MIRION TECHNOLOGIES

High Temperature. **Safety.**

M555

Spyrometer™

Nuclear Power

Homeland Security & Defense

Industrial and Manufacturing

Healthcare

Labs and Education

OVERVIEW

The IST-Quadtek Spyrometer³ ™, with its patented combination of a color video camera and a scanning pyrometer, gives the operator the ability to see process conditions while measuring the temperature of virtually any area in the field of view. The M555 imaging pyrometer takes the video image and the temperature information, multiplexes it and sends it, via coaxial cable, to the M215 image processor in the control room and displays it on a VGA monitor.

The M215 image processor provides on-screen temperature measurement facilities and the data can easily be interfaced to your control system using an ethernet link or 4-20mA outputs. Please refer to separate M215 datasheet for full details.

Additional new features of the M555 include:

- Improved iris control options for a clearer image under changing lighting conditions
- Reduced electrical power consumption, enabling camera to run with reduced air cooling in some applications
- Fewer component parts
- Improved reliability through use of surface mount technology.

KEY FEATURES

- **Rotary Kilns**
  Monitor cement and lime kiln product and temperatures. See potential kiln upsets early. Interface temperatures to your DCS.
- **Cement Clinker Coolers**
  Monitor the cooler for red rivers and upset conditions. Optimize cooling patterns by measuring clinker temperature on the grate. Aids in reducing equipment breakdown and refractory degradation. Obtain continuous visual of clinker depth and relation to grate speed changes.
- **Fossil Utility Boilers**
  Observe flame shape and temperature of each burner. Assign a temperature cursor to each flame to aid in controlling NOx levels.
- **Steel Reheat Furnaces**
  See areas of non-uniform heating and adjust product speed or combustion accordingly. Position temperature cursors to accommodate size and shape of the load.
- **Glass**
  View for flame impingement and product flow. Accurately measure refractory temperatures.
- **Copper Casting Wheels**
  Optimize metal flow to the casting mould while monitoring from the control room. Measure temperature of metal in casting spoons.

Imaging Systems

SPECIFICATIONS AND PERFORMANCE

Pyrometer Sensor		
Pyrometry Options	Dual wavelength ratio pyrometry using narrow bands centred at 0.8 and 1.6 microns:	/TR1_554: 663 - 1255°C (1225 – 2291°F) /TR2_554: 848 - 1816°C (1558 – 3301°F) /TR3_554: 750 - 1450°C (1382 – 2642°F)
	Single wavelength pyrometry using a narrow band centred at 1.6 microns:	/TR2_553: 427 - 1371°C (800 – 2500°F)
Temperature Accuracy	±1.0% Full Scale	
Spot Size	Approximately 1/24 of horizontal image width	
Spatial Scan Resolution	47 horizontal x 35 vertical width of the image	
Scan Rate	Scan speed varies with size and number of TMZs or via operator adjustment	

Lens	
Construction	Air or water-cooled 304 stainless steel outer shroud; sapphire window for max. environmental protection. Straight viewing(/L) and 45° oblique angle lens (/OAL) versions available.
Diameter	/L: 38mm (1.5”); /OAL: 51mm (2.0”)
Cooling Requirements	Instrument quality air*, 25-40 SCFM (12–19 dm3/sec) @ 5-15 psig (34-103 kPa), required for straight lens
Thermocouple	/TJ: Type J thermocouple option; /TK: Type K thermocouple option
Field of View	Wide: 75° H x 58° V Medium: 50° H x 38° V Narrow: 35° H x 26°

Length	Straight Lens	OAL Lens	Water Cooled Lens	Water Cooled OAL
18”	✓			
24”	✓	✓	✓	
30”	✓	✓	✓	✓
36”	✓	✓	✓	
42”	✓	✓		
48”	✓		✓	✓

