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QUALITY CUSTOMER SOLUTIONS

System 4 Thermometer

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INSTALLATION GUIDE

SYSTEM 4

Summary Specification

These tables provide information which is required to install the Thermometer.
For full specification details, refer to the Thermometer User Guide

	Temperature range:	M1 450/1000C M1 850/1850F	450 to 1000°C 850 to 1850°F	M1 600/1600C M1 1100/2900F	600 to 1600°C 1100 to 2900°F	M1 800/2600C M1 1500/4700F	800 to 2600°C 1500 to 4700°F	M2 300/1100C M2 600/2000F	300 to 1100°C 600 to 2000°F	M4 50/250C M4 150/500F	50 to 250°C 150 to 500°F	M4 150/550C M4 300/1000F	150 to 550°C 300 to 1000°F	M5 400/1300C M5 750/2400F	400 to 1300°C 750 to 2400°F
	Field of view (Nominal):	30:1		100:1		200:1		100:1		30:1		100:1		100:1	
	Min. target diameter:	11.7mm / 0.46in		3.5mm / 0.13in		1.8mm / 0.07in		3.5mm / 0.13in		11.7mm / 0.46in		3.5mm / 0.13in		3.5mm / 0.13in	
Vibration:		3G any axis 10 to 300Hz													
Humidity:		0 to 99% non condensing													
Sealing:		IP65													
Ambient temperature Specified: Operating:		0 to 70°C / 32 to 158°F -10 to 80°C / 14 to 176°F						0 to 50°C / 32 to 122°F -10 to 60°C / 14 to 140°F		5 to 45°C / 41 to 113°F 0 to 50°C / 32 to 122°F				0 to 70°C / 32 to 158°F -10 to 80°C / 14 to 176°F	
CE:		EN 50-082-2 (immunity), EN 50-081-1 (emission), IEC 1010 (safety)													

	Temperature range:	M5 1000/2500C M5 1800/4500F	1000 to 2500 °C 1800 to 4500°F	M6 0/300C M6 50/600F	0 to 300°C 50 to 600°F	M6 100/700C M6 200/1300F	100 to 700°C 200 to 1300°F	M7 25/375C M7 75/700F	25 to 375°C 75 to 700°F	M8 0/1000C M8 30/1830F	0 to 1000°C 30 to 1830°F	R1 600/1600C R1 1100/2900F	600 to 1600°C 1100 to 2900°F	R1 1000/2600C R1 1800/4700F	1000 to 2600°C 1800 to 4700°F
	Field of view (Nominal):	100:1		30:1		100:1		30:1		100:1		50:1		200:1	
	Min. target diameter:	3.5mm / 0.13in		11.7mm / 0.46in		3.5mm / 0.13in		11.7mm / 0.46in		5.0mm / 0.20in		7.0mm / 0.27in		1.8mm / 0.07in	
Vibration:		3G any axis 10 to 300Hz													
Humidity:		0 to 99% non condensing													
Sealing:		IP65													
Ambient temperature Specified: Operating:		0 to 70°C / 32 to 158°F -10 to 80°C / 14 to 176°F		5 to 45°C / 41 to 113°F 0 to 50°C / 32 to 122°F						0 to 45°C / 32 to 113°F 0 to 70°C / 32 to 158°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 an AMETEK Land System 4 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

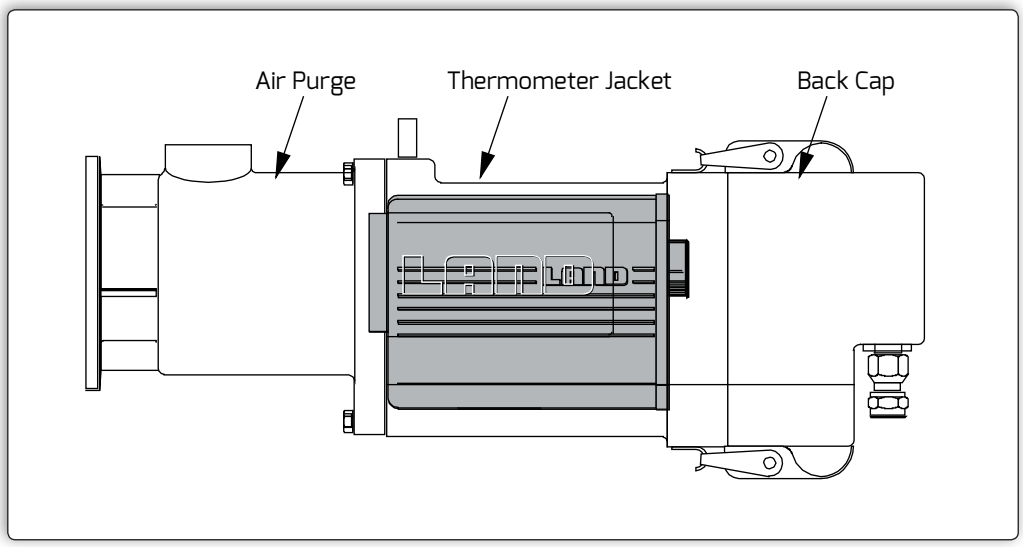
If the thermometer is to be used in an area of ambient temperature higher than that specified as safe for the thermometer, then the thermometer must be housed in a special cooling jacket available from Land Instruments International.

