SEKIDENKO MXE HIGH-SPEED PYROMETER

HIGH-SPEED MEASUREMENT FOR PRECISE CONTROL IN DYNAMIC PROCESSES

The Sekidenko MXE pyrometer combines speed and precision, enabling accurate, non-contact, repeatable measurement and control of demanding applications. Its high-speed (up to 10 kHz) performance is ideal for processes with moving targets, such as rotating susceptors. It is also extremely well suited for dynamic processes, including laser-based processing or rapid anneals. For easy integration and flexible control options, the MXE unit is remarkably compact and supports a variety of I/O protocols.

PRODUCT HIGHLIGHTS

- In-situ, non-contact temperature and emissivity measurement
- High-speed measurement ideal for a variety of applications
- Variety of available temperature + reflectance wavelengths
- EtherCAT®, USB, and analog output options
- Increased process insight
- Highly configurable platform
- Improved temperature-measurement accuracy and repeatability
- Enhanced uniformity
- Increased productivity, yield, and throughput
- Decreased development time
- Comprehensive measurement capabilities
- Easy integration and flexible control

INCREASED PROCESS INSIGHT

Temperature control is increasingly critical in a variety of applications. The MXE pyrometer is ideally suited to measure temperature in tightly controlled applications where uniform, repeatable measurements are required.

HIGHLY CONFIGURABLE PLATFORM

The MXE pyrometer is configurable to suit a variety of applications. Features such as measurement wavelength, active reflectance, optical interface, and I/O protocols can be optimized for a specific application. Measurements up to 10 kHz are possible.

In addition, a variety of spot sizes and working distances can be supported. Use of fiber-coupled collection optics can also be supported for applications requiring remote placement of the electronics.

ACCURATE, REPEATABLE PERFORMANCE

High-speed measurement allows collection of multiple data points and ensures statistically significant temperature determination. Moreover, built-in compensation algorithms allow stable operation over the full ambient temperature range for repeatable and consistent measurement.

COMPREHENSIVE MEASUREMENT CAPABILITIES

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INCREASED PROCESS INSIGHT

Measurement wavelength can be selected specifically for the the target and temperature range of interest, ensuring optimal results. Reflectance is also available, allowing for emissivity-corrected measurements on opaque targets.

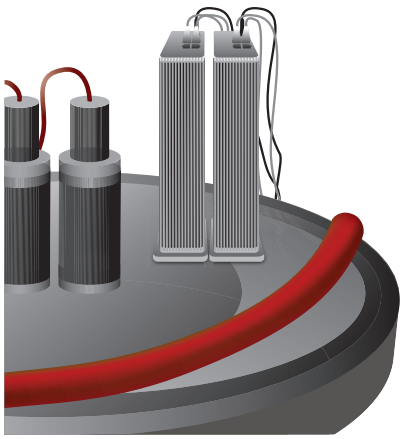
EASY INTEGRATION AND FLEXIBLE CONTROL

Compact Design—Multiple units may be positioned side-by-side.

Multiple Interface Options—The availability of a variety of data output formats, along with buffering options, allows data to be used for both closed-loop temperature control and process monitoring. In particular, EtherCAT® protocol allows multiple devices to be chained and operated by a single controller, saving on the required infrastructure. I/O options include:

- EtherCAT®
- RS-232
- USB

Mounting Options—Optional tilt and XY translation stages allow easy integration, as well as customization of working distance to suit your specific needs.



MXE pyrometers mounted side-by-side on tool

SPECIFICATIONS

Configurations	Temperature only
	Temperature + reflectance
	Reflectance only
Temperature Range	Application dependent
Read Rate	Up to 10 kHz
Accuracy	±1.5°C, typical
Repeatability	±0.1°C, typical
Resolution	0.001°C
Reflectance Accuracy	±1 %
Reflectance Repeatability	±0.5 %
Working Distance Range	100 to 450 mm
Spot Size	2 to 8 mm
Power Requirements	AC: 90 to 263 VAC, 47 to 63 Hz
	DC: +24 VDC
Environmental	Operational: 18 to 40°C (64 to 104°F), non-condensing
Physical Dimensions	229 mm (D) x 127 mm (W) x 46 mm (H)
	9.0” (D) x 5.0” (W) x 1.8” (H)
Weight	< 1.54 kg (3.4 lb)
Mounting	Tilt stage and XY stage optional
EtherCAT® Protocol	EtherCAT® standard conformance
USB 2.0	Up to 2 kHz transfer rate for 10 kHz data
RS-232	Selectable baud rate up to 460, 800; 7E1 or 8N1
Analog Output	0 to 10 V or 4 to 20 mA outputs
Control I/O	Sync out, alarms out, source interlock
System Requirements	I5 or equivalent processor with Beckhoff qualified NIC card recommended for EtherCAT® support

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

PRECISION | POWER | PERFORMANCE

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