

**digitech**

# Digital Thermometer

with K-Type Thermocouple



Model:  
**QM1602**

# Instruction Manual

## IMPORTANT USAGE AND COPYRIGHT NOTICE:

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“**Caution**” indicates conditions or procedures that could potentially harm the instrument or equipment. It is crucial to exercise care when carrying out these operations. Failure to perform these tasks correctly or not adhering to the specified procedures may result in damage to the instrument or equipment. If you find these conditions unclear or do not fully comprehend them, it is advisable to refrain from proceeding with any operation indicated by the caution mark to prevent potential damage.

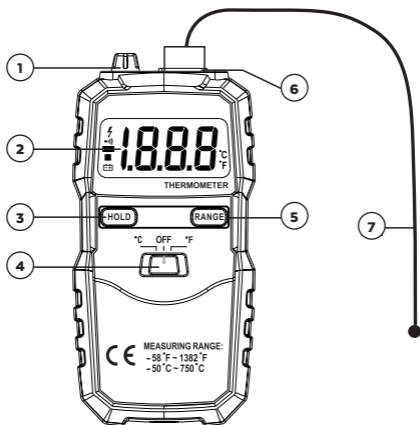


“**Warning**” symbols are used to signify conditions and procedures that may pose risks to users. It is essential to exercise caution while performing these operations. Failure to execute these tasks correctly or disregard for the specified procedures could lead to personal injury or accidents. If you find these conditions unclear or are unsure about any aspect, it is advisable not to proceed with any operation indicated by the “Warning” symbol.

*Prior to utilizing the instrument, we strongly advise that you thoroughly read this manual and give due consideration to the associated safety warnings.*

## OVERVIEW:

The device is a portable digital thermometer known for its stable performance, high precision, low power consumption, and innovative and reliable design. This manual contains important safety information. We urge you to thoroughly review the pertinent sections before using the instrument and to diligently adhere to all provided warnings and precautions.



|   |   |
|---|---|
| 1 | Room Temperature Sensor                       |
| 2 | LCD Display                                   |
| 3 | Data Hold Key                                 |
| 4 | Slide Switch<br>OFF / °C Display / °F Display |

|   |  |
|---|--|
| 5 | Range Selection<br>0.1 or 1 Resolution |
| 6 | Thermocouple Jack                      |
| 7 | K Type Thermocouple Probe              |

## NOTE:

When the thermocouple is not inserted into the thermometer, the instrument will indicate the ambient temperature. It's important to note that this instrument is not designed for rapid changes in ambient temperature measurements.

For accurate results, the thermocouple's cold-end compensation in the meter head needs time to reach thermal equilibrium with the surrounding environment. As such, we recommend allowing the instrument to acclimate to the measurement environment for a period of time before initiating any measurements.



Ensure that the thermocouple probe does not make contact with charged objects, as it can potentially harm the instrument and create a hazard of electrical shock or injury.



Do not fold the thermocouple leads at acute angles, as repeated bending over time may result in wire breakage.

## SPECIFICATIONS:

### Environment Conditions:

|                      |                                       |
|----------------------|---------------------------------------|
| Working Environment: | 0-40°C (<80% RH)                      |
| Storage Environment: | -10-60°C (<70% RH, without batteries) |

**Performance:**

|                               |   |
|-------------------------------|---|
| Sampling Rate:                | Approximately 2 times/second  |
| Display:                      | 3 1/2 digit LCD   |
| Thermocouple Open Indication: | When not connected to a thermocouple or if the thermocouple is open, the display shows the environment temperature. |
| Low Battery Indication:       | "E*" will be displayed on the LCD when the battery voltage is lower than the normal working voltage.                |
| Power Requirement:            | 2 x 1.5V AAA batteries (batteries included)   |
| Dimensions:                   | 128 x 61 x 25mm   |

**Thermocouple Probe:**

|                            |   |
|----------------------------|---|
| Type:                      | TP-01 Type K thermocouple probe with plug |
| Type K Thermocouple Range: | -50°C ~ 250°C (-58°F ~ 482°F)             |
| Accuracy:                  | ± (0.5% + 1°C)                            |
| Length:                    | 1 meter                                   |
| Plug:                      | Miniature plug                            |

This instrument uses a high-speed reaction bead thermoelectric coupling and is generally applicable to many fields.

## ACCURACY:

Accuracy is guaranteed within one year after calibration.

Reference Condition:

Environment Temperature: 18°C to 28°C

Relative Humidity: No more than 80%

### Centigrade:

| Range             | Resolution | Accuracy          |
|-------------------|------------|-------------------|
| -50.0°C ~ -20.0°C | 0.1°C      | ± 6°C             |
| -20.0°C ~ 0.0°C   | 0.1°C      | ± 3°C             |
| 0.0°C ~ 200°C     | 0.1°C      | ± (1.0%read +2°C) |
| 200°C ~ 500°C     | 1°C        | ± (1.0%read +2°C) |
| 500°C ~ 750°C     | 1°C        | ± (1.0%read +3°C) |

### Fahrenheit:

| Range            | Resolution | Accuracy           |
|------------------|------------|--------------------|
| -58.0°F ~ -4.0°F | 0.1°F      | ± 8°F              |
| -4.0°F ~ 32.0°F  | 0.1°F      | ± 5°F              |
| 32.0°F ~ 200°F   | 0.1°F      | ± (1.0%read +4°F)  |
| 200°F ~ 932°F    | 1°F        | ± (1.0%read +4°F)  |
| 932°F ~ 1382°F   | 1°F        | ± (1.0%read + 5°F) |

## MAINTENANCE:

This section provides essential maintenance information, which includes instructions for replacing fuses and batteries. Please note that attempting to repair the instrument is not recommended unless you are an experienced repair person with access to calibration, performance testing, and maintenance information.



To prevent potential hazards:

Do not use the instrument for any measurement operation when the unit is open.

Use only specified replacement parts. For instrument repair, consult qualified technicians.

## CLEANING INSTRUCTIONS:

To clean the outer casing of the instrument, use a damp cloth and a small amount of detergent. Do not use abrasive or chemical solvents.

## BATTERY REPLACEMENT:



To avoid incorrect readings, it's important to change the batteries as soon as the instrument shows "EH" on the display.

For safety and preserving the instrument's condition, if it won't be used for an extended period, it's advisable to remove the batteries to prevent any potential damage from battery leakage.

Ensure that the instrument's power supply is turned off.

Use a screwdriver or a similar tool to loosen the screws securing the battery cover, and then remove the battery cover.

Take out the old batteries and replace them with new ones.

Reattach the back cover and securely tighten the screws.

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