







MIKRON Pyrometers Product Overview

- Portables
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- Fibre Optic Pyrometers
- High Temperature Thermal Imager









Infrared Pyrometers for
non-contact temperature measurement
between -100 and +4000°C









Mikron portable infrared thermometers are lightweight, hand-held and are the ideal general purpose instruments for non-contact temperature measurement. They are used most often in the areas of preventative maintenance, quality assurance and short term process monitoring.

Portable Pyrometers		TEMP. RANGE	ACCURACY	FIELD OF VIEW	RESPONSE TIME	OUTPUTS	
M90 Series   <ul style="list-style-type: none"> Through-lens sighting Sharp focussing on targets 10 different spectral responses Minimum measurable target diameter: 1.0mm (0.04") Temperature display in eye-piece and rear window Built-in data logging M90R for 2/color M90ZB for small areas at a distance 		-58° to 5432°F -50° to 3000°C	±0.25% of reading ±1°C	20 : 1 to 300 : 1	0.5 s	RS232 1 mV/°C 1 mV/°F 0 to 1 Volt	
		R	1292° to 5432°F 700° to 3000°C	±0.70% of reading	60 : 1 to 180 : 1		0.5 s
		ZB	-58° to 1832°F -50° to 1000°C	±1% of reading ±1°C	180 : 1		0.75 s
M120, M125 Series   <ul style="list-style-type: none"> Laser aiming feature Can display highest or lowest reading of a series, or the average Differential measurement 0.1°C resolution Stores up to 250 readings (M120, M120CF only) M125: low cost series 		M120 -25° to 1652°F -32° to 900°C	1% of reading ±1°C	50 : 1	150 ms	RS232 1 mV/°C 1 mV/°F	
		M125 -25° to 1652°F -32° to 600°C	1% of reading ±1°C	10 : 1 to 30 : 1	300 ms		





Mikron has a wide selection of industrial fixed mount non-contact temperature sensors to fill any need. Select from low cost, compact models, highly advanced fiber optic and 2/color instruments, flexible single color non-contact pyrometers, and high speed ultra precision digital units with multi-channels.

Stationary Pyrometers		TEMP. RANGE	ACCURACY	FIELD OF VIEW	RESPONSE TIME	OUTPUTS
M50   <ul style="list-style-type: none"> Designed for use in multiple locations Low cost infrared sensor Air purge cooling jackets (optional) Small dimensions Stainless steel housing, hermetically sealed 		0° to 570°F -20° to 300°C	±1.5% of full scale ±3°C whichever is greater	6 : 1	80 ms (63%)	10 mV/°C 10 mV/°F Thermocouple Type J or K
M67, M67S Series *   <ul style="list-style-type: none"> Wide range of types with different specifications Rugged self-contained Most flexible Variable focus optical system Compatible with existing instrumentation Wide range of protective hardware 		-40° to 5400°F -40° to 3000°C	0.5% of full scale ±1°C whichever is greater	5 : 1 to 180 : 1	50 ms to 30 s	4-20 mA
M68 Series   <ul style="list-style-type: none"> Fiber optic model Unaffected by RF or EMI interference Field interchangeable sensor, lens assemblies, fiber optic cable Functions in high ambient temperature environments without cooling Mini lens assembly for limited space 		600° to 5400°F 350° to 3000°C	±0.75% of full scale	30 : 1 to 180 : 1	10 ms	4-20 mA

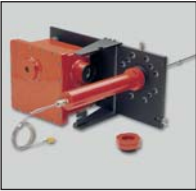



Stationary Pyrometers

		TEMP. RANGE	ACCURACY	FIELD OF VIEW	RESPONSE TIME	OUTPUTS
M77, M77S, M78  <ul style="list-style-type: none"> • 2 Color pyrometer • Precision focusable optics • Through lens sighting • Adjustable slope • M78 is fiber optic version 	CE	1292° to 5432°F 700° to 3000°C	±0.5% of full scale	15 : 1 to 180 : 1	40 ms	4-20 mA
M770S, M780  <ul style="list-style-type: none"> • Digital 2 color pyrometer • Precision focusable optics • Adjustable slope • Alarm relay and temperature display • Powerful software for process diagnostics • M780 is fiber optic version 	CE	1112° to 6332°F 600° to 3500°C	±0.5% of full scale	60 : 1 to 180 : 1	7.5 ms	4-20 mA RS485
M190 Series  <ul style="list-style-type: none"> • For high precision applications • Easy focusable optics • Adjustable emissivity • Use as stand-alone or interface with controller or data acquisition equipment • M190R1 and M190R2 are 2-color versions 	CE	482° to 5432°F 250° to 3000°C	0.3% to 0.8% of reading	40 : 1 to 300 : 1	50 ms	4-20 mA RS232C
M600 with Thermowell  <ul style="list-style-type: none"> • Thermocouple replacement • High accuracy and extended life • Durable water and dust proof housing • Cover wide temperature span • Optional explosion proof enclosure • Protective thermowell available in several sizes and materials 		650° to 5400°F 350° to 3000°C	±0.5% of reading	n/a	250 ms	4-20 mA Thermocouple Types K, S, R, B, W
M668  <ul style="list-style-type: none"> • Fiber optic IR thermometer • User selectable temperature range and output • Focusable optics • Interchangeable fiber optic cables • High accuracy and stability • M668L features integral targeting light 	CE	392° to 7200°F 200° to 4000°C	±0.5% of reading	1 : 1 to 300 : 1	50 ms to 10 s	4-20 mA Thermocouple Types K, S, R, B, W
M680  <ul style="list-style-type: none"> • High accuracy fiber optic IR thermometer • 4 channel • Precision optics • Automatic calibration when fiber cables are replaced 	CE	302° to 7232°F 150° to 4000°C	±0.2% of reading ±1°C	1 : 1 to 300 : 1	25 ms (2 channel) 50 ms (4 channel)	4-20 mA 0-20 mA 0-5 V 0-10 V 1-5 V 2-10 V RS232



