

APPLICATIONS

- > Fast steering mirror
- > Point ahead mechanism
- > Line of sight stabilisation
- > Microscanning
- > Tracking
- > Fine pointing

KEY FEATURES

- > Compact size
- > High control bandwidth
- > Low power consumption
- > Large optical deflection angle > 2.8 °
- > Eddy Current Positioning Sensor
- > Operating temperature range
-10 °C..+60 °C
- > Vacuum Compatible

RELATED PRODUCTS

- > MCLA18
- > ECS45

AVAILABLE OPTIONS

- > Specific control loop calibration
- > ECS position sensor

ANNOTATIONS

Performances measured in labs environment with +/- 10% tolerance. A misused can lead to temporary or definitive alterations of properties. Contact CEDRAT TECHNOLOGIES prior using actuators under non standard technical conditions

(1) low frequency < 10 Hz

(2) Peak to peak stroke in open & closed loop at ambient

(3) Resolution is only limited by the SNR of the amplifier and the measuring equipment resolution. In closed loop with Eddy Current Sensor (ECS)

(4) Gain value measured in quasistatic condition @ 0.05 Hz

(5) Loaded with 17 mm diameter SiC mirror of 4.5 gm and controlled with MCLA18

(6) @-3 dB and loaded with 17 mm diameter SiC mirror of 4.5 gm

(7) Loaded with 17 mm diameter SiC mirror of 4.5 gm

(8) Closed-loop system including ECS45 conditioner and MCLA18 controller (power electronic + control algorithm)

(9) RWE measured at 633 nm at mirror manufacturing



NON CONTRACTUAL PICTURE

PARAMETER	TYPICAL VALUE	UNIT
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> Quasistatic performances ⁽⁴⁾

Max Angular stroke ⁽²⁾	50	mrاد
Resolution ⁽³⁾	< 0.5	μrad
Linearity ⁽³⁾	<0.1	%

> Dynamic performances

Loaded resonance frequency ⁽⁵⁾	100	Hz
Control Bandwidth ⁽⁶⁾⁽⁸⁾	350	Hz

> Mirror substrates and coatings options

Substrates options	SiC and SiO ₂	
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Substrate size / clear aperture

SiC substrate	17mm diameter / CA > 15.5mm
SiO ₂ substrate	15mm diameter

Coating options

	Silver and Hybrid coating on SiC substrate
	UV Enhanced Aluminum on SiO ₂ substrate
	Custom substrate & Coating on demand

Reflectivity on SiO ₂ substrate	> 85% from 300nm to 700nm
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Reflectivity on SiC substrate	with silver coating > 95% from 450nm to 2300nm at 45° with high power laser dielectric coating > 99.5% from 1490nm to 1680nm at 35-55°
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Wavefront quality ⁽⁹⁾

SiO ₂ substrate	λ/10
SiC substrate	λ/20

> Driving

Max driving voltage range	+/- 32	V
Max driving current range	+/- 1	A
Resistance @ 20 °C per axis	8	Ohm
Inductance @ 20 °C per axis	32	mH

> Dimensions & interfaces

Height	40	mm
Diameter	45	mm
Mass	195	g

> ICD Reference 037888-ICD-01

