

series 30DV50 digital OEM amplifier

with 64MHz processor

Concept

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 optimization 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 optimization 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, LVDT or capacitive feedback 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



image: 30DV50
(screw slot casing)

Product highlights:

- 1 channel digital amplifier
- supply voltage 10...30VDC
- 64MHz 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

and square functions as well as noise and sweep.

*ASI – automatic sensor integration

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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 backside allows 19"-rack mounting with easy cable handling. Special extension cables are available for using the actuating system far from the amplifier.

technical data

	unit	30 DV 50
part no.	-	E-754-300
channel	-	1
processor	MHz	64, 32-bit floating point DSP
resolution	bit	20
servo rate	µsec	20
main supply	VDC	10 to 30 / max. 2,5A
main supply connector	-	low voltage socket with 2,1mm-pin
power	W	7,5 (max. 15W for nanoX™ actuators)
output voltage	V	-20 to +130 (+130 to -20 for nanoX™ actuators)
permanent output current	mA	50
connector actuator	-	SUB-D 15pin
sensor controller	-	SG, LVDT, CAP
controller	-	PID digital with DSP, lowpass & notchfilter
modulation input	V	0 to +10 (programmable slew rate)
input resistance	kΩ	25
monitor output	V	0 to +10
output resistance (monitor)	kΩ	1
MOD / MON connector	-	SUB-D 9pin
DC voltage level	V	-20 to +130 (adjustable on front panel or via interface)
PC interface	-	RS 232 (software handshake)
specials	-	short circuit proved temperature control ASI-function (automatical sensor identification) integrated function generator
display	-	LED
size (WxHxD)	mm	130 x 86 x 230 (5.1" x 3.4" x 9.1")
weight	kg	1.6 (3.5 lbs)

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size casing with screw slots [mm]

