piezosystemjena
incredibly precise

# series d-Drive

## digital - piezo - control

### Concept

The new digital generation of piezo controllers of piezosystem jena combines the highest positioning accuracy with a unique handling comfort. This means that all features can be controlled via PC and the main functions can be directly regulated on front panel. Moreover, the actuators are now separable and interchangeable (ASC-function***). We also implemented free adjustable features, such as a slew rate, a programmable notch filter and low pass filter.

A built-in function generator offers sine, triangular and square functions as well as noise and sweep function. A unique feature of the d-Drive system is that it can be used in combination with strain gage, or capacitive feed-back sensors without additional modification. The DSP (digital signal processor) runs at 64 MHz. The servo rate is only 20 µsec (50 kHz).

The modular setup allows custom configurations for each application.

Typically a controller consists of: Casing with an integrated wide range power supply. (100-240V/50-60Hz) Amplifier modules according to the required number of axes (output current 50mA to 300mA). Up to six EVD 50 amplifier modules are mountable in one casing. Interface module EDS2 (optional without display: EDS1) with 20bit resolution (oversampling).


image: d-Drive

*Product highlights:*

- digital controller system
- 20-bit resolution*
- automatic sensor identification
- 19“-rack mounting casing
- automatic system calibration
- modular for up to 6 channel
- USB / RS232-interface
- LabView® user software
- Display dimmable

**ASI function**
ASI: Automatic Sensor Identification:
The ASI function allows you to exchange the same type of actuator and use it with the same amplifier. Actuators for an ASI compatible amplifier are equipped with an external pre amplifier.
New calibration is no longer necessary (valid only for standard calibration).

***ASC function**
ASC function: Automatic System Calibration
In addition to the ASI function ASC provides even more functionality for our customers.
The integrated circuit built into a closed loop actuator also contains the parameters for its calibration and other information such as:
- motion, name, axis, serial number
- PID-control and filter setting
Thus the electronics can identify not only the actuator, but also its calibration data. The actuator can be used with a different type of electronic, without need to be recalibrated. The new system works immediately, and at its peak performance. Another significant advantage is the full function generator setup. The full function generator setup contains standard values for amplitude, offset, frequency and so on. All of this information is stored inside an ID chip that is located on the actuator's connector. The setup is immediately active again after switching on the electronic.

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# casing, interface and display module

***Concept***

The data interface modules EDS 1 and EDS 2 enable communication between the user and the piezo system. The modules EDS are an integral part of the 19”-casing with a wide power range supply module from 110V up to 230V. The width of the casing is 84TE.

For remote control the EDS 1 offers USB and RS232 interface. In addition to the EDS 1 offers the EDS 2 (part.no. E-751-000, E-751-001 and E-751-100) a TFT-display. To support the use under laboratory conditions, the display is flexible dimmable.

A cursor buttons navigate through the menus. By pressing the Enter button one can jump into the pertaining menu. The highlighted value can be changed by pressing the button. The value is entered by pressing the select knob. The old value is restored by leaving the menu without acknowledging it. The display shows status messages as well as recent values of the system.

For full control and comfortable adjustment by the EDS modules, we recommend using a PC or laptop running the d-Drive control program based on LabView®.

*Product highlights:*

- 19“ -rack mounting casing
- USB / RS 232-interface
- 20-bit resolution*
- EDS 2 with dimmable TFT display
- module width: 24TE
- for up to 6 channels
- 100-240 V AC / 50-60Hz

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# casing, interface and display module

## technical data

| | | unit | Rack-casing 19" 315mm depth | | Rack-casing 19" 375mm depth | |
|---|---|---|---|---|---|---|
| Artikel. nr. | | - | E-750-000 | E-751-000 | E-751-100 | E-751-200 |
| technical data | | | | | | |
| line voltage | | V | 100-240 AC / 50-60Hz | | | |
| power consumption | | W | 120, typical full load | | 230, typical full load | |
| inrush current (t < 20ms) | | - | 15A @ 115V / 30A @ 230V | | | |
| | standby | - | no | | 20A @ 115V / 40A @ 230V | |
| Sicherung | | - | 2x T6.3A / 250V 5x20mm, slow blow | | | |
| max. number of plug in modules | EVD 50 | - | 6 | | | |
| | EVD 125 | | 3 | | | |
| | EVD 300 | | 2 | | 3 | |
| Interface module | | | | | | |
| type of interface module | | - | EDS1 | EDS2 | EDS1 | EDS2 |
| with TFT display | | - | no | yes | | no |
| type of interface | | - | RS 232; USB | | | |
| resolution | | bit | 20 | | | |
| module width | | TE | 24 | | | |
| parameter settings manual | | - | no | yes | | no |
| temperature | | - | max. 35°C / 98F (<308K) | | | |
| humidity | | - | max. 90% RH, non-condensing | | | |
| altitude | | m | max. 3000 | | | |
| casing | | | | | | |
| L-brackets available | | - | yes | | | |
| active cooling | | - | yes | | | |
| dimension (wxhxd) | | mm | 450 x 150 x 360 (17.7" x 5.9" x 14.2") | | 450 x 150 x 420 (17.7" x 5.9" x 16.5") | |
| weight | | kg | 4.8 (10.6 lbs) | | 7.3 (16.1 lbs) | |

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