

# NanoCube® Piezo Controller

For the P-611.3S XYZ-Nanopositioning System



## E-664

- Peak power  $3 \times 14 \text{ W}$
- Position control with notch filter for higher bandwidth and stability
- Voltage / position indicator
- Inexpensive controller for P-611.3S NanoCube® nanopositioning systems

### Piezo amplifier and servo controller for the P-611.3S

The E-664 piezo amplifier and servo controller is especially tailored to the operating requirements of the P-611.3S NanoCube® XYZ nanopositioning system. Three powerful and low-noise piezo amplifiers and the control electronics with instrument amplifiers for high-resolution strain gauge sensors allow a position resolution up to 2 nm as well as dynamic operation.

The combination of the E-664 controller and P-611.3S NanoCube® makes it an inexpensive system for 3-D nanopositioning.

## Specifications

E-664.S3	
Function	Power amplifier & position servo controller for P-611.3S NanoCube® nanopositioning system
Axes	3
Sensor	
Controller type	P-I (analog), notch filter
Sensor type	SGS
Amplifier	
Input voltage range	-2 to 12 V
Output voltage	-20 to 120 V
Peak power per channel, < 5 ms	14 W
Average output power / channel, >5 ms	6 W
Peak current / channel, <5 ms	140 mA
Average output current / channel, >5 ms	60 mA
Current limitation	Short-circuit proof
Voltage gain	10 ±0.1
Ripple, noise, 0 to 100 kHz	<1 mV <sub>rms</sub>
Interfaces and operation	
Piezo / sensor connection	Sub-D 25 (f)
Analog input socket	3 × BNC (rear), I/O connector
I/O lines	14-pin socket for on-target and overflow status, control input and sensor monitor output
Display and indicators	3 × 3½ digits, LED
Miscellaneous	
Operating temperature range	5 to 50°C
Overheat protection	Deactivation at 75°C
Dimensions	236 mm × 88 mm × 273 mm + handles
Mass	3 kg
Operating voltage	90 to 120 / 220 to 240 VAC, 50 to 60 Hz (linear power supply)
Max. power consumption	60 W

## Ordering Information

### E-664.S3

NanoCube® piezo controller, 3 axes, strain gauge sensors, -20 to 120 V