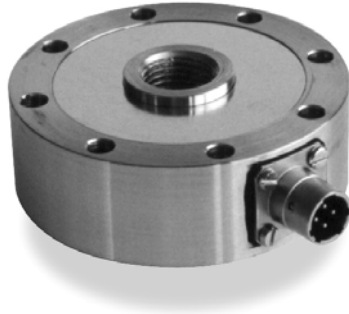


# FN3050 Load Cell Tension and Compression



- Pancake load cell
- Range from 100 to 20000 N (20 to 4000 lbf)
- Accuracy: 0.1% F.S.
- Stainless steel or aluminum
- Connector or cable gland output
- Build in amplifier per request



## DESCRIPTION

The rugged **FN3050** load cell is highly suited for process industry and test bench applications. Dimensions are identical in standard ranges from 0-100 to 0-20000 N so during testing the sensor can be interchanged for another of a different range without mechanical modifications. The sensor design minimizes transverse effects. For high-level output a model with integrated amplifier is available as are numerous other options.

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

- Same housing for all ranges
- Tension and compression
- Mechanical stops in option
- Optional : Tension Pull Plate, Load Button
- Accuracy : 0.1% F.S.

## APPLICATIONS

- Process control equipment
- Regulation load cell
- Robotics and effectors
- Laboratory and Research
- Dedicated to low and medium quantity volume

## STANDARD RANGES

<b>Ranges in N</b>	100	200	500	1k	2k	5k	10k	20k
<b>Ranges in lbf</b>	20	40	100	200	400	1k	2k	4k
<b>Stiffness in N/m</b>	$1 \times 10^6$	$2.5 \times 10^6$	$1 \times 10^7$	$1.7 \times 10^7$	$5 \times 10^7$	$1.2 \times 10^8$	$2 \times 10^8$	$4 \times 10^8$
<b>Stiffness in lbf/ft</b>	$6.9 \times 10^4$	$1.7 \times 10^5$	$6.9 \times 10^5$	$1.2 \times 10^6$	$3.4 \times 10^6$	$8.2 \times 10^6$	$1.4 \times 10^7$	$2.7 \times 10^7$
<b>Material</b>	Aluminium			Stainless Steel		Aluminium	Stainless Steel	

# FN3050 Load Cell Tension and Compression

## PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1° C

PARAMETERS	
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 0-1000 kN [0-2 to 0-200 klf]
Over-Range	
Without Damage	1.5 x F.S. (10 x F.S. with optional mechanical stops)
Without Destruction	3 x F.S.

Accuracy								
Ranges in N	100	200	500	1k	2k	5k	10k	20k
Ranges in lbf	20	40	100	200	400	1k	2k	4k
Linearity (%F.S.)	-	-	0.1	0.1	0.1	0.1	0.1	0.1
Hysteresis (%F.S.)	-	-	0.1	0.1	0.1	0.1	0.1	0.1
Combined linearity & hysteresis (%FS)	0.3	0.3	-	-	-	-	-	-

