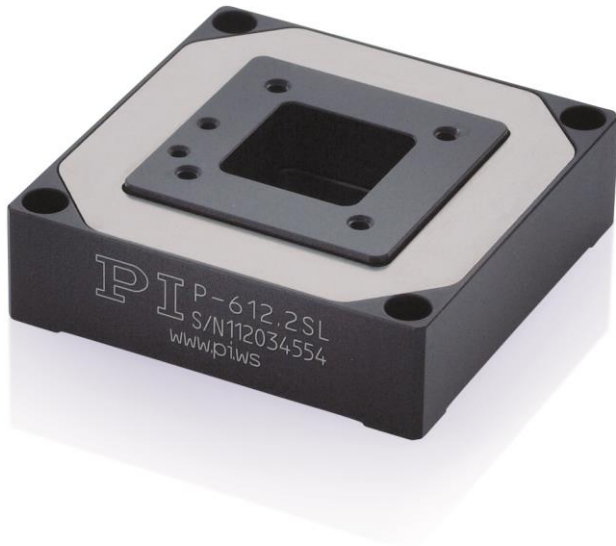


XY Piezo Nanopositioning System

Compact, with Aperture



P-612.2

- Compact: Surface 60 mm × 60 mm
- 100 μm × 100 μm closed-loop travel range (130 μm × 130 μm, open loop)
- For cost-critical applications
- Clear aperture 20 mm × 20 mm
- Parallel kinematics for faster response times and higher multi-axis accuracy
- Outstanding lifetime due to PICMA® piezo actuators
- Also available as compact version

Fields of application

- Scanning microscopy
- High-throughput microscopy
- Super-resolution microscopy
- Mask/wafer positioning
- Interferometry
- Measuring technology
- Biotechnology
- Micromanipulation

Outstanding lifetime thanks to PICMA® piezo actuators

The patented PICMA® piezo actuators are all-ceramic insulated. This protects them against humidity and failure resulting from an increase in leakage current. PICMA® actuators offer an up to ten times longer lifetime than conventional polymer-insulated actuators. 100 billion cycles without a single failure are proven.

High guiding accuracy due to zero-play flexure guides

Flexure guides are free of maintenance, friction, and wear, and do not require lubrication. Their stiffness allows high load capacity and they are insensitive to shock and vibration. They are 100 % vacuum compatible and work in a wide temperature range.

