



IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.

1. SAFETY INSTRUCTIONS

1.1 GENERAL SAFETY.

- WARNING!** Ensure that Health & Safety, local authority and general workshop practice regulations are adhered to when using this equipment.
- WARNING!** DO NOT aim the laser beams at your or another person's or animal's eye and beware of reflections from mirrors or other shiny surfaces.
- ✓ Familiarise yourself with the applications, limitations, and potential hazards of the thermometer.
- ✓ Keep the thermometer clean and in good condition.
- ✓ Protect the thermometer from the following:
 - Electro-magnetic fields from engine components closer than 125mm.
 - Static electricity.
 - Thermal shock caused by large and/or rapid ambient temperature change.
 - High temperatures.
- DO NOT** get the thermometer wet or use in damp or wet locations or areas where there is condensation.
- DO NOT** use the thermometer for any purpose other than that for which it is designed.
- DO NOT** allow untrained persons (particularly children) to operate the thermometer.
- DO NOT** operate the thermometer when you are tired or under the influence of alcohol, drugs or intoxicating medication.
- WARNING!** The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood that common sense and caution are factors which cannot be built into this product, but must be applied by the operator.

1.2 LASER SAFETY.

The VS904 utilises a Class II laser that emits low levels of visible radiation (i.e. wavelengths between 400 and 700 nanometres) which are safe for the skin but not inherently safe for the eyes. The Class II emission limit is set at the maximum level for which eye protection is normally afforded by natural aversion responses to bright light. Accidental eye exposure is therefore normally safe, although the natural aversion response can be overridden by deliberately staring into the beam, and can also be influenced by the use of alcohol or drugs.

- WARNING!** Do not look or stare into the laser beam as permanent eye damage could result.
- DO NOT** direct the laser beam at any person's (or animal's) eyes as eye damage could result.
- DO NOT** operate the thermometer when you are tired or under the influence of alcohol, drugs or intoxicating medication.
- ✓ Be aware that reflections of the laser beam from mirrors or other shiny surfaces can be as hazardous as direct eye exposure.



2. INTRODUCTION & SPECIFICATION

Fast and simple way to tackle diagnosis of engine and vehicle faults. VS904 detects energy emission in the infrared spectrum and converts reading into a display of temperature. Features laser pointer to indicate area being sampled. Temperature is displayed on a large LCD panel. Temperature can be shown in either °C or °F. Powered by 2 x AAA batteries (not included).

2.1 Specification

Range:	.....-35 to +365°C (-31 to +689°F).
Resolution(-9.9~199.9°C):	.....0.2°C/0.5°F.
Response Time (90%):	.....1 second.
Operating Range:	.....0~50°C (32~122°F).
Accuracy, (Tobj* = 15 - 35°C, Tamb* = 25°C):	.....±1.5°C (2.7°F).
Accuracy, (Tamb = 23 ± 3°C):	.....Tobj=0~365°C: ± 2.5% of reading or 2.5°C (4.5°F) which ever is greater. Tobj= -35~0°C: ± (2.5°C + 0.05°C).
Distance to Spot Diameter Ratio :	.....8:1.
Emissivity:	.....0.95 fixed.
Laser	.....Class II.
Battery Life:	.....typically 14hours continuous use.
Battery:	.....2 x AAA.
Dimensions:	.....166.4 x 339 x 63mm.
Weight:	.....113 grams (including batteries).
Auto Shutdown:	.....15 sec when idle.

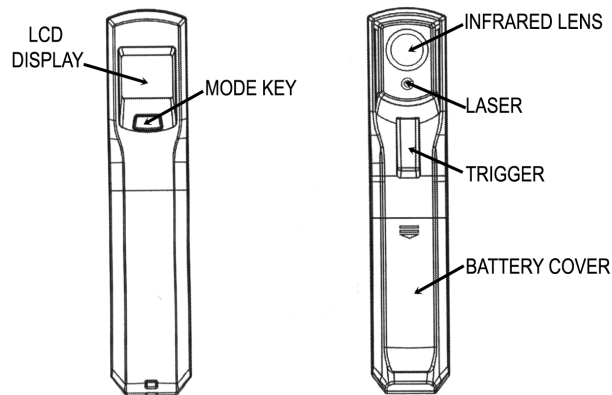
Tobj* object temperature. Tamb* ambient temperature.

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of product.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.

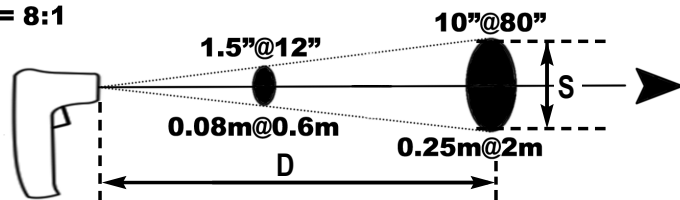


2.2 Distance & spot size

As the distance (D) from the object increases, the diameter (S) of the area measured by the unit becomes larger.

