

# New High-Voltage Piezo Systems with PICA™ Power (HVPZT)

The long-established and successful high-voltage piezo system product line has now been improved and completely reworked. This applies to both the preloaded high-voltage piezo actuators (HVPZT) and the corresponding electronics.

All high-voltage piezo actuators now make exclusive use of the modern PICA™ Power piezoceramics. The four newly developed series of preloaded, HVPZT actuators feature standardized dimensions and travel ranges from 15 µm up to a maximum of 180 µm. For high dynamics applications, the lowelectric power requirements of the preloaded PICA™

Power actuators is a special advantage.

The electronic drivers and controllers have been adapted to the new HVPZTs and otherwise improved in many details. Naturally, all five new piezo amplifier and controller series are RoHS conform.

The HV Piezo actuators of the P-212, P-216, P-225 and P-235 series are based on PICA™ Ceramic Stacks. In contrast to cased HVPZT actuators of older design, they have positive polarity and a different connector.

The compatible amplifier/ controllers of the E-481, E-421 / E-470 / E-471 / E-472, E-464, E-462 and E-508 series are also delivered preset to provide positive output voltages.

Before operation it is therefore essential to check that the output voltage is correct, especially if components from existing systems are being replaced.

The output voltage range of most HVPZT amplifiers can be reconfigured. A three-conductor LEMO connector is used for the piezo connection; an adapter cable can be used to establish compatibility with old-style actuators.

PI, however, recommends using newer system components which were de-signed to operate together.

Accessories and cables can be found on the PI website or ask your PI sales engineer.

## Compatibility Matrix: New PICA™ HVPZT Actuators & Electronics / Previous HVPZT Actuators & Electronics

	<b>New PICA™ HVPZT Actuators (Positive Polarity)</b> P-212, P-216, P-225, P-235 Connector: LEMO FGG.0B.701.CJA.1173	<b>Previous Standard HVPZT Actuators (Negative Polarity)</b> P-170 to P-178, P-239, P-244, P-245, P-242, P-243, P-246, P-247 Connector: LEMO FFA.0A.250
<b>New PICA™ HVPZT Electronics:</b> Piezo Connector: LEMO EGG.0B.701.CJL1173		
E-481	Suitable (be sure to set output voltage range correctly)	Adapter cable P-204.22 required; output voltage range can be set by user
E-508	Suitable (be sure to set output voltage range correctly) for E-508.OE: Output voltage range can be factory set (request with order)	Adapter cable P-204.22 required; output voltage range can be set by user for E-508.OE: Output voltage range must be factory set (request with order)
E-470.20, E-471.20, E-472.20, E-421	Suitable (be sure to set output voltage range correctly)	Adapter cable P-204.22 required; output voltage range can be set by user
E-464	Suitable Output voltage range can be factory set (request with order)	Positive output voltage range by default. Different output voltage range must be factory set (request with order) Adapter cable P-204.22 required
E-462	Suitable	Not Possible: incompatible output voltage polarity
<b>Previous HVPZT Electronics</b> Piezo Connector: LEMO ERA.0A.250.CTL		
E-480	Adapter cable P-204.23 required; output voltage range can be set by user (not recommended)	Suitable (be sure to set output voltage range correctly)
E-507	Adapter cable P-204.23 required; output voltage range can be set by user (not recommended)	Suitable (be sure to set output voltage range correctly)
E-470.00, E-471.00, E-472.00, E-420	Adapter cable P-204.23 required; output voltage range can be set by user (not recommended)	Suitable (be sure to set output voltage range correctly)
E-463	Not Possible: incompatible output voltage range	Suitable
E-461	Not Possible: incompatible output voltage range	Suitable