

E-516

Computer Interface and Display Module for Modular Piezo Controllers

>> Click <http://www.pi.ws/fwd/Piezo-Driver> for the Latest Specs on these Products



Ordering Information

E-516.i3
Computer Interfaces & Display Module, 20-bit, IEEE 488 / RS-232, 3 Channels

E-516.i1
Computer Interfaces & Display Module, 20-bit, IEEE 488 / RS-232, 1 Channel

Ask about custom designs!

- Macro Command Language / Stand-Alone Functionality
- Low-Noise 20-bit D/A and A/D Converter
- IEEE 488 (GPIB) and RS-232 Interfaces
- 6-Digit LCD Display for Voltage and Position
- 1- and 3-Channel Versions
- Wave Generator
- GCS (General Command Set) Compatible

The E-516 is a microprocessor controlled interface and display module for the E-500 / E-501 Controller Systems (p. 6-18) with low-noise, 20-bit D/A and A/D converters and IEEE 488 (GPIB) & RS-232-ports.

Powerful Computer Interface

The interface supports fast communication with the host computer, with up to 300 bidi-

rectional read/write operations per second and also includes a high-precision 20-bit D/A and A/D converters for optimum position stability and resolution.

Software / Command Set

The E-516 Module comes with Windows™ installation software, DLLs and LabView™ drivers. The command struc-

ture of the extensive command set is based on the PI General Command Set (GCS). The GCS was developed by PI to facilitate the programming and operation of a wide range of different devices with a common command language, thus reducing the programming effort in the face of complex multi-axis positioning tasks. It is supported by most PI piezo controllers and servo-motor controllers. For more information on GCS, see p. 9-28.

Static and Dynamic Piezo Actuator Operation

The E-516 can be used for both static and dynamic operation. The Wave Generator in the E-516 controller makes possible synchronous motion of different axes according to user-specified patterns (predefined either with mathematical functions or arbitrarily as points, stored in an internal table).

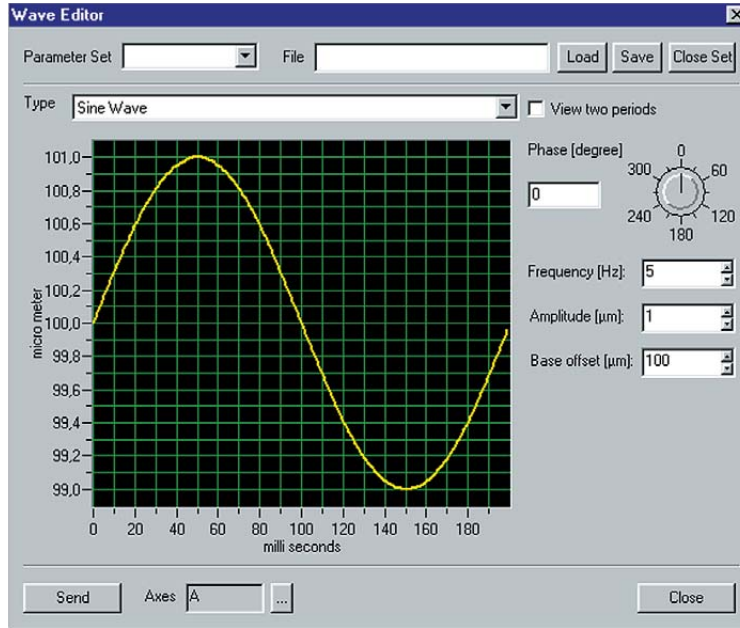
Technical Data

| Models | E-516.i1, E-516.i3 |
|---------------------|--|
| Function | Interface / Display Module, Wave Generator |
| Channels | 1: E-516.i1; 3: E-516.i3 |
| Output voltage | -1 to +11 V |
| Resolution | 20-bit |
| Stability | Better than 0.2 mV |
| Linearity | 0.01% |
| Computer interfaces | RS-232 and IEEE 488 (GPIB) |
| D/A converter | 20-bit, ±12 V |
| A/D converter | 20-bit, -1 to +11 V |
| LCD display | 4x20 characters |
| Dimensions | 21 width units / 3 height units |
| Weight | 0.3 kg |
| Operating voltage | Requires E-530 or E-531 power supply (included in E-500/E-501 chassis) |

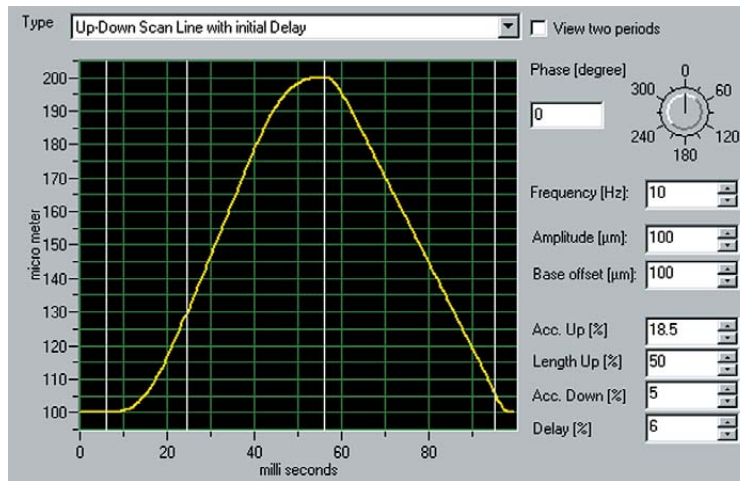
Wave Editor and Wave Generator

The E-516 has a built-in wave generator which can store up to 8192 data points for each channel. These values can then be output automatically at an internally clocked rate of up to 20 kHz. Alternatively, the output can also be controlled by an external signal and programmed for point-by-point or full-scan triggering.

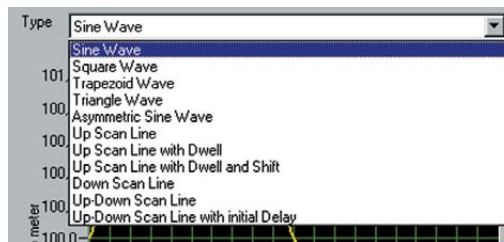
The E-516 firmware can calculate wave point values for standard functions (sine, square-wave, ramps, and combinations thereof) for storage in the table. Use of this feature is facilitated by the Wave Editor GUI, where you can choose the desired function, see it on the screen, modify it and save the results for later use as desired. The Wave Editor is also available as a DLL and can be called up from all the E-516 driver sets (LabView™, COM server, DLL) and from the PZTControl™ user interface software.



Wave Editor for E-516



Wave Editor with sample function



Waveform Selection Menu

- Piezo Actuators
- Nanopositioning & Scanning Systems
- Active Optics / Steering Mirrors
- Tutorial: Piezo-electrics in Positioning
- Capacitive Position Sensors
- Piezo Drivers & Nanopositioning Controllers**
- Hexapods / Micropositioning
- Photonics Alignment Solutions
- Motion Controllers
- Ceramic Linear Motors & Stages
- Index