

# FN3060 Load Cell for Fatigue Testing



- S-Beam load cell
- Designed for endurance applications
- Ranges 250 to 2500 N (50 to 500 lbf)
- Cable gland or connector output
- Optional build in amplifier

## DESCRIPTION

The FN3060 S-beam load cell is highly suited for use in test benches and fatigue tests. Due to the mechanical design, the FN3060 is especially durable. It measures tension and compression in standard ranges from 0-250 to 0-2500 N [50 to 500 lbf].

For high-level output a model with integrated amplifier is available. Sensor can all be supplied in higher temperature range for fatigue tests in oven.

With many years of experience as a designer and manufacturer of sensors, Measurement-Specialties 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

- High stiffness
- Tension and compression
- Accuracy : 0.1% F.S.
- High level output with integrated amplifier
- IP 64 protected

## APPLICATIONS

- Lifetime test benches
- Dynamic fatigue testing
- Robotics and Effectors
- Laboratory and Research
- Pneumatic cylinder monitoring

## STANDARD RANGES

<b>Ranges in N</b>	250	500	1k	2.5k
<b>Ranges in lbf</b>	50	100	200	500
<b>Stiffness in N/m</b>	$8 \times 10^6$	$1.5 \times 10^7$	$2.5 \times 10^7$	$5 \times 10^7$
<b>Stiffness in lbf/ft</b>	$5.5 \times 10^5$	$1.0 \times 10^6$	$1.7 \times 10^6$	$3.4 \times 10^6$

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## PERFORMANCE SPECIFICATIONS

**Ambient Temperature: 20±1° C (unless otherwise specified)**

<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.)	0-10 to 0-2000 N [0-2 to 0-400 lbf]
<b>Over-Range</b>	
Without Damage	1.5 x F.S.
Without Destruction	3 x F.S.
<b>Accuracy</b>	
Combined non-linearity & hysteresis	≤±0.1% F.S.

### Electrical Characteristics

Model	FN3060	FN3060-A1	FN3060-A2
Supply Outage	10Vdc	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output	±2mV/V typical	±2V ±5% F.S.	±5V ±5% F.S.
Zero Offset	±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	350 to 700Ω	<50mA	50mA
Output Impedance	350 to 700Ω	<10Ω	<10Ω
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

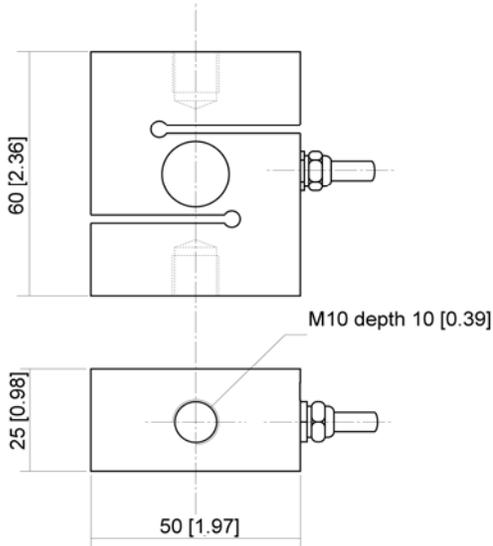
### Notes

1. Electrical Termination: Cable gland termination; 2 m cable length standard
2. Material: Body aluminum alloy depending on F.S.
3. Protection Index: IP64

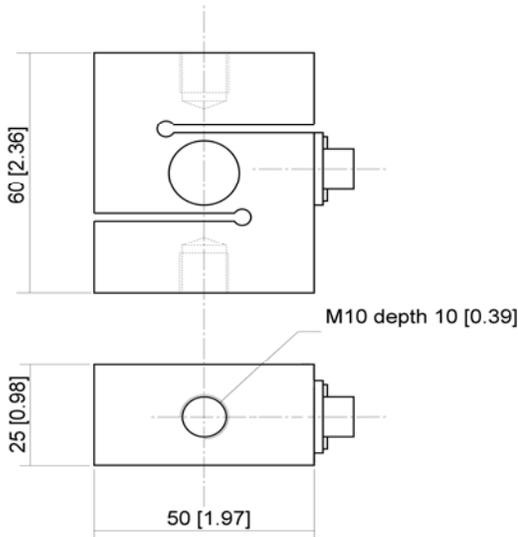
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## DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)

**FN3060 Dimensions in mm [inch]**

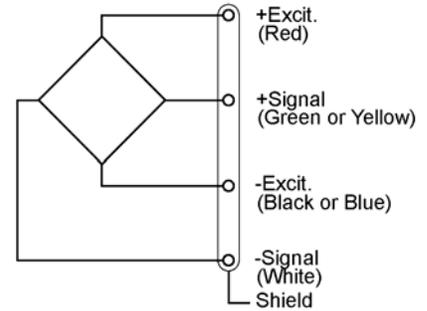


**FN3060-SC Dimensions in mm [inch]**

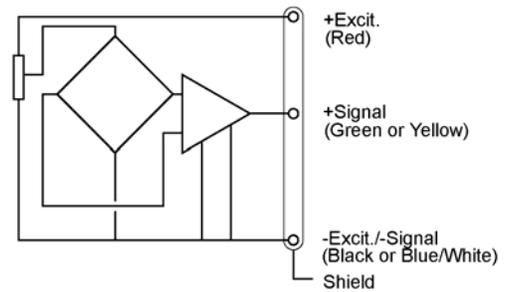


**Wiring Schematic**

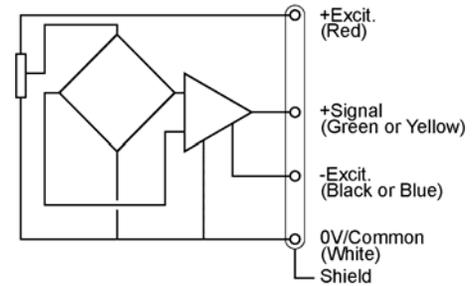
**FN3060**



**FN3060-A1**



**FN3060-A2**



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## OPTIONS

<b>A1</b> : Unipolar tension
<b>A2</b> : Bipolar tension
<b>ET1</b> : CTR -20 to 100° C OTR = CTR
<b>ET2</b> : CTR -40 to 120° C OTR = CTR
<b>SC</b> : Connector output
<b>LC"x"</b> : Additional cable length to standard length (in m) (Note : "X" = Custom value)

## ORDERING INFO

FN3060 - A1 - 100KN -/ET1/SC



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