

## FEATURES

- ◆ Optional Rod Ends
- ◆ Accuracy : 0.1% F.S.
- ◆ Integrated Amplifier optional
- ◆ Low Cost

## APPLICATIONS

- ◆ Process Control Equipment
- ◆ Weighing Calibration Tool
- ◆ Robotics and Effectors
- ◆ Laboratory and Research

## FN3030

### Load Cell Tension and Compression

#### SPECIFICATIONS

- ◆ **S-Beam Load Cell**
- ◆ **50 N to 100,000 N (10 lbf to 20,000 lbf)**
- ◆ **Stainless Steel or Aluminum**
- ◆ **Cable Gland or Connector Output**
- ◆ **Built In Amplifier per Request**

The **FN3030** measures tension and compression in standard ranges from 0-50 N to 0-100 000 N. The **FN3030** is well suited for customization in industrial applications and protection levels can be upgraded for use in hostile environments. Additionally, for high-level output a model with integrated amplifier is available.

With a long standing experience as a designer and a manufacturer of sensors, TE CONNECTIVITY often works with customers to design or customize sensors for specific uses and testing environments.

To meet your needs we also offer extensive 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>	50	100	200	500	1k	2k	5k	10k	20k	50k	100k
<b>Ranges in lbf</b>	10	20	40	100	200	400	1k	2k	4k	10k	20k
<b>Stiffness in N/m</b>	8.1x10 <sup>5</sup>	1.3x10 <sup>6</sup>	2.2x10 <sup>6</sup>	1.4x10 <sup>7</sup>	2.1x10 <sup>7</sup>	2.9x10 <sup>7</sup>	7.8x10 <sup>7</sup>	9.3x10 <sup>7</sup>	1.3x10 <sup>8</sup>	2.0x10 <sup>8</sup>	3.0x10 <sup>8</sup>
<b>Stiffness in lbf/ft</b>	5.5x10 <sup>4</sup>	9.2x10 <sup>4</sup>	1.5x10 <sup>5</sup>	9.5x10 <sup>5</sup>	1.4x10 <sup>6</sup>	1.9x10 <sup>6</sup>	5.3x10 <sup>6</sup>	6.3x10 <sup>6</sup>	8.9x10 <sup>6</sup>	1.3x10 <sup>7</sup>	2.0x10 <sup>7</sup>
<b>Material</b>	Aluminum						Stainless steel				

**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 [/100° F]
Thermal Sensitivity Shift in CTR	<1% of reading / 50° C [/100° F]
<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

