

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 and 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 | |