

PIShift Drive Electronics

VERSATILE AND COST-EFFECTIVE



E-870

- + For PIShift and PiezoMike piezo inertia drives
- + Ideal for OEM applications
- + One to four actuators, serial control (through demultiplexing)
- + With digital USB interface
- + Host software LabVIEW driver included

Drive electronics for one to four axes

OEM module with solder pins, circuit board with connectors and terminal strips or bench- top device. For the operation of open- loop PIShift piezomotors and PiezoMike linear actuators

Operating modes

Max. piezo voltage 0 to max. 100 V (configurable), full- step mode and analog control, various command modes. Configuration of the operating parameters can be programmed via USB or via hardware settings. Serial control of up to 4 actuator channels by one unit

Interfaces

USB for control, configuration and for firmware updates. Interfaces for TTL and analog control. Optional SPI interface

Fields of application

Lab automation, medical technology, handling

Specifications

Preliminary data	E-870.10	E-870.11 / E-870.1G	E-870.21 / E-870.2G	E-870.41 / E-870.4G
Function	Drive electronics for PIShift linear drives, OEM circuit board with solder pins	Drive electronics for PIShift linear drives, E-870.11: OEM circuit board with connectors E-870.1G: Bench-Top Device	Drive electronics for PIShift linear drives, E-870.21: OEM circuit board with connectors E-870.2G: Bench-Top Device	Drive electronics for PIShift linear drives, E-870.41: OEM circuit board with connectors E-870.4G: Bench-Top Device
Channels	1	1	2 serial control through demultiplexing	4 serial control through demultiplexing
Amplifier				
Amplifier channels	1	1	1, serial control of 2 axes with demultiplexing	1, serial control of 4 axes with demultiplexing
Output voltage	0 to 100 V	0 to 100 V	0 to 100 V	0 to 100 V
Peak output power	30 W	30 W	30 W	30 W
Output current / channel (<5 ms)	±650 mA	±650 mA	±650 mA	±650 mA
Interfaces and operation				
Communication interfaces	USB 2.0; solder pins	USB 2.0; terminal strip (E-870.11); SPI (E-870.1G)	USB 2.0; terminal strip (E-870.21); SPI (E-870.2G)	USB 2.0; terminal strip (E-870.41); SPI (E-870.4G)
Actuator connection	Solder pins	Mini DIN 4- pin	Mini DIN 4- pin	Mini DIN 4- pin
Analog and digital inputs	Analog ±10 V, 10 Bit ADC, 12 TTL inputs for sending commands and for configuration			
Digital output	Overtemperature protection indicated at 75 °C, operating status and error output			
Command set	PI GCS 2			
User software	Configuration and operation tool: E-870 Control			
Software drivers	LabVIEW driver, dynamic libraries for Windows			
Supported functionality	Full- step mode (default), linear mode (analog control); alternative command modes: pulse- controlled, pulse edge- controlled, quadrature decoder control, analog velocity control			
Display	–	LED display for operation, error status (only E-870.11) and overtemperature protection (only E-870.11)	LED display for operation, error status (only E-870.21) and overtemperature protection (only E-870.21)	LED display for operation, error status (only E-870.41) and overtemperature protection (only E-870.41)
Manual control	–	Integrated pushbutton control forwards / backwards (only E-870.11), joystick via USB	Integrated pushbutton control forwards / backwards (only E-870.21), joystick via USB	Integrated pushbutton control forwards / backwards (only E-870.41), joystick via USB
Miscellaneous				
Operating temperature range	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Overtemp protection	Deactivation at 75 °C	Deactivation at 75 °C	Deactivation at 75 °C	Deactivation at 75 °C
Dimensions	76 mm × 61 mm × 20 mm	92.5 mm × 105 mm × 36 mm (E-870.11) 93 mm × 104 mm × 36 mm (E-870.1G)	92.5 mm × 105 mm × 36 mm (E-870.21) 93 mm × 104 mm × 36 mm (E-870.2G)	92.5 mm × 105 mm × 36 mm (E-870.41) 93 mm × 104 mm × 36 mm (E-870.4G)
Mass	100 g	170 g (E-870.11) 310 g (E-870.1G)	190 g (E-870.21) 330 g (E-870.2G)	200 g (E-870.41) 340 g (E-870.4G)
Operating voltage	12 to 24 V (power supply not included in the scope of delivery)	12 to 24 V (power supply included in the scope of delivery of E-870.1G)	12 to 24 V (power supply included in the scope of delivery of E-870.2G)	12 to 24 V (power supply included in the scope of delivery of E-870.4G)
Max. power consumption	35 W	35 W	35 W	35 W

