FN3042

Load Cell for Fatigue Testing

SPECIFICATIONS

- **Heavy duty cylindrical load cell**
- **Ranges from 5 kN to 500 kN [1.124 klbf to 112.4 klbf]**
- **Tension and Compression**
- **Suited for fatigue and crash testing**
- **High Level Output with Integrated Amplifier**

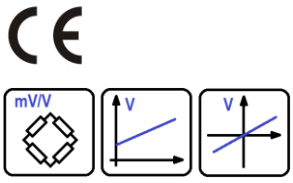
The **FN3042** is highly suited for use in test benches and fatigue tests. Due to the mechanical design, the **FN3042** is especially durable.

Dedicated to fatigue test benches, **FN3042** is able to undergo more than 10 million cycles of full scale with very little change in zero offset stability.

The sensor housing can be supplied fully stainless steel with high IP protection level for fatigue test benches or regulation in high temperature or corrosive fluids environments.

With a long standing experience as a designer and manufacturer of sensors, TE CONNECTIVITY often works with customers to design or customize sensors for specific uses and testing environments.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.



FEATURES

- High stiffness
- Accuracy: 0.25% F.S.
- Skydrol compatible on request
- Integrated Amplifier optional

APPLICATIONS

- Crash test walls and plates
- Hydraulic cylinder regulation
- Dynamic lifetime component tests
- Aerospace structure test beds
- Laboratory and Research

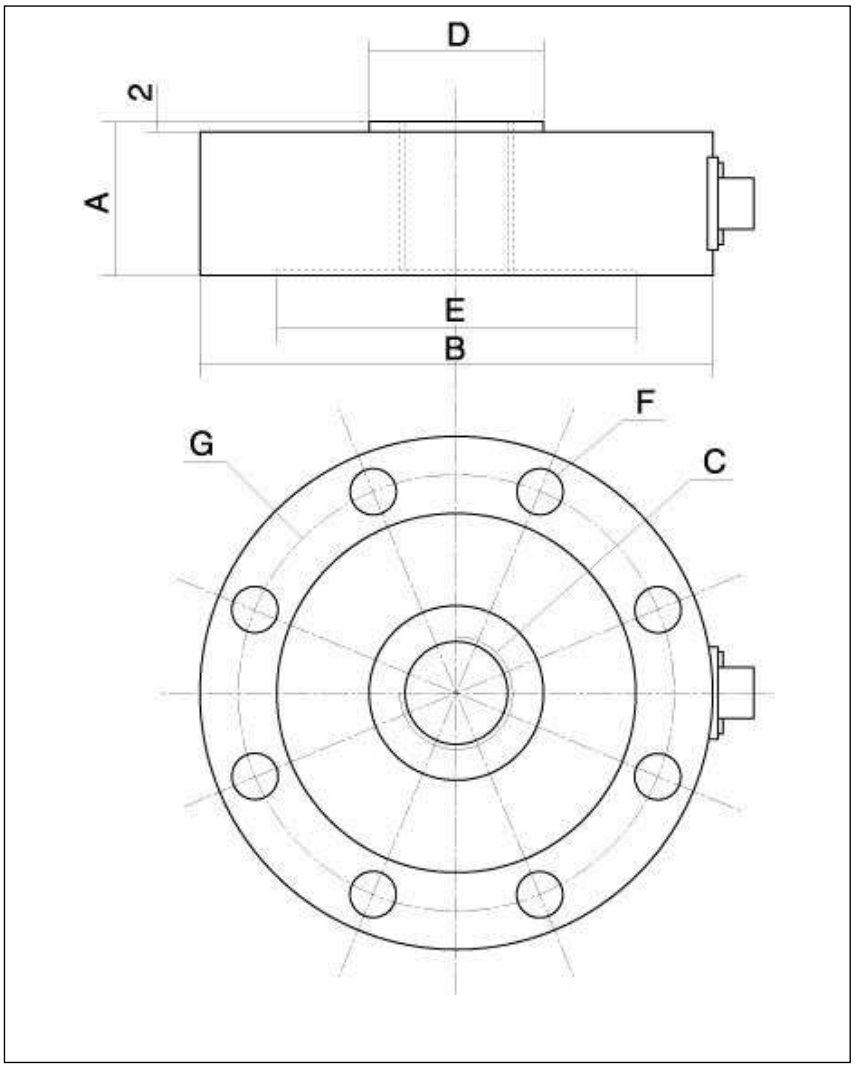
CHARACTERISTICS (typical values at temperature 23°C)

