INFRARED LASER DIGITAL THERMOMETER (12:1)

MODEL NO: **VS900.V4**

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.V4 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

Detects energy emission in the infrared spectrum and converts reading into a display of temperature. Features laser pointer, data hold and auto power off. Temperature is displayed on a large 23mm LCD HD colour screen with back-lit display for use in low light areas. Temperature can be shown in either °C or °F. Temperature Range: -50°C to +400°C (-58°F to +752°F). Powered by 2 x AAA batteries (not supplied).

3. SPECIFICATION

Model no	VS900.V4
Accuracy	±1.5%
Focal ratio	12:1
Temperature range	-50°C to +400°C (-58°F to +752°F)

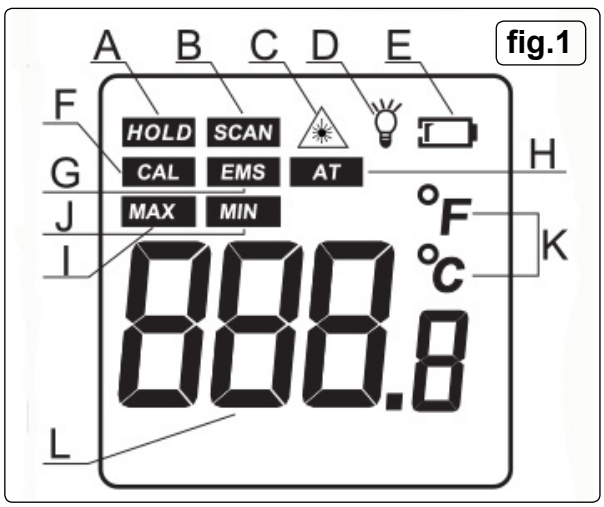

fig.1

4. FEATURES

LCD DISPLAY, fig.1
A: DATA HOLD
B: SCANNING
C: LASER ON
D: BACK LIGHT ON
E: BATTERY POWER
F: SELF CALIBRATION
G: EMISSIVITY
H: ENVIRONMENTAL TEMPERATURE ICON
I: MAXIMUM
J: MINIMUM
K & L: UNITS OF MEASUREMENT

Original Language Version

5. OPERATION

5.1. INSTALLING/CHANGING BATTERY fig.1

❑ **WARNING** Point away from eyes when inserting batteries.

5.1.1. 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.

5.1.2. Insert 2 x AAA batteries, observe polarity.

5.2. DISTANCE TO SPOT SIZE, fig.1

5.2.1. 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.

5.2.2. 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.

5.3. EMISSIVITY SEE CHART BELOW AND 5.5.4.4.

Most organic materials and painted or oxidized surfaces have an emissivity of 0.95 (preset in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate for this, use C/F button to go up and laser backlight button to go down the units emissivity reading or cover the surface to be measured with masking tape or flat black paint. Measure the tape or painted surface when the tape or painted reach the same temperature as the material underneath.

Material	Emissivity	Material	Emissivity
Aluminium	0.30	Iron	0.70
Asbestos	0.95	Lead	0.50
Asphalt	0.95	Limestone	0.98
Basalt	0.70	Oil	0.94
Brass	0.50	Paint	0.93
Brick	0.90	Paper	0.95
Carbon	0.85	Plastic	0.95
Ceramic	0.95	Rubber	0.95
Concrete	0.95	Sand	0.90
Copper	0.95	Skin	0.98
Dirt	0.94	Snow	0.90
Frozen food	0.90	Steel	0.80
Hot food	0.93	Textiles	0.94
Glass (plate)	0.85	Water	0.93
Ice	0.98	Wood	0.94

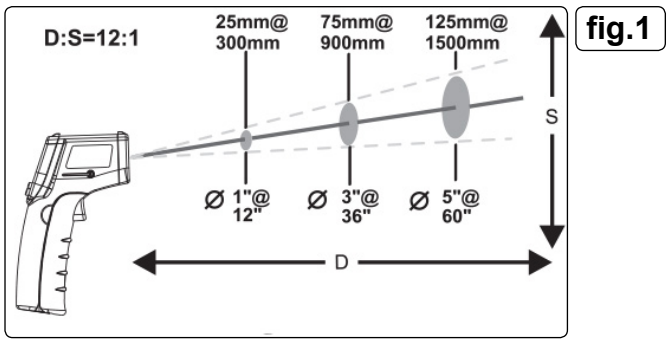

fig.1

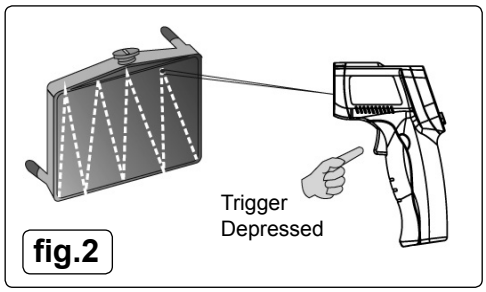

fig.2

5.4. LOCATING A HOT SPOT fig.2

5.4.1. To find a hot spot, aim away from the object then scan across with an up and down motion, until the hot spot is located.

5.5. READING TEMPERATURE fig.3

5.5.1. Pull trigger to display temperature value with SCAN mode.

5.5.2. Release trigger and scroll to HOLD mode to save the data automatically. The unit will turn off if there is no further operation.

5.5.3. **°C & °F Button**
Switch between Celsius and Fahrenheit, as well as Emissivity (see 5.5.4.4. and Self Calibration, see 5.5.4.5).

5.5.4. **Mode Button**
Switch between modes MAX - MIN - AT - EMS - CAL - MEAS-URING INTERFACE

5.5.4.1. MAX: measures max temperature

5.5.4.2. MIN: measures minimum temperature
Note: During measurement keep the mode button pressed down to switch between MAX or MIN view.

5.5.4.3. AT: Current environmental temperature.

5.5.4.4. EMS: Emissivity can be set between 0.10 and 1.00. Use the °C/°F key to increase the value. Use the laser/backlight button to decrease the value.

5.5.4.5. CAL: Calibration Mode. the unit can be adjusted between -5.0°C and +5°C. Use the °C/°F key to increase the value. Use the laser/backlight button to decrease the value.

fig.3

5.6. Laser/Backlight On/Off Button

5.6.4.1. Press the trigger and the backlight switch and the back light will turn off.

5.6.4.2. Laser operates in all modes except EMS and CAL, (as button is used to decrease these values).

6. MAINTENANCE

6.1. LENS CLEANING

6.1.1. Blow off loose particles using clean compressed air, wear safety goggles. Gently brush remaining debris away with a water moistened cotton swab.

6.1.2. Clean the case with a damp cloth and mild soap.

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 5.

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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