

FN4070-FN4080

Seat Belt Buckle Sensor

SPECIFICATIONS

- **Operating ranges from 0-1kN to 0-40kN**
- **Crash-testing**
- **Compatible with most seat belts**
- **Detachable tongue and cable**
- **Easy and economical maintenance**

Lower operating ranges with model **FN4080**

The **FN4070** load cell measures the effort generated on the anchor point of seat belts during crash tests. It has been specifically designed with a replaceable tongue. The load cell can be easily re-used by changing the tongue. It also has a cable output which can be renewed by the crash test technicians to allow for cost-effective, in-house maintenance of the device.

For other operating ranges (250-500-2500N) refer to model **FN4080**. Consult your MEAS' representative for technical specification.

With many years of experience as a designer and manufacturer of sensors, Measurement Specialties, Inc., often works with customers to design or customize sensors for specific uses and testing environments. To meet your needs we also offer complete turnkey systems. The matched components (sensor, power, amplifier and digital display) are formatted, calibrated and ready for immediate use.

FEATURES

- Multiple tongues adjustable by customer
- Dynamic application
- Very robust for crash
- Easy cable replacement for customer

APPLICATIONS

- Crash test on-board equipment
- Security absorbers
- Parachute belt and anchor testing

STANDARD RANGES

F.S. Ranges in N	1k	5k	10k	25k	40k
F.S. Ranges in Lbf	200	1k	2k	5k	9k
Materials	Aluminum	Stainless Steel			

CHARACTERISTICS (typical values at temperature 23°C)

PARAMETERS		
Operating Temperature Range (OTR)	-20 to 80 °C [-4 to 176 °F]	
Compensated Temperature Range (CTR)	0 to 60ºC [32 to 140°F]	
Zero Shift in CTR	<0.5% F.S. /50ºC [/100 F°]	
Sensitivity Shift in CTR	<1 % of reading /50 °C [/ 100°F]	
Range (F.S.)	1 to 50 kN [200 Lbf to 10 kLbf]	
Over-Range		
Without Damage	1 to 25kN: 1.5 x F.S.	40kN: 1.25 x F.S.
Without Destruction	3 x F.S.	
Accuracy		
Combined Non-Linearity & Hysteresis	<±0.5% F.S	

