The Zenith controller is a next generation solution for non-contact, confocal measurements. Paired with a confocal pen, the Zenith controller can take measurements of unrivaled accuracy on surfaces where lasers struggle. Depending on the confocal pen chosen, the Zenith controller can take measurements with errors as low as +/- 35 nanometers. A new Dual Channel version can support two pens for simultaneous, synchronized measurement perfect for thickness applications.

ZENITH Confocal Measurement System Controller

Principles of Operation

The Zenith controller transmits white light through a fiber optic cable that is focused on the target with a multi-lens optical pen. As the light is focused, the chromatic aberration of the optical pen's system of lenses spreads the individual wavelengths of the light out and creates a spectrum of focal points over the measurement range. This light is reflected off the target, collected by the optical pen, and sent back through the fiber optic cable to a spectrometer. The spectral signature of the reflected light is then analyzed to determine the target's distance.

Features

- Available in single pen and synchronized dual pen versions
- 15-bit measurement resolution
- Can synchronize with encoders and other controllers
- Supports up to 5 encoder inputs
- GigE Ethernet an RS422 connections
- Configuration can be managed with software or an embedded web server

Specification		Zenith Confocal Controller
Technology		White LED Confocal
Number of Channels		1 and 2 Channel Versions Available
Measuring Frequency		Up to 5000 Hz
Calibration Table Memory		Up to 20 Calibration Tables
Distance Measurement Modes		First/Second/Third/Fourth/Last Target; Strongest Peak; Thickness Measurement
Digital Output		Ethernet (GigE) and RS422 Serial Output
Synchronization		Trigger In (5V TTL, 5-24 VDC, or Encoder) and Trigger Out (5V TTL)
Encoders Supported		Up to 5 Encoder Inputs (Differential TTL)
Optical Fiber Connection		E2000/APC
Operating Temperature		+5°C – +50°C
Storage Temperature		-20°C – +70°C
Relative Humidity		5% – 80% Non-Condensing
Protective Rating		IP40
Compliance Standards	Electromagnetic Compatibility	EN 61326-1
	Cold Operation and Storage Temperature	EN 60068-2-1 A
	Humidity Compatibility	EN 60068-2-78
	Hot Storage Temperature	EN 60068-2-2 B
	Vibration Tolerance (5G Sinusoidal)	EN 60068-2-6 FC
	Protective Rating	EN 60529
Power Supply		24 VDC
Maximum/Typical Power Consumption		25W / 10W
Dimensions		169 mm x 110mm x 88mm
Weight		Single Channel – 1kg; Dual channel – 1.2kg

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Specifications may change without notice