### Electrical Characteristics

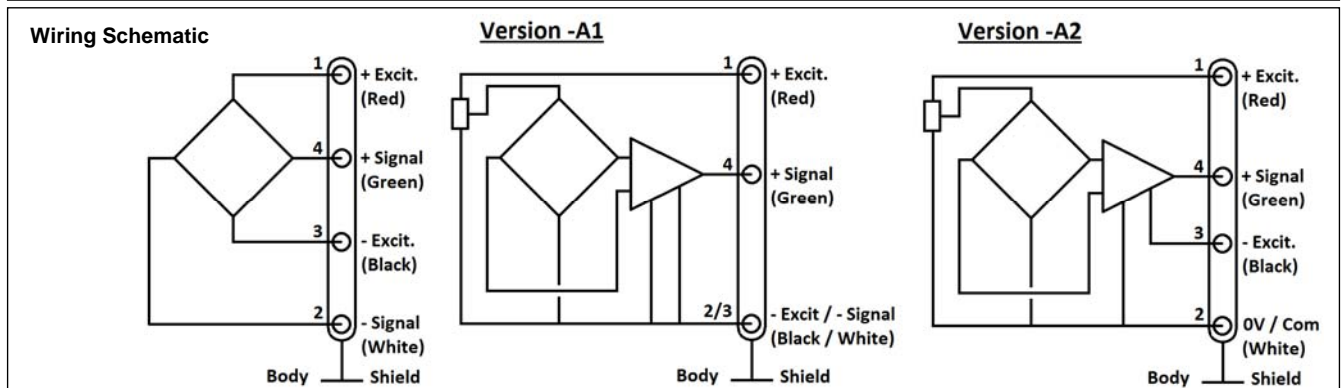
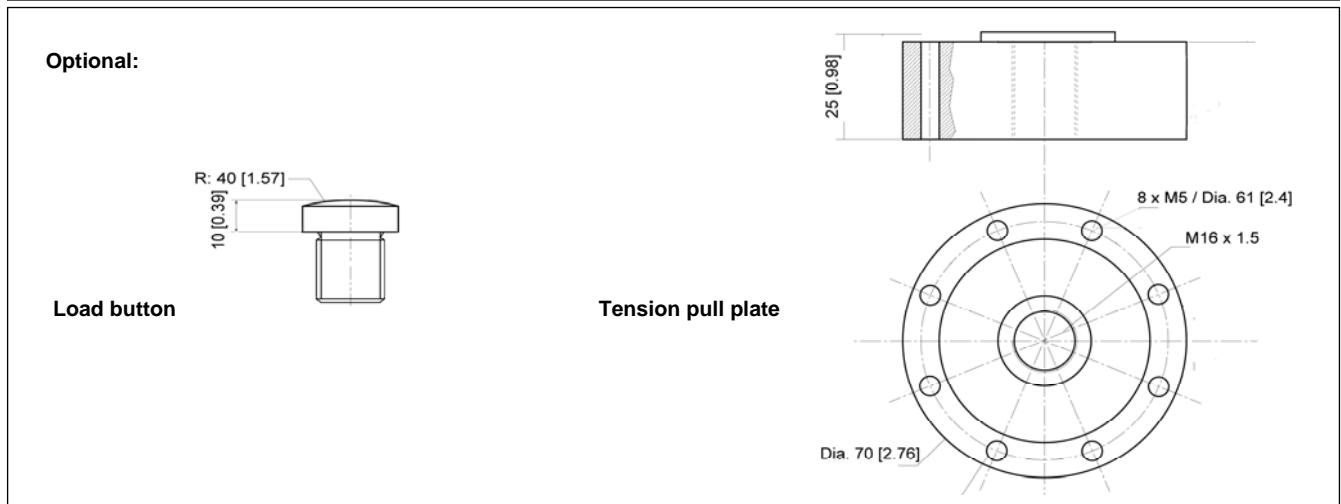
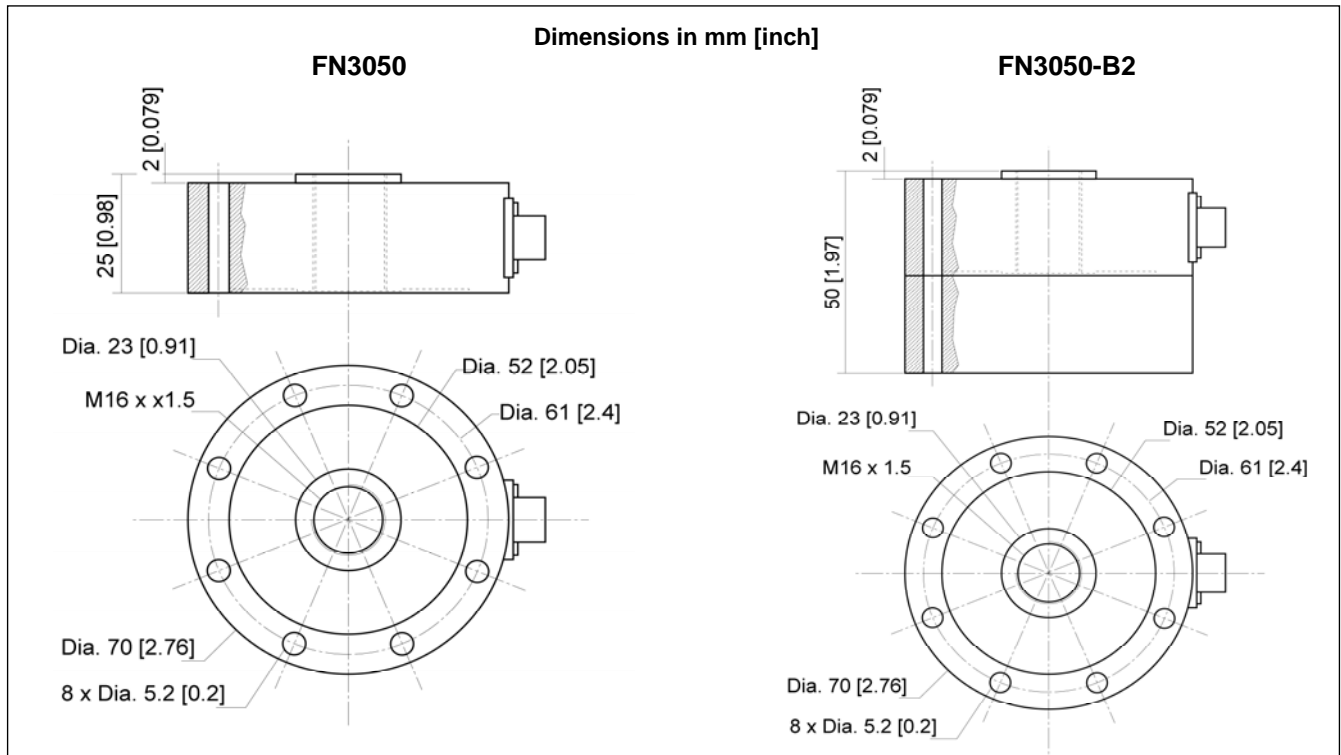
Model	FN3050	FN3050-A1	FN3050-A2
Supply Voltage	10Vdc	10 – 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output <sup>4</sup>	±1.5mV/V	±2V ±5% F.S.	±5V ±5% F.S.
Zero Offset <sup>4</sup>	±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	350 to 700Ω	<50mA	50mA
Output Impedance	350 to 700Ω	1 kΩ <sup>5</sup>	1 kΩ <sup>5</sup>
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

