

## FEATURES

- High accuracy
- Integrated Amplifier optional
- Cable or connector output

## APPLICATIONS

- Process control equipment
- Medical Instruments
- Weighing
- Laboratory and Research
- Calibration test benches

## FN3148

### Load Cell with mechanical stops

#### SPECIFICATIONS

- Ranges from 10 N to 2 000 N [2 lbf to 400 lbf]
- S-Beam sensor in tension and compression
- Combined linearity & hysteresis < 0.05% F.S.

The **FN3148** high precision load cell is protected against accidental overloads in tension and compression.

High-level outputs are available with amplifier A1 or A2 integration.

For lower ranges, another sensor, model **FN3280**, can measure 0-1 N to 0-5 N [0.2 lbf to 1 lbf].

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.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

## STANDARD RANGES

<b>Ranges in N (FS)</b>	10	50	100	200	500	1k	2k
<b>Ranges in lbf</b>	2	10	20	40	100	200	400
<b>Stiffness in N/m</b>	2.2x10 <sup>4</sup>	1.8x10 <sup>5</sup>	3.7x10 <sup>5</sup>	8.3x10 <sup>5</sup>	2.2x10 <sup>6</sup>	4.5x10 <sup>6</sup>	9.5x10 <sup>6</sup>
<b>Stiffness in lbf/ft</b>	1.5x10 <sup>3</sup>	1.2x10 <sup>4</sup>	2.5x10 <sup>4</sup>	5.7x10 <sup>4</sup>	1.5x10 <sup>5</sup>	3.1x10 <sup>5</sup>	6.5x10 <sup>5</sup>

## PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°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]
Thermal Zero Shift in CTR	<0.5% F.S. / 50° C [1/100° F]
Thermal Sensitivity Shift in CTR	<0.5 % of reading / 50° C [1/100° F]
<b>Over-Range</b>	
Without Damage	5 to 100 x F.S. (see table page 3)
<b>Accuracy</b>	
Combined non-linearity & hysteresis	≤±0.05% F.S.

### Electrical Characteristics

<b>Model</b>	<b>FN3148</b>	<b>FN3148-A1</b>	<b>FN3148-A2</b>
Supply Voltage	10Vdc	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
Sensitivity "FSO" <sup>3</sup>	±2mV/V typical	±2V ±0.2V	±5V ±0.2V
Zero Offset <sup>3</sup>	±5% F.S.	2.5V ±0.2V	0V ±0.2
Input Impedance/Consumption	350 to 700Ω	<50mA	50mA
Output Impedance	350 to 700Ω	1 kΩ <sup>4</sup>	1 kΩ <sup>4</sup>
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

