IQDESIGN

SMART TEMP — Infrared Thermometer

Installation Instructions

Introduction
This SmartTemp thermometer is used to safely and quickly measure the temperature of hot surfaces. It features a laser which can be turned on and used to "target" areas of which the temperature needs to be known. Without the laser, the temperature can still be established when the trigger is used and the tool is pointed at the target. The laser is not used in the temperature reading process; it just makes targeting easier to determine the temperature of remote or difficult to access areas and without the need for physical contact.

The Electronic Thermometer consist of Optics, Temperature Sensor, Signal Amplifier, Processing Circuit and an LCD Display. The Optics collect the infrared energy emitted by objects and focus it onto the Sensor. The sensed energy is translated into an electrical signal and displayed as a temperature on the LCD display.

Functions:
1 Switchable between Celsius and Fahrenheit.
2 Equipped with a "red spot" laser for aiming
3 Temperature hold
4 LCD display back light
5 20 seconds auto power off
6 Light weight and easy operation

Warning
This unit is equipped with a laser, which must only be used for aiming at a surface to determine its surface temperature. Do not point the device at any persons or animals. To avoid potential harm or damage, please pay attention to the following:
1) Before using this unit, check the plastic housing carefully. Do NOT use if damaged.
2) Do not point laser at the eyes or off any reflective surfaces, for example a mirror.
3) Do not use this unit in any explosive gas, steam or dusty environments.

Caution
To avoid damage to the instrument, please protect from:
I) E.M.F (electro-magnetic fields).
2). Thermal shock (caused by extreme or abrupt ambient temperature changes.) Allow 30 minutes for the unit to stabilize before use.
3). Do not leave the unit on or near hot objects.

Notes on the distances between the gun and the "target" surface to be temperature read.
When taking measurements, note the distance between the gun and the target surface. As the distance (D) from the target surface increases, the "red spot" size (S) of the area measured by the unit becomes larger. The distance to the "red spot" size of the unit has a ratio of about 12:1. See Figure A.

D:S = 12:1

38mm@ 300mm   75mm@ 900mm   132mm@ 1500mm

Ø 1.5"@ 12"   Ø 3"@ 36"   Ø 5.3"@ 60"

S

D

Figure A
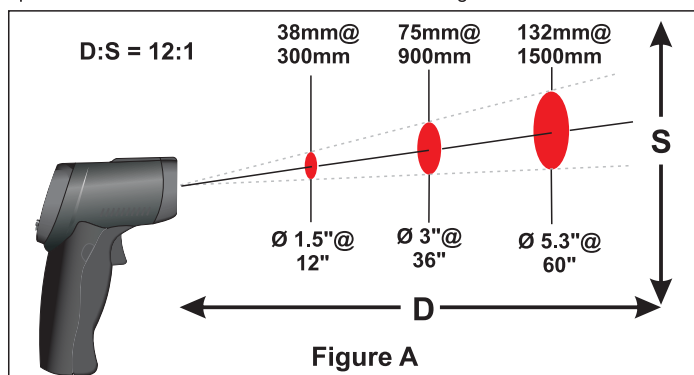
Make sure that the target area is always larger than the gun's "red spot" size. The smaller the target the closer measuring distance. When accuracy is critical, make sure that the area around the target is at least twice as large as the "red spot" size.

Emissivity
Most organic materials and painted or oxidized surfaces have an emissivity of 0.95 (for which the SmartTemp is preset). Inaccurate readings will result if measurements are taken from a shiny or highly polished surface. To compensate, cover any such target surface with a matt black masking tape or paint. Measure the temperature when the tape or painted surface reaches the same temperature as immediately adjacent parts of the target.

Operation
Having installed a 9V battery, pull the trigger to turn on the unit. Keeping the trigger depressed, aim the laser "red spot" at the target surface and then release the trigger. The temperature will be displayed on the LCD screen

Guarantee
We, IQ Design Limited, guarantee that the SmartTemp is free from defects under normal residential use for a period of 1 year from the date of purchase. In the unlikely event that the instrument fails to operate as intended, and provided that it is returned during the first year accompanied with proof of purchase, we, at our discretion, will replace the unit free of charge. In such cases, the guarantee will last the remaining time from the original purchase date and not from the replacement date. If the model being replaced is no longer in stock, we reserve the right to replace the unit with an alternative updated model. This guarantee does not cover damage resulting from misuse, disassembly, accident or lack of reasonable care or applications not in accordance with these instructions. It does not cover anything that would be considered to be outside our control such as fire, flooding, etc. We shall not be liable for any incidental or consequential damage caused by the breach of any expressed or implied warranty. This guarantee does not affect your statutory rights.

