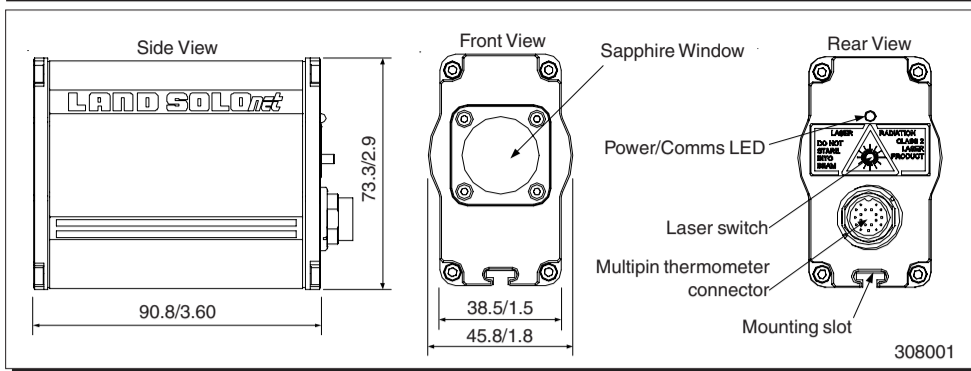
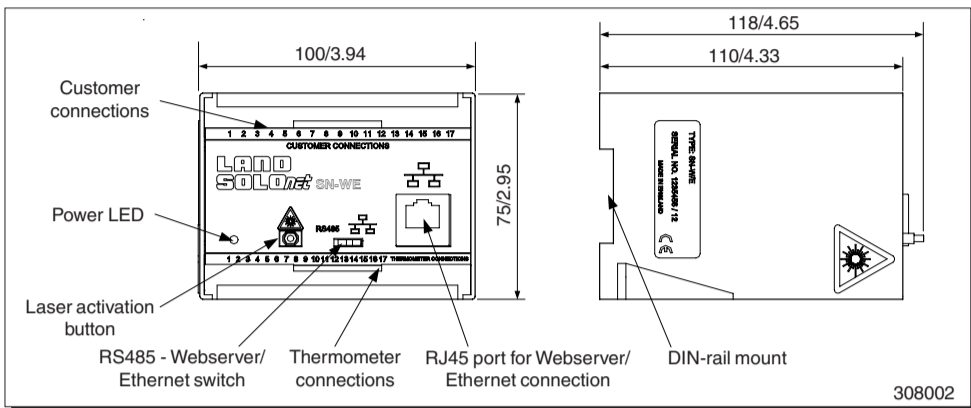


Thermometer Dimensions



SN-W/E Interface Unit Dimensions



SN-W/E Interface Unit and Thermometer Plug Wiring Details

SN-W/E				Thermometer			
Customer Connections	Pin No.	Thermometer Connections	Connects to	Pin No.	Description	Cable No.	
1	24V	1	↔	A	Power in+	1	
2	0V	2	↔	B	Power in-	2	
3	mA out+ from IRT	3	↔	C	mA out+	3	
4	mA out- from IRT	4	↔	N	mA out-	4	
5	Emissivity in+ to IRT	5	↔	F	Emissivity in+	5	
6	Emissivity in- to IRT	6	↔	E	Emissivity in-	6	
7	Laser switch	7	↔	D	Laser in	7	
8	Common	8	↔	L	Common	8	
9	Command switch	9	↔	M	Command in	9	
10	Relay 1a	10	↔	O	Relay 1a o/p	10	
11	Relay 1b	11	↔	P	Relay 1b o/p	11	
12	Relay 2a	12	↔	R	Relay 2a o/p	12	
13	Relay 2b	13	↔	S	Relay 2b o/p	13	
14	Comms from IRT+ (A)	14	↔	K	IRT comms out+ (Y)	14	
15	Comms from IRT- (B)	15	↔	I	IRT comms out- (Z)	15	
16	Comms to IRT- (Z)	16	↔	H	IRT comms in- (B)	16	
17	Comms to IRT+ (Y)	17	↔	G	IRT comms in+ (A)	17	

- a. The connector pin column can be used if the prewired cable supplied by Land is not used.
 b. Common is used for the laser and command if an external switch is used.
 c. Comms input/output change over between the SN-W/E and thermometer

