

# BENCHMARK<sup>TM</sup> MC

## INFRARED DIGITAL THERMOMETER



5 Year Limited Warranty on tool

**READ ALL INSTRUCTIONS BEFORE FIRST USE.  
KEEP THIS MANUAL FOR FUTURE REFERENCE.  
KEEP AWAY FROM CHILDREN.**



**WEAR CSA APPROVED  
EYE PROTECTION**



**WEAR EAR  
PROTECTION**



**WEAR A  
FACE MASK**

## PRODUCT SPECIFICATIONS

INFRARED DIGITAL THERMOMETER		
Emissivity	0.95 Preset, Adjustable from 0.01 to 1.00	
Temperature range	-50~400°C (-58~752°F)	-50~600°C (-58~1112°F)
Accuracy	≥0°C(32°F):±1.5°C(±2.7°F) or ±1.5% Take the maximum <0°C(32°F):±3°C (±5.4°F) or ±3%Take the maximum	
Spectral response	8-14um	
Resolution	1% of reading or 1°C	
Response time	500mSec, 95% response	
Distance to Spot Rate	12:1	
Max value display	YES	
Operating Temperature	0~50°C(32~122°F)	
Operating Humidity	10-90%RH non-condensing	
Storage Temperature	-20~60°C(-4~140°F)Without Batteries	
Tool operating weight	0.3Lb (0.14KG)	

### NEED ASSISTANCE?

Call us on our toll-free customer support line:  
1-866-349-8665 (Monday through Friday 9am – 5pm Eastern Standard Time)

- Technical questions
- Replacement parts
- Parts missing from package

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## GENERAL SAFETY INSTRUCTIONS

**WARNING! Read and understand all instructions before using this tool. The operator must follow basic precautions to reduce the risk of personal injury and/or damage to the equipment.**

- 1). Before using this unit, inspect the housing for damage or cracks. Do not use the tool if any parts are damaged or broken or misplaced. Repair or replace parts.
- 2). Never point the laser at yourself, another person or an animal. Avoid shining the laser light into the eyes as it may cause injury.
- 3). Be aware of laser light reflected from work surfaces. Cover or remove where practical. Reflected laser light from mirror like surfaces can cause the same level or damage as looking into a laser.
- 4). Always wear safety eye-wear designed to block the laser wavelength and reduce the laser light exposure to a safe level when operating or adjusting the laser.
- 5). Do not expose tool to rain or wet conditions.

**CAUTION: To avoid the damage of the unit or the target, please protect from the following situations:**

- 1). EMF (electro-magnetic fields) from arc welders, induction heaters.
- 2). Thermal shock (caused by large or abrupt ambient temperature changes-allow 30 minutes for unit to stabilize before use).
- 3). Do not leave the unit on or near objects of high temperature.

## SPECIFIC SAFETY WARNINGS

### LASER EMITTER

**WARNING!** Laser light is emitted from this tool. Follow all instructions and procedures in this manual when using or adjusting the laser. Failure to follow instructions may result in exposure to hazardous radiation.

**WARNING!** Do not stare into the laser light. The laser light may damage the eye and cause vision injuries including partial or complete blindness.

1. This tool contains a Class IIIA laser product that emits laser light.
  - a. A Class IIIA laser product can produce spot blindness and other injuries to the unaided eye.
2. Never point the laser at yourself, another person, or an animal. Avoid shining the laser light into the eyes as it may cause an injury.
3. Do not stare into the laser light or aperture, even with protective eyewear. Eye damage may result from exposure to the laser light.
4. Be aware of laser light reflected from work surfaces. Cover or remove objects with a reflective surface when possible. Also remove any jewelry or watches from the lower arms and hands to avoid unintended reflections.
  - a. Reflected laser light from a mirror-like surface can cause the same level of damage as looking into a laser.
  - b. Diffuse reflection is not as powerful, but can cause cumulative

damage with prolonged or multiple exposures.

5. Do not try to service or disassemble the laser device. Doing so may expose the user to a radiation hazard. Have a qualified technician service the device.