### Notes

1. Electrical Termination: Connector output including mate
2. Body in stainless steel or aluminium alloy depending on F.S.
4. Other signal output on request
5. Output impedance < 100Ω on request
6. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

# FN3050 Load Cell Tension and Compression

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

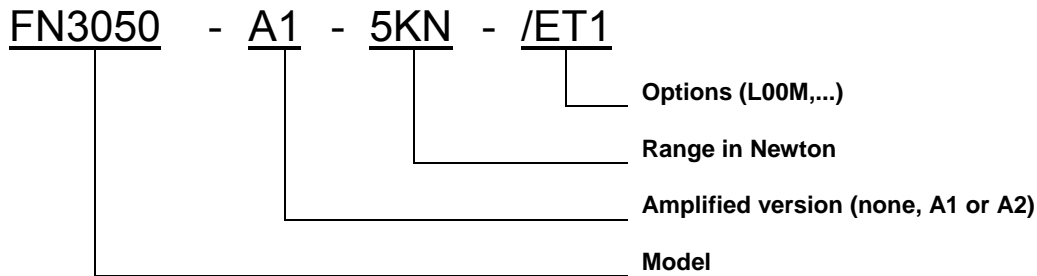


# FN3050 Load Cell Tension and Compression

## 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>ET3</b> : CTR -40 to 150° C [-40 to 302° F] OTR = CTR (Note : ET3 not available with A1 and A2 options)
<b>B2</b> : Mechanical stops (compression only, models ≤2000 N; [≤400 lbf])
<b>PE</b> : Cable Gland Termination with 2 m [6.5 ft] cable
<b>PE/L00M</b> : Additional cable length with PE option, replace "00" with total length in meters

## ORDERING INFO



## RECOMMENDED ACCESSORIES

<b>EH</b> : Hemispherical load button
<b>FF</b> : Tension pull plate

## 联系方式



深圳市亿为测控电子有限公司  
Shenzhen Bill-Well Measurement & Control Electronics Co., Ltd.

广东省深圳市南山区创业路怡海广场东座2407 邮编 : 518000  
电话 : +86 755 2641 9890 传真 : +86 755 2641 9680  
电子邮箱 : sales@bill-well.com