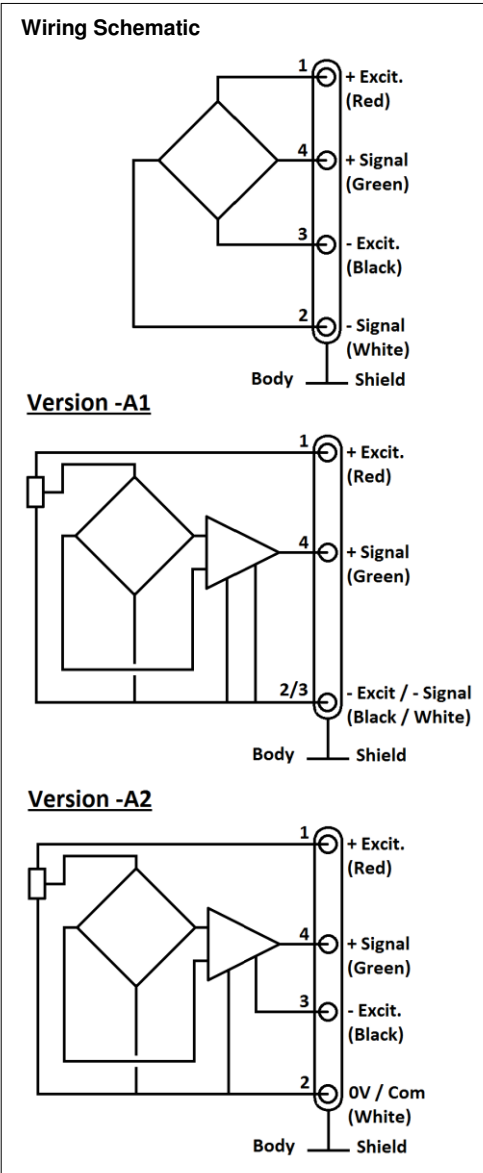
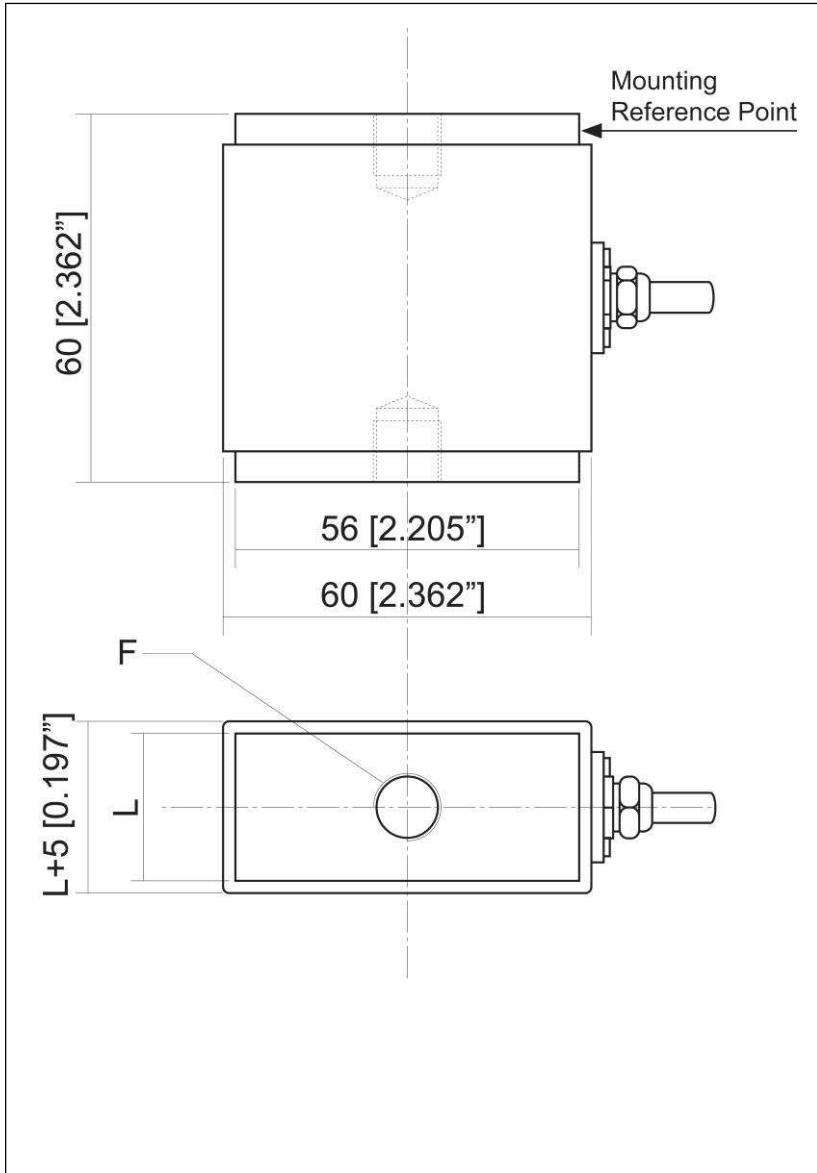
### Notes

1. Electrical Termination: Cable gland termination, 2m cable length standard
2. Materials: Body in aluminium alloy and cover in stainless steel
3. Other signal output on request
4. Output impedance < 100Ω on request
5. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

