

For fifty years LAND have supplied temperature measuring systems and instruments to many different industries all over the world. Now the world leader in non contact thermometry, our expert advice and support is never far away.



#### WORLDWIDE SUPPORT

In addition to the companies established in the U.S.A., Europe and Japan, LAND is represented by distributors in most of the major industrial countries throughout the world.

Our customers benefit, on a global basis, from practical and expert advice from fully trained technicians who are aware of specific requirements for their country and industry.

#### CALIBRATION

LAND operate an extensive calibration service. All calibrations made are traceable to National Standards. In the UK, LAND can issue a UKAS calibration certificate.

In the U.S.A. a traceable calibration certificate can be issued complying with the National Institute of Standards and Technology (NIST).

LAND also supply a full range of temperature reference sources which are used to verify or re-establish the accuracy of calibration in the field or in the laboratory.

A consultancy service is also available for those companies who wish to establish their own in-house calibration facility.

#### APPLICATIONS


LAND have solved many different temperature measurement problems in a wide variety of industries from food to atomic energy, some of which are listed below:

- Iron & Steel
- Heat Treatment
- Non-ferrous Metals
- Minerals
- Glass
- Petrochemical
- Power & Utilities
- Aerospace
- Electronics
- Pharmaceuticals
- Plastics
- Paper
- Rubber
- Textiles
- Maintenance

For further information or free advice on specific temperature measurement problems within these or any other industry, contact your nearest Land office.

#### PRODUCT ASSURANCE

When you specify LAND products you are assured of receiving a completely pretested, calibrated working product. Each instrument is carefully checked to ensure complete compliance with specification and is fully guaranteed. LAND was the first manufacturer of infrared instruments to successfully obtain ISO 9001 Quality Management System Approval for both design and manufacture of non contact infrared temperature measuring equipment.

 These products with current European directives relating to electromagnetic compatibility and safety (EMC directive 89/336/EEC; Low voltage directive 73/23/EEC).

# LAND



## SYSTEM 4

STANDARD AND FIBROPTIC  
THERMOMETERS

# LAND

Non-Contact Temperature  
Measurement Solutions

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An AMETEK Company

Applies in the UK

Applies in the USA

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# SYSTEM 4

## INFRARED APPLICATIONS

Non contact temperature measuring systems are designed for continuous quality and process monitoring and control in a wide range of industries including Iron & Steel, Glass, Plastics, Rubber, Minerals, Paper... and many more.

With measurement capabilities from 0 to 2600°C/50 to 4700°F, infrared thermometers measure both the product being processed and the plant and machinery used in the production. Here are just a few of the processes where **SYSTEM 4** can solve your measurement problems.

### Metal Production

*Smelting, refining, pouring, continuous casting, slabbing, reheating, rolling, drawing, coiling, extruding, coating, annealing, stamping, pressing, forging, sintering, galvanizing, heat treatment...*

### Glass Production

*Melting, refining, firing, gob formation, furnaces, floating, molding, tempering, laminating, fiber drawing, vapor deposition, preforming...*

### Mineral Processing

*Firing, mixing, drying, storing, conveying, laying...*

### Paper

*Rolling, drying, calendering, coating, printing, photographic, curing..*

### Rubber

*Mixing, calendering, extruding, thermoforming, molding, shrinking, laminating, blown film...*

### Chemical

*Catalyst beds, powder drying, mixing, furnaces, thermal reactors...*

### Food & Pharmaceuticals

*Freezing, molding, extrusion, sterilizing, tablet drying, labelling, sealing...*

