

SYSTEM 4 Fiberoptic Thermometer

Installation Guide

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Summary Specification

	M1 600/1600C L	M1 800/2600C L	M2 300/1100C L	M3 50/250C Q	R1 600/1600C L	R1 1000/2600C L
	M1 1100/2900F L	M1 1500/4700F L	M2 600/2000F L	M3 150/500F Q	R1 1100/2900F L	R1 1800/4700F L
Temp. range:	600 to 1600°C 1100 to 2900°F	800 to 2600°C 1500 to 4700°F	300 to 1100°C 600 to 2000°F	50 to 250°C 150 to 500°F	600 to 1600°C 1100 to 2900°F	1000 to 2600°C 1800 to 4700°F
Wavelength:	1µm		1.6µm	2.1µm	0.85 to 1.1µm	
Response time:	5ms (0 to 95%)				15ms (0 to 95%)	
Field of view: (nominal):	25:1	75:1	25:1	20:1	25:1	75:1
Target diameter: A ₁ D10 optic head:	4mm (0.15in) at 100mm (3.9in)	1.3mm (0.05in) at 100mm (3.9in)	4mm (0.15in) at 100mm (3.9in)	5mm (0.2in) at 100mm (3.9in)	4mm (0.15in) at 100mm (3.9in)	1.3mm (0.05in) at 100mm (3.9in)
A ₁ D25 optic head:	10mm (0.39in) at 250mm (9.8in)	3.3mm (0.12in) at 250mm (9.8in)	10mm (0.39in) at 250mm (9.8in)	12.5mm (0.5in) at 250mm (9.8in)	10mm (0.39in) at 250mm (9.8in)	3.3mm (0.12in) at 250mm (9.8in)
A ₁ D50 optic head:	23mm (0.90in) at 500mm (19.6in)	6.7mm (0.26in) at 500mm (19.6in)	23mm (0.90in) at 500mm (19.6in)	25mm (1.0in) at 500mm (19.6in)	23mm (0.90in) at 500mm (19.6in)	6.7mm (0.26in) at 500mm (19.6in)
Accuracy						
Repeatability:	≤1°C (2°F)	≤2°C (4°F)	≤1°C (2°F)	1K	≤1°C (2°F)	≤2°C (4°F)
Absolute:	<0.4%/K	<0.7%/K	<0.25%+1K	<3K	<0.65%/K	<1.1%/K
Stability/Temp:	0.2%/ambient	0.3%/ambient	0.2%/ambient	0.1%/ambient	0.05%/ambient	0.05%/ambient
Stability/Time:	≤2°C (4°F) per year					
Vibration	3G, any axis, 10 to 300Hz					
Humidity	0 to 99% non condensing					
Sealing	IP65					
Ambient temp.						
Optic head:	200°C (392°F)		150°C (302°F)		200°C (392°F)	
Lightguide:	200°C (392°F)		150°C (302°F)		200°C (392°F)	
Detector Specified:	0 to 70°C (32 to 158°F)		0 to 50°C (32 to 122°F)		0 to 70°C (32 to 158°F)	
Operating:	-10 to 60°C (14 to 140°F)		0 to 50°C (32 to 122°F)		-10 to 60°C (14 to 140°F)	
CE:	EN 50-082-2 (immunity), EN 50-081-1 (emission), IEC 1010 (safety)					

About this guide

This guide gives the basic information necessary to install a Land System 4 Fibroptic thermometer and get it working. More detailed information is contained in the 'User Guide'. Information regarding the repair and calibration of the thermometer is contained in the 'Service Manual'.

It is important to check the equipment with which you have been supplied to ensure that all ordered items and accessories have been delivered.

