



# INFRARED LASER DIGITAL THERMOMETER (12:1)

MODEL NO: **VS900.V3**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

**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. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instructions



Warning laser beam

## 1. SAFETY

### 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, arc welders and induction heaters 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** take readings through transparent materials such as glass or clear plastic. The surface temperature of these materials will be measured.
- \* **DO NOT** use the thermometer in areas where there is steam, dust or smoke. These conditions will result in erroneous readings.
- \* **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.



### 1.2. Laser Safety

The VS900.V3 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.

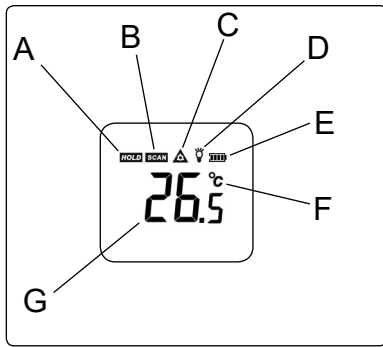
**WARNING! DO NOT** look or stare into the laser beam as permanent eye damage could result. Be aware that reflections of the laser beam from mirrors or other shiny surfaces can be as hazardous as direct eye exposure.

## 2. INTRODUCTION

High resolution laser thermometer that detects energy emission in the infrared spectrum and converts reading into a display of temperature. Features laser pointer, data hold function and auto power off. Temperature is displayed on a large 23mm LCD panel with back-lit display for use in low light areas. Temperature can be shown in either °C or °F. The Digital Thermometer is powered by a 9V cell (supplied).

## 3. SPECIFICATION

Model No:.....VS900.V3  
 Focal Ratio:.....12:1  
 Temperature Range:.....{-50 to +380°C (-58 to +716°F)}  
 Accuracy (0°C to +380°C ):.....+/-1.5°C or +/-1.5% whichever is greater  
 Accuracy (-50°C to -0°C):.....+/-3°C  
 Resolution:.....1°C or 0.1°F  
 Repeatability:.....1% of reading  
 Response time:.....500mSec, 95% response  
 Spectral response: .....8-14µm  
 Emissivity:.....0.95 Preset  
 Operating Temperature: .....0 to +40°C (32 to 104°F)  
 Operating Humidity:.....10 to 95%RH non-condensing up to 30°C (86°F)  
 Storage Temperature:.....-20 to +60°C (-4 to +140°F)  
 Power:.....9V battery (supplied)  
 Typical battery life:.....Non laser mode: 22 hrs; Laser mode: 12 hrs  
 Weight: .....147.5g  
 Dimensions: .....153mm x 101mm x 43mm

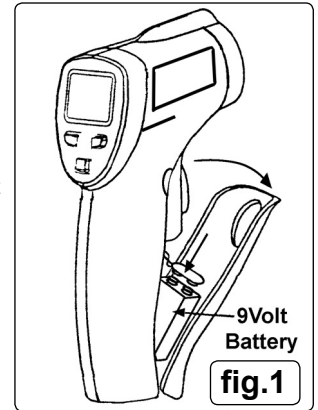


LCD Display:-  
 A: Data hold icon  
 B: Scanning icon  
 C: Laser "ON" icon  
 D: Backlight "ON" icon  
 E: Battery status icon  
 F: Temperature units (°C or °F)  
 G: Temperature reading