### Electronics

*Wave soldering, glass coating, circuit board testing, doping...*

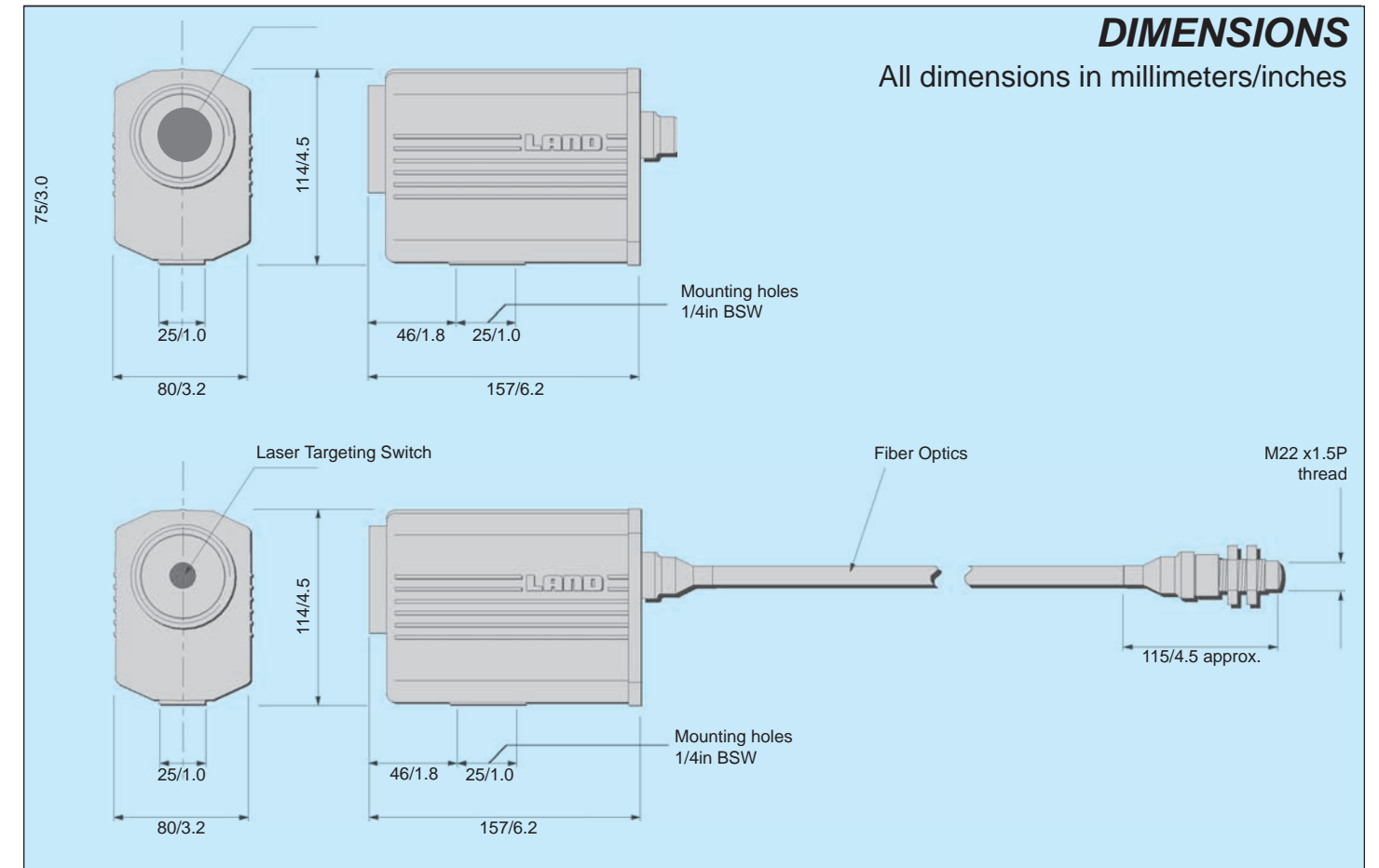
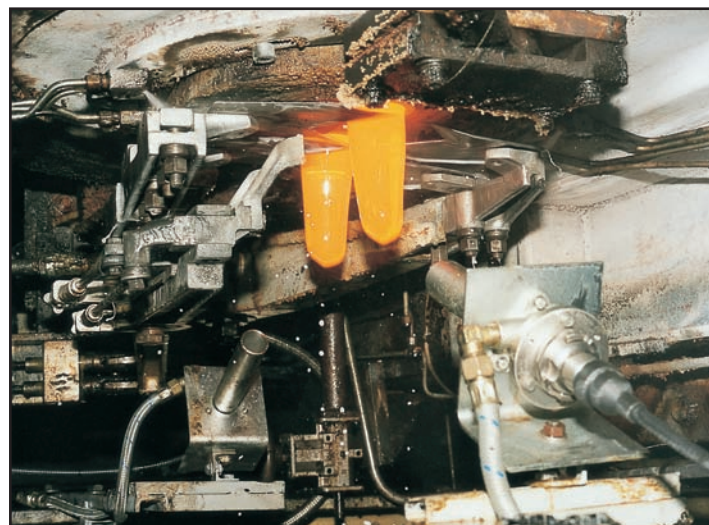
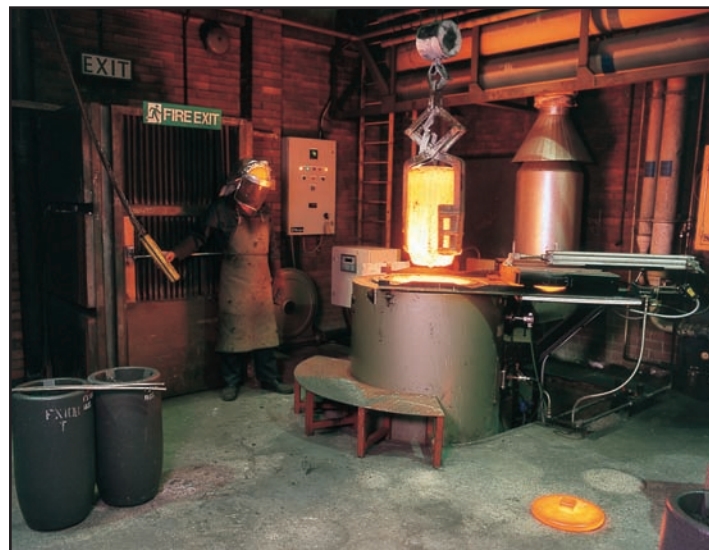
There is a choice of thermometer type to match your temperature requirements and process.