Distance (D) to Spot Sizes(S)

D:S = 8:1



2.3 Emissivity

2.3.1 Emissivity is a term used for the ability of a surface to radiate energy. Most (90% of typical applications) organic materials and painted or oxidised surfaces have an emissivity of 0.95 (pre-set in the thermometer).

2.3.2 Inaccurate readings will result from measuring shiny or polished surfaces. To compensate, cover the surface to be measured with masking tape or flat black paint.

2.3.3 Allow time for the tape to reach the same temperature as the material underneath it. Measure the temperature of the tape or painted surface.

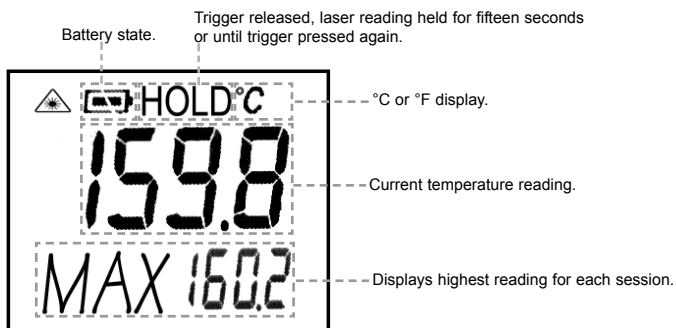
3. OPERATION

3.1 To measure the surface temperature of an object/region, simply point the device at the object/region in question and press the trigger.

NOTE! When the trigger is released the reading will be held for 15 seconds (HOLD will be displayed) and then the thermometer will automatically shut down unless the trigger is pressed again.

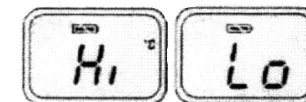
3.2 °C/°F MODE.

3.2.1 To change the display from °C to °F (or visa versa), firstly turn the unit on by pressing the trigger. Now press the mode button and the °C or °F symbol will be displayed, press again to cycle display between °C or °F.

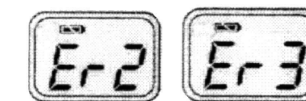


4. LCD ERROR MESSAGES

4.1 "Hi" or "Lo" will be displayed when the temperature being measured is outside the range of the instrument. (See Specification, section 2.)



4.2 "Er2" is displayed when the unit is exposed to rapid changes in ambient temperature. "Er3" is displayed when the ambient temperature of the unit is below 0°C (32°F) or exceeds 50°C (122°F). In both cases allow a minimum of 30mins for the unit to stabilise and adapt to the working temperature.



4.3 For all other errors, a generic error message "Er" is displayed. In the event of this occurring, it will be necessary to reset the unit. To reset the unit, turn the instrument off, remove the battery and wait at least one minute. Now reinsert the battery and turn the unit on. Should the error message remain, contact your authorised Sealey dealer for assistance.



5. BATTERIES

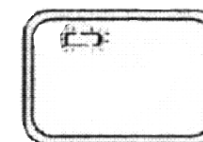
5.1 The VS904 incorporates a visual guide to the battery status:



"Battery OK"
Measurements are possible.



"Battery Low"
Battery needs replacing.
Measurements are possible.



"Battery Exhausted"
Measurements are not possible.
Replace battery.

5.2 When the "Battery Low" symbol appears, the batteries should be replaced immediately with two batteries which are located under the cover on the front of the handle grip.

NOTE: It is important that the unit is **off** before the batteries are replaced. A malfunction could occur if this precaution is not taken. Be sure to dispose of the batteries safely and in accordance with local laws regarding potentially hazardous waste.

6. STORAGE AND CLEANING

6.1 The sensor lens should be kept clean at all times. Care should be taken when cleaning the lens - it is an extremely delicate piece of equipment. Use a cotton swab moistened with a little water or medical alcohol, allowing the lens to dry fully before attempting to use the unit.

DO NOT submerge any part of the VS904.

6.2 The VS904 should be stored between -20°C and +65°C.

Environmental Protection.



Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycle centre and disposed of in a manner which is compatible with the environment.



When the product is no longer required, it must be disposed of in an environmentally protective way. Be sure to dispose of the batteries safely and in accordance with local laws regarding potentially hazardous waste.

INFRARED LASER DIGITAL THERMOMETER 8:1 Model: VS904
EN 60825-1 Laser safety
93/68/EEC CE Marking Directive
2002/96/EC WEEE Directive
89/336/EEC EMC Directive

Declaration of Conformity We, the sole importer into the UK, declare that the product listed here is in conformity with the following standards and directives.

CE The construction file for this product is held by the Manufacturer and may be inspected, by a national authority, upon request, to Jack Sealey Ltd.

Signed by Tim Thompson *Tim Thompson* 26th June 2007

For Jack Sealey Ltd. Sole importer into the UK of Sealey Professional Tools.

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice. **IMPORTANT:** No liability is accepted for incorrect use of this product. **WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim. **INFORMATION:** Call 01284 757525 for our catalogue & promotions. Leave your full name, address & postcode.



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