NOTES

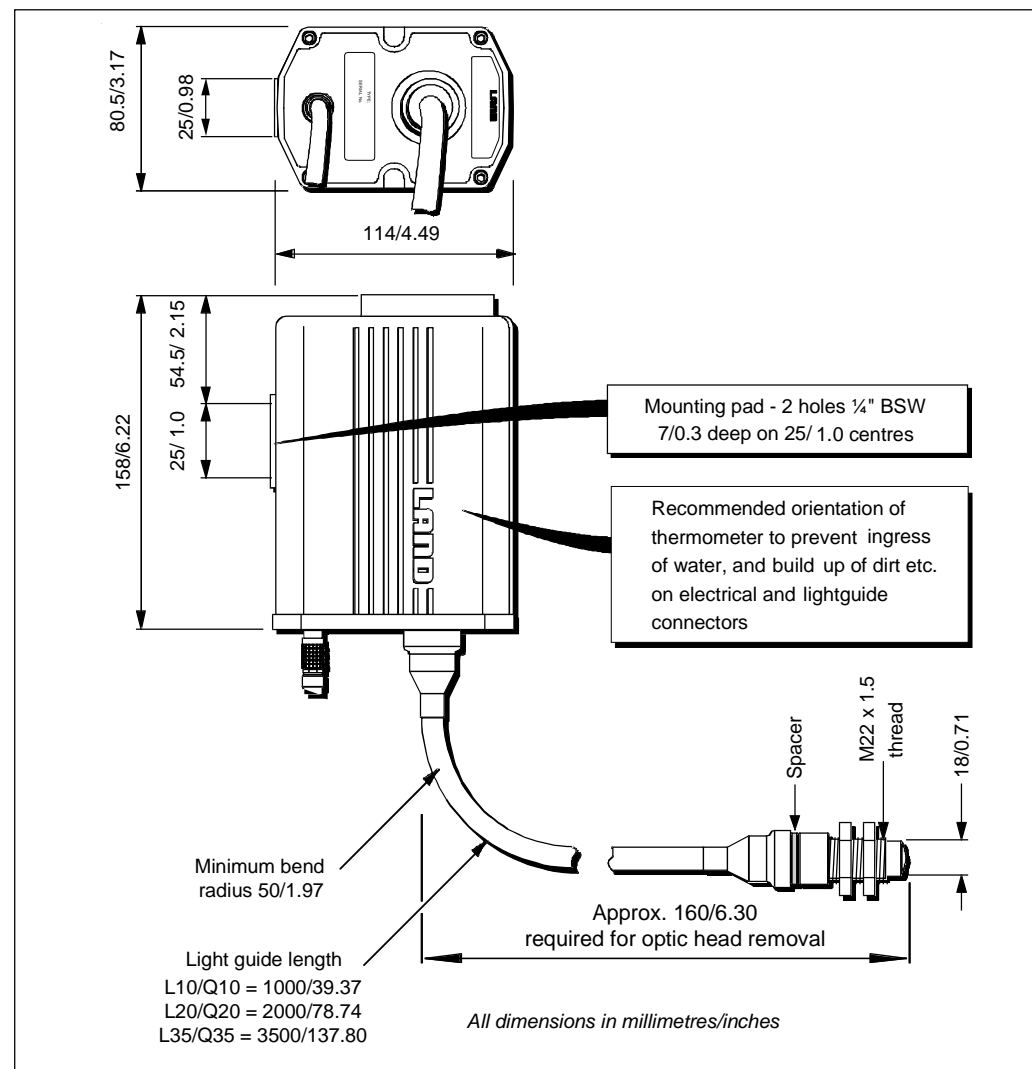
If the thermometer is to be used in an area of ambient temperature higher than that specified as safe for the thermometer, then the thermometer must be housed in a special cooling jacket available from Land Instruments International.

If the thermometer is to be used in an area where the atmosphere contains a high proportion of dust/smoke/steam etc, then the optic head must be used in conjunction with a special air purge to keep the lens clean. The air purge is available from Land Instruments International.

To prevent any possibility of water ingress into the electronics/detector module, the thermometer must be orientated as shown in the 'Installation Dimensions' diagram.

For more information on cooling jackets and air purges, refer to the Installation Guides supplied with those products.

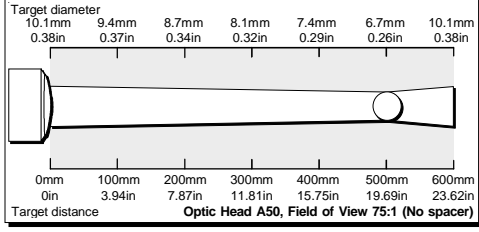
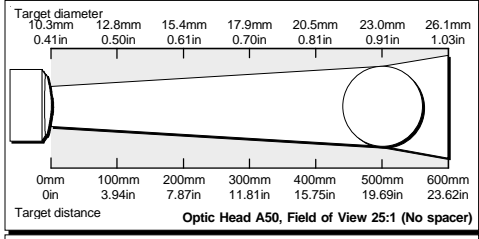
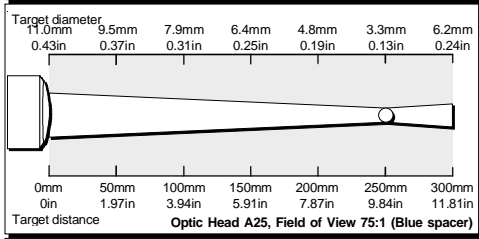
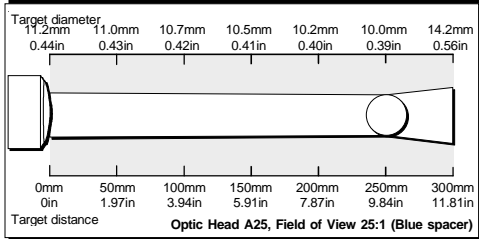
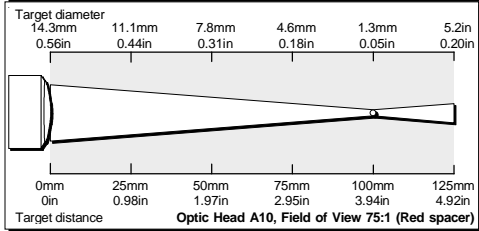
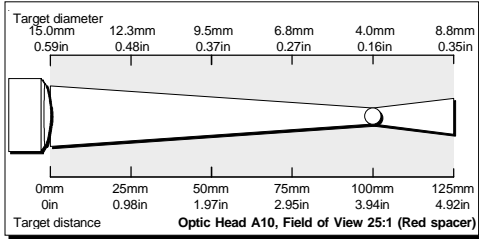
Installation Dimensions



