FN2420 Compression Load Cell

- **Compression Design**
- **Ranges from 20 to 0-5000 kN [4 to 1000 klbf]**
- **Very High Stiffness**
- **Optional Build in Amplifier**

DESCRIPTION

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.

FEATURES

- Full Scale Range : from 0-20 to 0-5000 kN (0-4 to 0- 1000 klbf)
- Linearity : <0.1% F.S.
- For Compression Use (e.g. calibration presses)
- High Level Output Model with Integrated Amplifier
- Optional: Load Button

APPLICATIONS

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

STANDARD RANGES

F.S. Ranges in N	20k	50k	100k	200k	500k	1000k	2000k	3000k	5000k
F.S. 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	$2.2x10^7$	$5x10^7$	$8.2x10^8$	$3.3x10^8$	$1.3x10^8$	$4x10^8$	$6x10^8$	$6.8x10^8$	$1x10^9$

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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.)	0-20 to 0-5000 Kn [0-4 to 0-1000 klbf]
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)
F.S. Output [4]	2mV/V	4V ±5% F.S.	5V ±5% F.S.
Zero Offset [4]	±5% F.S.	0.5V ±5% F.S.	0V ±5% F.S.
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

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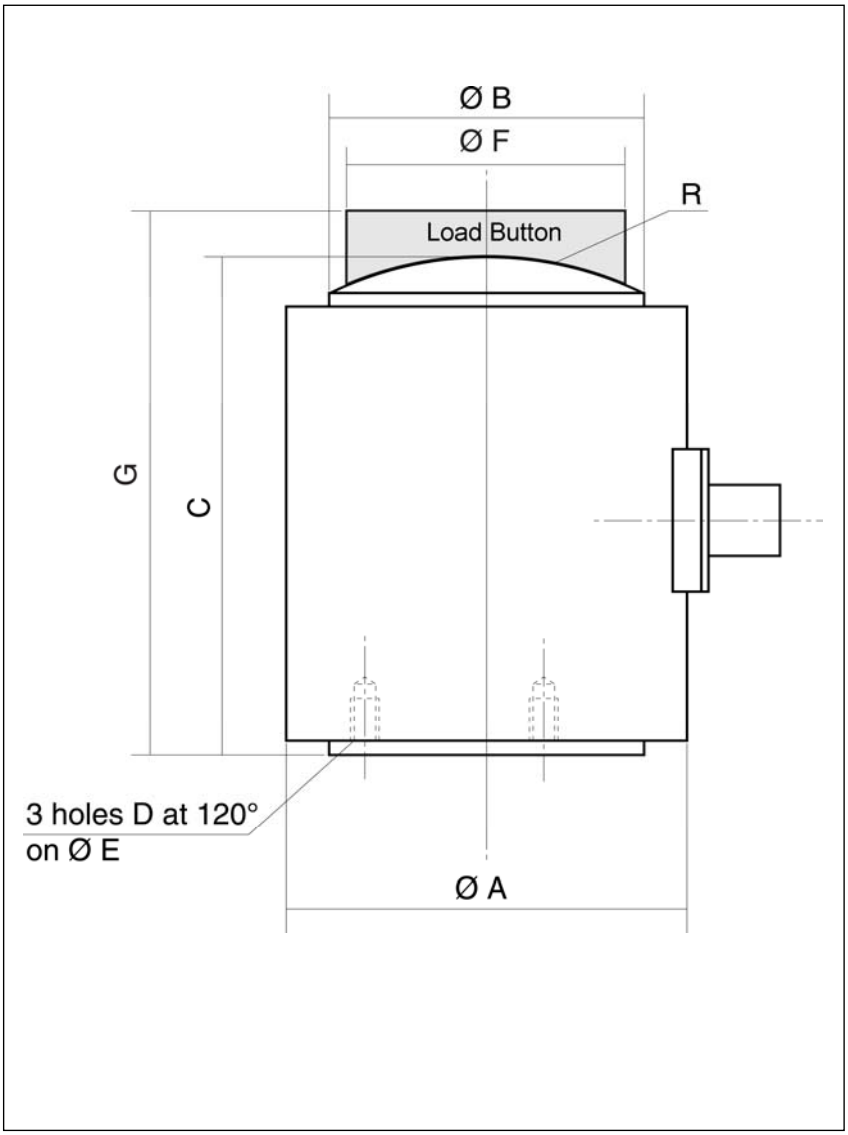
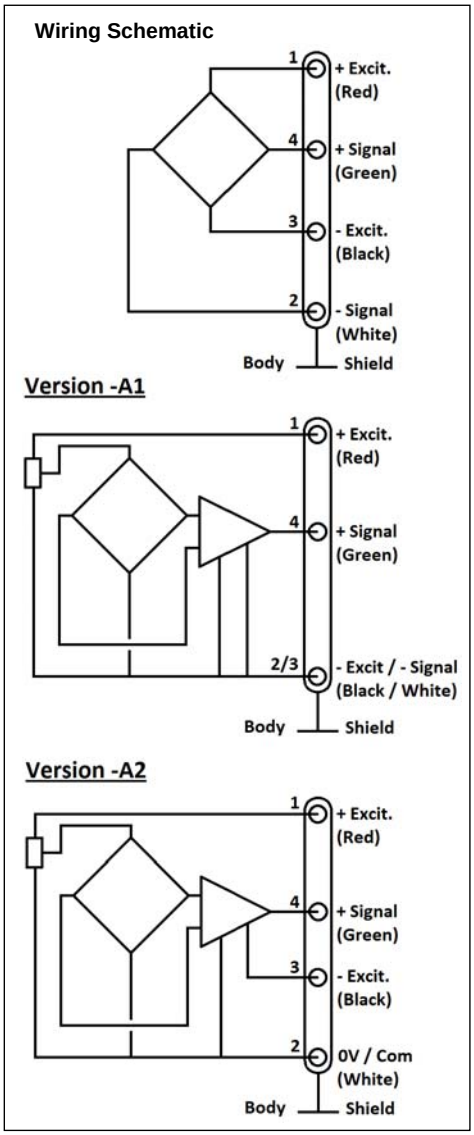
DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)





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

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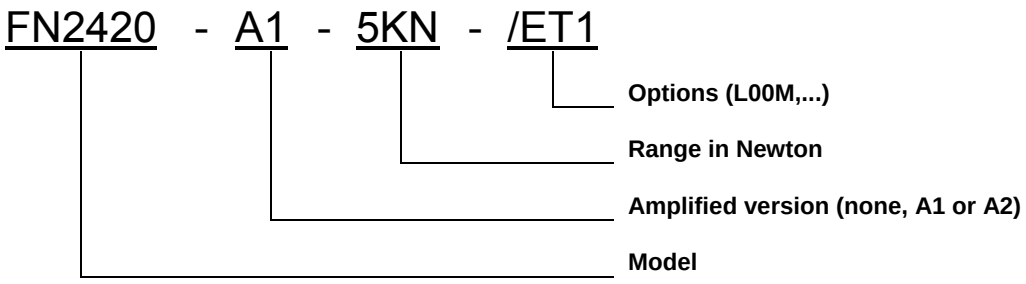
OPTIONS

A1 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
ET1 : CTR -20 to 100º C [-4 to 212° F] OTR = CTR
ET2 : CTR -40 to 120º C [-40 to 248° F] OTR = CTR
ET3 : CTR -40 to 150º 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



RECOMMENDED ACCESSORIES

GA : Load Button

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