

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

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

PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°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]
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]
Over-Range	
Without Damage	5 to 100 x F.S. (see table page 3)
Accuracy	
Combined non-linearity & hysteresis	≤±0.05% F.S.

Electrical Characteristics

Model	FN3148	FN3148-A1	FN3148-A2
Supply Voltage	10Vdc	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
Sensitivity "FSO" ³	±2mV/V typical	±2V ±0.2V	±5V ±0.2V
Zero Offset ³	±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 ⁴	1 kΩ ⁴
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

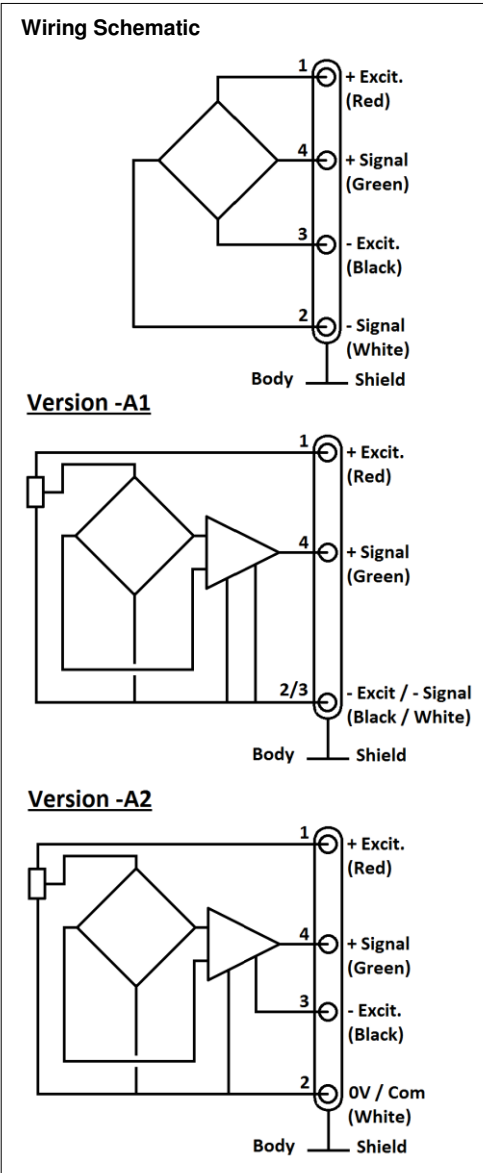
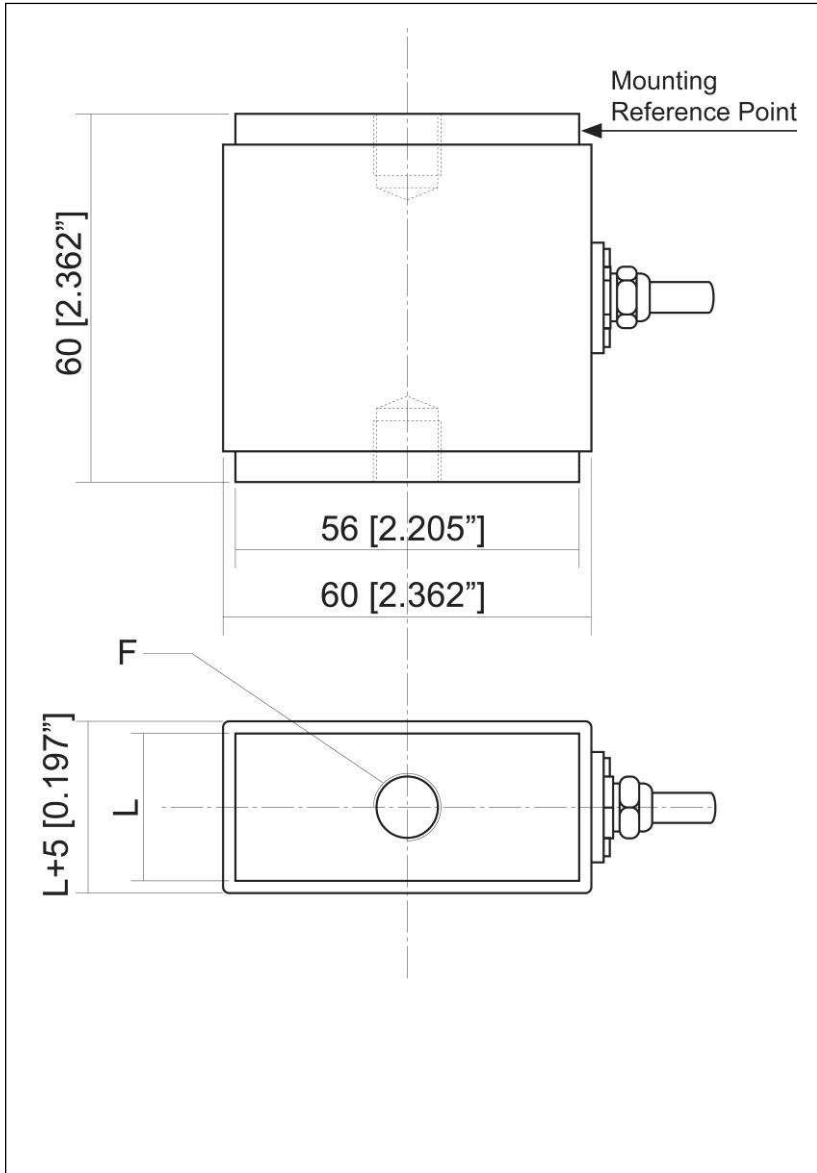
Notes

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

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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 ⁴ [1.5x10 ³]	1.8x10 ⁵ [1.2x10 ⁴]	3.7x10 ⁵ [2.5x10 ⁴]	8.3x10 ⁵ [5.7x10 ⁴]	2.2x10 ⁶ [1.5x10 ⁵]	4.5x10 ⁶ [3.1x10 ⁵]	9.5x10 ⁶ [6.5x10 ⁵]

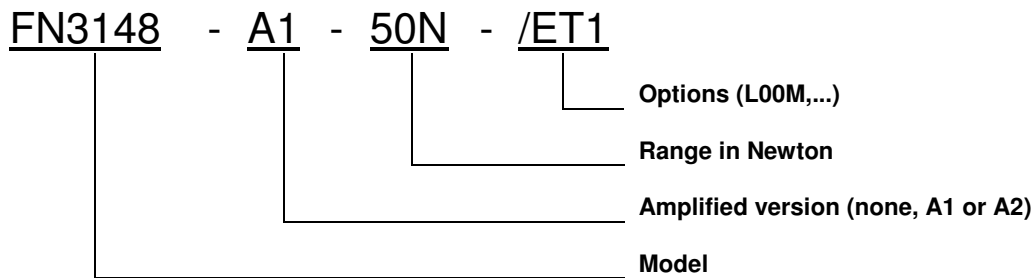
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OPTIONS

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

ORDERING INFO



SUPPLIED ACCESSOIRES (ONLY WITH SC OPTION)

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

RECOMMENDED ACCESSORIES

ER : Rod Ends

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

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