CEDRAT TECHNOLOGIES
Innovation in Mechatronics

M-FSM45-HPL

Magnetic Fast Steering Mirror

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 > 10 °
- Eddy Current Positioning Sensor
- Operating temperature range -10 °C..+60 °C
- Vacuum Compatible
- Withstand vibration & shocks
- High Power Laser up to 80 W continuous
- Redondant coils

RELATED PRODUCTS

- MCLA18

AVAILABLE OPTIONS

- Specific control loop calibration

NON CONTRACTUAL PICTURE

PARAMETER	TYPICAL VALUE	UNIT
Quasistatic performances (1)		
Max Angular stroke (2)	90	mrad
Linearity in closed loop	<0.1	%
Gain (3)	130	mrad/A
Dynamic performances		
Loaded resonance frequency (4)	80	Hz
Mirror subtrates and coatings options		
Sic Options		
Substrate size / clear apperture	17mm diameter / CA > 16.2mm	
Coating options	Silver and Gold Dielectric for High Power Laser	
Reflectivity on SiC substrate		
with silver coating	> 95% fom 450nm to 2300nm at 45°	
with high power laser dieletric coating	> 99.5% from 1490nm to 1680nm at 35-55°	
Wavefront quality (5)	λ/20 at 1 600 nm	
Driving		
Max driving voltage range	+/- 32	V
Max driving current range	+/- 1	A
Resistance @ 20°C per axis (nominal coil)	11	Ohm
Resistance @ 20°C per axis (redondant coil)	13	Ohm
Inductance @ 20°C per axis (nominal coil)	34	mH
Inductance @ 20°C per axis (redondant coil)	55	mH
Dimensions & interfaces (6)		
Heigth	58	mm
Diameter	45	mm
Mass	<400	g
Mechanical interfaces	see icd	
Optical interface (6)	see icd	
Electrical interfaces	see icd	

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) Stroke limited by a mechanical stop. Peak to peak stroke in open & closed loop at ambient

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

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

(5) Measured at 1600 nm at mirror manufacturing

(6) See mirror ICD

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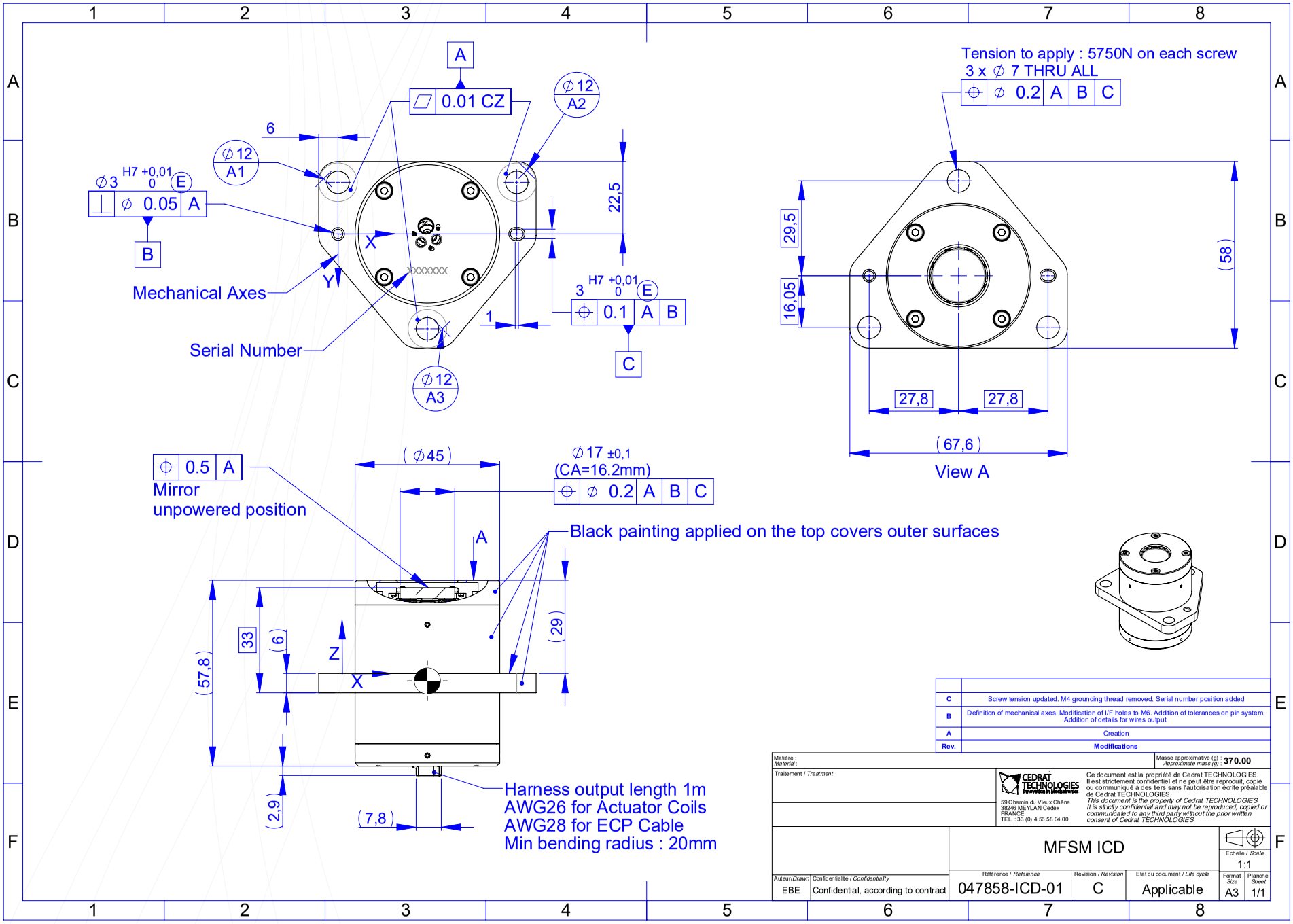

Rev.	Modifications
C	Screw tension updated. M4 grounding thread removed. Serial number position added
B	Definition of mechanical axes. Modification of I/F holes to M6. Addition of tolerances on pin system. Addition of details for wires output.
A	Creation

Matière : *Material :*

Masse approximative (g) *Approximate mass (g)* : **370.00**

Traitement / *Treatment*

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MFSM ICD

Echelle / *Scale* 1:1

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