6. Use the laser only when performing the intended task. Turn the laser off once the task is complete.

7. Always wear safety eyewear designed to block the laser wavelength and reduce the laser light exposure to a safe level when operating or adjusting the laser.

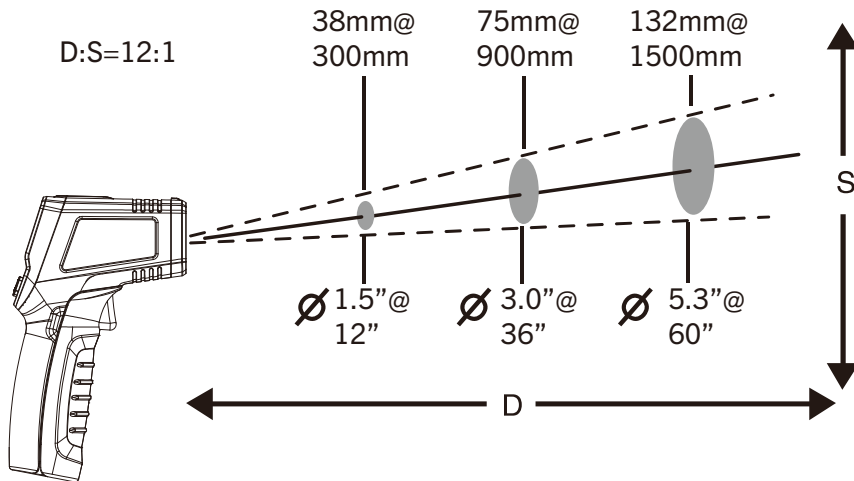
8. Set the room's light levels as bright as possible to keep the eye's pupil small. The pupil will grow larger in dim light, and it is easier for direct or reflected laser light to damage the retina.

**TIPS FOR TAKING AN ACCURAGE TEMPERATURE MEASUREMENT**

When taking measurements, point the thermometer towards the object to be measured and hold the trigger. The object you are measuring should be larger than the spot size calculated by the field of view diagram.

**NOTE: As the distance from the object increases, the spot size of the measuring area becomes larger.**

**The Distance to Spot rate is about 12:1**



## FIELD OF VIEW

Ensure the target is larger than the unit's spot size. The smaller the target, the closer the measuring distance. When accuracy is critical, make sure the target is at least twice as large as the spot size.






## EMISSIONIVITY:

All objects will emit infrared energy (heat) based on its temperature. This is called Thermal Emissionivity. The chart below shows the approximate temperature for different substances. The temperature may be higher or lower depending on external influences such as sunshine etc. The emissionivity on this thermometer is pre-set to 0.95 and can be adjusted to improve temperature accuracy.

THERMAL EMISSIONIVITY TABLE							
Material	Emissionivity	Material	Emissionivity	Material	Emissionivity	Material	Emissionivity
Aluminum	0.30	Iron	0.70	Asbestos	0.95	Paper	0.95
Bituminous	0.95	Limestone	0.98	Basalt	0.70	Rubber	0.95
Brass	0.50	Paint	0.93	Brick	0.90	Skin	0.98
Carbon	0.85	Plastic	0.95	Ceramics	0.95	Steel	0.80
Concrete	0.95	Sand	0.90	Copper	0.95	Water	0.93
Oil sludge	0.94	Snow	0.90	Frozen items	0.90		
Hot food	0.93	Textile	0.94	Glass	0.85		
Ice	0.98	Wood	0.94	Oil	0.94		

## SYMBOLS

The rating plate on your tool may show symbols. These represent important information about the product or instructions on its use.

	Direct current, DC		Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.
	Refer to instruction manual/ booklet		
	General warning		Regulatory compliance mark

**KNOW YOUR INFRARED DIGITAL THERMOMETER**



## OPERATION

- 1). Open the battery compartment, located in the front of the thermometer handle, by pulling forward on either side, and insert the 2 x 1.5V AAA batteries included with the tool.
- 2). Aim the infrared thermometer and press the trigger and release to activate the thermometer. Push (C) to activate the laser if desired. The temperature of the target will be displayed on the LCD screen.
- 3). For continuous scan measuring, pull the trigger and do not release. Slowly move the thermometer to scan the temperature of the target. The temperature will display continuously on the LCD display screen. The max temperature value will be displayed on the LCD screen during continuous temperature scanning.

