PIEZO DRIVES ³ PIEZO FOCUS MODULES ⁵ PIEZO STAGES ⁷ PIEZO PAN-TILT MODULES ⁹ PIEZO FILTER-SWITCHERS ¹¹

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PIEZOLUTION

is a joint venture company, which strengthens our front-end customer consulting in Europe with innovator-spirited engineering support and cost-effective production in Asia. This fusion is an ideal way for customers to benefit from two decades of expertise in piezo-driven OEMapplications in precision motion, laboratory-automation, medical design, sub-micron positioning and more.

We work out with customers individual and reliable motion solutions for precise positioning in miniaturized environment, using our patented piezoelectric ultrasonic linear drives, compact and insensitive to electro-magnetic interference.

Our state-of-the-art production line ensures high quality and flexibility. We can produce prototypes and small charges of custom-engineered types in short runs.

Piezo-driven solutions are simple and ingenious.

We like to move it!

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PIEZO DRIVES

Our patented Piezo drives are highly efficient in miniaturized environments.

They open up new approaches in precision motion solutions. They are widely used in code readers, opto-mechatronics, lab-on-a-chip applications, clean-rooms, aeronautics, life sciences, medical design, microfluidic dispensers, haptic devices etc.

Features:

- Simple structure less maintenance
- Small footprint for compact systems
- Quick responsive
- High accuracy
- Consumes no power at rest
- No backlash
- Insensitive to electro-magnetic interference
- Single micro controller board



Specifications	PZM25S- xxx	PZM35BS- xxx	PZM35S- xxx	PZM50M- xxx	PZM70L- xxx
Slider speed(mm/s)	<5	<7	<10	<20	<20
Thrust force (g·f)	<3	<10	<15	<50	<60
Thrust force (mN)	<29.42	<98.07	<147.10	<490.33	<588.40
Stroke (mm)	~3	~5	~6	~10	~15
Driving voltage (V)	10~16	10~18	12~20	15~30	20~30
Driving frequency (kHz)	120~160	110~150	80~100	60~80	35~60
Current (mA)	<12	<12	<14	<20	<25
Power consumption (mW)	<150	<150	<200	<400	<500
Operating conditions (°C)	-20 ~ +60	-20 ~ +60	-20 ~ +60	-20 ~ +60	-20 ~ +60
Storage conditions (°C)	-30 ~ +80	-30 ~ +80	-30 ~ +80	-30 ~ +80	-30 ~ +80
Huminidy (%)	15 ~ 90	15 ~ 90	15 ~ 90	15 ~ 90	15 ~ 90

Notes:

1. Shaft length can be modified in certain range.

2. Standard sliders or customized ones are available on demand.

3. One-chip controller board available on demand.



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To build your modules for linear motion, you can begin with sliders in standard form (below right) or your individual design (examples below left).



For necessary guiding-rods, optical position sensors, housing construction and controller board conception you can get full support from our engineer team. Or you just let us do the whole conceptual design on your requirements.



Motor size versus efficiency

PIEZO FOCUS MODULE

Our piezo-driven focus module for M12 lenses - controlled by a single PCB - is compact, precise, quick-responsive and simple to integrate.





Choose from a wide selection of M12 (S-Mount) lenses. Socket exchangable to fit to variable camera boards. Power supply and data communication(UART or I²C) over 5-pin flat cable, alternatively over USB. The 6mm stroke in Z-axis enables a wide scope of focus

ranges. Customizing available on demand.



Specifications PZM-M12-06-DB

Suitable for lens type	M12 x 0,5mm
Lens weight	<5g
Travel range	Up to 6mm
Housing dimension	26x26x25mm
Speed	< 10mm/s
Resolution	1 μm
Repeatability	±3 μm
Input Voltage	5V
Input Power	< 2W
Temperature/ RH	0-50°C
Mean Time before Failure	> 6,3 Mio .Cycles (no load, 2sec/cycle)
Digital interface	UART

PIEZO FOCUS MODULE











Example application for M12 lenses. Adaptations for M8, M16 etc. possible.

We are looking forward to your inquiry.

APPLICATIONS



PIEZO STAGES





Whether in laboratory automation or robotics, precise positioning with remote control plays an important role.



Specifications	PZS-X50 -06-BIB	PZS-X50 -05	PZS-X70 -10	PZS-X70 -15	PZS-HQ50 -04	PZS-THDT70 -300
Real Stroke	6mm	5mm	10mm	15mm	4mm	295° (TBD)
Resolution (with Incremental Encoding)	0.1µm	0.1µm	0.1µm	0.1µm	0.1µm	0.1µm
Repeatability	± 2μm	± 2μm	± 2μm	± 2μm	± 2μm	± 2μm
Thrust Force	\leq 10 g	\leq 15 g	\leq 20 g	\leq 20 g	\leq 10 g	-
Holding Force	150 ± 10gf	> 250 gf	> 250 gf	> 250 gf	> 250 gf	> 50gfcm(TBD)
Speed (full stroke)	>10mm/s	>10mm/s	>10mm/s	>10mm/s	>10mm/s	-
Application Driver	embedded	Multi channel Master PMC2001	Multi channel Master PMC2001	Multi channel Master PMC2001	Multi channel Master PMC2001	Multi channel Master PMC2001

PIEZO STAGES

APPLICATIONS





<image>

Either configurate an existing closed loop package, ready to mount, wire, and run or alternatively just choose the components and develop individual motorized solutions.

Depending on load, stroke, accuracy demand, control interface and so forth, you can work out your optimal system design with full support from our engineer team.

PIEZO PAN-TILT MODULE



Widely used in surveillance cameras or applications with changes of the light-path.

"Pan" stands for horizontal motion (left-right) while "Tilt" for vertical motion (up-down).

Size	23.9 x 12 x 24 mm
Weight	TBD
Piezo Drive	PZM-35S dual
Operating Temperature	-10°C to +60°C
Operating Frequency	TBD
Power Consumption	TBD
Driving Voltage	14 ± 1V
Speed	TBD
Angle (Pan)	± 30°
Angle (Tilt)	± 30°
Repeatability (Encoder value)	TBD

Specifications PZS-PT35-30

PIEZO PAN-TILT MODULE

DRAWING











APPLICATION



PIEZO FILTER SWITCHER





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Specifications FC002

АС Туре	Filter Switcher
Max. speed	>10mm/s
Resolution	On-Off System
Power Consumption	< 700 mW
Driving Frequency	40±10% kHz
Operating Temperature	-15°C ~ 70°C
Dimension(WxLxH)	On-Off System
Filter Size	18.1 x 12.8 mm

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