Locating the hot spot
To establish the temperature of the target, aim the laser "red spot" at a point away but close to the required target and then scan across the intended target with an up and down or side to side motion until the hot spot is located, the temperature of which can then be noted on the LCD display. See Figure B
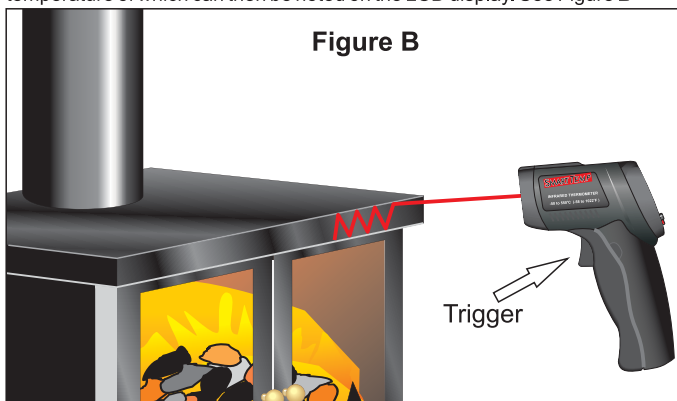
Figure B

Trigger

LCD Display icons (See Figure C)
A Data hold icon
B Scanning icon
C Laser on icon
D Back light on icon
E Battery power icon
F Temperature unit (C or F)
G Temperature reading

User buttons (See Figure C)
The SmartTemp unit has an automatic 20 second power off function.
When the trigger is pulled the LCD scanning icon (B) will illuminate. Releasing the trigger will result in the temperature reading remaining in the LCD display for about 7 seconds.
1 Laser on / off button for when accurate targeting is required.
2 Celsius / Fahrenheit switch button.
3 Back light on / off button: When the back light is on, any operation will activate the back light for about 7 seconds.
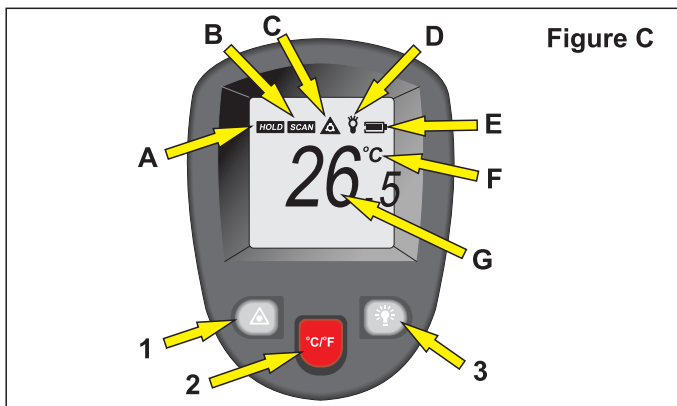
B C D **Figure C**

HOLD SCAN

A

26.5 °C

E

F

G

1

2

3

Maintenance
I. Lens Cleaning:
Remove any loose particles (preferably by using clean compressed air which can be obtained in aerosol cans). Gently brush any remaining debris away with a water moistened cotton swab.
2. Clean the case with a damp sponge or cloth and mild soap.
NB. 1 Do not use solvent to clean plastic lens.
    2 Do not submerge the unit In water.

Specification

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Temperarure range	-50 to 550 °C (-58 to 1022 °F)
Accuracy	Centigrade ± 3° Farenheit ± 5°
Resolution	0.1 °C or 0.1 °F
Repeatability	1% of reading or 1°C
Response time	500 mSec, 95% response
Spectral response	8 - 14 um
Emissivity	0.95 Preset
Distance to Spot Size	12.1
Operating temperature	0 to 40°C (32 to 104°F)
Operating Humidity	10 - 95% RH non-condensing up to 30°C (86°F)
Storage Temperature	-20 to + 60°C (-4 to + 140°C)
Power	9V alkaline or NiCad battery
Weight	147.5g
Dimensions	153 x 101 x 43mm