

# $\theta_x\theta_y$ axes | XD304.T2S/K-B1

## Piezo Fast Steering Mirror



### Characteristics >>

- $\theta_x$ ,  $\theta_y$  deflection
- Optional closed loop sensor
- Small size
- High resonant frequency

### Applications >>

- Laser scanning
- Beam deflection
- Beam stabilization
- Light filter
- Light path adjustment
- Laser communication
- Beam stabilization
- Fast beam scanning

## Introduction

XD304-B1 Piezo Fast Steering Mirror is specially designed for small size, micro stroke and high frequency applications. It can perform  $\theta_x \theta_y$  two-dimensional precision angular deflection motion. It is an ideal compact fast-reflection mirror, which is very suitable for deflection adjustment of small reflective mirrors.



**Harbin Core Tomorrow Science & Technology Co., Ltd.**

Tel: +86-451-86268790    Email: info@coremorrow.com  
Fax: +86-451-86267847    Web: www.coremorrow.com

Headquarters: Building I2, No.191 Xuefu Road, Nangang District, Harbin  
Shanghai Office: Building 2, No.608 Shengxia Road, Pudong District, Shanghai

**Technical Data >>**

Type	S - closed loop K - open loop	XD304.T2S-B1	XD304.T2K-B1	Units
Active axes		$\theta_x, \theta_y$	$\theta_x, \theta_y$	
Driving channels		3	3	
Tilt angle (0~100V)		2 or $\pm 1$ ( $\approx \pm 206''$ )	2 or $\pm 1$ ( $\approx \pm 206''$ )	mrad $\pm 10\%$
Tilt angle (0~120V)		2.4 or $\pm 1.2$ ( $\approx \pm 247''$ )	2.4 or $\pm 1.2$ ( $\approx \pm 247''$ )	mrad $\pm 10\%$
Sensor		SGS	-	
Resolution		0.07 ( $\approx 0.01''$ )	0.02 ( $< 0.01''$ )	$\mu$ rad
Linearity		0.2	-	%F.S.
Repeatability		0.1	-	%F.S.
Size		$\Phi 25 \times 31$	$\Phi 25 \times 31$	mm
Unloaded resonant frequency		10	10	kHz $\pm 20\%$
Resonant frequency with load		4.2( $\Phi 22\text{mm} \times 4\text{mm}$ mirror)	4.2( $\Phi 22\text{mm} \times 4\text{mm}$ mirror)	kHz $\pm 20\%$
El. capacitance		1.6/axis	1.6/axis	$\mu$ F/ $\pm 20\%$
Operating temperature <sup>[1]</sup>		-20~80	-20~80	$^{\circ}$ C
Material		Titanium, steel	Titanium, steel	
Mass (not include cable)		70	70	g $\pm 5\%$
Line position		Side	Side	
Cable length <sup>[2]</sup>		1.5	1.5	m $\pm 10\text{mm}$

Note: Technical data are measured by CoreMorrow E00/E01 series piezo controller. Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25 $^{\circ}$  C.

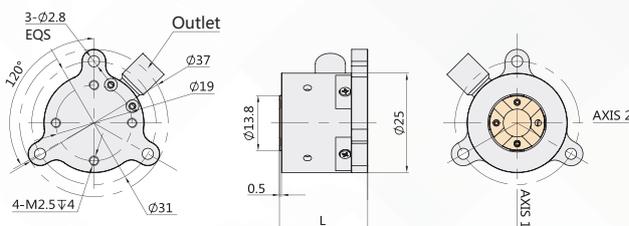
[1] Custom ultralow temperature and ultrahigh vacuum versions are available.

[2] Custom cable length and connector is available.

Note: The parallelism of the moving platform is about 20 $\mu$ m, and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

**Drawing >>**

Type	L[mm]
XD304.T1-B1	22
XD304.T2-B1	31


**Recommended Controllers >>**


**E01.D3**  
 LCD, membrane button, up to 625mA  
 RS-232/RS-422/USB interface  
 Software secondary development



**E70**  
 Small size, ave current 70mA/channel  
 RS-232/RS-422/USB interface  
 Software secondary development



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