### SCREEN DISPLAY:




- A. Hold: The HOLD function automatically retains the current temperature once the trigger is pushed and then released.
- B. Scan: SCAN will show on the LCD screen when the trigger is depressed and until it is released. The final temperature scanned will be displayed at the "G" position and the maximum temperature recorded during the continuous scan will be displayed at the "J" position.
- C. Laser ON/OFF - Press button (2) to turn the laser ON/OFF. The symbol will be displayed on the LCD screen when the laser button has been pushed. The laser is used for accuracy when aiming at a specific target.
- D. LCD BACKLIGHT - Push button (4) to activate the LCD backlight, push again to turn the light off.
- E. Power: Battery capacity indication.
- F. MODE - Push button (3) to switch temperature readings between Celsius and Fahrenheit
- G. Temperature value.
- J. Max temperature value or Emissivity: The thermometer is preset to an emissivity of 0.95. To change this preset, hold the Temperature unit button (3) and continue to hold down until the emissivity value flashes. Push either the laser ON/OFF button (2) to increase the emissivity value or push the "mode" button (3) to decrease this value. Push button (2) again to save the emissivity value selected.
- H. Emissivity value symbol
- I. Max temperature

**NOTE:** The thermometer automatically shuts off if left idle for 15 seconds.


## MAINTENANCE

The sensor lens is the most delicate part of the thermometer. The lens should be kept clean at all times. Clean the lens using only a soft cloth or cotton swab with water. Allow the lens to fully dry before using the thermometer. DO NOT submerge any part of the thermometer in water.


### GENERAL

 **WARNING:** When servicing, use only identical replacement parts. The use of any other part may create a hazard or cause product damage.

**DO NOT** use solvents when cleaning plastic parts. Plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use a clean cloth to remove dirt, dust, oil, grease, etc.

 **WARNING:** Do not allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come into contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

**DO NOT** abuse power tools. Abusive practices can damage the tool and the workpiece.

 **WARNING:** DO NOT attempt to modify tools or create accessories. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious injury. It will also void the warranty.

### LUBRICATION


All of the bearings in this tool are lubricated with a sufficient amount of high-grade lubricant for the life of the unit under normal conditions. Therefore, no further lubrication is required.

### BATTERY PACK REMOVAL AND PREPARATION FOR RECYCLING

To preserve our natural resources, please recycle or dispose of batteries properly.

The batteries accompanying this tool may contain chemicals and metals that are harmful to the environment. Never dispose of rechargeable batteries in your normal household garbage or in landfill sites, because they will add to the pollution of the environment.

Consult your local waste authority for information regarding available recycling and disposal options.

 **WARNING:** Upon removal of the battery pack, cover the terminals of the battery pack with electrical tape or heavy-duty tape. Never touch both terminals with metal objects or parts, because a short circuit may result. Keep away from children. Do not attempt to destroy or disassemble battery pack or remove any of its components. Rechargeable batteries must be recycled or disposed of properly.

## **WARRANTY**

### **BENCHMARK WARRANTY FOR INFRARED DIGITAL THERMOMETER**

If this Benchmark tool fails due to a defect in material or workmanship within five years from the date of purchase, return it to any Home Hardware store with the original bill of sale for exchange.

This warranty covers defects in material or workmanship only. It does not cover normal wear and tear, failure due to abuse/misuse, or defects caused by careless or accidental mishandling. If this Benchmark product is used for commercial or rental purposes, this warranty does not apply.



# INFRARED DIGITAL THERMOMETER



5 Year Limited Warranty on tool

**BENCHMARK™**  
MC

**BENCHMARK TOOLS CANADA**  
ST. JACOBS, ONTARIO N0B 2N0  
© 2022 Home Hardware Stores Limited

**CUSTOMER SERVICE/TECH SUPPORT**  
1-866-349-8665

**1048-001**

Made in China



\*This Benchmark™ product carries a five (5) year LIMITED warranty against defects in workmanship and materials.

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