FN7110 Double Range Load Cell

- **Double S-Beam Load Cell**
- **Integrated Mechanical Stops**
- **10/100 N to 1,000 /10,000 N (2/20 Lbf to 200/2,000 Lbf)**
- **High resolution**
- **High Accuracy**
- **Build in Amplifiers on request**

DESCRIPTION

The FN7110 features high accuracy measurement channels in two ranges in the same load cell. The standard ratio between the ranges is 1 to 10, and standard load range combinations go from 0-10 and 0-100 N through 0-1000 and 0-10,000 N. The FN7110's percentage accuracy is the same over each range in the load cell. In practice one maintains accuracy of 0.1% over the high force range even in the first 10% of F.S.

During measurement, once the lower range sensing element reaches its designed full scale limit, mechanical stops protect it against overloads, in tension and compression, up to 12 times the full scale limit of the higher range sensing element (which is equivalent to 12 times the full scale limit of the lower range). For high-level output, a model with an integrated amplifier is available.

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

- Double Full Scale Range : from 10/100 N to 1,000/10,000 N (2/20 Lbf to 200/2,000 Lbf]
- Tension and Compression
- Other ranges on request
- Accuracy : 0.1% F.S.
- Integrated Mechanical Stops
- High Level Output Model with Integrated Amplifier

APPLICATIONS

- Process Control Equipment
- Robotics and Effectors
- Product Validation Testing
- Laboratory and Research

STANDARD RANGES

F.S. Ranges in N	10/100	50/500	100/1K	200/2K	500/5K	1K/10K
F.S. Ranges in Lbf	2/20	10/100	20/200	40/400	100/1K	200/2K

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PERFORMANCE SPECIFICATIONS

Ambient Temperature: 20 ±1℃ (unless otherwise spec ified)

PARAMETERS	
Operating Temperature Range [OTR]	-20 to 80 ℃ [-4 to 176 °F]
Compensated Temperature Range [CTR]	0 to 60 ℃ [32 to 140 °F]
Zero Shift in CTR	<0.5% F.S./50ºC (100°F)
Sensitivity Shift in CTR	$<2.10^{-4}$ / ℃ of reading ($<1.10^{-4}$ / °F of reading)
Range [F.S.]	0-10/0-100 N to 0-1/0-10 kN [0-2/0-20 lbf to 0-200/0-2000 lbf]
Over-Range	
Without Damage	1.2 x F.S. of the higher range
Accuracy	
Combined Non-Linearity & Hysteresis	±0.1% F.S. of each range

Electrical Characteristics

Model	FN7110	FN7110-A1	FN7110-A2
Supply Voltage	10Vdc	10 to 30Vdc	±15V (±12V to 18V)
F.S. Output	2mV/V	0.5 to 4.5V	±5V
Zero Offset	<5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	150 to 200Ω	<50mA	<50mA
Output Impedance	300 to 400Ω	<10Ω	<10Ω
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

Notes

1. Cable Termination : Connector output including mate, prewired, standard length 2 m
2. Material: Body in aluminum alloy or stainless steel depending on F.S.

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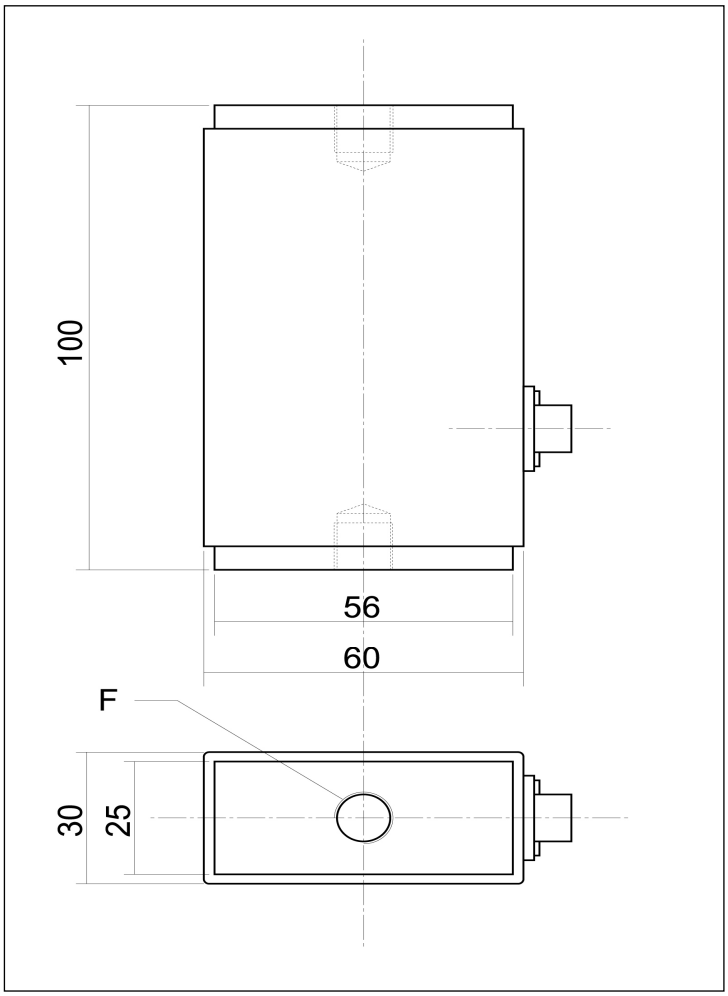
DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



F.S. Ranges in N [Lbf]	10/100 [2/20]	50/500 [10/100]	100/1000 [20-200]	200/2K [40/400]	500/5K [100/1K]	1K/10K [200/2K]
F (Thread)	M6	M10				
Material	Aluminium					Stainless steel

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OPTIONS

A1 : Unipolar Tension
A2 : Bipolar Tension

ORDERING INFO