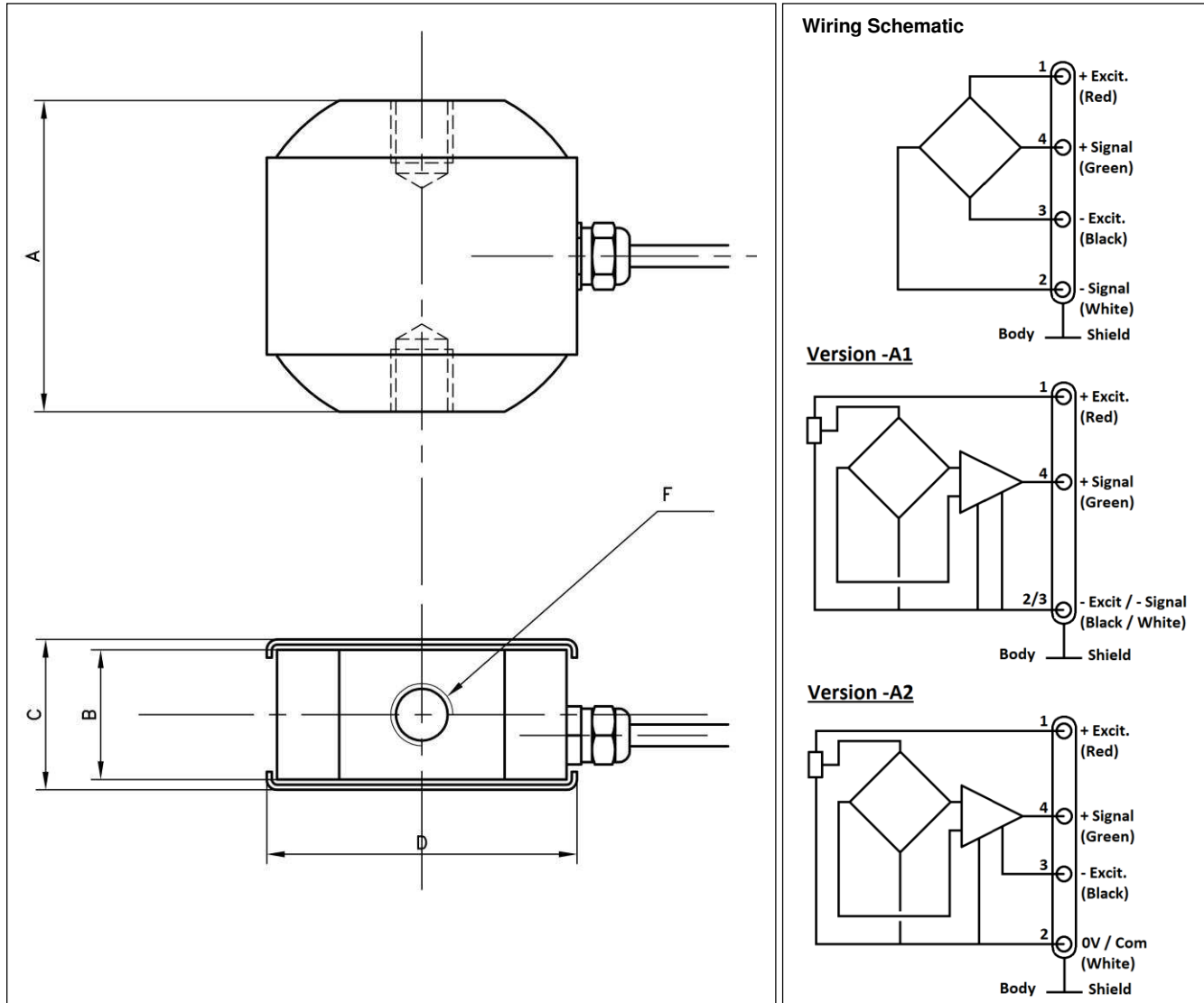
**Electrical Characteristics**

Model	FN3030 <sup>1</sup>	FN3030-A1	FN3030-A2
Supply Voltage	1 to 10 Vdc regulated	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
Sensitivity "FSO" <sup>2</sup>	±2mV/V	±2V ±0.2V	±5V ±0.2V
Zero Offset	<±1mV	2.5V ±0.2V	0V ±0.2V
Input Impedance/Consumption	350 to 700Ω	<50mA	<50mA
Output Impedance	350 to 700Ω	1 kΩ <sup>6</sup>	1 kΩ <sup>6</sup>
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

**Notes**

1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes positive in tension with standard wiring configuration. Other signal output on request
3. Electrical Termination: Cable gland termination; 2 m cable length standard
4. Material: Body in stainless steel or aluminum alloy depending on F.S., with stainless steel cover
5. Protection Index: IP50 (other levels available on request)
6. Output impedance < 100Ω on request
7. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

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



Dimensions in mm [inch]

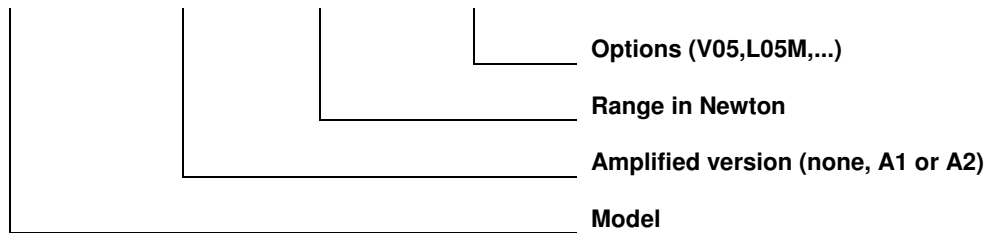
F.S. Ranges in N [lbf]	50 - 100 - 200 [10 - 20 - 40]		500 - 1k - 2k [100 - 200 - 400]		5k - 10k [1k - 2k]		20k [4k]		50k [10k]		100k [20k]	
A	60	[2.36]	60	[2.36]	60	[2.36]	75	[2.95]	110	[4.33]	130	[5.12]
B	25	[0.98]	25	[0.98]	25	[0.98]	30	[1.18]	40	[1.57]	55	[2.17]
C	29	[1.14]	29	[1.14]	29	[1.14]	34	[1.34]	40	[1.57]	55	[1.77]
D	60	[2.36]	60	[2.36]	60	[2.36]	60	[2.36]	80	[3.15]	110	[4.33]
F (Thread)	M6 depth 6		M12 depth 12		M12 depth 12		M16 x 2 depth 16		M20 x 1.5 depth 20		M32 x 2 depth 32	
Material	Aluminum					Stainless steel						

**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 OTR = CTR
<b>ET2</b> : CTR -40 to 120° C OTR = CTR
<b>ET3</b> : CTR -40 to 150° C OTR = CTR ( <b>Note</b> : ET3 not available with A1 and A2 options)
<b>HA</b> : Accuracy (CNL&H) ≤ ±0.05% F.S. (for models ≤10kN; 2klbf)
<b>SC</b> : Connector output instead of standard cable gland
<b>L00M</b> : special cable length, replace "00" with total length in meters

**ORDERING INFO**

**FN3030 - A1 - 5KN - /ET1**

**SUPPLIED ACCESSOIRES (ONLY WITH SC OPTION)**

<b>EFMX-4M</b> : mating plug Jaeger 530-801-006 with clamp 530-841-006 for standard and ET1 with SC option
<b>EFMX-4H</b> : mating plug Jaeger 530-804-006 with clamp 530-844-006 for ET2 or ET3 with SC option

**RECOMMENDED ACCESSORIES**

<b>ER</b> : Rod Ends
----------------------

**NORTH AMERICA**

Measurement Specialties, Inc.,  
 a TE Connectivity Company  
 Tel: 1-800-522-6752  
 Email : [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

**EUROPE**

MEAS France SAS,  
 a TE Connectivity company  
 Tel: +33 (0) 800-440-5100  
 Email : [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

**ASIA**

Measurement Specialties (China), Ltd.,  
 a TE Connectivity Company  
 Tel: +86 400-820-6015  
 Email: [customercare.shzn@te.com](mailto:customercare.shzn@te.com)

**TE.com/sensorsolutions**

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.