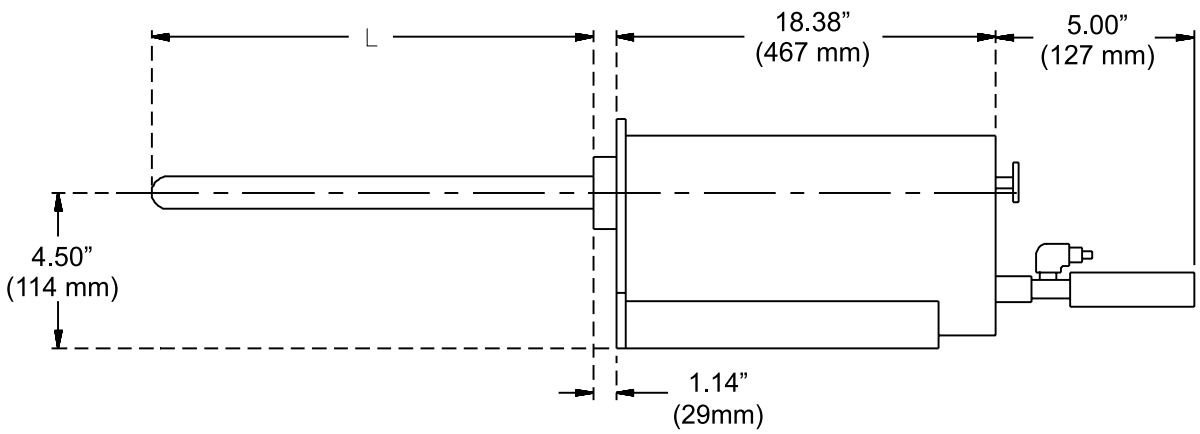
Camera	
Power	115-230 VAC, 50/60 Hz
Camera Detector	Solid state color image sensor
System Resolution	>300 lines in the centre of the image
Video	.0V p-p, 75ohm, CCTV signal /VTN: NTSC or /VTP: PAL video timing selected at time of order
Control	Iris adjustment on rear of camera; remote iris adjustment from the processor
Application Filter	Filters are provided to match your process and maximize performance. Contact your Sales Representative

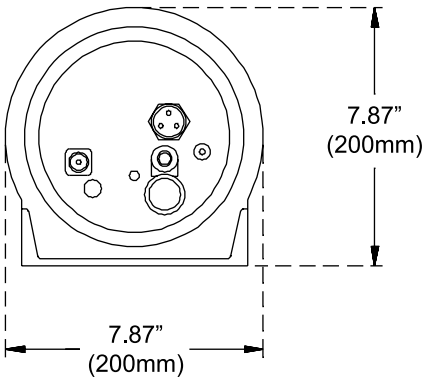
Enclosure	
Construction	/CEI: Corrosion-resistant, insulated, air-cooled, NEMA 4; /CEW: Corrosion-resistant, water-cooled, NEMA 4
Cooling Type	Vortex cabinet cooler, 25 SCFM @ 100 psi (13 dm3/sec @ 690 kPa); instrument-quality air required or water cooled option available
Ambient Environment	Max. 140°F (60°C) with negligible radiant heat load. Water cooled option available to handle high radiant heat environment

Mechanical	
Video Output Jack	Female PL-259 “UHF” type
Power Input Jack	Removable waterproof miniplug (JOY type TP, female 3-conductor; mating power cord provided)
Enclosure Cooling Input	1/4” brass quick-disconnect nipple; mating coupler (Snaptite BVHC4-4F) provided
Lens Cooling Input	1/2” brass quick-disconnect nipple; mating coupler (Snaptite BVHC8-8F) provided
Weight	30 pounds (14kg) for standard air-cooled configuration (lens and camera)

*To ISO 8573-1, Class 1•7•2

ADDITIONAL PICTURES





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Please contact your Mirion Technologies representative to advise any specific vibration or seismic qualification.

The management system governing the manufacture of this product is ISO 9001:2008 certified.

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