

# 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 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	

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## PERFORMANCE SPECIFICATIONS

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

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 klb]
Over-Range	
Without Damage	1.5 x F.S.
Without Destruction	3 x F.S.
Accuracy	
Linearity	±0.1% F.S.
Hysteresis	±0.1% F.S.

### Electrical Characteristics

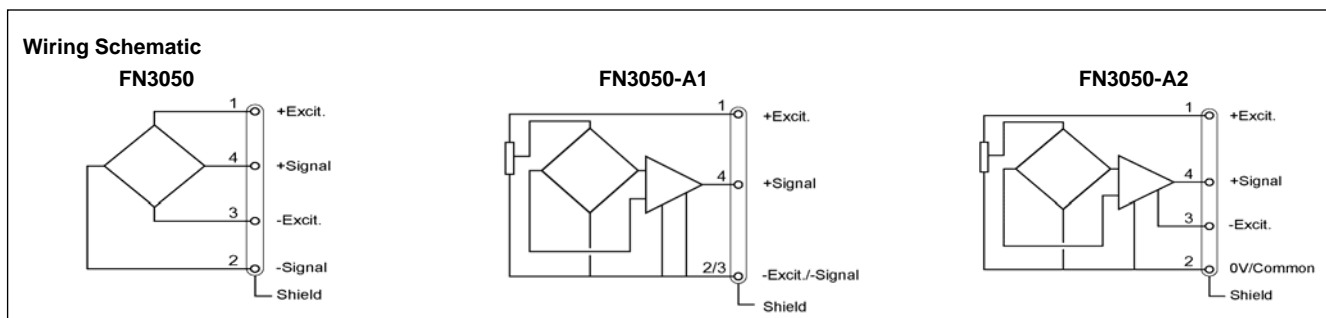
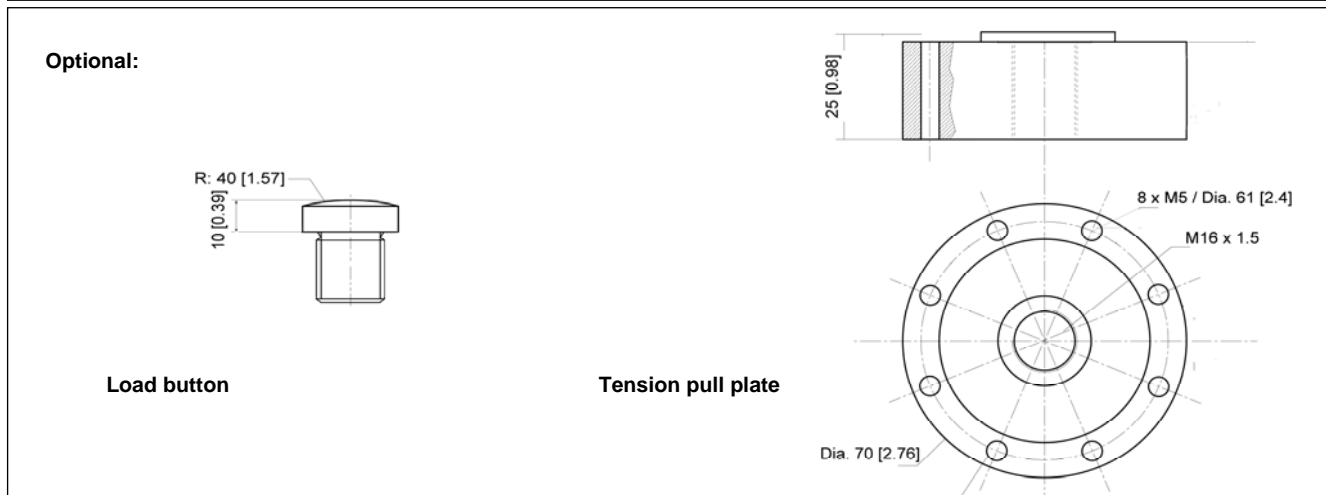
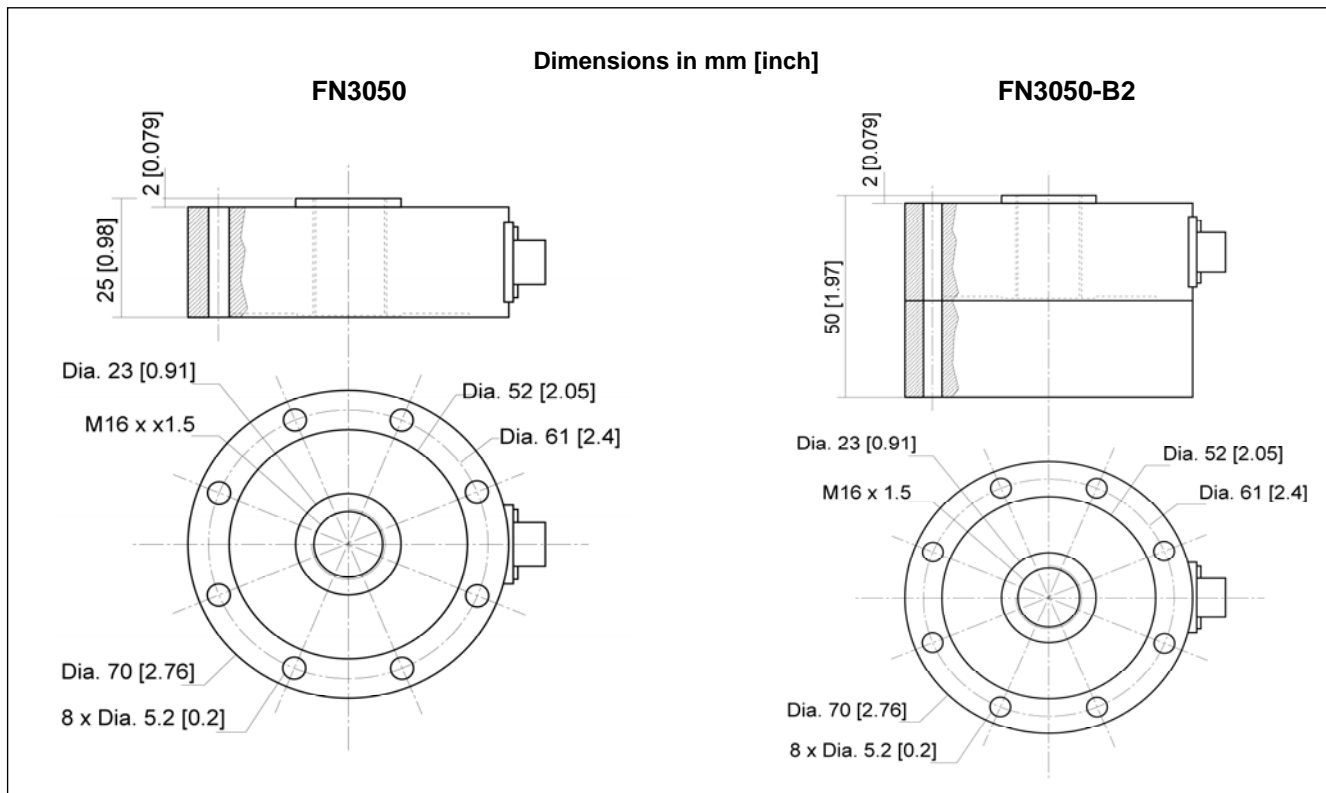
Model	FN3050	FN3050-A1	FN3050-A2
Supply Outage	10Vdc	10 – 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output	±1.5mV/V typical	±2V ±5% F.S.	±5V ±5% F.S.
Zero Offset	±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	350 to 700Ω	<50mA	50mA
Output Impedance	350 to 700Ω	<10Ω	<10Ω
Insulation under 50Vdc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

### Notes

1. Electrical Termination: Connector output including mate
2. Body in stainless steel or aluminium alloy depending on F.S.

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



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## OPTIONS

<b>A1</b> : Unipolar tension
<b>A2</b> : Bipolar Tension
<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/LC"x"</b> : Additional cable length to standard length (in m) with PE option (Note : "X" = Custom value)

## ORDERING INFO

FN3050 - A1 - 2KN - /ET1/B2



## RECOMMENDED ACCESSORIES

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

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