LC3 Controller

Concept

The LC3 controller from piezosystem jena is designed to run dual mode standing wave piezo-motors in quasi-static or dynamic positioning applications. It can be equipped for up to 3 axes.

The encoder of the connected piezo-drive guarantees a high positioning accuracy.

Piezo-motors can be controlled via PC or Joystick using the integrated USB 2.0 interfaces. Piezo controllers offered by piezosystem jena allow actuators with D-Sub plugs to be easily connected.

Piezo-motors will be automatically recognized by the LC3 due to the information which is stored inside the motor's connectors (ASI - Automatic Sensor Identification).

The 25pin D-Sub combines the input information from the encoder system and the output to the piezo-motor.

LC3 Controller

Features

- Control up to 3 axes simultaneously

- Cross-axis position feedback

- Dependent or independent control of the axes

- Parameter reading and writing

- Control via Joystick, PC or storable script

- Individual Positioning programming

- Optional CAN bus e.g. CANopen
  (CAN FD ready)

Product highlights:

- Standalone operation with Joystick

- USB 2.0 interfaces for PC and Joystick

- Display with position feedback

- Access to menu via PC interface and rotary encoder

LC3 Controller

Technical Data

Part no.	unit	E-61000
Power supply ±10%	V	100-240
Input current	mA	300 (max.)
Main supply	-	- 24 VDC/2.5 A (wide range power supply 100 to 240 V AC included)
Electric fuse	mA	1000
Channels	-	1,2 or 3
Output voltage	V_{RMS}	0 ... 250
Actuator connector	-	D-Sub 25 pol.
Interface module		
USB	-	USB 2.0 HS
RS232	Baud	115200
CAN optional	-	e. g. CANopen (CAN FD ready)
Casing		
Dimensions (l * w * h)	mm	240 x 210 x 80
Environment		
Operating temperature	-	5 ... 35°C / 41 ... 95°F
Humidity	$\%_{rel}$	< 80, non-condensing
Altitude	m	up to 2000

LC3 Controller

Generally	LC3	ThorLabs	Steinmeyer Mechatronik	AEROTech	Märzhäuser Wetzlar
For piezo-electric stepper motors (NM HR series)	✓	✗	✓	✗	✗
3-axis control	✓	✓		✓	✓
Cross-axis position feedback	✓	✗		✓	
Display with information output	✓	✗	✗	✗	
Flexible resolution (supported by Renishaw)	✓				
Trapezoidal velocity profile	✓			Flexible	
High traversing velocity	✓	✓	✗		
Control					
PC/Controller Software	✓	✓		✓	
Joystick	✓	✓	✗	✗	✓
Script	✓	✓	✓		
Dependent and independent axis control	✓			✓	
µManager/MATLAB/LabVIEW	✓	✓		✓	
Running modes					
Absolute motion	✓			✓	
Vector motion	✓			✓	✓
User-definable paths or geometries	✓			✓	
Oscillating motion	✓				
Scanning mode	✓	✓			
Features					
Output trigger signal	✓	✓			✓
Display with encoder signal strength	✓	✗			
Automatic script execution at startup	✓	✗	✗	✗	
Variable axial parameters	✓		✓		
Multiple position storage	✗		✓		✓

LC3 Controller

Drawing

power in (230V)

25pol. D-Sub, female (3x)

Backside

RS 232

Z-Axis

Y-Axis

CAN

X-Axis

USB   USB

PC   Joystick

USB 2.0 - Typ A

9pol. D-Sub, male

USB 2.0 - Typ B

9pol. D-Sub, female