Single wavelength thermometers are intended for both general purpose use as well as solving problems in specific applications.

Ratio thermometers are used in difficult environments containing steam, smoke, or dust, or where the target does not completely fill the field of view.

Fibroptic thermometers are used to measure the temperature of materials where the target is difficult to access.

The use of fiber optics is most effective in high temperature, high magnetic fields etc. which would prevent location of other sensors.



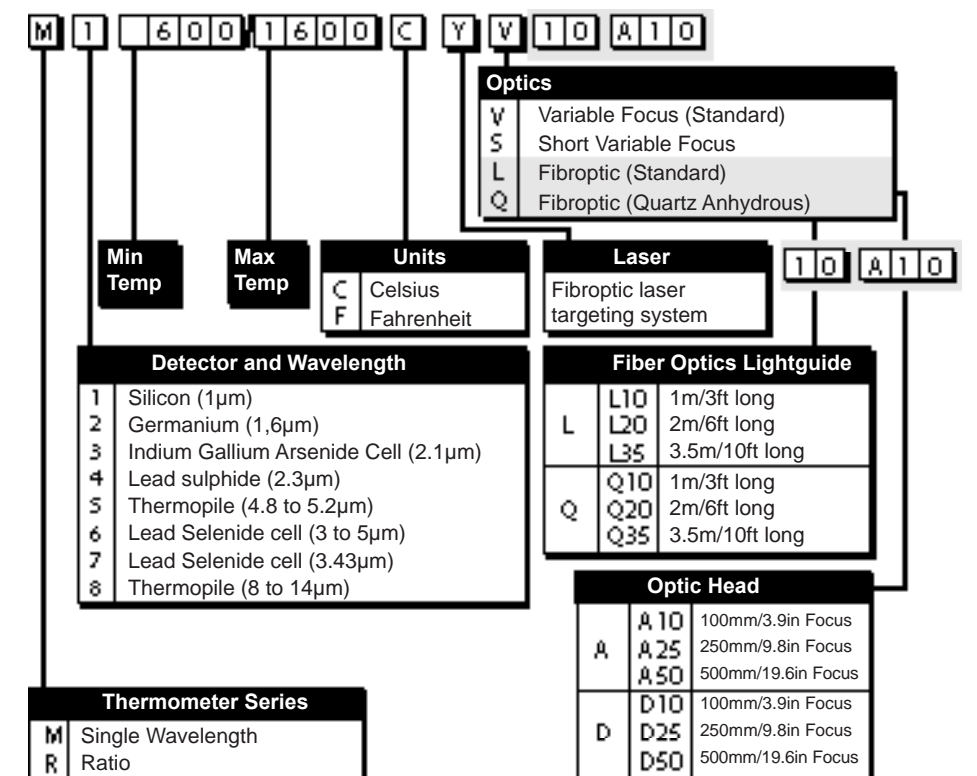
**SYSTEM 4** thermometers have a unique part number to suit the particular combination of features which make up the model.

