

## 30DV50 digital OEM amplifier with fast 64MHz processor

- ◆ 1 channel digital amplifier
- ◆ supply voltage 10...30VDC
- ◆ 64 MHz processor
- ◆ auto calibration and ASI\*-function
- ◆ for all kinds of closed loop sensors
- ◆ built-in wave function generator
- ◆ programmable



### Application:

- digital control of piezo actuating systems in industrial and laboratory settings for automatic control of high resolution nano-positioning applications

pic: **30DV50**  
(screw slot casing)

### Design

The line of digital piezo amplifiers (d-Drive) of piezosystem jena is now expanded by the OEM amplifier module 30DV50. The amplifier is designed for use as a single unit in industrial settings. It is compact, robust and mountable in different manners and is highly reliable. The 30DV50 was designed for universal use with a main supply voltage from 10V to 30V DC. The casing is available as a screw slot version (see picture) or for use in a 19"-rack mount casing.

Piezo actuators can be controlled in three different ways: By using the potentiometer on the front panel, by analog signal 0...10V or by PC-Interface. The high performance of the 30DV50 with 20bit resolution guarantees the customer high speed positioning with the highest accuracy available. It includes rise time optimisation and an active oscillation damping for each special application.

### Features

The 30DV50 comes with an auto calibration routine and automatic sensor identification (ASI). All values of the actuating system, like capacitance, measurement system, resonant frequency and motion are automatically stored in the amplifier. An automatic amplifier optimisation occurs after actuator identification. All this makes system configuration very easy and saves a lot of time.

A unique feature of the 30DV50 is that it can be used in combination with strain gauge, or capacitive feed-back sensors without additional modification. The DSP (digital signal processor) runs at 64MHz. The sampling rate is only 20 µsec. We also implemented adjustable features such as slew rate, notch filter frequency and pass filters frequencies. A built-in function generator offers sine, triangular and square functions as well as noise and sweep.

### Installation

Designed mainly for OEM use, the single channel amplifier can be used in labs as a stand alone version as well as in industrial applications. For industrial use, the robust aluminium casing can easily withstand mechanical shocks. All functions can be controlled from the front panel. The PC interface on the back side allows 19"-rack mounting with easy cable handling. Special extension cables are available for using the actuating system far from the amplifier.



\*ASI - Automatic Sensor Identification

**Technical data:**

**Part No.: E-754-300**

channel	1
processor	64MHz, 32-bit floating point DSP
resolution	20bit
servo rate	20µsec
main supply	10...30VDC / max. 2,5A
main supply connector	low voltage socket with 2,1mm-pin
power	7,5W (max. 15W for nanoX™ actuators)
output voltage	-20...+130V (+130V...-20V for nanoX™ actuators)
permanent output current	50mA
connector actuator	SUB-D 15pin
sensor controller	SG, LVDT, CAP
controller	PID digital with DSP, lowpass & notch filter
modulation input	0...+10V (programmable slew rate)
input resistance	25kΩ
monitor output	0...+10V
output resistance (monitor)	1kΩ
MOD / MON connector	SUB-D 9pin
DC voltage level	-20...+130V (adjustable on front panel or via interface)
pc interface	RS232 (software handshake)
specials	short circuit protected temperature control ASi-function (automatical sensor identification) integrated function generator
display	LED
size (WxHxD)	130 x 86 x 230
weight	1,6kg

**size casing with screw slots [mm]**

