LAND

APPLICATION SOLUTIONS

UNDERSTRIP TEMPERATURE MEASUREMENT SYSTEM

For the steelmaker involved in the hot rolling of steel slabs or billets, knowledge of steel temperature is vitally important. Accurate measurement of the steel temperature can be invaluable in determining the final metallurgical properties and quality of the metal.

Land ruggedized fibroptic systems located at different positions under the mill roller table view the target between the rolls and provide continuous accurate measurement, without contact, of the scale-free metal surface.

The systems are easy to install and designed for trouble-free operation. A low cost sighting tube/purge unit houses a readily demountable modular fibre optics probe. The associated electronic amplifier unit, located remotely, is linked by a sealed fibre optics light guide. An air line, connected to the sighting tube, to provide a purged sight path for the thermometer, is the only service required by the thermometer optic head.

The electronics unit is provided with electrical power from the associated System 4 Landmark Graphic signal processor. The processor provides electronic signal treatment of the thermometer output allowing averaging, peak picking or sample and hold outputs and temperature display. An optional serial communications facility gives digital RS232C or RS422A outputs and allows access for system parameter adjustments from a remote computer.

- Simple installation with non critical positioning
- Quick, simple no-tools probe removal
- Electronics positioned remotely at a safe distance
- Minimal services - only clean air supply for purging. No water cooling required.

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Infrared Temperature Measurement

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System Specifications

Temperature range & Thermometer type:	M1 600/1600CL	600 to 1600°C
	M1 800/2600CL	800 to 2600°C
	M2 300/1100CL	300 to 1100°C
	R1 600/1600CL	600 to 1600°C
	R1 1000/2600CL	1000 to 2600°C

Laser targeting thermometers also available.

Optics:	A10 - 100mm focus
	A25 - 250mm focus
	A50 - 500mm focus

Environmental Specifications

Operating temp range (Amplifier units):	M1 600/1600CL	0 to 70°C
	M1 800/2600CL	0 to 70°C
	M2 300/1100CL	0 to 50°C
	R1 600/1600CL	0 to 50°C
	R1 1000/2600CL	0 to 50°C

Light guide assembly: 0 to 120°C

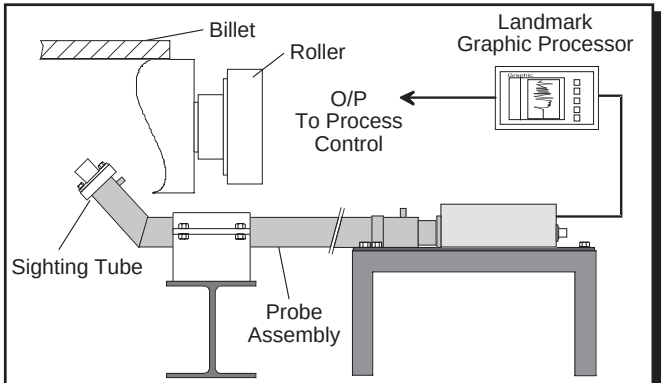
Optic head: 0 to 200°C

Installation: Sighting tube clamped to suitable mounting. No-tools detachable probe locates in sighting tube. Amplifier unit housed in 280x250/110mm enclosure, is located remotely from hostile environment. The Landmark® Graphic/Classic signal processor can be located in the control room.

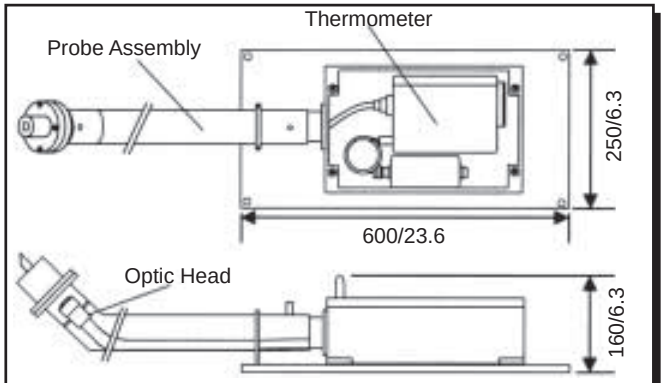
For full details of System 4, refer to brochure ref: S4G100 and S4C100.

Scheme A - Typical Portable System

Mounted at the side of the roller table for ease of withdrawal and repositioning of probe assembly.



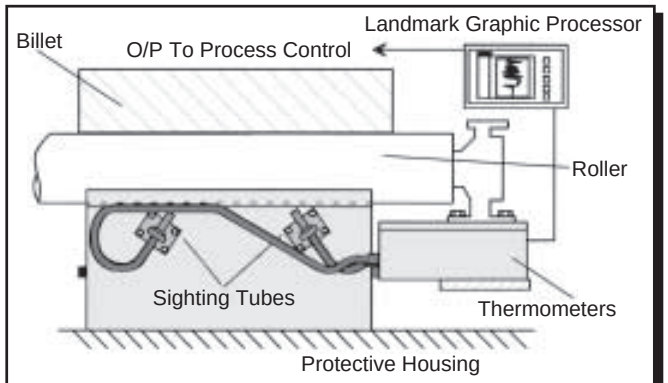
Scheme A – Schematic Showing Typical Probe Assembly



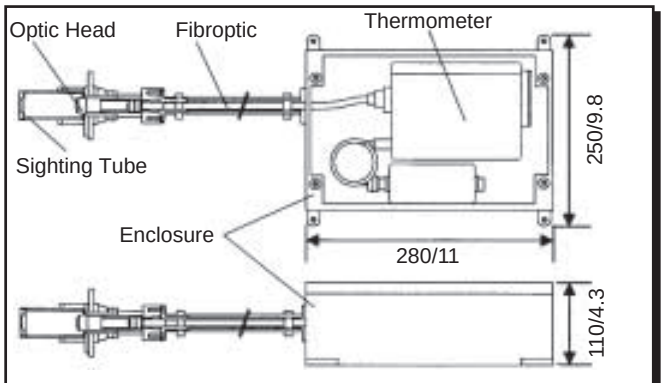
Scheme A – Thermometer Schematic

Scheme B - Typical Fixed Installation

Permanent installation where space permits for protective housing under the roller table.



Scheme B – Schematic Showing Typical Protective Housing



Scheme B – Thermometer Schematic

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

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Continuous product development may make it necessary to change these specifications without notice.