

The new **Onyx™ series** meets the most demanding accuracy and repeatability requirements over a **broad temperature range**. Based on over 20 years of pyrometry and optical temperature measurement experience in some of the world's most demanding applications, the Onyx series provides measurement precision, repeatability, and reliability to industrial applications.

EXPAND YOUR APPLICATION OPTIONS

- › Quartz and sapphire—growth and annealing
- › Steel—forging, finishing and vessel monitoring
- › Thin-film solar—glass, metals
- › Non-ferrous metals—casting, forging and extrusion
- › Carbon fiber—production and annealing
- › Technical ceramics—heat-treatment, sintering

PYROMETER OVERVIEW

- › Measures emitted infrared thermal radiation energy radiating from an object and converts this into temperature
- › Uses a wavelength-specific filter
 - Pre-selected wavelength based on materials
 - Blocks all unwanted "stray" energy
 - Measures only at a specific wavelength
- › Calculates temperature based on the amplitude of the collected thermal radiation
- › Provides excellent accuracy and repeatability for critical thermal processes

SPECIFIC USES

- › Ideal for moving, rotating, or inaccessible work pieces, or when direct physical contact would damage the work product
- › Wide temperature range, from 200°C (392°F) up to 2200°C (3992°F), based on selected wavelength
- › Non-contact device; can provide years of service, typically requiring minimal maintenance or re-calibration
- › Provides excellent accuracy and repeatability

ONYX™ SERIES INDUSTRIAL PYROMETERS





ONYX - MULTI-CHANNEL VERSIONS (ONYX™-MC AND ONYX™-MCE)

- › Temperature-only or active-emissivity configurations
- › Separate sensors plus fiber optic cables
- › Multiple-channel configurations
- › IP65 industrial protection protocol (sensors)

ONYX SERIES - SINGLE-CHANNEL VERSIONS (ONYX™-S AND ONYX™-S2C)

- › Single/two-color ratio measurement options
- › Fieldbus communication options
- › Integrated laser alignment
- › IP65 industrial protection protocol
- › High ambient operating temperatures



MODEL	ONYX-S	ONYX-S2C TWO COLOR	ONYX-MC	ONYX-MCE ACTIVE EMISSIVITY
				
Measurement	Single-Wavelength	2-Color Ratio	Multi-Channel Temp	Temp + Active Emissivity
Sensor Design	Integrated Optical Sensor		Sensor plus fiber optic cable	
Channels	1		1 to 4	1 to 2
Spectral Range	700 nm to 1550 nm*	970/1070 nm	700 nm to 1550 nm*	919 nm (with 910 nm LED)
Temp Range	200 to 2200°C (392 to 3992°F)*	600 to 1600°C (1112 to 2912°F)*	200 to 2200°C (392 to 3992°F)*	530 to 1300°C (986 to 2372°F)*
Working Dist.	100 mm to 3.0 m (3.9 to 118.1")			100 mm to 450 mm
Emissivity	Fixed (0.05 to 1.0, programmable)			Active (0.03 to 1.0)
Read Rate	Up to 1000 Hz (1 ms)		Up to 2000 Hz (1 ms) , up to 700 Hz (1.4 ms) 4 channels**	
Alignment	Laser (635 nm, class: 3R (IIIa), optical)		Fiber optic cable light source cable Light Source (Optional)	
Protection Class	IP 65		Electronics: IP60, Optical sensor: IP65	
Compliance	CE			
Operating Temp	5 to 70°C (41 to 158°F)		Electronics: 15 to 40°C (59 to 104°F) Optical sensor: 5 to 85°C (41 to 185°F)	
I/O	Analog (0-10 V, 0 to 20 mA, 4-20 mA) Serial (RS-485, RS-232), USB 2.0		Analog (0-10 V, 4-20 mA) Serial (RS-232, RS-422),	
Fieldbus Communications	Profibus, DeviceNet, EthernetIP, Profinet, EtherCAT, Modbus TCP		EthernetIP, Modbus RTU	

See individual product brochures for full specifications. * Please contact your AE representative for custom wavelength and/or temperature ranges.

** Active emissivity read rate: Up to 500 Hz on a single channel.