



Force sensor Eiger



Datasheet KE-011-0600



Force is applied on center tongue

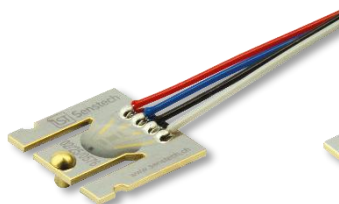
Benefits & characteristics

- Measurement range: **0 – 10 N**
- Force is applied to a round-head rivet
- Compact and robust design
- Available with various electrical connection options
- Easy integration

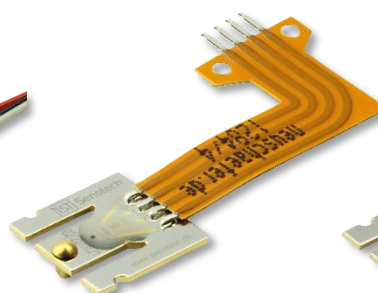
Illustration



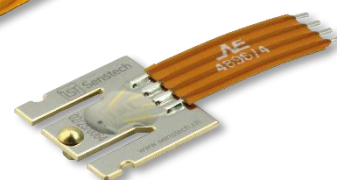
10N-E1-K0



10N-E1-K1



10N-E1-K2



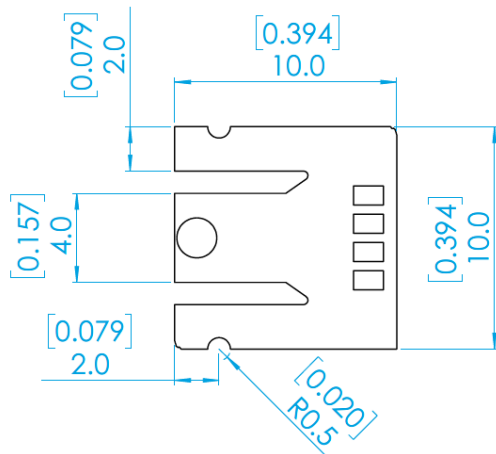
10N-E1-K3

Applications

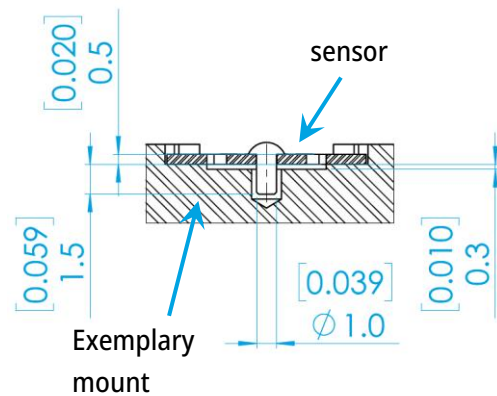
- Medical devices
- Process control
- Robotics
- Measuring and testing equipment

Dimensions and integration

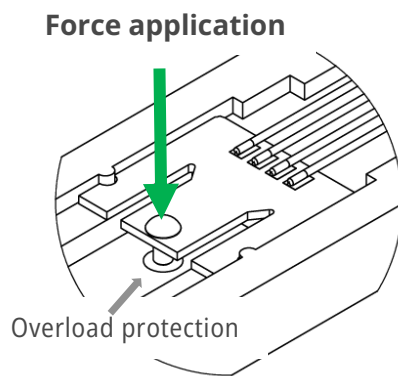
All dimensions in millimeters / [inches]



