

APPLICATIONS

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

KEY FEATURES

- > Compact size
- > Strain Gauges (SG) positioning sensor
- > Low power consumption
- > Low capacitance per axis
- > High control bandwidth
- > Operating temperature range
-10 °C..+60 °C
- > Vacuum Compatible

RELATED PRODUCTS

- > LA75 > CCBu20
- > SG75 > CCBu40

AVAILABLE OPTIONS

- > Specific control loop calibration
- > SG 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 Strain Gage Sensor (SG)

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

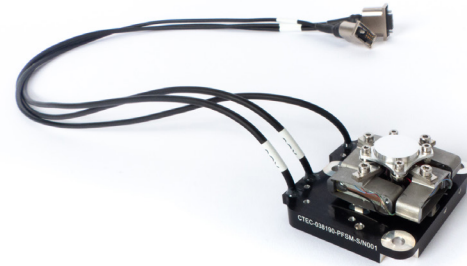
(5) Loaded with 17 mm diameter SiC mirror of 3.4 gm

(6) @-3 dB and loaded with 17 mm diameter SiC mirror of 3.4 gm

(7) Loaded with 17 mm diameter SiC mirror of 3.4gm, excluding wires

(8) Closed-loop system including SG75 conditioner and LA75 controller (power electronic + control algorithm)

(9) RWE measured at 633 nm at mirror manufacturing



PARAMETER	TYPICAL VALUE	UNIT
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> Quasistatic performances ⁽⁴⁾

Max Angular stroke ⁽²⁾	18	mrad
Resolution ⁽³⁾	< 2	μrad
Linearity ⁽³⁾	<1	%
Gain ⁽⁴⁾	0.106	mrad/V

> Dynamic performances

Loaded resonance frequency ⁽⁵⁾	700	Hz
Control Bandwidth ⁽⁶⁾⁽⁸⁾	400	Hz

> Mirror substrates and coatings options

Substrates options	SiC and SiO2
Substrate size / clear aperture	
SiC substrate	17 mm diameter / CA > 15.5 mm
SiO2 substrate	15 mm diameter
Coating options	Silver and Hybrid coating on SiC substrate
	UV Enhanced Aluminum on SiO2 substrate
	Custom substrate & Coating on demand
Reflectivity on SiO2 substrate	> 85 % from 300nm to 700 nm
Reflectivity on SiC substrate	
with silver coating	> 95 % fom 450 nm to 2 300 nm at 45 °
with high power laser dielectric coating	> 99.5 % from 1 490 nm to 1 680 nm at 35-55 °
Wavefront quality ⁽⁹⁾	
SiO2 substrate	λ/10
SiC substrate	λ/20

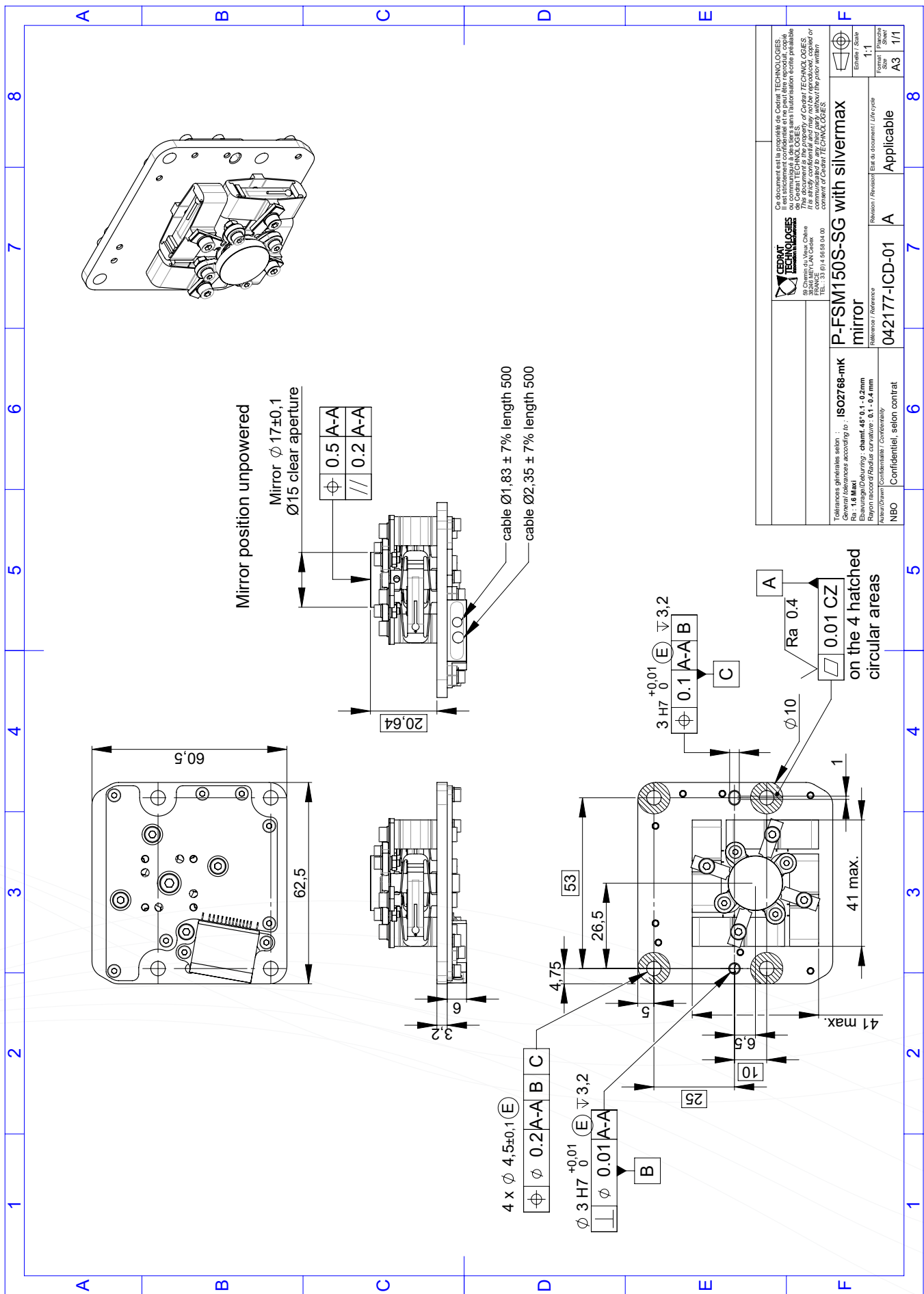
> Driving

Voltage range	-20...+150	V
Capacitance per axis	3	μF

> Dimensions & interfaces

Height	30	mm
Length	63	mm
Width	61	mm
Mass	155	g

> ICD Reference



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<p>Tolérances générales selon : ISO2768-mK General tolerances according to : ISO2768-mK Etrusques / Drawing : chgmt 4E 0,1 - 0,2mm Rayon raccords / Radius curvature : 0,1 - 0,4 mm Assez / Drawn : Confidentially / Confidentially NBO</p>		<p>Revision / Révision / Etat du document / Life cycle A Applicable</p>	
<p>P-FSM150S-SG with silvermax mirror</p>		<p>Entaille / Scale : 1:1 Format / Format : A3 1/11</p>	
<p>042177-ICD-01</p>		<p>7</p>	