

# ECSx3050/StSt/NUM/HV

1005685

## Technical Specifications

|                                       |  |
|---------------------------------------|--|
| <b>Size and Dimensions</b>            |  |
| footprint; height                     | 30 mm x 50 mm; 9.5 mm                        |
| maximum installation space            | 30 mm x 81.6 mm; 9.5 mm                      |
| weight (stainless steel version)      | 90 g   |
| height                                | 9.5 mm                                       |
| <b>Materials</b>                      |  |
| positioner body                       | stainless steel                              |
| actuator                              | PZT ceramics                                 |
| connecting wires                      | copper, jacket: RT: PTFE, HV/UHV: fiberglass |
| <b>Coarse Positioning Mode</b>        |  |
| travel range (step mode)              | 30 mm  |
| maximum drive velocity @ 300 K        | 4.5 mm/s                                     |
| input voltage range                   | 0 - 45 V                                     |
| <b>Fine Positioning Mode</b>          |  |
| fine linear positioning range @ 300 K | 1.6 µm                                       |
| fine positioning resolution           | sub-nm                                       |
| input DC voltage range                | 0 - 45 V                                     |
| <b>Position Encoder</b>               |  |
| readout mechanism                     | optoelectronic sensor                        |
| encoded travel range                  | entire travel                                |
| sensor resolution                     | 1 nm   |
| sensor power (when measuring)         | 300 mW                                       |
| repeatability                         | 50 nm (bidirectional)                        |
| <b>Load (@ ambient conditions)</b>    |  |
| maximum load                          | 2 kg   |
| maximum dynamic force along the axis  | 1 N  |
| <b>Error Motion</b>                   |  |
| roll E_AX                             | specified* 1.25 mrad (expected** <0.25 mrad) |
| pitch E_BX                            | specified* 1.75 mrad (expected** <1 mrad)    |
| yaw E_CX                              | specified* 1.25 mrad (expected** <0.4 mrad)  |
| y-Straightness E_YX                   | specified* 4 µm (expected** <3 µm)           |
| z-Straightness E_ZX                   | specified* 8 µm (expected** <6 µm)           |
| *                                     | specified: guaranteed for every positioner   |
| **                                    | expected: typically met by most positioners  |
| <b>General Specifications</b>         |  |
| environment                           | high vacuum                                  |

