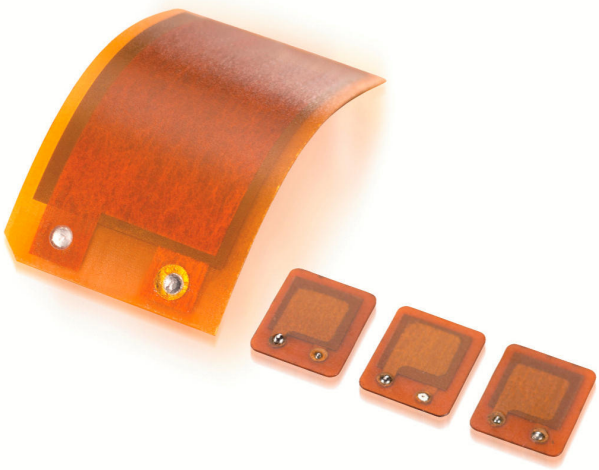
DuraAct Patch Transducer

Bendable and Robust



P-876

- Useable as actuator, sensor or energy generator
- Inexpensive
- Min. bending radii of down to 12 mm
- Compact design
- Individual solutions

Patch transducer
Functionality as actuator and sensor component. Nominal operating voltage from 100 up to 1000 V, depending on the active layer height. Power generation for self-sufficient systems possible up to the milliwatt range. Can also be applied to curved surfaces.

Robust, inexpensive design
Laminated structure consisting of a piezoceramic plate, electrodes and polymer materials. Manufactured with bubble-free injection method. The polymer coating simultaneously serves as electrical insulation and as mechanical preload, which makes the DuraAct bendable.

Customized versions and other specifications on request
- Flexible choice of size
- Flexible choice of thickness and therefore bending ability
- Flexible choice of piezoceramic material
- Variable design of the electrical connections
- Combined actuator/sensor applications, even with several piezoceramic layers
- Multilayer piezo elements
- Arrays

Application fields
Industry and research. Can also be applied to curved surfaces or used for integration in structures. For adaptive systems, energy harvesting, structural health monitoring.

Motion	Unit		P-876.A11	P-876.A12	P-876.A15	P-876.SP1
Minimum lateral contraction	µm/m		400	650	800	650
Relative lateral contraction	µm/m/V		1.6	1.3	0.64	1.3

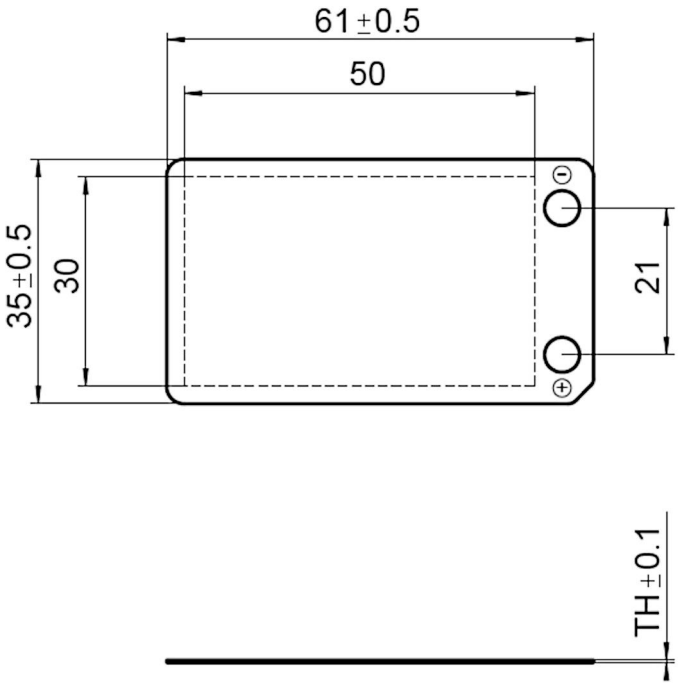
Drive Properties	Unit	Tolerance	P-876.A11	P-876.A12	P-876.A15	P-876.SP1
Operating voltage	V		-50 to 200	-100 to 400	-250 to 1000	-100 to 400
Drive type			DuraAct	DuraAct	DuraAct	DuraAct
Actuator type			Transducer	Transducer	Transducer	Transducer
Piezo material			PIC255	PIC255	PIC255	PIC255
Piezoceramic height	µm		100	200	500	200
Electrical capacitance	nF	±20%	150	90	45	8

Mechanical Properties	Unit		P-876.A11	P-876.A12	P-876.A15	P-876.SP1
Minimum bending radius	mm		12	20	70	
Blocking force	N		90	265	775	280

Miscellaneous	Unit		P-876.A11	P-876.A12	P-876.A15	P-876.SP1
Operating temperature range	°C		-20 to 150	-20 to 150	-20 to 150	-20 to 150
Connector			Solderable contacts	Solderable contacts	Solderable contacts	Solderable contacts
Recommended controllers / drivers			E-413, E-821, E-835	E-413, E-821, E-835	E-413, E-821, E-835	E-413, E-821, E-835

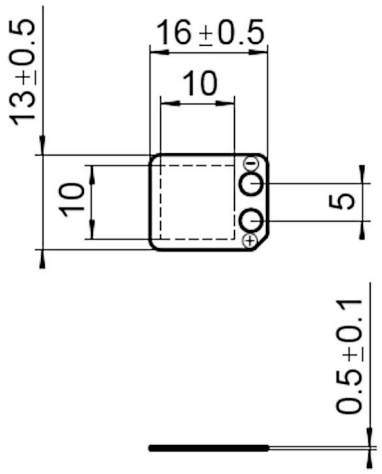
Custom designs or different specifications on request.