The model number, consisting of the various options available, describes the exact **SYSTEM 4** thermometer type required.

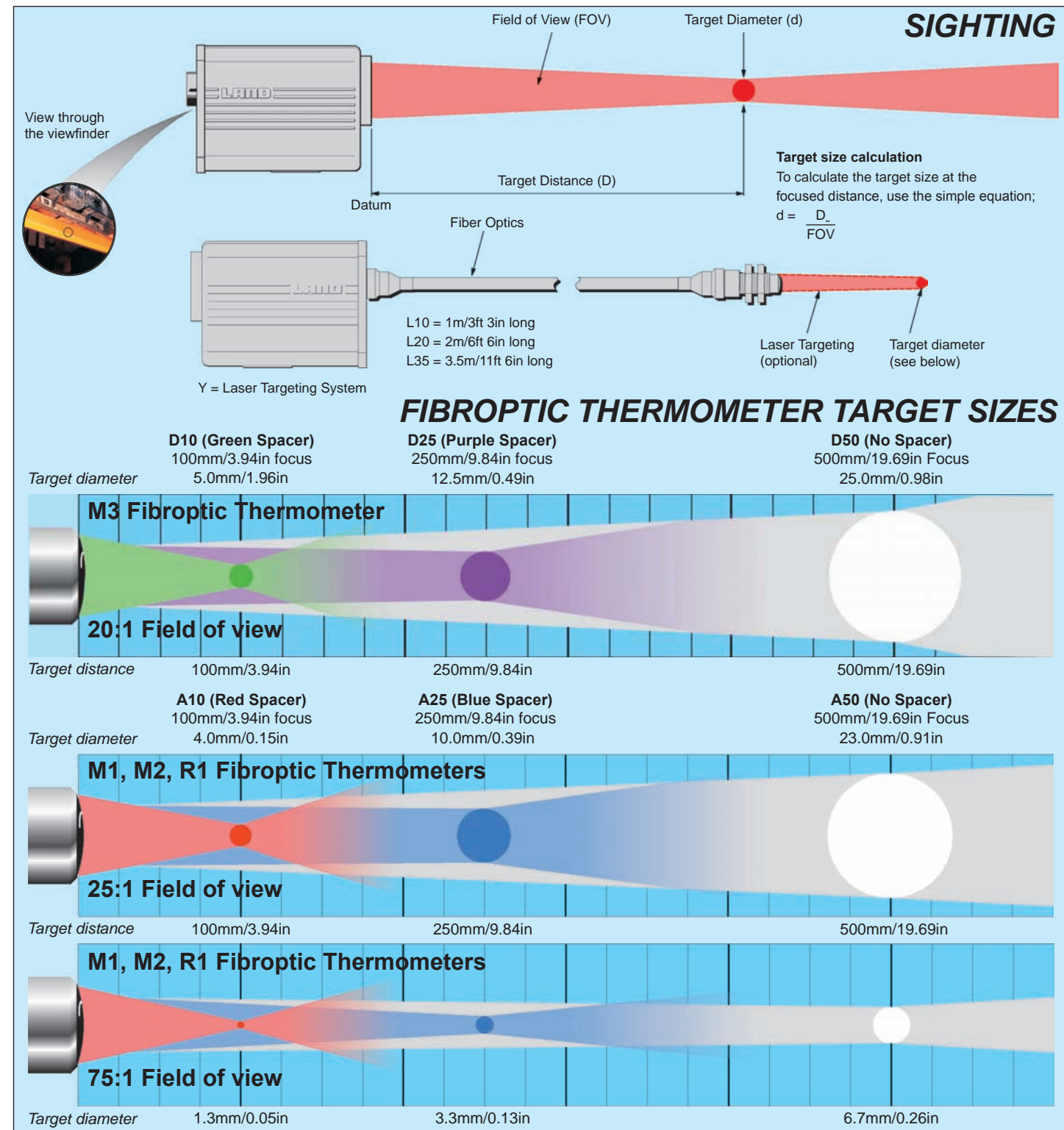
This model number can be used for selection and ordering purposes.