# FN3148

Load Cell with mechanical stops

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



Dimensions in mm [inch]

Range in N [in lbf]	10 [2]	50 [10]	100 [20]	200 [40]	500 [100]	1K [200]	2K [400]
F (Thread)	M6			M10			
L	20 [0.79"]	25 [0.98"]					
Over-range (compression)	20 kN [4 klbf]						
Over-range (tension)	1 kN [200 lbf]		2 kN [400 lbf]		5 kN [1 klbf]	10 kN [2klbf]	
Stiffness in N/m [in lbf/ft]	2.2x10 <sup>4</sup> [1.5x10 <sup>3</sup> ]	1.8x10 <sup>5</sup> [1.2x10 <sup>4</sup> ]	3.7x10 <sup>5</sup> [2.5x10 <sup>4</sup> ]	8.3x10 <sup>5</sup> [5.7x10 <sup>4</sup> ]	2.2x10 <sup>6</sup> [1.5x10 <sup>5</sup> ]	4.5x10 <sup>6</sup> [3.1x10 <sup>5</sup> ]	9.5x10 <sup>6</sup> [6.5x10 <sup>5</sup> ]

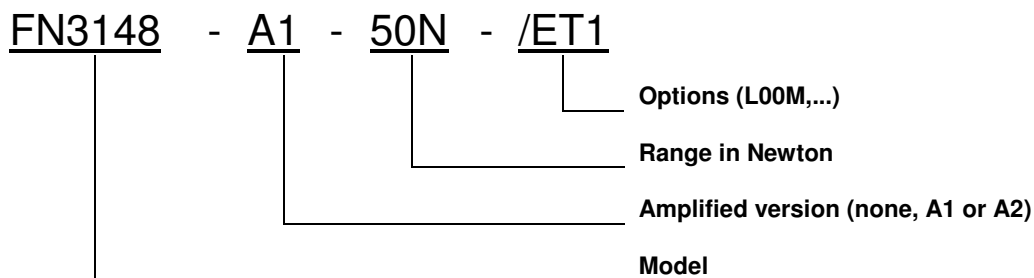
## FN3148

Load Cell with mechanical stops

### OPTIONS

<b>A1</b> : Amplified Tension output with unipolar power supply
<b>A2</b> : Amplified Tension output with bipolar power supply
<b>ET1</b> : CTR -20 to 100° C [-4 to 212° F] OTR = CTR
<b>ET2</b> : CTR -40 to 120° C [-40 to 248° F] OTR = CTR
<b>SC</b> : Connector output
<b>L00M</b> : special cable length, replace "00" with total length in meters

### ORDERING INFO



### SUPPLIED ACCESSOIRES (ONLY WITH SC OPTION)

<b>EFMX-4M</b> : mating plug Jaeger 530-801-006 with clamp 530-841-006 standard and ET1 with SC option
<b>EFMX-4H</b> : mating plug Jaeger 530-804-006 with clamp 530-844-006 for ET2 option with SC option

### RECOMMENDED ACCESSORIES

<b>ER</b> : Rod Ends
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#### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
Vibration Design Center  
32 Journey - Suite 150  
Aliso Viejo, CA 92656  
United States USA  
Tel: 1-949-716-0877  
Fax: 1-949-916-5677  
t&m@meas-spec.com

#### EUROPE

Measurement Specialties (Europe), Ltd.,  
a TE Connectivity Company  
26 Rue des Dames  
78340 Les Clayes-Sous-Bois, France  
Tel: +33 (0) 130 79 33 00  
Fax: +33 (0) 134 81 03 59  
cs.lcsb@meas-spec.com

#### ASIA

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
No. 26 Langshan Road  
Shenzhen High-Tech Park (North)  
Nanshan District, Shenzhen 518057  
China  
Phone: +86-755-33305088  
Fax: +86-755-33305099  
pfg.cs.asia@meas-spec.com

#### [TE.com/sensorsolutions](http://TE.com/sensorsolutions)

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