SOLOnet Thermometer Specifications

Model ..	SN11	SN21	SN51	SNR1
Operating range:	550 to 1750°C/ 1022 to 3182°F	250 to 1300°C/ 482 to 2372°F	200 to 1100°C/ 392 to 2012°F	700 to 1750°C/ 1292 to 3182°F
Specified range:	600 to 1750°C/ 1112 to 3182°F	300 to 1300°C/ 572 to 2372°F	250 to 1100°C/ 482 to 2012°F	750 to 1750°C/ 1382 to 3182°F
Spectral response:	1µm	1.6µm	5µm	1µm ratio
Field of view (95% energy):	100:1	100:1	50:1	100:1
Focusing:	Fixed, user configurable focus: 250mm/9.8in, 500mm/19.7in, 1000mm/39.4in and infinity	0 or 4 to 20mA user selectable (isolated 50V)	50ms	10ms
Output:	10ms	10ms	50ms	10ms
Response time (0 to 90%):	10ms	10ms	50ms	10ms
Emissivity:	0.10 to 1.00	0.10 to 1.00	0.10 to 1.00	0.05K/K
Non greyness:	0.80 to 1.25	0.80 to 1.25	0.80 to 1.25	0.6%K
Resolution (mid range):	<1K	<1K	<1K	0.05K/K
Stability:	0.2°/°	0.2°/°	0.02°K/K	0.05K/K
Accuracy (absolute):	0.3%K	2K	0.35%K	0.6%K
Time functions:	Peak picker, track and hold, and averager	Peak picker, track and hold, and averager	Peak picker, track and hold, and averager	Peak picker, track and hold, and averager
Alarm outputs:	Process high, process low, internal temperature, emissivity/NG signal lost, insufficient signal (SNR1 only); rated to 50V d.c., 0.1A non-inductive, NO or NC – software selectable	Process high, process low, internal temperature, emissivity/NG signal lost, insufficient signal (SNR1 only); rated to 50V d.c., 0.1A non-inductive, NO or NC – software selectable	Process high, process low, internal temperature, emissivity/NG signal lost, insufficient signal (SNR1 only); rated to 50V d.c., 0.1A non-inductive, NO or NC – software selectable	Process high, process low, internal temperature, emissivity/NG signal lost, insufficient signal (SNR1 only); rated to 50V d.c., 0.1A non-inductive, NO or NC – software selectable
Optional sighting:	Laser defining optical axis; class 2, 1mW, 650nm, 120s ON duration, automatic switch-off	Laser defining optical axis; class 2, 1mW, 650nm, 120s ON duration, automatic switch-off	Laser defining optical axis; class 2, 1mW, 650nm, 120s ON duration, automatic switch-off	Laser defining optical axis; class 2, 1mW, 650nm, 120s ON duration, automatic switch-off
Ambient limits:	5 to 60°C/41 to 140°F specified; 0 to 70°C/32 to 158°F operating	5 to 60°C/41 to 140°F specified; 0 to 70°C/32 to 158°F operating	5 to 60°C/41 to 140°F specified; 0 to 70°C/32 to 158°F operating	5 to 60°C/41 to 140°F specified; 0 to 70°C/32 to 158°F operating
EMC:	EN 61326:1999 (immunity and emission)	EN 61326:1999 (immunity and emission)	EN 61326:1999 (immunity and emission)	EN 61326:1999 (immunity and emission)
Sealing:	IP65/NEMA 4X	IP65/NEMA 4X	IP65/NEMA 4X	IP65/NEMA 4X
Vibration:	3g (10 to 300Hz)	3g (10 to 300Hz)	3g (10 to 300Hz)	3g (10 to 300Hz)
Power supply:	18 to 30V d.c. (24V d.c. nominal)	18 to 30V d.c. (24V d.c. nominal)	18 to 30V d.c. (24V d.c. nominal)	18 to 30V d.c. (24V d.c. nominal)
Optional accessories:	Air cooled/purged jacket, water cooled/air purged jacket, air purge and mounting bracket, 1-axis and 2-axis adjustable mounting brackets, 3m, 15m, 25m prewired cable assemblies, Web/Ethernet Interface Unit SN-W/E, d.c. power supply unit, temperature indicator unit LMI	Air cooled/purged jacket, water cooled/air purged jacket, air purge and mounting bracket, 1-axis and 2-axis adjustable mounting brackets, 3m, 15m, 25m prewired cable assemblies, Web/Ethernet Interface Unit SN-W/E, d.c. power supply unit, temperature indicator unit LMI	Air cooled/purged jacket, water cooled/air purged jacket, air purge and mounting bracket, 1-axis and 2-axis adjustable mounting brackets, 3m, 15m, 25m prewired cable assemblies, Web/Ethernet Interface Unit SN-W/E, d.c. power supply unit, temperature indicator unit LMI	Air cooled/purged jacket, water cooled/air purged jacket, air purge and mounting bracket, 1-axis and 2-axis adjustable mounting brackets, 3m, 15m, 25m prewired cable assemblies, Web/Ethernet Interface Unit SN-W/E, d.c. power supply unit, temperature indicator unit LMI

