



Force sensor Eiger



Datasheet KE-011-0600

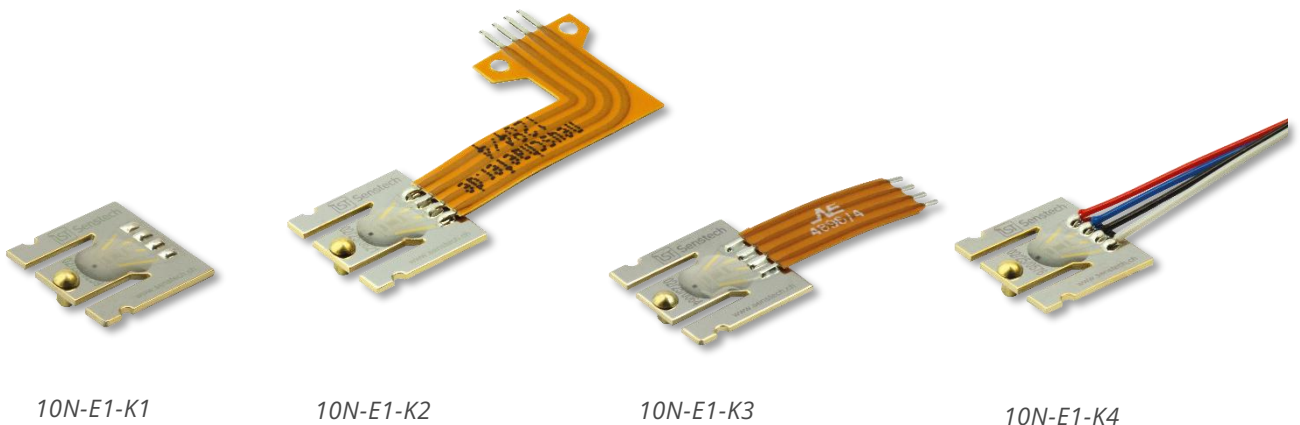
Force is applied on center tongue



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

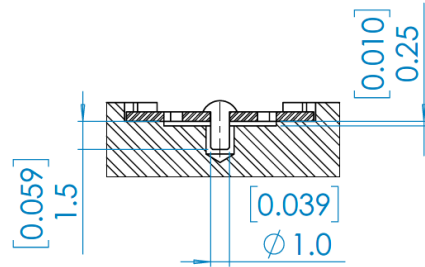
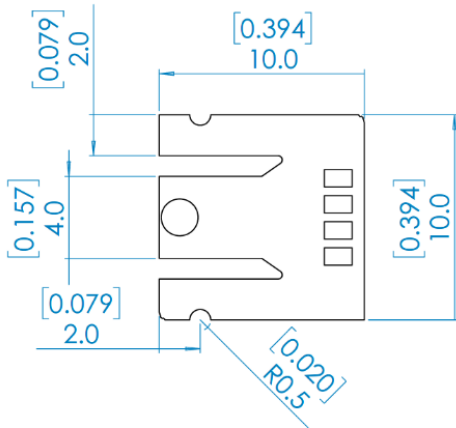


Applications

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

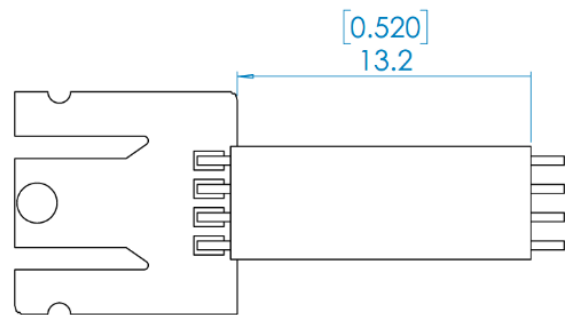
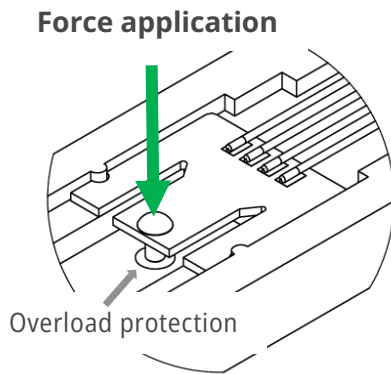
Dimensions and integration

All dimensions in millimeters / [inches]



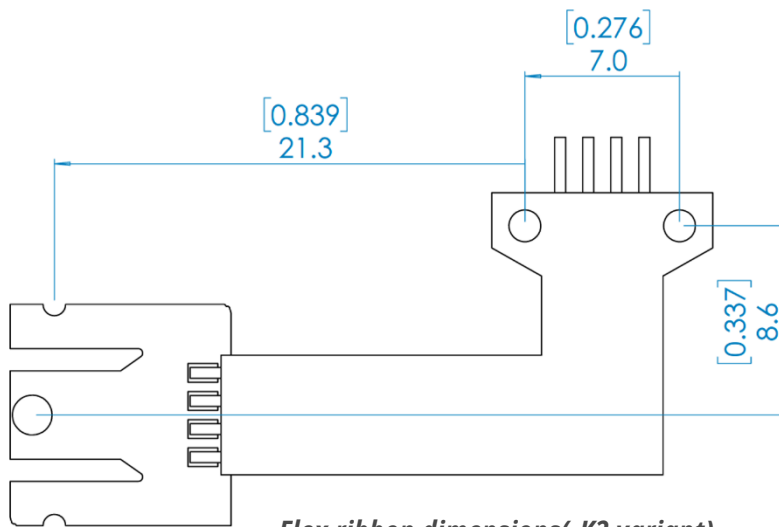
Sensor element dimensions: top view (left)

side view (right)



Flex ribbon dimensions (-K3 variant)

Integration and force application



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 (-K1 variant), L (-K2 variant) or I-shaped (-K3 variant) flex ribbon or stranded wires (-K4 variant)		
	Color scheme for stranded wire (K4 variant):	Red:	Supply voltage + (VCC)
		Black:	Supply voltage – (GND)
		White:	Signal voltage +/-
		Blue:	Signal voltage -/+
Mounting	Positioning via Ø1 mm 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	4		6	kΩ	
Zero signal	-0.2		0.2	mV/V	Output signal of the unloaded sensor
Rated characteristic value tolerance	-15		15	%	
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	Substrate thickness	Sensitivity	Force limit
10 N	10 N 0.2 mm	1.80 mV/V	0.5 mm	180 $\mu\text{V}/\text{V}/\text{N}$ 9 $\mu\text{V}/\text{V}/\mu\text{m}$	18 N

Application force

Code	Force application aid
E1	Rivet on top side

Connection

Code	Force application aid
K1	Tinned solder pads only
K2	L-shaped Flex
K3	I-shaped Flex
K4	With stranded wires, 200 mm

KE-011-0600-

XXXN-

Ex-

Kx-

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All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated • All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics • Technical changes or product specifications without previous announcement reserved • The information on this data sheet was examined carefully and will be accepted as correct; No liability in case of mistakes • Load with extreme values during a longer period can affect the reliability • The material contained herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner • All rights reserved.