Drawings / Images

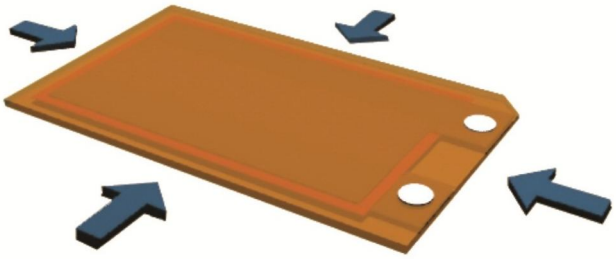


P-876.A1x, dimensions in mm. P-876.A11: TH = 0.4 mm. P-876.A12: TH = 0.5 mm. P-876.A15: TH = 0.8 mm.

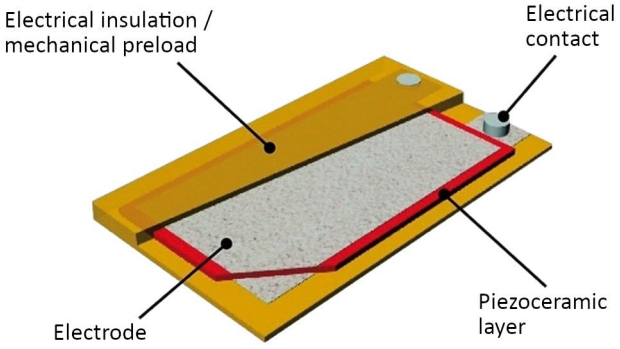
Drawings / Images



P-876.SP1, dimensions in mm

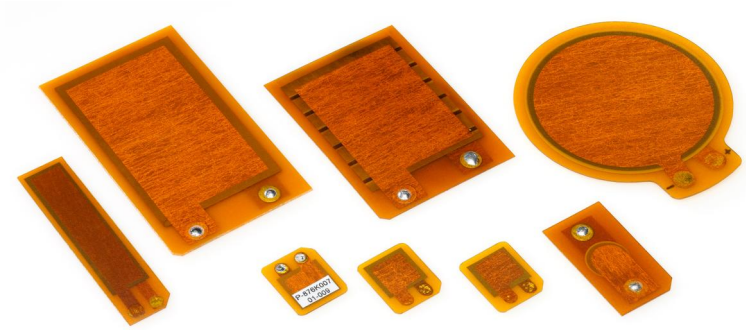


When a voltage is applied, the DuraAct patch transducer contracts laterally.

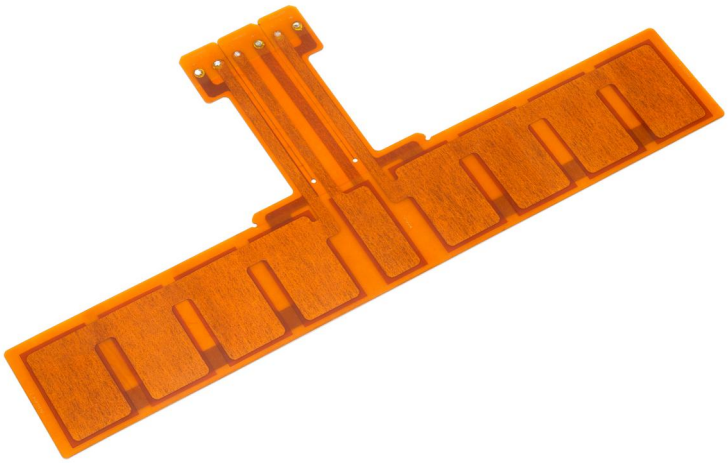


DuraAct transducer design principle

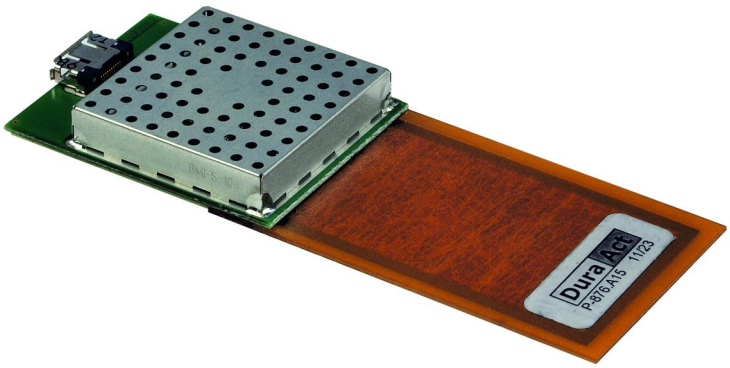
Drawings / Images



DuraAct patch transducers can be manufactured in various shapes.



When arranged in an array, DuraAct patch transducers allow, for example, the reliable monitoring of larger areas.



Electronic modules for sensor data processing, controlling the DuraAct actuator or harvesting energy can be connected close to the transducer.

Order Information

P-876.A11
DuraAct patch transducer; DuraAct piezo actuator drive; 35 mm × 61 mm × 0.4 mm (B × L × TH); solderable contacts

P-876.A12
DuraAct patch transducer; DuraAct piezo actuator drive; 35 mm × 61 mm × 0.5 mm (B × L × TH); solderable contacts

P-876.A15
DuraAct patch transducer; DuraAct piezo actuator drive; 35 mm × 61 mm × 0.8 mm (B × L × TH); solderable contacts

P-876.SP1
DuraAct patch transducer; DuraAct piezo actuator drive; 13 mm × 16 mm × 0.5 mm (B × L × TH); solderable contacts