Specifications

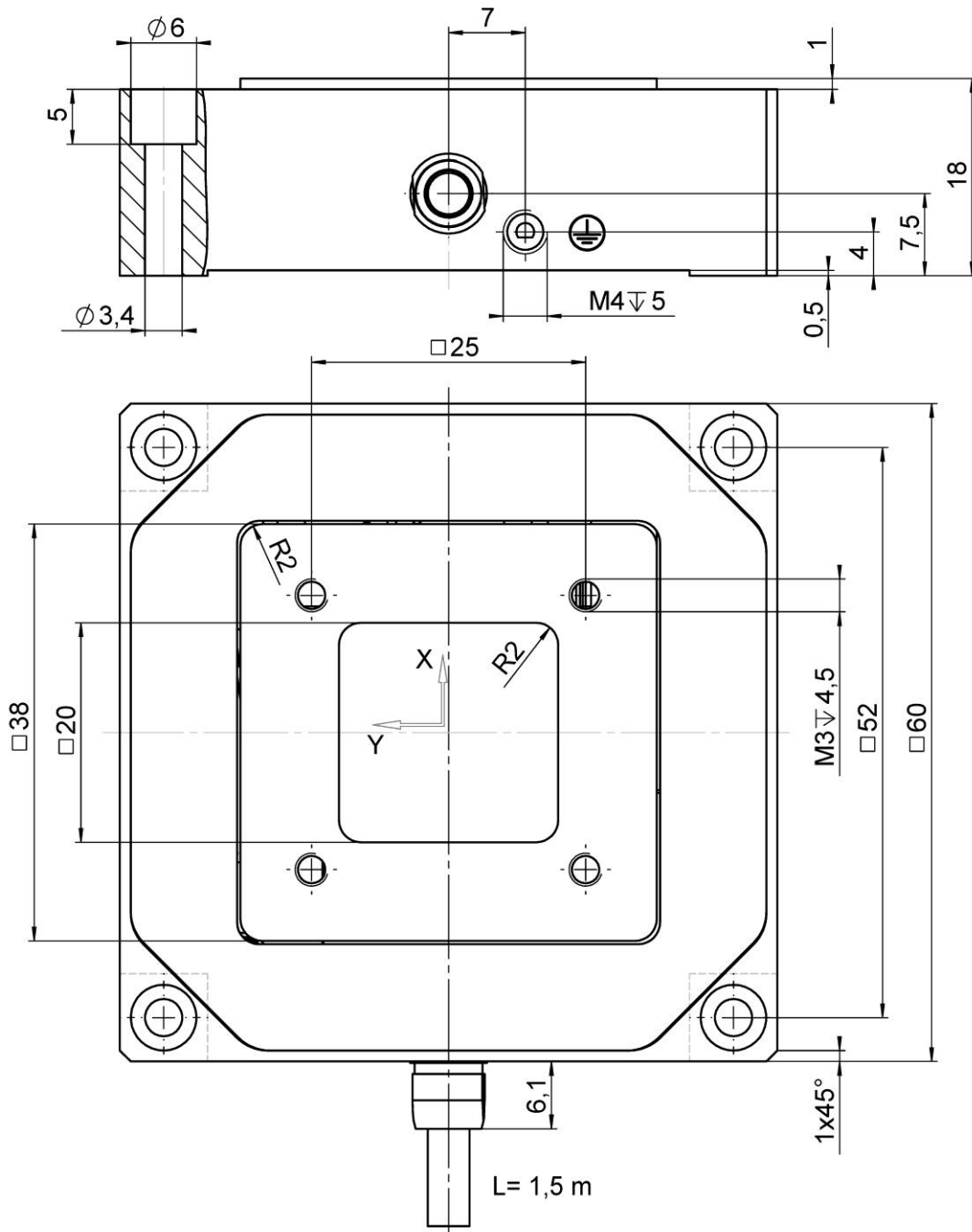
	P-612.2SL	P-612.20L	Unit	Tolerance
Active axes	X, Y	X, Y		
Motion and positioning				
Integrated sensor	SGS	-		
Travel range at -20 to +120 V, open loop	130	130	μm	+20 % / -0 %
Travel range, closed loop	100	-	μm	
Resolution, open loop	0.8	0.8	nm	typ.
Resolution, closed loop	5	-	nm	typ.
Linearity error	0.4	-	%	typ.
Repeatability	<10	-	nm	typ.
Pitch	±10	±10	μrad	typ.
Yaw in X / Y	±10 / ±50	±10 / ±50	μrad	typ.
Mechanical properties				
Stiffness	0.15	0.15	N/μm	±20 %
Resonant frequency, no load	400	400	Hz	±20 %
Resonant frequency under load, 100 g	200	200	Hz	±20 %
Push/pull force capacity in motion direction	15 / 5	15 / 5	N	max.
Load capacity	15	15	N	max.
Drive properties				
Ceramic type	PICMA® P-885	PICMA® P-885		
Electrical capacitance	1.5	1.5	μF	±20 %
Miscellaneous				
Operating temperature range	-20 to 80	-20 to 80	°C	
Material	Aluminum, steel	Aluminum, steel		
Mass	105	105	g	±5 %
Cable length	1.5	1.5	m	±10 mm
Sensor/voltage connection	LEMO	LEMO (no sensor)		
Recommended electronics	E-503, E-505, E-621	E-503, E-505, E-621		

The resolution of the system is limited only by the noise of the amplifier and the measuring technology because PI piezo nanopositioning systems are free of friction.

All specifications based on room temperature (22 °C ±3 °C).

Ask about customized versions.

Drawings / Images



P-612.2, dimensions in mm

Ordering Information

P-612.20L

XY nanopositioning system, 130 μm \times 130 μm , aperture 20 mm \times 20 mm, open loop

P-612.2SL

XY nanopositioning system, 100 μm \times 100 μm , aperture 20 mm \times 20 mm, strain gauge sensors