



TERMASCAN™

Infrared line scanner for temperature control and monitoring

APPLICATION

TermaScan is an infrared line scanner system which enables non-contact temperature measurements. The system can measure up to 1250 temperature points over a large field of view as opposed to a pyrometer which read only one point. The TermaScan design is modular so that it can be adapted to a multitude of industrial processes such as glass, plastic, steel, paper, tobacco. A high resolution two-dimension image is formed as the monitored object moves across the scanner field of view, thus detecting tiny hot spots and temperature non uniformity. There are 3 TermaScan versions available with various scanning speeds and fields of view.

SCANNING HEAD

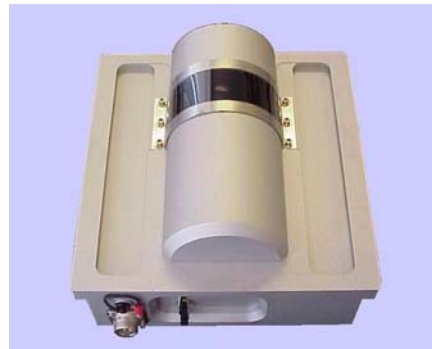
Infrared radiation from the object to be controlled is reflected onto a single flat rotating mirror driven by a heavy duty maintenance free motor operating at constant digitally controlled speed. The rotating mirror is mounted directly on the driving motor shaft and properly balanced to avoid vibrations, insuring long term reliability. Additionally, for every rotation, the mirror sweeps over an internal reference source of low and constant temperature for real time calibration. Then the infrared beam is focused into a thermo-electrically cooled detector via a set of mirrors and aspheric lens of high angular aperture. This results in an extremely high thermal sensitivity and thermal resolution which enables detection of small hot spots or temperature non-uniformity. Because of the exceptionally good performance described above, the infrared detector does not require as much cooling as for other systems, the advantage being that the system is better adapted to wide changes in ambient temperature. The power supply unit comprising the required transformers, power filters, etc, is supplied as a separate item to prevent temperature rise and electromagnetic interference, again enhancing the unit's overall reliability.

DATA PROCESSING

TermaScan can operate as a stand alone instrument with analogue or digital outputs corresponding to readings of each temperature zone. Measurement parameters (zone dimensions, alarm thresholds, average/min/max temperature...) can be set up by the operator via a PC software. Those outputs enable to control automatically heating or cooling processes or alarm systems. Additionally, a dedicated software can be supplied for real time display of thermal profile or image.



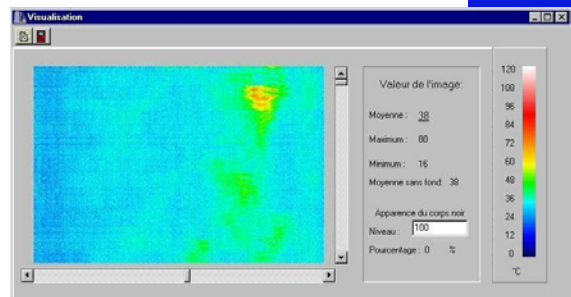
Scan 100



Scan 20, 140° FOV



Scan 400



Thermal image, real time display

TECHNICAL DATA

	SCAN 20	SCAN 100	SCAN 400
Scanning rate (Hz):	20	100	400
Field of view (FOV):	90° (140° optional)	90° (140° optional)	60°
Detectors:	PbSe	MCT	MCT
Optional water cooling:	Yes	Yes	No
Dimensions (W x H x D)(mm):	215 x 225 x 70	215 x 225 x 70	200 x 206 x 332
Weight (kg):	5.2	5.2	21.2
Spatial resolution at 90% energy:	3.5 mrad (285:1)		
Spectral range:	3 to 5 μm		
Temperature range:	Up to 1400°C		
Number of measurement points:	380 for 60° FOV 1250 for 90° FOV 1940 for 140° FOV		
Thermal resolution at 300°C:	< 0.05°C		
Capability to add spectral filters, density filters:	Yes		
Outputs:	Analogue 4-20 mA / Alarm relays		
Number of outputs:	Up to 8		
Monitoring software:	Yes		
Operating temperature:	-10°C to +50°C (200°C with water cooling)		

Above information is subject to changes without notice



SYSTÈMES INFRAROUGES

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