

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

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.

CHARACTERISTICS (typical values at temperature 23°C)

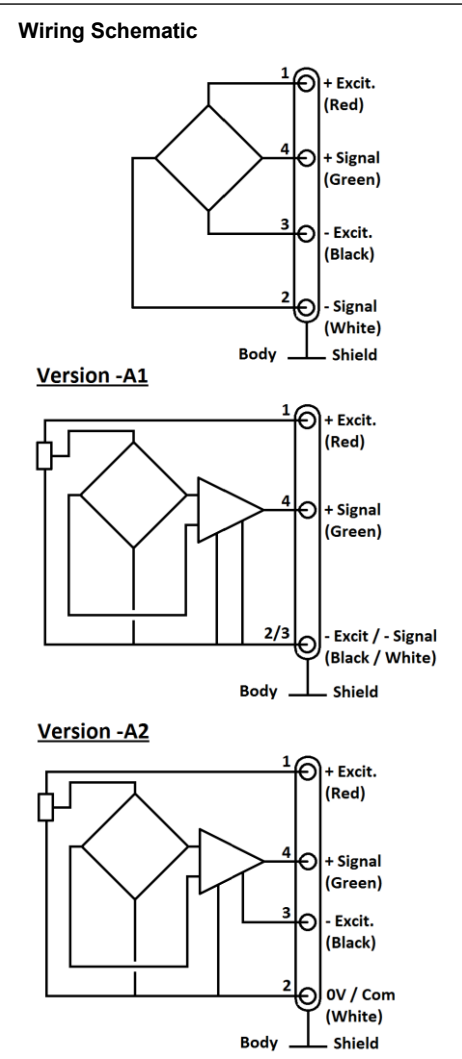
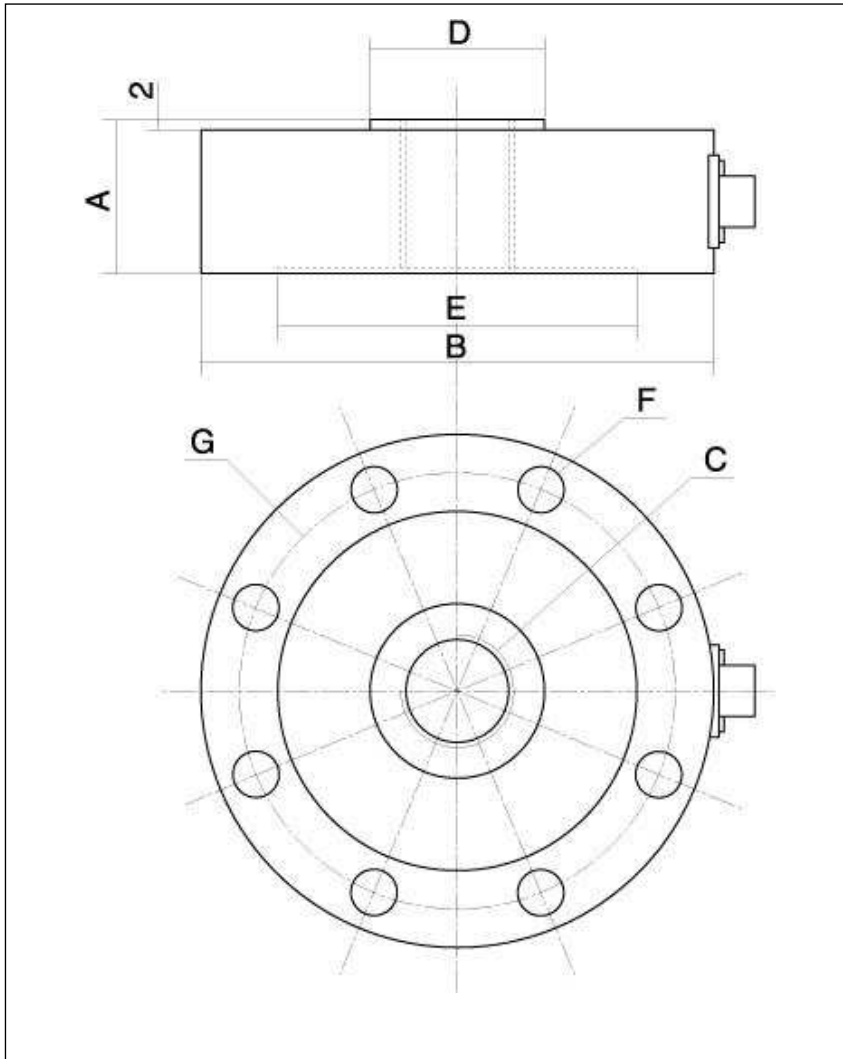
| | | | | | | | |
|--------------------|-----------|-----------------|---------|---------|---------|---------|---------|
| Ranges (FS) (N) | 5k | 10k | 25k | 50k | 100k | 200k | 500k |
| Ranges (lbf) | 1.124k | 2.248k | 5.62k | 11.24k | 22.48k | 44.96k | 112.4k |
| Material | Aluminium | Stainless Steel | | | | | |
| 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 & hysteresis | < ±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] | 50 [1.97] | 70 [2.76] |
| B | 101 [3.98] | 101 [3.98] | 119 [4.69] | 144 [5.67] | 144 [5.67] | 168 [6.61] | 228 [8.98] |
| C (Thread) | M16 x 2 | M20 x 1.5 | M24 x 2 | M36 x 3 | M36 x 3 | M45 x 4 | M64 x 4 |
| D | 34 [1.34] | 34 [1.34] | 49 [1.93] | 66 [2.60] | 66 [2.60] | 72 [2.83] | 102 [4.02] |
| E | 70 [2.76] | 70 [2.76] | 83 [3.27] | 104 [4.09] | 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 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] | 124 [4.88] | 143 [5.63] | 190 [7.48] |

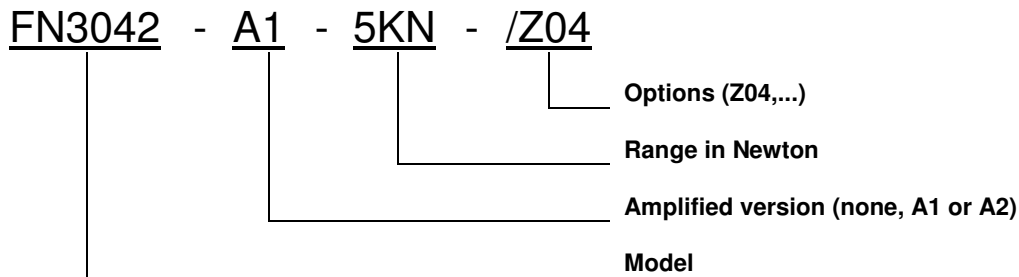
FN3042

Load Cell for Fatigue Testing

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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