General Information

This guide gives the basic information required to install a Land SOLOnet Digital Infrared Thermometer. For more detailed information, see the SOLOnet User Guide (PP307).

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

Note

If the thermometer is to be used in an area of ambient temperature higher than that specified, then the thermometer must be housed in a protective 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 an air purge system, to keep the thermometer lens clean and free from contamination. An air purge system is available from Land Instruments International.

Laser Safety Warnings



Warning
 CLASS 2 Laser Product.
 DO NOT stare into laser beam (1.0mW maximum output at 650nm).
 DO NOT look directly towards the thermometer window, or into the laser beam during operation.
 If the laser is projected onto a highly reflective surface, DO NOT look at the laser stripe from a position where a direct ('mirror-like') reflection may enter the eye.



Warning
 CLASS 2 Laser Product.
 DO NOT attempt to disassemble the laser unit or any of its mounting components.



Caution
 Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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SOLOnet

Digital Infrared Thermometer

Installation Guide



www.landinst.com

LAND

instruments international



Applies to the UK



Applies to the USA

Part N° 801349

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Recommended Installation Arrangement

The location of the SOLOnet thermometer should be carefully chosen, such that it is easily accessible and in a position not unnecessarily exposed to heat, fumes or liquid spray. The sight path between the SOLOnet thermometer and the target, should be as free as possible from smoke, liquid spray and from the intrusion of machinery. The axis of the thermometer should be at right angles to the target surface, however, an angle of up to 45° from the normal is acceptable. If the thermometer to be installed is a monochromatic or single wavelength variant (SN1 etc), it must be positioned such that at the chosen target distance, the field of view of the thermometer is completely filled. The target size required to fill the field of view can easily be determined, according to the lens configuration and the distance of the thermometer from the target (see 'SOLOnet Thermometer Sighting').