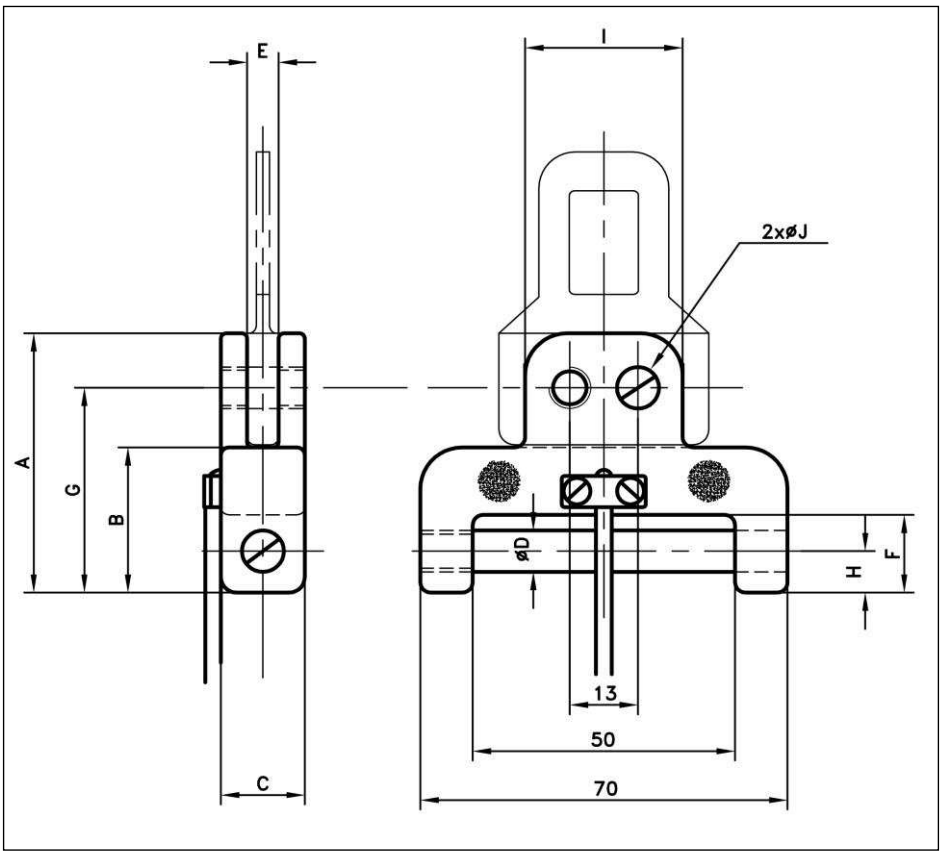
Electrical Characteristics

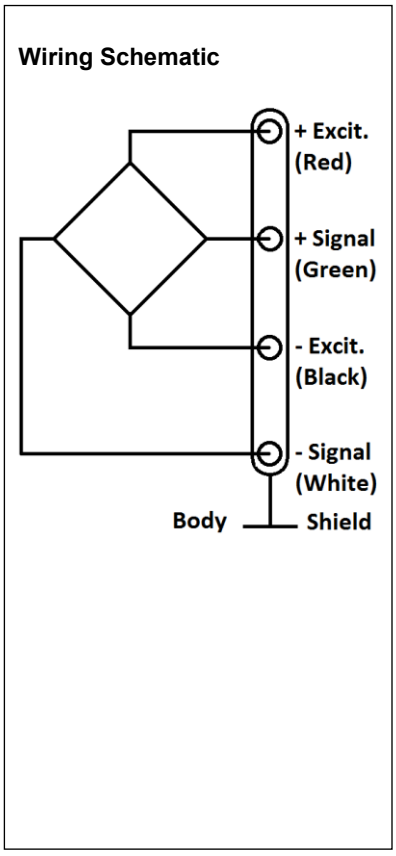
Model	**FN4070**	
Supply Outage	10Vdc	
F.S. Output	1 to 25kN: 20mV	40kN: 16mV
Zero Offset	<±1 mV	
Insulation under 50Vdc	≥100MΩ	

Notes

1. Shielded Ø3 cable with 4 wires (AWG36/28), standard length 2 m [6.5 ft]
2. Material: Body in stainless steel or aluminium alloy depending on F.S.
3. Protection Index IP50 (other levels available on request)
4. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)





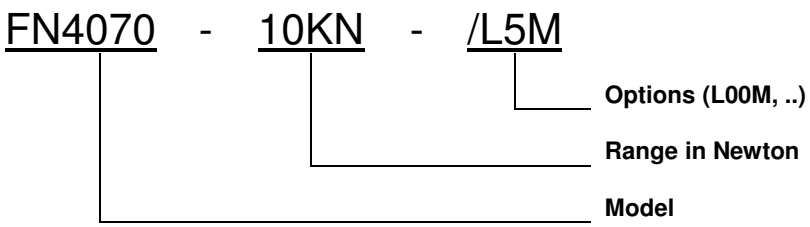
Dimensions in mm [inch]

Full Scale Range in N [in Lbf]	1k [200]	5k [1k]	10k [2k]	25k [5k]	40k [10k]
A	36 [1.42]	50 [1.97]	50 [1.97]	61 [2.40]	92 [3.62]
B	24 [0.94]	28 [1.10]	28 [1.10]	37 [1.46]	55 [2.17]
C	12 [0.47]	15 [0.59]	15 [0.59]	19 [0.75]	29 [1.14]
D	6.2 [0.24]	8.2 [0.32]	8.2 [0.32]	12.2 [0.48]	18.5 [0.73]
E	3 [0.12]	6 [0.24]	6 [0.24]	8 [0.31]	12 [0.47]
F	13 [0.51]	15 [0.59]	15 [0.59]	24 [0.94]	37 [1.46]
G	30.5 [1.20]	39.5 [1.56]	39.5 [1.56]	50.5 [1.99]	75.5 [2.97]
H	7 [0.28]	8 [0.31]	8.2 [0.31]	12 [0.47]	18.5 [0.73]
I	24 [0.94]	30 [1.18]	30 [1.18]	30 [1.18]	40 [1.57]
J	5.2 [0.20]	8.2 [0.32]	8.2 [0.32]	8.2 [0.32]	12.2 [0.48]

OPTIONS

L00M: Additional cable length option, replace “00” with total length in meters

ORDERING INFORMATION



NORTH AMERICA
Measurement Specialties, Inc.,
a TE Connectivity Company
Phone: +1 800 522 6752
Email: customercare.frmt@te.com

EUROPE
Measurement Specialties (Europe), Ltd.
a TE Connectivity Company
Phone: +31 73 624 6999
Email: customercare.lcsb@te.com

ASIA
Measurement Specialties (China), Ltd.,
a TE Connectivity Company
Phone +86 400 820 6015
Email: customercare.shzn@te.com

TE.com/sensorsolutions

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