

# $\theta_x$ , $\theta_y$ , Z axes | S23.ZT1K

## Piezo Tip/Tilt Platform



### Characteristics >>

- $\theta_x$ ,  $\theta_y$  tilt and Z linear motion
- Center aperture:  $\varnothing 10\text{mm}$
- High temperature stability
- Piezo phase shifter

### Applications >>

- Image processing and stabilization
- Laser scanning and beam deflection
- Light filter/optical switch
- Optical capture
- Laser tuning
- Optics/beam stabilization

## Introduction

S23.ZT1K piezoelectric Tilt/Tip and Z Platform(phase shifter) is a  $\theta_x$ ,  $\theta_y$  deflection/tilt and Z-axis linear motion platform, with a center aperture. The product is compact, and features the deflection range of 1.5mrad, Z-axis linear motion travel of 10 $\mu\text{m}$ . S23 is an open-loop version with high resolution and response speed, it is the first choice for interference scanning phase shift.



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## Technical Data >>

Type	S23.ZT1K	Units
Active axes	$\theta_x, \theta_y, Z$	
Driving channels	3	
$\theta_x, \theta_y$ tilt angle(0~120V)	1.2( $\approx 248^\circ$ )	mrad $\pm 20\%$
Travel in Z(0~120V)	8	$\mu\text{m}\pm 20\%$
$\theta_x, \theta_y$ tilt angle(0~150V)	1.5( $\approx 309^\circ$ )	mrad $\pm 20\%$
Travel in Z(0~150V) 10 10	10	$\mu\text{m}\pm 20\%$
Tilt resolution in $\theta_x, \theta_y$	0.02 ( $< 0.01^\circ$ )	$\mu\text{rad}$
Resolution in Z	0.08	nm
Unloaded resonant frequency	$\theta_x 3.2/\theta_y 3.5/Z 7.5$	kHz $\pm 20\%$
Unloaded step time	0.5	ms $\pm 20\%$
El. capacitance	0.5/axis	$\mu\text{F}\pm 20\%$
Operating temperature <sup>[1]</sup>	-20~80	$^\circ\text{C}$
Material	Steel	
Mass	70	g $\pm 5\%$
Cable length <sup>[2]</sup>	1.5	m $\pm 10\text{mm}$
Sensor/voltage connector <sup>[2]</sup>	-	

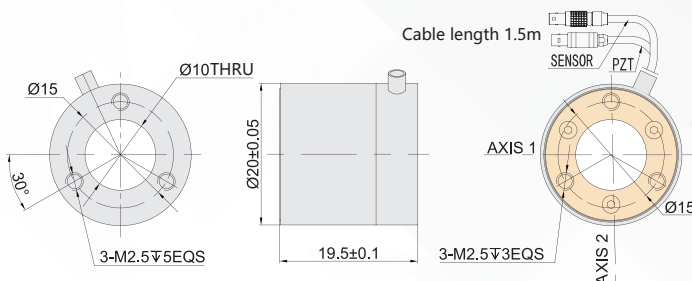
Note: Technical data are measured by CoreMorrow E00/E01 series piezo controller. Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25 $^\circ\text{C}$ .

[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 $\mu\text{m}$ , and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

## Drawing >>



## 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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