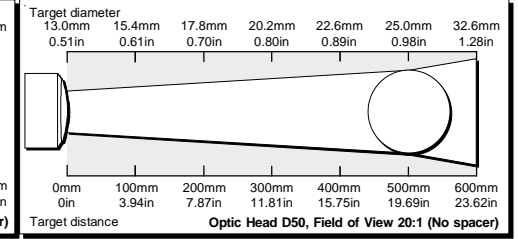
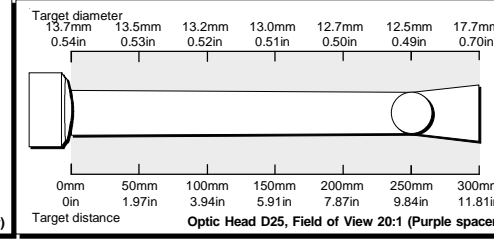
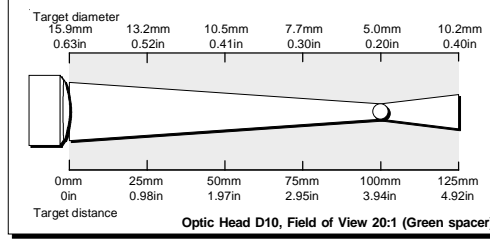
Installation Accessories

For installation in hostile environments, the Land System 4 Protection Jacket is designed for use with the thermometer and there is a range of Air Purges & Mounting accessories available for use with the optic head.

TARGET SIZE TABLES - FIBROPTIC M1 AND M2



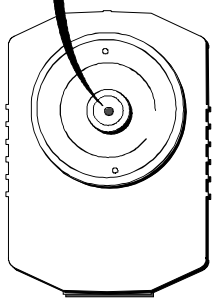
TARGET SIZE TABLES - FIBROPTIC M3



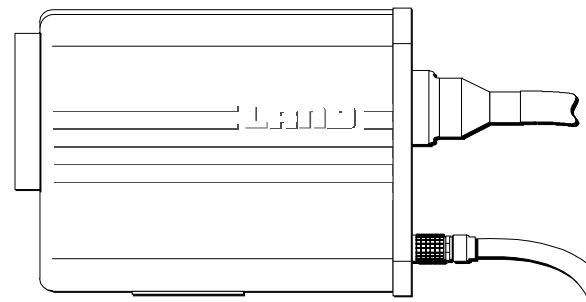
INSTALLATION INFORMATION

Laser Alignment Unit (optional)
 Press button to illuminate target area with laser light from optic head. Adjust the thermometer mounting until optic head is aligned on required target.
 Refer to User Guide for full instructions.

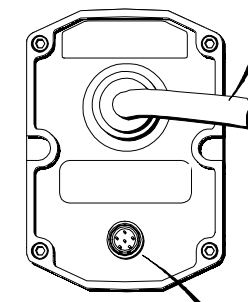
Lightguide
 Ensure that the lightguide is not subjected to tension or other undue force.
 Minimum bend radius = 50mm (2.0in)



View on Front

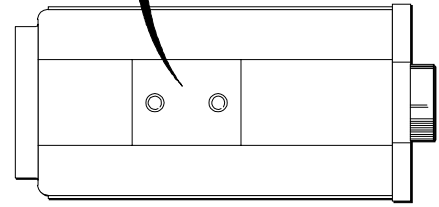


View on Side



View on Rear

Mounting Pad (Tripod Mounting)
 2 holes, 1/4" BSW, 7mm (0.28in) deep on 25mm (0.98in) centres



View on Bottom

NOTE
 The thermometer body must be earthed electrically via it's mountings

Electrical Connection
 Lugs Keyway
 Locking Sleeve Markers
 Align the two red markers (i.e. align the lugs on the plug of the pre-wired cable with the keyway in the connector on the thermometer). Push the plug into the connector.

Cable Schedule

Processor Pin N°	Cable Colour	Function
1	Yellow	T+
2	Blue	T-
3	White	E+
4	Screen	Screen
5	Red	V+
6	Black	V-
7	Green	E-