SOLOnet Thermometer Installation

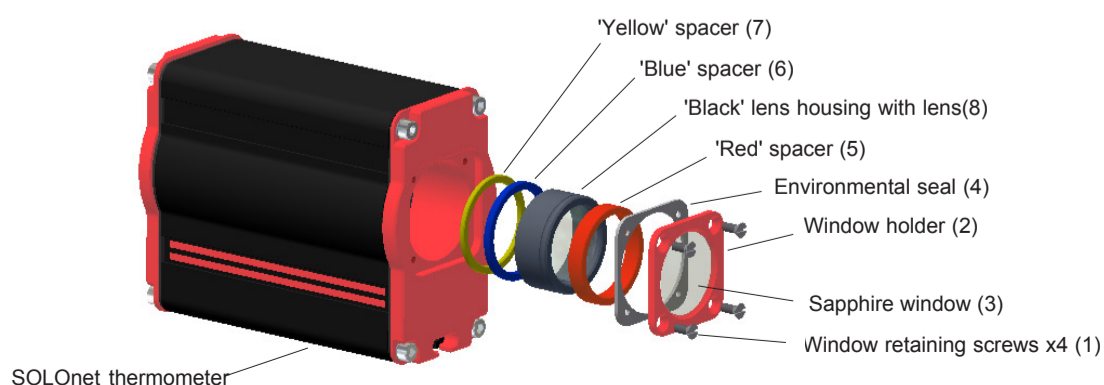
- Choose a suitable location for mounting the thermometer. The following criteria should be considered when making the choice:
 - If the installation area is not clean or free from dust, smoke or water spray, then a Land air purge system must be utilised to ensure that the thermometer lens is kept free from such airborne contaminants. Ensure that a suitably conditioned air supply is available.
 - If the surrounding ambient temperatures of the installation area are outside the thermometer specification, then a Land air or water cooled protective jacket must be utilised to ensure that the thermometer operates at the specified ambient temperature. Ensure that a suitably conditioned air or water supply is available.
- Position and mount any required thermometer mountings and/or accessories (see SOLOnet Mountings and Accessories Installation Guide - PP310).
- Configure the thermometer lens and spacers to match the application (see 'Thermometer Sighting'). Ensure that the selected ring configuration allows correct focusing of the thermometer onto the target.
- Configure the thermometer to match the application (see SOLOnet Quick Start Guide - PP305).
- Fit the thermometer to the mountings. Ensure that the services, where required, are running and are fully operational before installing an unprotected thermometer into a hostile environment. Ensure that the thermometer lens is clean, free from contaminants and unobstructed.
- Apply power to the thermometer. If the thermometer has a laser alignment facility, this can be utilised to ensure that the thermometer field of view aligns with the target area. The laser function can be operated by the following methods:
 - By the laser activation button on the rear of the thermometer
 - By the laser activation button on the front of the SN-W/E interface unit
 - From within the configuration software or web interface
 - By remote manual switch, wired into the SN-W/E interface unit (user supplied)
- Ensure that the thermometer is operating correctly. Any configuration changes can be made via the configuration software or web interface facility.
- Carry out the following recommended pre-operational checks:
 - Ensure that all relevant services are functioning correctly, with no apparent air or water leaks.
 - Ensure that the thermometer lens is clean, free from contaminants and unobstructed.
 - Ensure that all piping and cables are safely stowed, as determined by local safety procedures.
 - Ensure that any instrument cables are routed clear of any "noisy" cables. This is generally considered good practice, helping to avoid electrical interference.
- It is recommended that a local maintenance procedure should be determined, with particular attention to thermometer lens cleanliness and services integrity.

SOLOnet Thermometer lens configuration

The location of the lens of the SOLOnet thermometer can be manually configured within the thermometer housing. This allows selection of focal length to suit the diverse range of possible SOLOnet applications. The following information details the lens and spacer configuration method:

It is highly recommended that the following procedure is carried out in a clean and dry environment, eliminating the chance of thermometer contamination.

- Unscrew, remove and retain the 4xM2.5 retaining screws (1) from the thermometer window holder (2).
- Remove the window holder with sapphire window (3) and environmental seal (4).
- Remove the three coloured spacers; red (5), blue (6), yellow (7) and the black lens housing with lens (8). Ensure that the lens is not marked during this procedure.
- Configure the thermometer lens and spacers to match the application (see 'Thermometer Sighting').
- Place the spacers and lens into the housing in the relevant order, ensuring that the black lens is placed with the marker line facing towards the window.
- Check that the environmental seal is intact and refit to the thermometer housing.
- Ensure that the sapphire window is clean and smear free. Place the window housing with sapphire window and position in the thermometer window recess, ensuring that the seal is not trapped anywhere.
- Refit and tighten the 4x window housing retaining screws.
- Ensure that the sapphire window is clean and smear free.

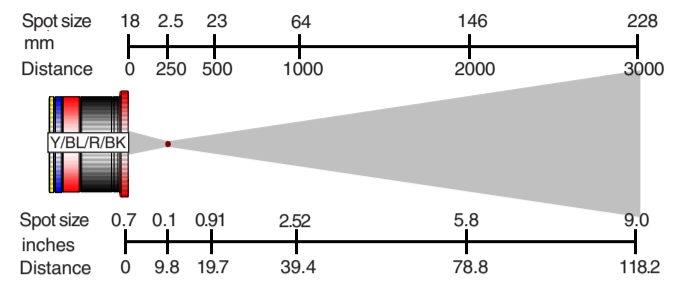


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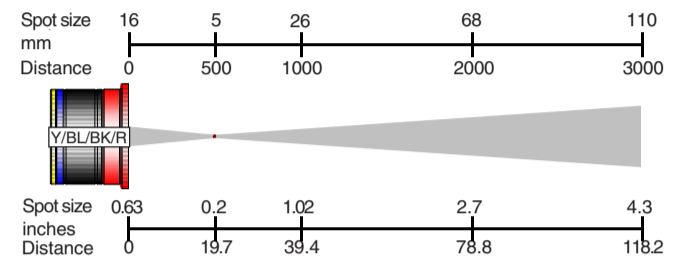
SOLOnet Thermometer Sighting