Mikron offers highly sophisticated high temperature thermal imaging systems for a wide range of applications which allow the user to see the temperature gradient of an entire surface rather than a single point. The highly accurate, high resolution M9104 is a multi-range unit for laboratory use, the M9103 and M7900 are to the ideal process instrument.

Thermal Imagers		TEMP. RANGE	ACCURACY	FIELD OF VIEW	RESPONSE TIME	OUTPUTS
M9103, M9104  <ul style="list-style-type: none"> Near-infrared solid state camera with patented detector and video processor 300,000 points Single range for process control and multi-range for laboratory use operates without detector cooling 		custom 1112° to 4532°F 600° to 3000°C	±1%	custom	30 frame/sec.	4-20 mA ethernet digital
		M7900  <ul style="list-style-type: none"> Similar to M9103 but for lower temperatures Near-infrared solid state camera with patented detector and video processor 67,800 points Single range for process control 		custom 572° to 4532°F 300° to 2500°C	±0.5% of reading ±1°C	custom

Mikron's line of E²T infrared thermometers provide reliable temperature measurement in the Petrochemical Industries. The Pulsar II is designed for temperature measurements of High Temperature, Sulphur Recovery and Sulphur Burning Furnaces. The Quasar line of products is designed for Flare Stack Monitoring of Pilots, Flaring and Smoke. Both systems are CSA, CENELEC and ATEX certified for hazardous areas.

E ² T Infrared Thermometers		TEMP. RANGE	ACCURACY	FIELD OF VIEW	RESPONSE TIME	OUTPUTS
Pulsar II Series  <ul style="list-style-type: none"> (GT) Gas, (RT) Refractory and (FF) Integrated Temperature Measurements Custom fixtures and accessories designed for maximum instrument life and minimum maintenance. NEMA 4X housing CSA & ATEX certification for hazardous area applications 		401° to 4172°F 205° to 2300°C	1%	150 : 1	0.5 or 5 sec. switchable	Dual 4-20 mA 1 mV Relay SPST
		Quasar M8100  <ul style="list-style-type: none"> For continuous duty monitoring of flare Pilot, Flaring and Smoke Sight-through optics 1/4 mile range NEMA 4X housing Heavy Duty mounting base Video output available for non-hazardous areas 		Pilot Flare Smoke	n/a n/a	37.5 : 1 to 300 : 1 37.5 : 1 to 300 : 1

Mikron's line of Quantum I infrared thermometers is specially designed for use in petrochemical industry for the temperature measurement in process furnaces such as ethylene crackers, hydrogen reformers, methanol products, fertilizer producers, etc.

Quantum Infrared Thermometers		TEMP. RANGE	ACCURACY	FIELD OF VIEW	RESPONSE TIME	OUTPUTS
Quantum I  <ul style="list-style-type: none"> Instant warm-up Measures actual target emissivity Automatically calculates and corrects for effects of reflected ambient radiance Built-in micro computer and specialized software 		392° to 5432°F 200° to 3000°C	±3° (F or C)	240 : 1	400 ms	RS232 (optional)

Application	Temperature		Mikron Model *
Air Conditioner (HVAC)	-50° to 200°C	8 to 14 µm	M120 M125 M90BT
Aerospace	-50° to 3000°C		M90 M120 M190 M9104 M67SV M770SV
Circuit Board	-40° to 200°C	8 to 14 µm	M120CF M125 M90B
Combustion Furnaces Power Plants	320° to 2200°C	CO ₂ Absorption Band	M67L for CO ₂
Electrical Hot Spots	-50° to 1000°C	8 to 14 µm	M120 M125 M90BT M90ZB
Furnaces & High Flames	500° to 2500°C		M90IN M67IN
Glass Surface	100° to 2500°C	4.8 to 5.2 µm	M67S(E) M90E M120GL
Hazardous Area	-40° to 2500°C		Pulsar 67FM
Low Reflective Materials	-32° to 900°C	8 to 14 µm	M67S(B) M50
Metals, Composites	250° to 2000°C	ONE COLOR 1.5 µm	M67S(Q) M90V M680 M190Q M68 M9103 M668
	600° to 3500°C	TWO COLOR 1 µm	M77S M90R M78 M770S M77SV M780 M190R M770SV
Molten Glass	550° to 3500°C	1 µm	M67S(H) M68 M680 M190H M668
Motor Bearings and Case	-40° to 300°C	8 to 14 µm	M120 M125 M90BT
Petrochemical & Refineries	0° to 600°C		Quasar M8100 Series Pulsar M7000 Series Quantum I, MQ Series
Plastics & Thin Film	0° to 600°C		M67M M67F
Refrigeration	-50° to 200°C	8 to 14 µm	M120 M125
Roofing	-40° to 100°C	8 to 14 µm	M120 M125 M90B
Semiconductor	150° to 3000°C		M668 M770 M9104 M680 M77S

* Models are color coded to correspond with this chart.