## 4. SET UP

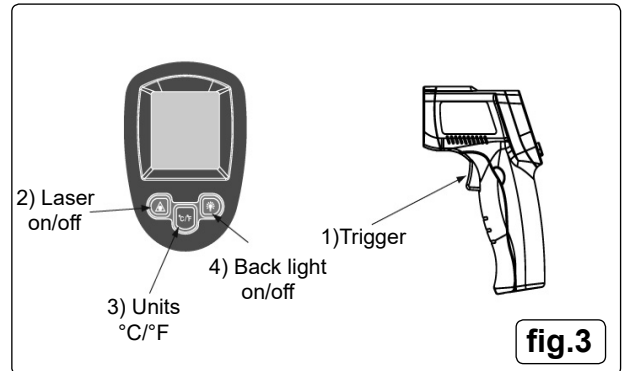
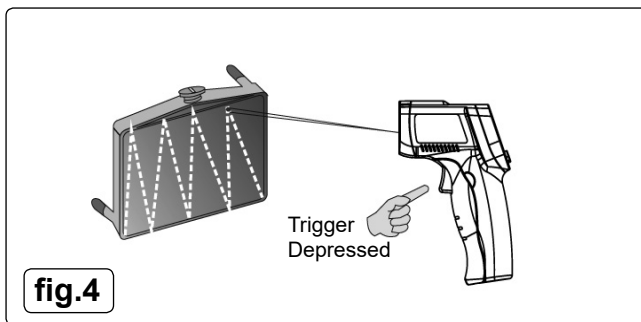
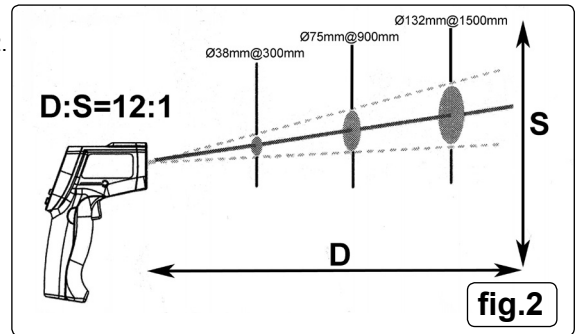
### 4.1. Installing/Changing Battery (fig.1)

- 4.1.1. On either side of the trigger, where the handle moulding meets the main body there are two very shallow recesses. Place thumb and finger into these recesses and pull the front section of the handle forward and down to reveal the battery compartment.
- 4.1.2. Attach the battery connector to the battery terminals and place the battery into the battery compartment making sure that the connection leads will not foul the cover when it is closed.
- 4.1.3. When the 'battery low' indicator appears on the display replace the battery immediately, (See Environmental Protection)



## 5. OPERATION AND APPLICATION

- 5.1. Depress the trigger (1) in fig 3 to switch on the unit, the 'SCAN' icon will illuminate.
- 5.2. Decide what units are required by pressing the "°C/°F" button (3) in fig 3. The button will toggle between the specified units.
- 5.3. Pay attention to the distance from the thermometer to the target as the target surface size increases with distance. A ratio of 12:1 exists, see fig 2. Make sure the target is larger than the unit's spot size. The smaller the target, the closer the distance "D". When accuracy is critical ensure the target is at least twice the spot size.
- 5.4. The unit is equipped with a laser for the purpose of aiming only. With the laser button (2) in fig 3 in the 'on' or 'off' mode, aim at the target surface and depress the trigger. The temperature of the target surface will be displayed on the LCD display screen. When the trigger is released the reading will be held for 7 seconds approximately; the 'HOLD' icon will be illuminated in this period; and then the thermometer will automatically shut down unless the trigger is depressed again.
- 5.5. To locate a hot spot on a large surface, aim the thermometer as in 4.4, then scan across the area with a controlled uniform "zig-zag" sweep until you locate the spot, as illustrated in fig 4.



## 6. NOTES ON EMISSIVITY

- 6.1. Emissivity is a term used for the ability of a surface to radiate energy. This unit has been pre-set with an emissivity of 0.95, which makes it suitable for 90% of typical applications.
- 6.2. Inaccurate results will occur when targeting shiny or polished surfaces. As a tip, apply a non reflective tape to the area to be tested allowing time for the surface temperature of the tape to reach that of the substrate.

## 7. CLEANING

- 7.1. The sensor lens is delicate and should be kept clean at all times. Use a cotton bud and medical alcohol, allowing lens to dry. The casing can be cleaned with a moist cloth and mild soap but never submerged.



#### ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.



#### WEEE REGULATIONS

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.



#### BATTERY REMOVAL. SEE SECTION 4.

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme. Jack Sealey Ltd Batteries Producer Registration Number (BPRN) is BPRN00705.

**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 is required for any claim.

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