

APPLICATIONS

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

KEY FEATURES

- > Compact size
- > Space Heritage
- > Short settling time
- > High control bandwidth
- > Very Low capacitance per axis
- > Large optical deflection angle > 0.6°
- > Strain Gauges (SG) positioning sensor
- > Operating temperature range -55°C..+70°C

RELATED PRODUCTS

- > CCBu20
- > CCBu40

AVAILABLE OPTIONS

- > Glass mirror size under request
- > Specific control loop calibration

AVAILABLE INTERFACES

- > Specific mirror interface

ANNOTATIONS

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

(1) Full voltage range @ 1Hz

(2) Peak to peak stroke in open & closed loop within the voltage range at ambient.

Piezo actuators are free of friction and their resolution is only limited by the SNR of the voltage amplifier and the measuring equipment resolution

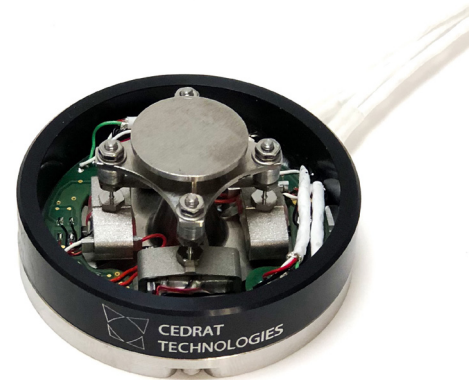
(3) In closed loop with SG sensor

(4) Blocked-free: The actuator is fixed to a mechanical support assumed infinitely stiff

(5) Loaded with an optional Glass mirror 12.2 mm diameter and 3 mm thickness

(6) @-3dB and loaded with an optional Glass mirror 12.2 mm diameter and 3 mm thickness and controlled by CCBu40 controller