Ask about custom designs!

Order Information

E-870.10

PIShift Piezomotor / PiezoMike Drive Electronics, 1 Channel, OEM Board

E-870.11

PIShift Piezomotor / PiezoMike Drive Electronics, 1 Channel, OEM Board with Connector Strip

E-870.1G

PIShift Piezomotor / PiezoMike Drive Electronics, 1 Channel, Bench- Top Device

E-870.21

PIShift Piezomotor / PiezoMike Drive Electronics, 2 Channels, OEM Board with Connector Strip

E-870.2G

PIShift Piezomotor / PiezoMike Drive Electronics, 2 Channels, Bench- Top Device

E-870.41

PIShift Piezomotor / PiezoMike Drive Electronics , 4 Channels, OEM Board with Connector Strip

E-870.4G

PIShift Piezomotor / PiezoMike Drive Electronics, 4 Channels, Bench- Top Device

Ask about custom designs!

Accessories

Related Products

[N-412 Linear Actuator with PIShift Piezomotor](#)

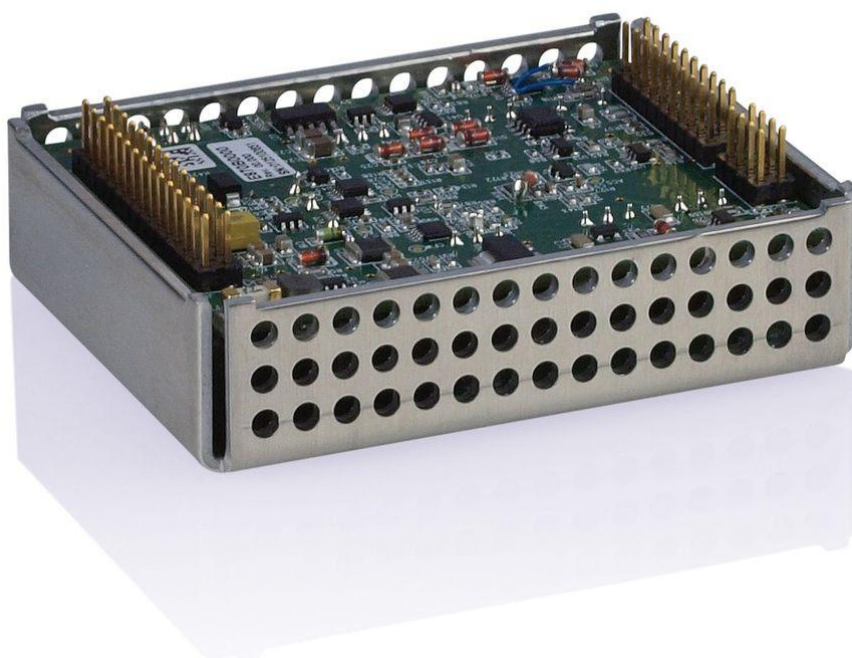
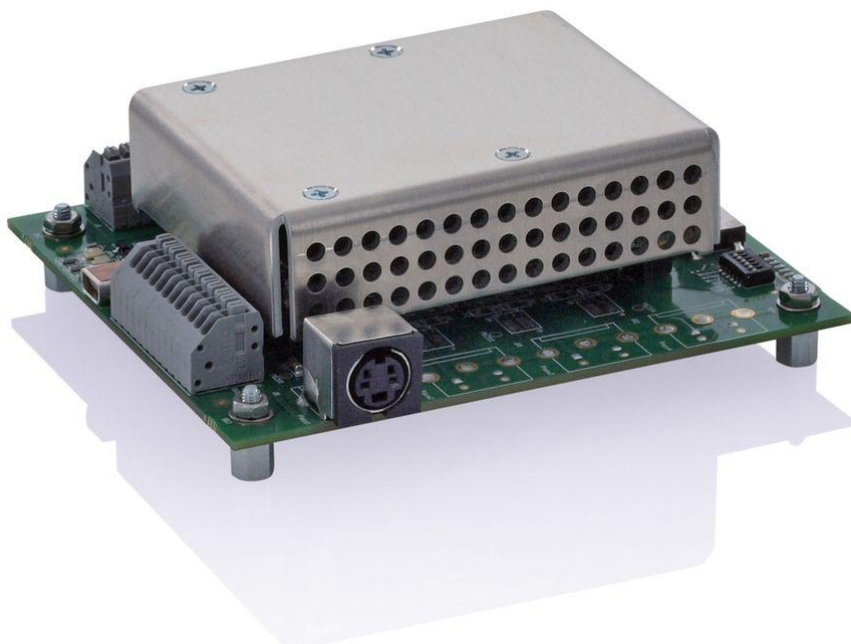
[N-422 Linear Actuator with PIShift Piezomotor](#)