SOLOnet SN1, SN2 and SNR

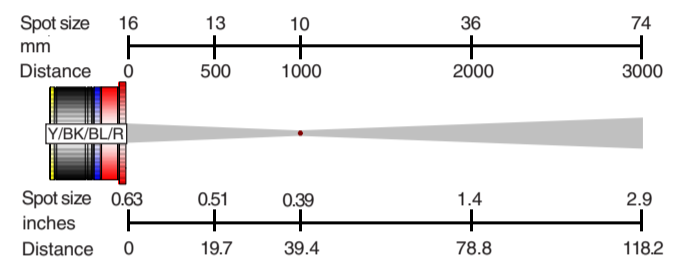
Focus at 250mm/9.8in



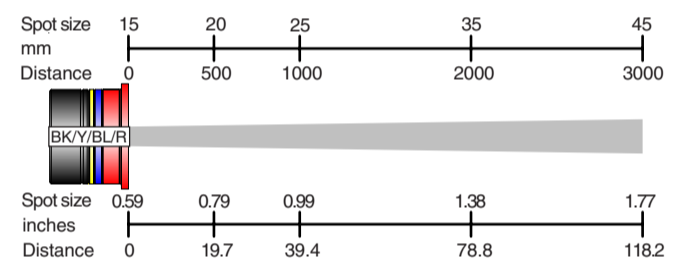
Focus at 500mm/19.7in



Focus at 1000mm/39.4in

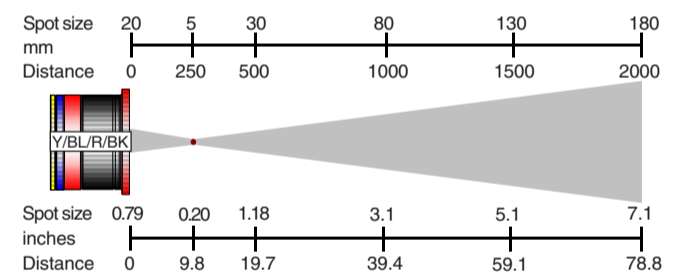


Focus at Infinity

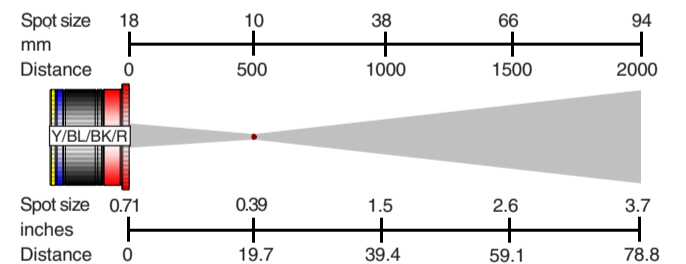


SOLOnet SN5

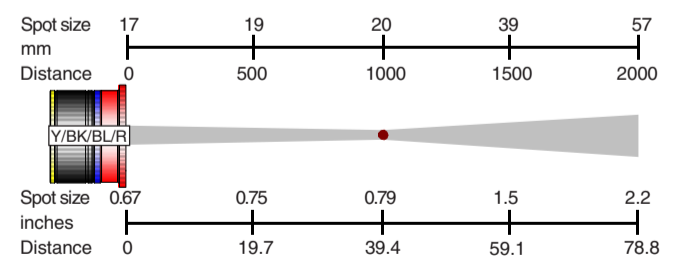
Focus at 250mm/9.8in



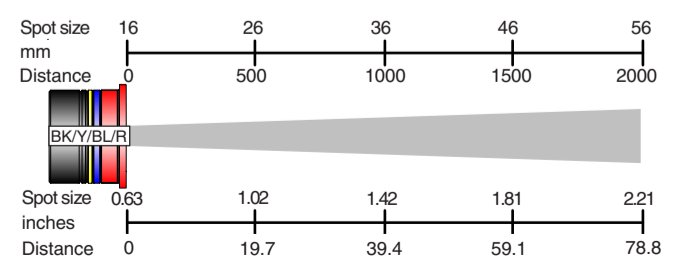
Focus at 500mm/19.7in



Focus at 1000mm/39.4in



Focus at Infinity



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