For example: M1 600/1600 C - V describes a single wavelength thermometer, operating at 1.0µm, with a measurement span of 600 to 1600°, celsius version, with standard variable focus optics.

## ORDERING INFORMATION



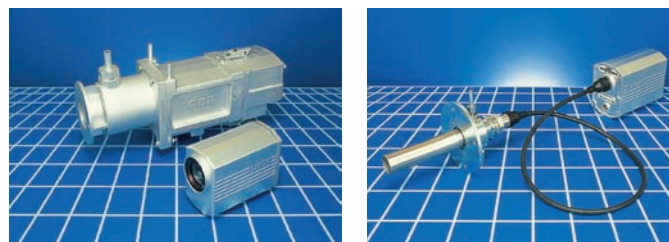
# SYSTEM 4



## THERMOMETER MOUNTINGS AND ACCESSORIES

A complete range of thermometer protection and mounting accessories is available, which provides full mechanical and thermal protection for the thermometer and electrical connections, and ensures continued service with minimal maintenance, in even the most severe operating conditions.

For more information, refer to the Mountings and Accessories Brochure - ref S4M100.



Typical System



Standard Bodied Thermometer



Fibroptic Thermometer

## SYSTEM 4 THERMOMETERS

SYSTEM 4 comprises an advanced range of high precision radiation thermometers, LANDMARK® processors and a range of mounting accessories which combine to form a complete temperature measurement system.

SYSTEM 4 thermometers offer exceptional flexibility with a choice of single wavelength, ratio, fibroptic and fibroptic ratio models.

Thermometer type, temperature range, spectral response and optical characteristics are chosen to suit any application from 0 to 2600°C/50 to 4700°F

- Focusable optics - standard and short focus versions with through-the-lens sighting providing clear and guaranteed definition of target
- Optional close-up lenses - giving measurement of targets as small as 0.45mm/0.02in
- Accurate, reliable, drift-free measurement
- Rugged design with a range of mounting options
- Flexible fiber optics light guide versions - with optional laser targeting system to define target spot
- High level linear output

## RADIATION THERMOMETERS

Proven, reliable electronics and a high quality optical system combine to deliver accurate, dependable temperature measurement. A rugged die-cast aluminium body, with a high quality electrical connector, ensures reliable performance.

Standard bodied thermometers all feature through-the-lens sighting with a 6° field of view. Adjustable focus with a circular graticule gives precise alignment on to the smallest targets. Two optical variants are available: Standard focus - adjustable between 500mm/19.7in and infinity, and Short-focus - viewing from 350mm to 1m/13.8 to 39.4in. Close-up lenses are also available which can measure targets as small as 0.45mm/0.02in from as close as 90mm/3.5in.

## FIBROPTIC THERMOMETERS

The use of flexible fiber optics allows the detector and electronics enclosure to be located in a less hostile environment, and enables access to difficult targets.

The fibroptic thermometers are available with an optional integral laser targeting system which defines the target spot for accurate alignment.

The use of fiber optics permits viewing of normally inaccessible targets, where there are high magnetic fields or in high ambient temperatures up to 200°C/400°F without cooling of the optic head. There is a choice of three optic heads and three light guide lengths.

