Digital Motion Controller

For NEXLINE® Piezo Walking Drives, 1 Axis

E-712.1AM

- Special control algorithms for NEXLINE® nanopositioning linear-motor actuators

- Highly stable 20-bit D/A converter

- Servo frequency 50 kHz

- Flexible interfaces: TCP/IP, USB, RS-232

- Wave generator

- Data recorder

Digital motion controller for NEXLINE® drives

1 axis. High-performance piezo controller for high-precision and powerful NEXLINE® drives with incremental encoders. High-performance and low-noise power amplifiers. Support for NEXLINE® walking algorithms.

Extensive functions, software support

Data recorder. Wave generator. P-I controller, 2 configurable notch filters. Extensive software support, e.g., for LabVIEW, C, C++, Python. User software NanoCapture, PIMikroMove.

Interfaces and communication

TCP/IP, USB, RS-232. 8 digital inputs and outputs respectively for triggers. LEMO interface for external synchronization.

Fields of application

Industry and research. Semiconductor manufacturing and inspection.

01.03.2018

Specifications

	E-712.1AM
Function	Modular digital controller for NEXLINE® piezo stepping drives
Axes	1
Processor	PC-based, real-time operating system
Servo frequency	50 kHz
Supported functions	NEXLINE® control algorithms. Data recorder for recording operating data. Wave generator. Trigger I/O.

Sensor	E-712.1AM
Controller type	P-I, two notch filters
Sensor type	Incremental, analog signals (sin/cos)
Sensor resolution	16-bit, quantized
External synchronization	Yes

Amplifier	E-712.1AM
Amplifier channels	4
Output voltage	-250 to 250 V
Peak power / channel	45 W
Average output power / channel	15 W
Peak current / channel	180 mA
Average output current / channel	60 mA
Current limitation	Short-circuit proof
Resolution DAC	20-bit, interpolated
Overheat protection	Output voltage switch-off at 75 °C

Interfaces and operation	E-712.1AM
Communication interfaces	TCP/IP, USB, RS-232
Piezo / sensor connection	Sub-D 25 (f)
Digital input/output	MDR20; 8 × IN, 8 × OUT; TTL
Command set	PI General Command Set (GCS)
User software	NanoCapture, PIMikroMove
Interface for application programming	API for C / C++ / C# / VB.NET / Python, drivers for LabVIEW
Display and indicators	LEDs for OnTarget, Error, Power
Linearization	4th order polynomials, DDL option (Dynamic Digital Linearization)

Miscellaneous	E-712.1AM
Operating voltage	90 to 240 VAC, 50 to 60 Hz
Max. power consumption	100 W
Operating temperature range	5 to 50 °C
Mass	5.35 kg
Dimensions	9.5" housing: 236 mm × 132 mm × 296 mm + handles (47 mm long)

Ask about custom designs!

Ordering Information

E-712.1AM
Digital controller for NEXLINE® nanopositioning linear drives with incremental encoder, 1 axis, TCP/IP, USB, RS-232 interfaces for communication