[N-470 PiezoMike Linear Actuator](#)

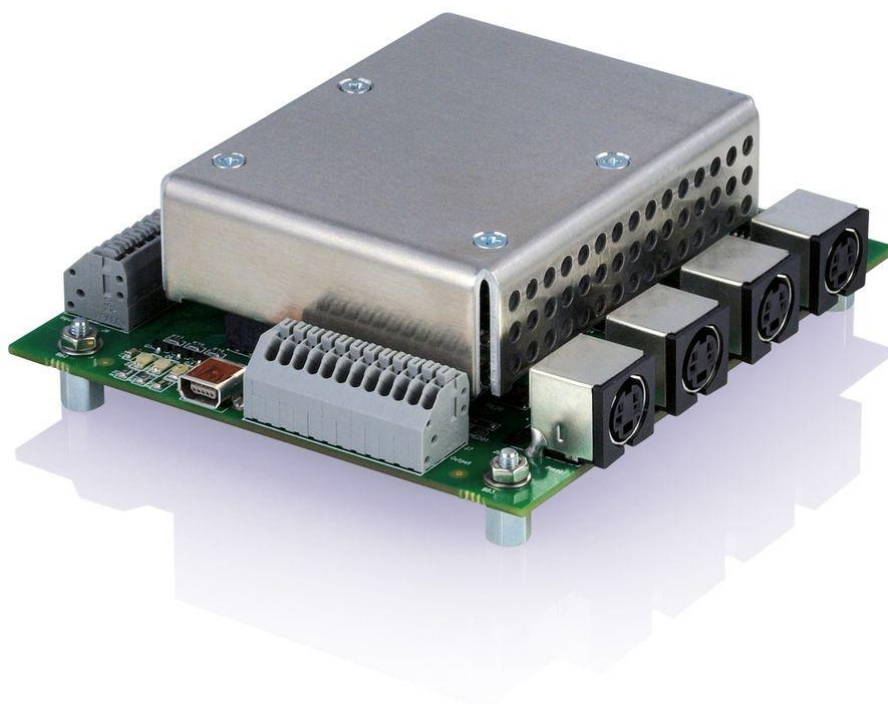
[Q-614 Q- Motion Miniature Rotation Stage](#)

[Q-521 Q- Motion Miniature Linear Positioning Stage](#)

Drawings / Images



E-870.10: Single-channel driver for PIShift piezo inertia drives (to be plugged in or soldered)



The E-870.41 allows the serial control of up to four PIShift channels through demultiplexing