



## 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

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

**CHARACTERISTICS** (typical values at temperature 23°C)

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

**Electrical Characteristics**

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

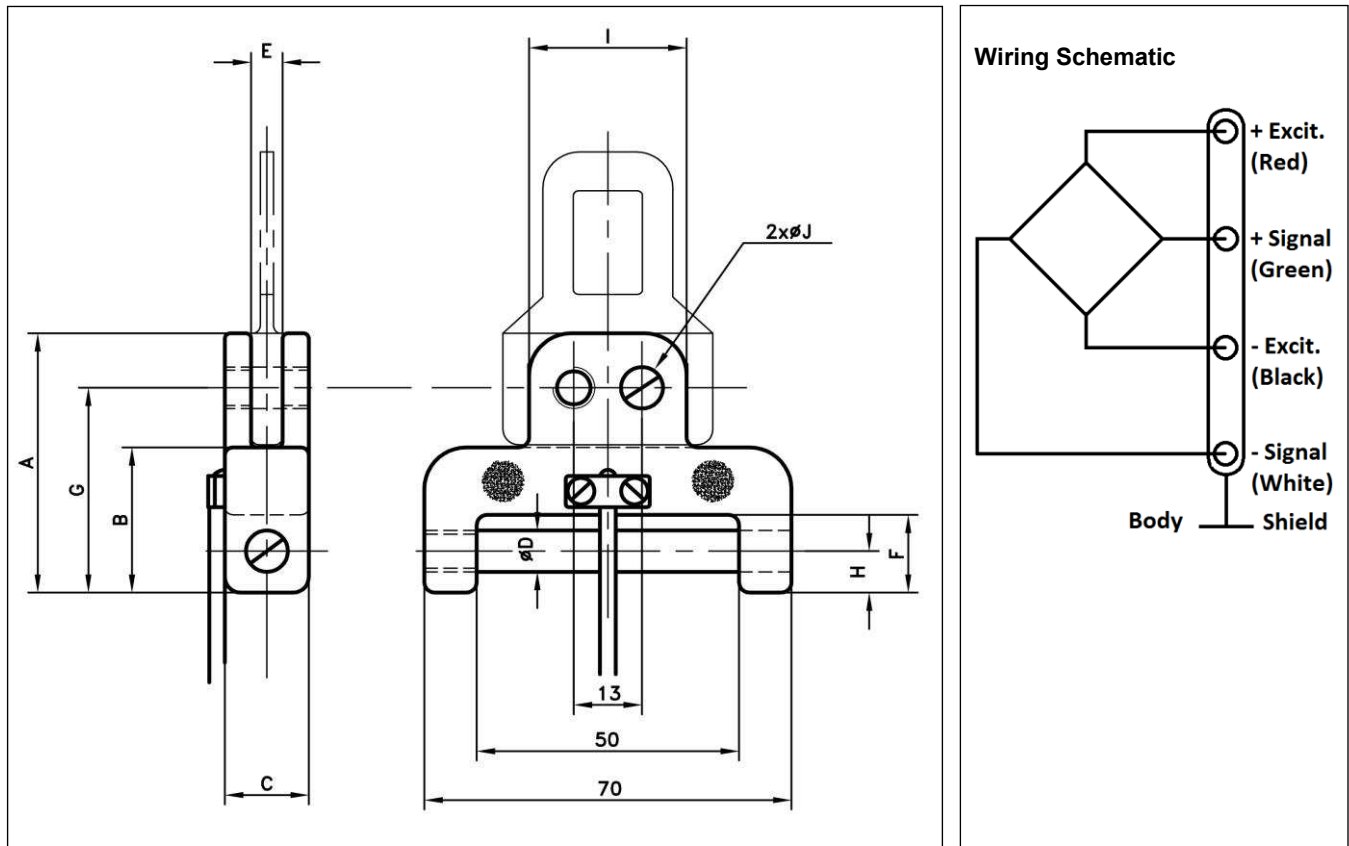
**Notes**

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

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## 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]

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### OPTIONS

**L00M:** Additional cable length option, replace "00" with total length in meters

### ORDERING INFORMATION

