave Length            |                                              | Weight          | 220 g/0.48 LB.                                 |  |  |  |
| Region                 |                                              | Dimension       | HWD 220 x 68 x 30 mm ( 8.7 x 2.7 x 1.2 inch ). |  |  |  |
| IR                     | D/S ratio: Approx. 7:1.                      | Standard        | Operational manual1 PC.                        |  |  |  |
| Distance Factor        | * D - Distance, S - Spot.                    | Accessory       |                                                |  |  |  |
| Laser Guide            | Red laser light, less than 1 mW,             | Optional        | * Temperature probe :                          |  |  |  |
|                        | Meet EN60825                                 | accessories &   | TP-01, TP-02A, TP-03, TP-04                    |  |  |  |
| Probe Input            | Thermocouple probe :                         | temp. probe     | * Carrying case, Model: CA-06, CA-03.          |  |  |  |
| Socket                 | Standard 2 pin thermocouple socket.          |                 | * RS232 cable, Model : UPCB-02                 |  |  |  |
| Sampling Time          | Approx. 1 second.                            |                 | * Application software, windows version.       |  |  |  |
| Hold Function          | To freeze the display reading value.         |                 | Model: SW-U801-WIN                             |  |  |  |

| MEASURING RANGE/ RESOLUTION |        |                    |                   |              |        |                    |                |
|-----------------------------|--------|--------------------|-------------------|--------------|--------|--------------------|----------------|
| Туре                        | Reso-  | Range              | Accuracy          | Туре         | Reso-  | Range              | Accuracy       |
| <i>3,</i>                   | lution |                    |                   | "            | lution |                    |                |
| Infrared                    | 1 ℃    | - 20 °C to 650 °C  | - 20°C to 400°C : | Thermocouple | 0.1 ℃  | -100.0 to -50.0 ℃  | ± (0.2%+1°C)   |
| thermometer                 | 1 °F   | -4 °F to 1202 °F   | ± 3% of reading   | type T       | 0.1 ℃  | -49.9 to 400.0 ℃   | ± (0.2%+0.5°C) |
|                             |        |                    | or ± 3°C (5°F)    |              | 0.1 °F | -148.0 to -58.0 °F | ± (0.2%+1.8°F) |
|                             |        |                    | > 400 °C :        |              | 0.1 °F | -57.9 to 752.0 °F  | ± (0.2%+1°F)   |
|                             |        |                    | ± 3% of reading   | Thermocouple | 0.1 ℃  | -100.0 to -50.0 ℃  | ± (0.2%+1.3°C) |
| Thermocouple                | 0.1 °C | -100.0 to -50.0 ℃  | ± (0.2%+1°C)      | type E       | 0.1 ℃  | -49.9 to 900.0 ℃   | ± (0.2%+0.8°C) |
| type K                      | 0.1 ℃  | -49.9 to 1300.0 ℃  | ± (0.2%+0.5°C)    |              | 0.1 °F | -148.0 to -58.0 °F | ± (0.2%+2.8°F) |
|                             | 0.1 °F | -148.0 to -58.0 °F | ± (0.2%+1.8°F)    |              | 0.1 °F | -57.9 to 1652.0 °F | ± (0.2%+2°F)   |
|                             | 0.1 °F | -57.9 to 2372.0 °F | ± (0.2%+1°F)      | Thermocouple | 1 ℃    | 0 to 600 ℃         | ± (1 %+5°C)    |
| Thermocouple                | 0.1 °C | -100.0 to -50.0 ℃  | ± (0.2%+1°C)      | type R       | ]      | 601 to 1700 ℃      | ± (1.5%+5°C)   |
| type J                      | 0.1 °C | -49.9 to 1150.0 ℃  | ± (0.2%+0.5°C)    |              | 1 °F   | 32 to 1112 °F      | ± (1 %+10°F)   |
|                             | 0.1 °F | -148.0 to -58.0 °F | ± (0.2%+1.8°F)    |              |        | 1113 to 3092 °F    | ± (1.5 %+10°F) |
|                             | 0.1 °F | -57.9 to 2102.0 °F | ± (0.2%+1°F)      |              |        |                    |                |

| OPTIONAL TEMPERATURE PROBE & OTHER ACCESSORIES |                                                                                  |  |  |  |
|------------------------------------------------|----------------------------------------------------------------------------------|--|--|--|
| Carrying Case, CA-06                           | Model : CA-06, Hard carrying case                                                |  |  |  |
| Carrying Case, CA-03                           | Model: CA-03, Vinyl soft carrying case.                                          |  |  |  |
| Thermocouple Probe                             | Measure Rage : -40 ℃ to 250 ℃, -40 °F to 482 °F.                                 |  |  |  |
| ( Type K ) TP-01                               | Ultra fast response naked-bead thermocouple, general purpose application.        |  |  |  |
| Thermocouple Probe                             | Measure Range : -50 °C to 900 °C , -50 °F to 1650 °F.                            |  |  |  |
| ( Type K ), TP-02A                             | Dimension: 10 cm tube, 3.2 mm Dia.                                               |  |  |  |
| Thermocouple Probe                             | Measure Range: -50 ℃ to 1200 ℃, -50 °F to 2200 °F.                               |  |  |  |
| ( Type K ), TP-03                              | Dimension: 10 cm tube, 8 mm Dia.                                                 |  |  |  |
| Surface Probe                                  | Measure Range : -50 °C to 400 °C , -50 °F to 752 °F.                             |  |  |  |
| ( Type K ), TP-04                              | Size: Temp. sensing head - 15 mm Dia. Probe length - 120 mm.                     |  |  |  |
| RS232 cable, UPCB-02                           | RS232 cable for connecting between the meter & the computer.                     |  |  |  |
| Application Software,                          | Windows software apply as the performance of data logging system & data recorder |  |  |  |
| SW-U801-WIN                                    |                                                                                  |  |  |  |

<sup>\*</sup> Appearance and specifications listed in this brochure are subject to change without notice.