

PISeca Sensor Evaluation / Controller

Servo Controller Module for Three Axes, E-500 Piezo Controller System



E-509.E

- E-509.E03: Electronics module, 3 axes, for capacitive sensors
- E-509.E3: Sensor module, 3 axes, with additional servo controller for piezo systems
- Plug-in modules for E-500 / E-501 chassis
- ILS circuitry optimizes capacitive sensor linearity
- Optional measurement ranges
- Variable bandwidth (optional)

Signal evaluation and servo controller module for PISeca

The E-509.E03 and E-509.E3 are available as plug-in modules for the E-500 / E-501 chassis for high-resolution capacitive single-plate sensors in the PISeca series:

- E-509.E03 for signal evaluation
- E-509.E3 as servo controller module

Specifications

	E-509.E03	E-509.E3
Function	Sensor evaluation electronics for PISeca	Sensor / servo controller module for PISeca
Axes	3	3
Supported functions	ILS (Internal Linearized System)	ILS (Internal Linearized System)

Sensor	E-509.E03	E-509.E3
Controller type	—	Analog P-I and notch filter
Sensor type	PISeca single electrode, capacitive	PISeca single electrode, capacitive
Sensor channels	3	3
Sensor bandwidth	0.3 to 10 kHz (adjustable)	0.3 to 10 kHz (adjustable)
Extension factor for measurement range ¹	1 (default), 2 / 2.5 / 5 (optional)	1 (default), 2 / 2.5 / 5 (optional)
Noise factor	0.14 ppm/√Hz ²	0.14 ppm/√Hz ²
External synchronization	3 synchronized channels	3 synchronized channels
Thermal drift	<1 mV/°C	<1 mV/°C
Static resolution ³	<0.001 % of the measurement range (RMS)	<0.001 % of the measurement range (RMS)
Dynamic resolution ³	<0.002 % of the measurement range (RMS)	<0.002 % of the measurement range (RMS)
Linearity error in the nominal measurement range	<0.1 % (<0.2 % for D-510.020)	<0.1 %

Electrical properties	E-509.E03	E-509.E3
Output voltage	0 to 10 V -5 to 5 V, -10 to 0 V (selectable)	0 to 10 V -5 to 5 V, -10 to 0 V (selectable)

Interfaces and operation	E-509.E03	E-509.E3
Sensor connection	3 × LEMO ECP.00.650.NLL.543 triaxial socket	3 × LEMO ECP.00.650.NLL.543 triaxial socket
Signal output	LEMO 6-pin FGG.0B.306.CLAD56	LEMO 6-pin FGG.0B.306.CLAD56
Linearization	ILS (Internal Linearized System)	ILS (Internal Linearized System)

Miscellaneous	E-509.E03	E-509.E3
Operating temperature range	5 to 40 °C	5 to 40 °C
Dimensions	7HP/3U	7HP/3U
Mass	0.3 kg	0.3 kg
Target ground connector	3 × banana jack, 4 mm	3 × banana jack, 4 mm
Supply voltage	±15 V, supply via E-500 system	±15 V, supply via E-500 system

¹ Extension factors refer to the nominal measurement range of the respective D-510 sensor head, to be specified with the order.

² In the nominal measurement range

³ Bandwidth: Static 300 Hz, dynamic 3 kHz

Ask about custom designs!

Ordering Information

E-509.E3

PISeca Sensor / servo controller module for capacitive single-electrode sensors, 3 axes

E-509.E03

PISeca modular evaluation electronics for single-electrode capacitive sensors, 3 axes