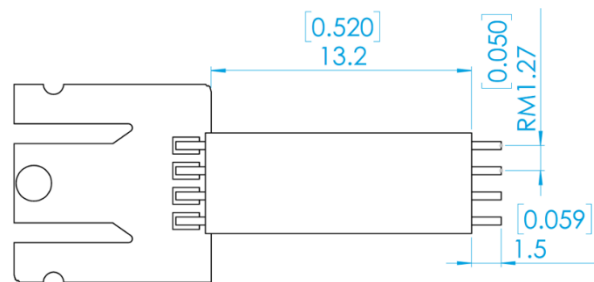
Sensor element dimensions: top view



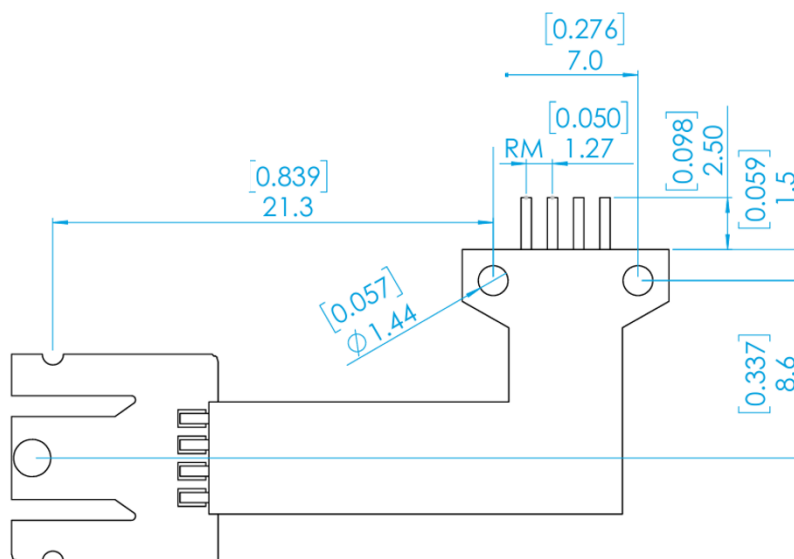
side view



Integration and force application



Flex ribbon dimensions (-K3 variant)



Flex ribbon dimensions(-K2 variant)

Technical specifications

Measuring principle	Thin film strain gauge (full Wheatstone bridge)
Measurement parameter	Force [N] or displacement [mm]
Measurement range	0 to 10 N, see order information. Custom force ranges available on request
Electrical contacting	Solder points, L or I-shaped flex ribbon or stranded wires Color scheme for stranded wire (K1 variant): <div> <div>Red:</div> <div>Black:</div> <div>White:</div> <div>Blue:</div> </div> <div> <div>Supply voltage + (VCC)</div> <div>Supply voltage – (GND)</div> <div>Signal voltage +</div> <div>Signal voltage -</div> </div>
Mounting	Positioning via Ø1mm dowel pins; center tongue free with mechanical overload stop
Application of force	On round-head rivet, see previous section
Direction of force	Perpendicular to sensor plane
Shielding	None (possible on request)
Substrate material	Stainless Steel 1.4310

Environmental specifications

	Min	Typ	Max	Unit	Notes/Conditions
Operating temperature range	-20		+80	°C	
Storage temperature range	-40		+80	°C	
Ambient humidity	0		95	%RH	Non-condensing; at VCC ≥ 10 V

Operating specifications

	Min	Typ	Max	Unit	Notes/Conditions
Supply voltage (VCC)	0		15	V	
Supply current	1.5		2.5	mA	At VCC = 10 V
Bridge resistance (R _B)	4		6	kΩ	
Zero signal	-0.2		0.2	mV/V	Output signal of the unloaded sensor
Rated characteristic value (FS) tolerance	-15		15	%	See order information for rated characteristic value (Full scale FS)
Relative linearity error		±0.5		%FS	
Temperature effect on zero signal	-0.03		0.03	%FS/°C	
Temperature effect on characteristic value	0.015		0.035	%/°C	

Order information

Force sensor Eiger

Basic sensor element

KE-011-0600 = Force sensor Eiger

Force range

Code	Rated force / displacement	Rated characteristic value (FS)	Substrate thickness	Sensitivity	Force limit
10 N	10 N 0.2 mm	1.80 mV/V	0.5 mm	180 $\mu\text{V/V/N}$ 9 $\mu\text{V/V}/\mu\text{m}$	18 N

Application force

Code	Force application aid
E1	Rivet on top side

Connection

Code	Force application aid
K0	Tinned solder pads only
K1	Stranded wires, 200 mm
K2	L-shaped Flex
K3	I-shaped Flex

KE-011-0600-

xxxN-

Ex-

Kx-G0

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