TARGET ORBITER THERMOMETER - TO

The Target Orbiter (TO) Thermometer is designed specifically to provide accurate temperature measurement on narrow, moving and intermittent targets.

Target Orbiter Thermometers are available in both System 4 and UNO stand alone radiation thermometer formats. Combining fast, millisecond response with peak picker signal processing, they represent a single, compact and very elegant solution to many measurement problems.

There are numerous situations in infrared thermometry for which a single, fixed thermometer cannot provide accurate and continuous temperature measurement, giving at best intermittent data.

Monitoring the temperature of coiling wire or hot rods on a rod mill, the lateral movement of fast moving product provides a perfect example of such a problem. Another is the temperature measurement of heavily scaled steel ingots or billets, which can can only be truly measured by picking out the randomly distributed, clean or thinly scaled surface areas.

The solution for these difficult applications is the LAND Target Orbiter (TO) thermometer. This instrument rotates the target spot at 3Hz about the surface of a cone centred on the opto-mechanical axis.

Based on the System 4 M1 non contact radiation thermometer, M2 non contact radiation thermometer and the UNO1 or UNO2 stand alone radiation thermometers. Fast, millisecond response, combined with peak picker signal processing, ensure that these instruments represent a single, compact and very elegant solution to such problems.

In the first example of moving wires or rods the measurement spot intersects the target surface up to six times a second, effectively giving a continuous value for the surface temperature.

In the case of scaled steel the 'scanning' action provides a far higher detection rate for the clean 'hot spots'.

Specification		
Model:	System 4 thermometers	UNO stand alone thermometers
Ambient Temperature Range:	10 to 50°C/50 to 122°F	
Rate of rotation of target about optic/mechanical axis	3Hz(±10%)	
Off axis half angle of target centre	2°(±10%)	
	The thermometer measures accurately on target sizes down to and including 1.25 times the in focus target spot diameter (typically 99.8% of target temperature for 100:1 F.O.V.).	

System 4			
Model		Optical FOV	Part Number
M1	600/1600C-V-TO	100:1	092.533
M1	600/1600C-S-TO	100:1	092.534
M1	1100/2900F-V-TO	100:1	092.535
M1	1100/2900F-S-TO	100:1	092.536
M1	800/2600C-V-TO	200:1	092.537
M1	800/2600C-S-TO	200:1	092.538
M1	1500/4700F-V-TO	200:1	092.539
M1	1500/4700F-S-TO	200:1	092.540
M2	300/1100C-V-TO	100:1	092.541
M2	300/1100C-S-TO	100:1	092.542
M2	600/2000F-V-TO	100:1	092.543
M2	600/2000F-S-TO	100:1	092.544

UNO stand alone radiation thermometer			
Model		Optical FOV	Part Number
U1	600/1600C-V-TO	100:1	092.545
U1	600/1600C-S-TO	100:1	092.546
U1	1100/2900F-V-TO	100:1	092.547
U1	1100/2900F-S-TO	100:1	092.548
U1	800/2600C-V-TO	200:1	092.549
U1	800/2600C-S-TO	200:1	092.550
U1	1500/4700F-V-TO	200:1	092.551
U1	1500/4700F-S-TO	200:1	092.552
U2	300/1100C-V-TO	100:1	092.553
U2	300/1100C-S-TO	100:1	092.554
U2	600/2000F-V-TO	100:1	092.555
U2	600/2000F-S-TO	100:1	092.556