

FEATURES

- Linearity : <math><0.1\%</math> F.S.
- Integrated Amplifier optional
- Optional: Load Button

APPLICATIONS

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

FN2420

Compression Load Cell

SPECIFICATIONS

- **Compression Design**
- **Ranges from 20 kN to 5000 kN [4 klbf to 1000 klbf]**
- **Very High Stiffness**
- **Optional Build in Amplifier**

The **FN2420** is a high accuracy compression load cell often used in applications involving calibration presses. It comes with many options, including a concave loading fixture and an integrated amplifier for high-level output. The **FN2420**'s design and optional concave loading fixture minimize transverse effects. Constructed in stainless steel, the sensor is suitable for use in many hostile environments and can be customized for increased protection.

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.

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)	20k	50k	100k	200k	500k	1000k	2000k	3000k	5000k
Ranges in lbf	4k	10k	20k	40k	100k	200k	400k	600k	1000k
Stiffness in N/m	3.3x10 ⁸	7.4x10 ⁸	1.2x10 ⁹	2x10 ⁹	3x10 ⁹	6x10 ⁹	9x10 ⁹	1x10 ¹⁰	1.5x10 ¹⁰
Stiffness in lbf/ft	2.2x10 ⁷	5x10 ⁷	8.2x10 ⁸	3.3x10 ⁸	1.3x10 ⁸	4x10 ⁸	6x10 ⁸	6.8x10 ⁸	1x10 ⁹

PERFORMANCE SPECIFICATIONS (typical values at 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 [100° F]
Thermal Sensitivity Shift in CTR	<1% of reading / 50° C [100° F]
Over-Range	
Without Damage	1.5 x F.S.
Without Destruction	3 x F.S.
Accuracy	
Combined Non-Linearity & Hysteresis	±0.25% F.S.

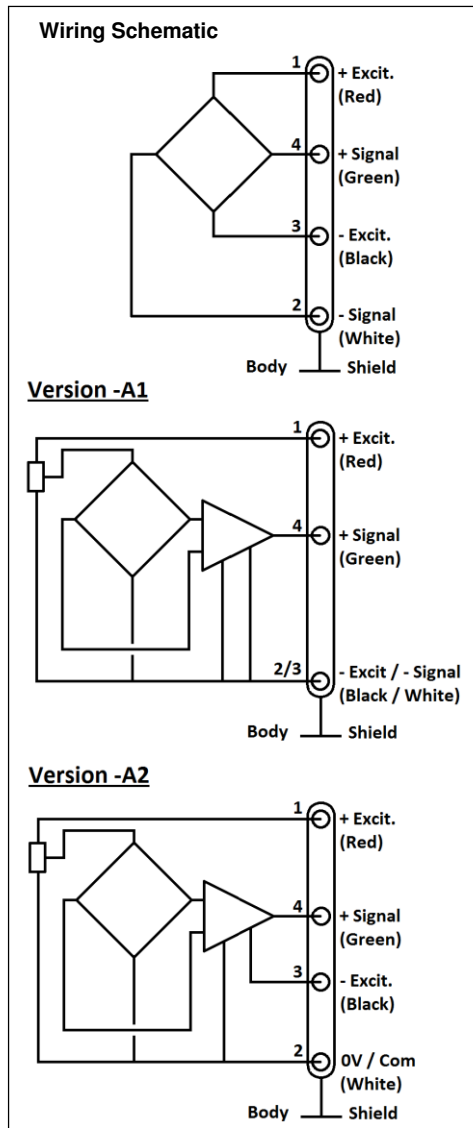
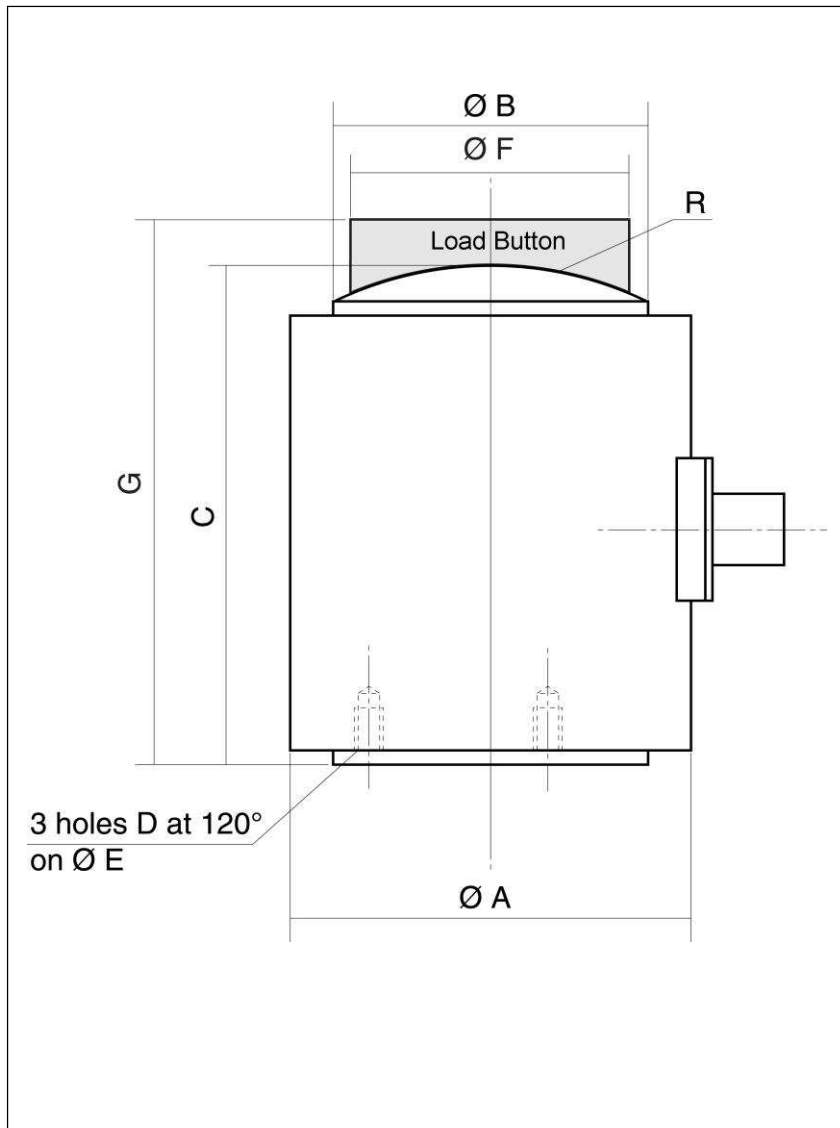
Electrical Characteristics