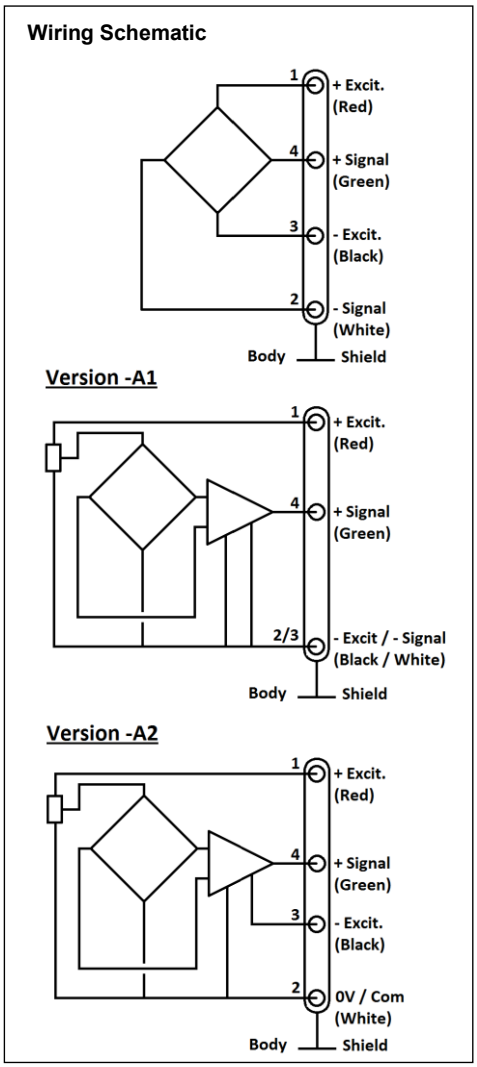
Ranges (FS) (N)	5k	10k	25k	50k	100k	200k	500k
Ranges (lbf)	1.124k	2.248k	5.62k	11.24k	22.48k	44.96k	112.4k
Material	Aluminium	Stainless Steel					
Stiffness (N/m)	4.4E+08	9.0E+08	1.4E+09	2.2E+09	4.5E+09	5.3E+09	9.5E+09
Stiffness (lbf/ft)	3.0E+07	6.2E+07	9.6E+07	1.5E+08	3.1E+08	3.6E+08	6.5E+08

Specifications	Standard	A1	A2
Power supply	10Vdc	10Vdc to 30Vdc	±12Vdc to ±18Vdc
Sensitivity (FSO)	±15 mV	±2Vdc ±0.2V	±5Vdc ±0.25V
Offset	<±1 mV	2.5Vdc ±0.2V	0Vdc ±0.25V
Input Impedance / Consumption	350 ohms	< 30 mA	
Output Impedance	350 ohms	1 kohms max	
Overrange Without Damage	2x FS		
Overrange Without Destruction	3x FS		
Linearity & hyteresis	< ±0.25%FS		
Operating Temperature Range (OTR)	-20°C à +80°C (-4 to 176°F)		
Compensated Temperature Range (CTR)	0°C à +60°C (32 to 140°F)		
Thermal Zero Shift in CTR	< 0.5% FS/50°C		
Thermal Sensitivity Shift in CTR	< 1%/50°C		
Insulation	> 1000 Mohms		
Protection Index	IP50		

Notes
1. Signal goes positive in tension with standard wiring configuration. Other signal output on request
2. Electrical Termination: Connector output including mate
3. Materials: Body in stainless steel or aluminium alloy depending on F.S.; aluminum cover
4. Output impedance < 100Ω on request
5. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)





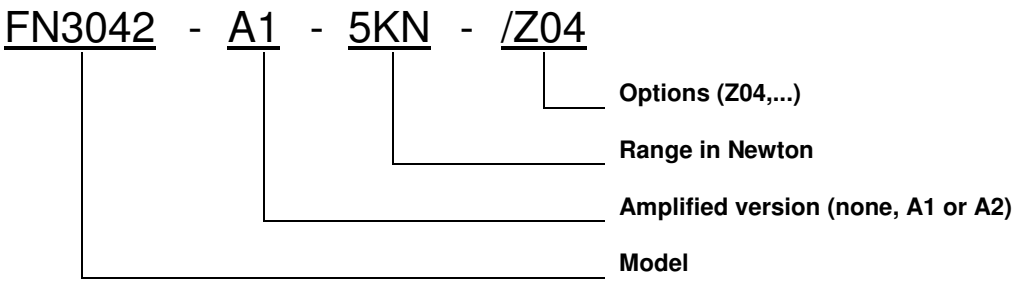
Dimensions in mm [inch]

Ranges in N	5k	10k	25k	50k	100k	200k	500k
A	30 [1.18]	30 [1.18]		40 [1.57]	50 [1.97]	50 [1.97]	70 [2.76]
B	101 [3.98]	101 [3.98]		119 [4.69]	144 [5.67]	168 [6.61]	228 [8.98]
C (Thread)	M16 x 2	M20 x 1.5		M24 x 2	M36 x 3	M45 x 4	M64 x 4
D	34 [1.34]	34 [1.34]		49 [1.93]	66 [2.60]	72 [2.83]	102 [4.02]
E	70 [2.76]	70 [2.76]		83 [3.27]	104 [4.09]	118 [4.65]	152 [5.98]
F	8x 8.2 [0.32]	8x 8.2 [0.32]		8x 10.2 [0.40]	8x 12.2 [0.48]	8x 16.2 [0.64]	16x 20.2 [0.8]
G	85 [3.35]	85 [3.35]		101 [3.98]	124 [4.88]	143 [5.63]	190 [7.48]

OPTIONS

Z04	CTR -40°C to +90°C (OTR -40°C to +90°C)
Z35	CTR +20°C to +120°C (OTR -20°C to +120°C)
Z36	CTR +20 to +150°C (OTR -20°C à +150°C) - Not available on A1 / A2 versions

ORDERING INFO



SUPPLIED ACCESSOIRES

EFMX-4S: mating plug Jaeger 043-085-006 with clamp 630-135-006 for standard or Z04 option
EFMX-4SH: mating plug Jaeger 632-604-256 with clamp 630-135-256 for Z35 or Z36 option

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