(7) Unloaded, excluding wires



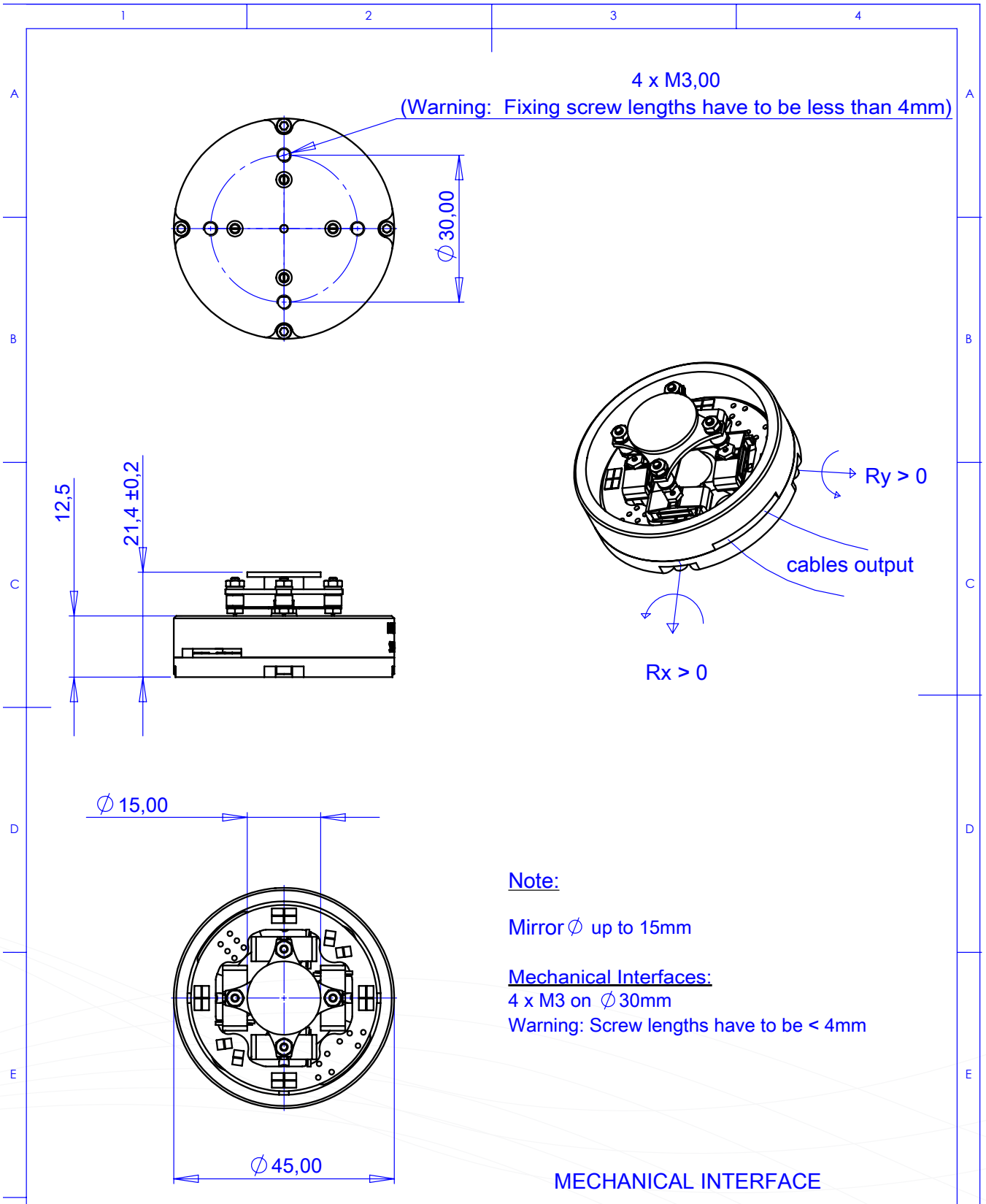
NON CONTRACTUAL PICTURE

PARAMETER	TYPICAL VALUE	UNIT
> Quasistatic performances ⁽⁴⁾		
Max Angular stroke ⁽²⁾	> 5	mrad
Resolution ⁽³⁾	< 1	μrad
Linearity ⁽³⁾	< 0.2	%
> Dynamic performances		
Unloaded resonance frequency ⁽⁴⁾	> 2.600	Hz
loaded resonance frequency ⁽⁵⁾	> 2.400	Hz
Control Bandwidth ⁽⁶⁾	> 600	Hz
5 mrad Settling time @ +/-5% ⁽⁶⁾	< 1.5	ms
1 mrad Settling time @ +/-5% ⁽⁶⁾	< 1.5	ms
> Driving		
Voltage range	-20...+150	V
Capacitance per axis	0.5	μF
> Dimensions & interfaces ⁽⁷⁾		
Height	<22	mm
Diameter	<45	mm
Mass	65	g

> **Mechanical interfaces** See icd

> **Optical interface** See icd

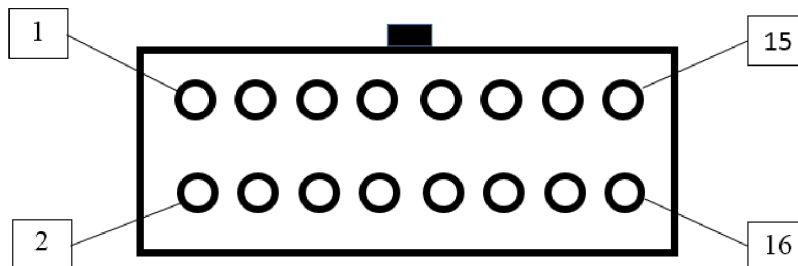
> **Electrical interfaces** See icd



Matière / Material		Norme Matière / Material Standard:		Autre norme / Additional Standard	
-		-		-	
Ref. Traitement / Treatment ref.		Nom de projet / Project Name			
Ref. Traitement Surface / Surface Treatment ref.		DTT35XS_SM_Small_Mirror			
Dessiné par / Drawn by		Désignation / Title			
aguignabert		ICD_DTT35XS_SM_Small_Mirror			
Vérifié par / Checked by		Obsolescence / Life Cycle	Date	CONFIDENTIEL INDUSTRIE Ce document est la propriété de CEDRAT TECHNOLOGIES. Ne peut être communiqué sans autorisation écrite.	
apieton		R&D	18/06/2019	Format A4 Echelle/Scale 1:1	
Validé par / Approved by		Masse / Mass	Reference / Revision		Page
aguignabert		65 g	021015 / A.02		1/2

Pin Out table for SUB-D option

PIN NUMBER	SIGNAL	DESCRIPTION
1	VREF	Internal reference signal output (+5V)
2	AGND	Analog ground return for the mechanism
3	SG X+	SG+ output for X axis
4	SG X-	SG- output for X axis
5	SG Y+	SG+ output for Y axis
6	SG Y-	SG- output for Y axis
7	-	
8	-	
9	PGND	Power ground return for the mechanism
10	PGND	Power ground return for the mechanism
11	PGND	Power ground return for the mechanism
12	PGND	Power ground return for the mechanism
13	+130	+130V push-pull rail input for the piezo-actuators
14	PGND	Power ground return for the mechanism
15	VX	Input voltage for the Rx axis piezo-actuators of the mechanism
16	VY	Input voltage for the Ry axis piezo-actuators of the mechanism




Connector reference: HARWIN M80-4801642 16 pins

Electrical Interfaces (LEMO option):

- Piezo actuators: Wire length 1.5m
- Lémo FGG.00.303.CLAD22
- Cable X to actuate around Ox Axis
- Cable Y to actuate around Oy Axis

- SG Option: Wire length 1.5m
- Lémo FGG.00.304.CLAD22

ELECTRICAL INTERFACE

Matière / Material		Norme Matière / Material Standard:		Autre norme / Additional Standard	
Ref Traitement / Treatment ref.		Tolérances générales selon ISO2768-fH General tolerances according to ISO2768-fH		Nom de projet / Project Name	
Ref. Traitement Surface / Surface Treatment ref.		Ra = 1.6 max Ebavurage/Deburring : chamf. 45° 0.1 to 0.2 Rayon Raccord./Radius Curvature : 0.1 to 0.4		Designation / Title	
Dessine par / Drawn by		Battement/Run Out: 0.1mm Symétrie/Symmetry: 0.5mm		ICD_DTT35XS_SM_Small_Mirror	
Vérifié par / Checked by		Date			
Validé par / Approved by		Masse / Mass		<p>59 chemin du vieux Chêne, 38246 Meylan TEL : 04 56 58 04 00</p>	
aguignabert		R&D		<p>CONFIDENTIEL INDUSTRIE Ce document est la propriété de CEDRAT TECHNOLOGIES. Ne peut être communiqué sans autorisation écrite.</p>	
apieton		18/06/2019		<p>Format A4 Echelle/Scale 1:1</p>	
aguignabert		g		<p>Reference / Revision 021015 / A.02</p>	
1				<p>Page 2/2</p>	