

P-855

Micrometer-Mountable Open-Loop Piezo Translator



- Displacement 20 μm
- Mounts Inside Micrometer Tip
- Sub-msec Response
- Sub-nm Resolution

P-855 piezo translators are high-resolution linear actuators specially designed for integration in micrometer tips. They fit the M-227 DC-Mike motorized actuators see p. 7-76 ff, the M-168 Stepper Mike see p. 7-84 motorized actuators and the M-631 to M-633 manual micrometers see p. 7-88.

The piezo translators consist of a monolithic PICMA[®] piezo ceramic integrated in a stainless steel housing.

P-855 actuators provide sub-millisecond response and sub-nanometer resolution.

Application Examples

- Laser tuning
- Static and dynamic positioning of small parts
- Fiber positioning

Superior Lifetime with Ceramic-Encapsulated Piezos

Highest possible reliability is assured by the use of award-winning PICMA[®] multilayer piezo actuators. PICMA[®] actuators are the only ceramic-encapsulated PZT actuators on the market, which makes them resistant to ambient humidity and leakage-current failures. They are thus far superior to conventional actuators in reliability and lifetime.

Accessories

Extension cables, adapters & connectors: see in "Accessories" in the "Piezo Drivers & Nanopositioning Controllers" section.

Notes

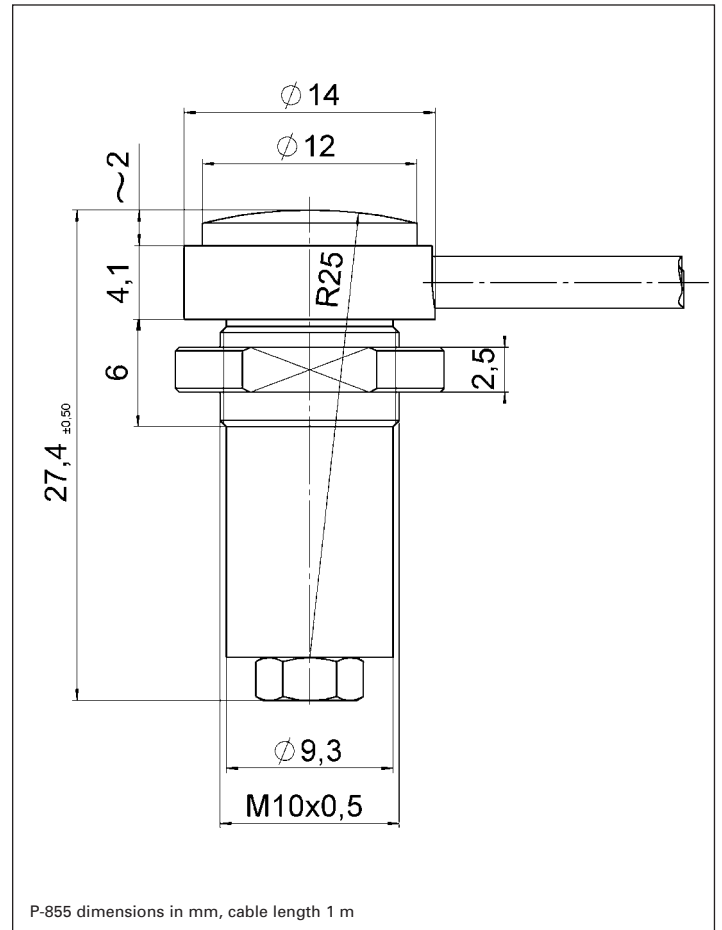
See the "Piezo Drivers & Nanopositioning Controllers" section for our comprehensive line of low-noise modular and OEM

control electronics for computer and manual control.

Read details in Mounting and Handling Guidelines see p. 1-48.

Ordering Information

P-855.20
Piezo Actuator for Micrometer Drive



Technical Data

Model	P-855.20	Tolerance
Open-loop travel @ -20 to 120 V	20 μm	$\pm 20\%$
* Open-loop resolution	0.2 nm	
** Static large-signal stiffness	48 N/ μm	$\pm 20\%$
Push / pull force capacity	100 / 5 N	
Operating voltage range	-20 to 120 V	
Piezo ceramic type	PICMA [®]	
Electrical capacitance	1.5 μF	$\pm 20\%$
Dynamic operating current coefficient (DOCC)	12.5 $\mu\text{A} / (\text{Hz} \times \mu\text{m})$	
Unloaded resonant frequency	18 kHz	$\pm 20\%$
Operating temperature range	-40 bis +80 $^{\circ}\text{C}$	
Voltage connection	VL	
Mass	28 g	$\pm 5\%$
Recommended amplifier see p. 6-11	C, G	

* Resolution of piezo actuators is not limited by friction or stiction.
Noise equivalent motion with E-505 amplifier
** Dynamic small-signal stiffness ~50% higher