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

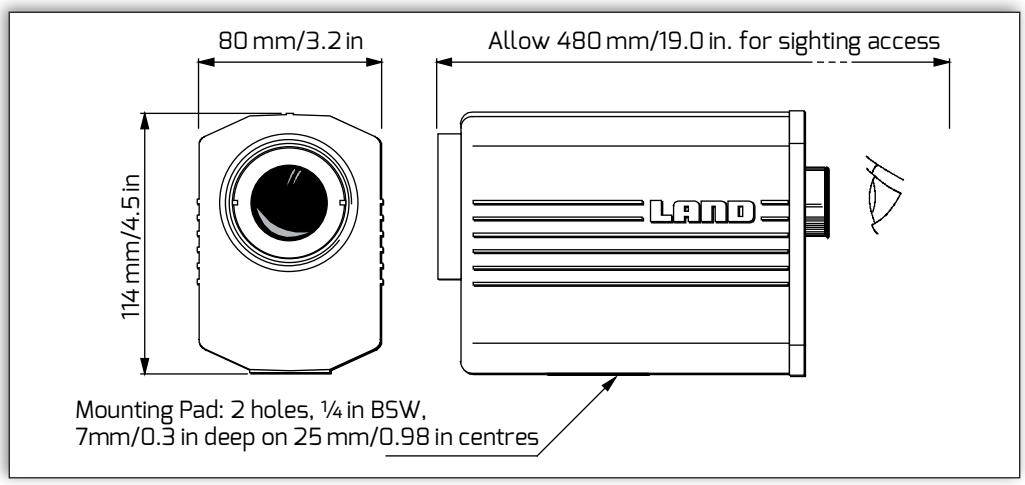
For more information on cooling jackets and air purges, refer to the Installation Guides supplied with those products.

Installation Accessories

For installation in hostile environments, an Air Purge, Protection Jacket and Back Cap are available for use with System 4 thermometers.



Installation Dimensions



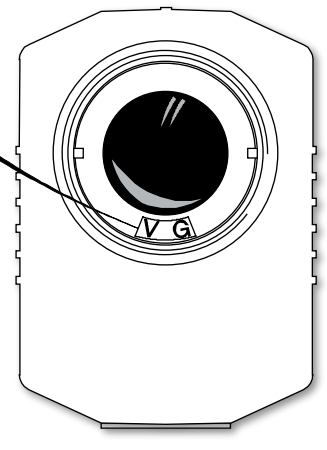
Installation Information

Auxiliary Lens Identification

V = focusable 500 mm/19.7 in to infinity
S = focusable 350 mm/13.8 in to 1000 mm/39.4 in

V G

G = Glass lens



View on Front

Sight Path

Ensure that the thermometer has an unobstructed view of the target

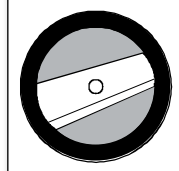
View on Side

Focus Ring

Turn clockwise to focus on near objects.

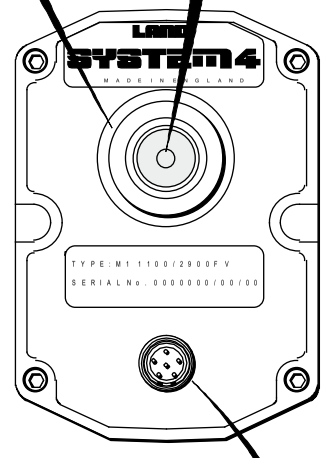
Turn anticlockwise to focus on distant objects.

Graticule



Ensure that, for 'M' series thermometers, the target completely fills the area covered by the graticule.

Adjust focus ring to bring target into focus



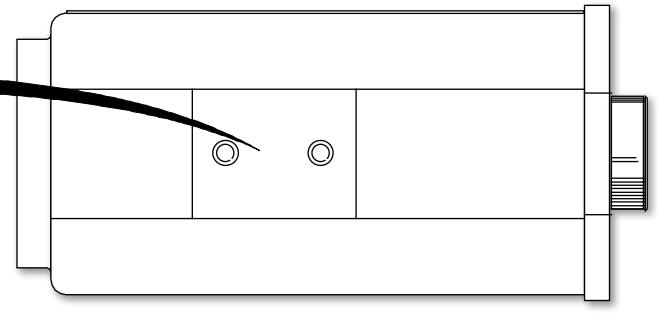
View on Rear

Target Size Calculation

$d = \frac{s}{\text{F.O.V.}}$ (See Thermometer Specification)

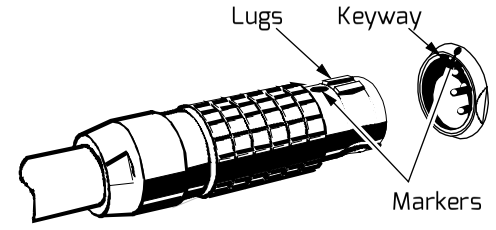
Mounting Pad (Tripod Mounting)

2 holes, ¼ in BSW, 7 mm/0.28 in deep on 25 mm/0.98 in centres



View on Base

Electrical Connection



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 №	Cable Colour	Function
1	Yellow	T+
2	Blue	T-
3	White	E+
4	Screen	Screen
5	Red	V+
6	Black	V-
7	Green	E-

Note

The thermometer body must be earthed electrically via its mountings