10mm Aperture, Protected Silver, Compact 506 Dual Axis Galvanometer Scanner

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General

Type:

Dual Axis

Model Number:

ScannerMAX Compact 506

Physical & Mechanical Properties

Mirror Aperture (mm):

10		
	Dimensions (mm):	
44.0 x 33.0 x 47.8 (of mount. Galvos protrude ~17mm)		
	Rotor Inertia (gm-cm²):	
0.014		
	Torque Constant (dyne-cm/A):	
18,400		
	Step Response 0.1° (µs):	
400		

Optical Properties

	Surface Flatness (P-V):	
≤λ/4 @ 632.8nm		
	Coating:	
Protected Silver		
	Scan Angle (°):	
40 (Optical)		
	Substrate: ☐	
Silicon (Si)		

Electrical

	Position Signal (V):	
±10		
	Current - Peak (A):	
Maximum: 10		
	Current - RMS (A):	
1.85 (Case @ 50°C)		
	Coil Resistance (Ω):	
1.8		
	Coil Inductance (µH):	
280		
	Back EMF Voltage (µV/°/s):	
32.1		

Hardware & Interface Connectivity

	Power Requirement:	
±24 VDC		
	Power Supply:	
1 x **#16-045** Europe (CE Marked): 2 x **#14-571**		

Environmental & Durability Factors

	Operating Temperature (°C):	
0 to +50		

Regulatory Compliance

	RoHS 2015:	
Compliant		
	Certificate of Conformance:	
View		
	REACH 241:	
Compliant		

Product Details

- 3, 5, and 10mm Mirror Apertures
- Dual Axis Configuration with Protected Silver Coating
- Compact, Light-Weight, Low-Cost Scanners
- **High Performance ScannerMAX Saturn Scanners** Also Available

ScannerMAX Compact 506 Dual Axis Galvanometer Optical Scanners are designed for cost-sensitive applications requiring compact, light-weight optical scanners that do not compromise on performance. The Compact 506 series features a sturdy rotor construction and low coil resistance, allowing these galvanometers to achieve reasonably fast scan speeds without producing excessive heat. The patented position sensor design provides these galvanometers with up to ten times the signal-to-noise ratio of conventional galvanometers, ensuring high quality motion. ScannerMAX Compact 506 Dual Axis Galvanometer Optical Scanners are ideal for use in stereo lithography (SLA) 3D printing, LiDAR, handheld medical devices, and laser cleaning applications. Optical scanners with a 3, 5, and 10mm mirror aperture are available with a protected silver coating; please contact us if your application requires a Compact 506 galvanometer scanner with a custom mirror aperture or coating.

ScannerMAX Compact 506 Galvanometer Optical Scanners are driven by the Mach-DSP Servo Driver. This digital servo driver features a compact package size and simultaneously control both X-Axis and Y-Axis scanners. The Mach-DSP can be controlled by both analog and digital signals, and it can be accessed and adjusted using a free GUI software package, which includes a built-in test pattern generator, oscilloscope, and dynamic signal analyzer. The Mach-DSP Servo Driver requires ±24 VDC of power.

Note: For European customers, 2 units of power supply **#14-571** are required for operation.

Various longer or shorter galvo to servo cables are available in the accessories tab. Please note that these cables are compatible with all Compact 506 Systems as well as the following list of Saturn Systems:

Any Saturn 1 System (16-039 or 16-042) with Serial Numbers higher than PS102838
Any Saturn 5 System (16-040 or 16-043) with Serial Numbers higher than PS501904
Any Saturn 9 System (16-041, 16-044, 21-969) with Serial Numbers higher than PS903670

Each Compact 506 Dual Axis Galvanometer Optical Scanner ships with:

- 2 x Compact 506 Series Galvanometer
- 1 x X-Y Axis Mount
- 1 x Mach-DSP Servo Driver Board
- 2 x 1-meter-long cables that connect the galvanometer to the servo driver

- 1 x Cable kit including power and analog input cables

Technical Information

WHAT'S INCLUDED WITH YOUR SCANNERMAX SCANNER	
Item Number	Description
1	Galvo to Servo Driver Connection Cable (1 with Single Axis Scanners, 2 with Dual Axis)
2	Digital Input Cable for Servo Driver
3	Analog Input Cable for Servo Driver
4	Mach-DSP Servo Driver Board
5	Galvanometer
6	Thermal Paste
7	Power Cable