Model	FN2420	FN2420-A1	FN2420-A2
Supply Voltage	10Vdc	10–30Vdc	±15Vdc (±12 to ±18Vdc)
Sensitivity “FSO” ⁴	2mV/V	4V ±0.2V	5V ±0.2V
Zero Offset ⁴	±5% FS	0.5V ±0.2V	0V ±0.2V
Input Impedance/Consumption	350 to 700Ω	<50mA	<50mA
Output Impedance	350 to 700Ω	1 kΩ ⁵	1 kΩ ⁵
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

Notes

1. Electrical Termination: Connector output including mate
2. Materials: Body in stainless steel or aluminium alloy depending on F.S.; aluminum cover
3. Protection Index: IP50 (other protection levels on request)
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

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



Dimensions in mm [inch]

F.S. Ranges in N [lbf]	20k [4k]		50k [10k]		100k [20k]		200k [40k]		500k [100k]		1000k [200k]		2000k [400k]		3000k [600k]		5000k [1000k]	
A	30	[1.18]	35	[1.38]	42	[1.65]	54	[2.13]	78	[3.07]	98	[3.86]	128	[5.04]	154	[6.06]	196	[7.72]
B	20	[0.79]	25	[0.98]	32	[1.26]	44	[1.73]	68	[2.68]	87	[3.43]	112	[4.41]	134	[5.28]	172	[6.77]
C	40	[1.57]	45	[1.77]	55	[2.17]	65	[2.56]	90	[3.54]	110	[4.33]	140	[5.51]	170	[6.69]	220	[8.66]
D (Thread)	M2.5		M3		M4		M4		M6		M6		M6		M8		M10	
E	15	[0.59]	20	[0.79]	25	[0.98]	35	[1.38]	55	[2.17]	75	[2.95]	100	[3.94]	120	[4.72]	150	[5.91]
R	30	[1.18]	40	[1.57]	50	[1.97]	80	[3.15]	100	[3.94]	120	[4.72]	200	[7.87]	300	[11.81]	400	[15.75]
F*	15	[0.59]	19	[0.75]	26	[1.02]	35	[1.38]	54	[2.13]	69	[2.72]	98	[3.86]	118	[4.65]	129	[5.08]
G*	50	[1.97]	55	[2.17]	70	[2.76]	85	[3.35]	115	[4.53]	140	[5.51]	180	[7.09]	215	[8.46]	275	[10.83]

* Load Button

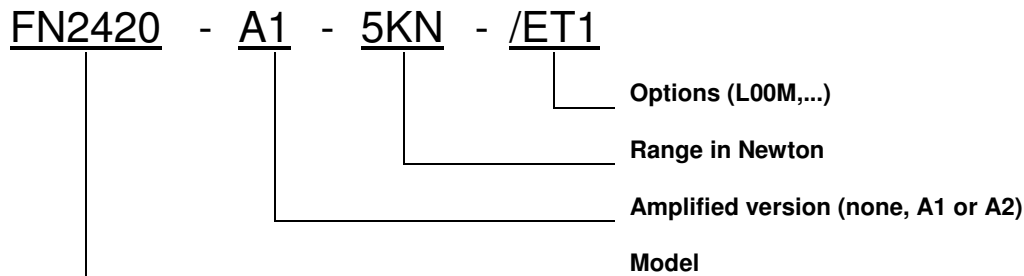
FN2420

Compression Load Cell

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
ET3 : CTR -40 to 150° C [-40 to 302° F] OTR = CTR (Note : ET3 not available with A1 and A2 options)
PE : Cable Gland Termination with 2 m [6.5 ft] cable

ORDERING INFO



SUPPLIED ACCESSOIRES

EFMX-4M : mating plug Jaeger 530-801-006 with clamp 530-841-006 standard and ET1 option for ranges 10kN to 100kN
EFMX-4H : mating plug Jaeger 530-804-006 with clamp 530-844-006 for ET2 or ET3 option & ranges 10kN to 100kN
EFMX-7M : mating plug Jaeger 530-272-006 with clamp 530-371-006 standard and ET1 option for ranges 200kN to 5MN
EFMX-7H : mating plug Jaeger 530-604-006 with clamp 530-693-006 for ET2 or ET3 option & ranges 200kN to 5MN

RECOMMENDED ACCESSORIES

GA : Load Button

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