

FEATURES

- Static and dynamic applications
- Linearity 0.1% F.S.
- Integrated Amplifier optional
- IP65 optional

APPLICATIONS

- Process control equipment
- Weighing calibration tool
- Fatigue tests benches
- Hydraulic press regulation
- Laboratory and Research

FN3000

Load Cell Tension and Compression

SPECIFICATIONS

- Heavy duty Pan-cake load cell
- Standard ranges 10 kN to 1000 kN [2 klbf to 200 klbf]
- Very high stability
- Aluminum or Stainless steel body
- High IP protection available
- High Level Output Model with Integrated Amplifier

The **FN3000** measures tension and compression in standard ranges from 0-10 kN to 0-1000 kN. The mechanical design and gauge placement minimizes transverse effects. Depending on the range, the **FN3000** is constructed in aluminium alloy or stainless steel and is available with numerous options. It is suitable for test bench applications and used in many hostile environments and can be customized for increased protection.

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.

To meet your needs we also offer extensive 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 (FS) (N) | 10k | 25k | 50k | 100k | 200k | 500k | 1000k |
|--------------------|-----------|-----------------|---------|---------|---------|---------|---------|
| Ranges (lbf) | 2.2k | 5.6k | 11.2k | 22.5k | 45.0k | 112.4k | 224.8k |
| Material | Aluminium | Stainless Steel | | | | | |
| Stiffness (N/m) | 4.2E+08 | 1.1E+09 | 1.4E+09 | 2.6E+09 | 3.6E+09 | 5.9E+09 | 8.9E+09 |
| Stiffness (lbf/ft) | 2.9E+07 | 7.5E+07 | 9.6E+07 | 1.8E+08 | 2.5E+08 | 4.1E+08 | 6.1E+08 |

PERFORMANCE SPECIFICATIONS (typical values at temperature 23°C)

| Version | Standard | A1 | A2 |
|-------------------------------------|----------------|---------------|-----------------|
| Power supply | 10Vdc | 10Vdc à 30Vdc | ±12Vdc à ±18Vdc |
| Sensitivity (FSO) | ±20mV | ±2Vdc ±0.2V | ±5Vdc ±0.25V |
| Offset | <±1mV | 2.5Vdc ±0.2V | 0V ±0.25V |
| Input Impedance / Consumption | 700 ohms | < 30 mA | |
| Output Impédance | 700 ohms | 1000 ohms | |
| Overrange Without Damage | 1.5 x FS | | |
| Overrange Without destruction | 3 x FS | | |
| Linearity | < ±0.1% FS | | |
| Hysteresis | < ±0.1% FS | | |
| Operating Temperature Range (OTR) | -20°C to +80°C | | |
| Compensated Temperature Range (CTR) | 0°C to +60°C | | |
| 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. Protection Index: IP50 (other protection levels 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)

Wiring Schematic

Version -A1

Version -A2

OPTEHxxx: Hemispherical Load Button

Dimensions in mm

| F.S. | J | R | ØD |
|---------|----|-----|-----|
| 10 KN | 12 | 80 | 34 |
| 25 KN | 12 | 80 | 34 |
| 50 KN | 12 | 80 | 34 |
| 100 KN | 20 | 250 | 65 |
| 200 KN | 20 | 250 | 65 |
| 500 KN | 30 | 400 | 87 |
| 1000 KN | 60 | 400 | 120 |

OPTFFxxx: Tension pull plate

Dimensions in mm [inch]

| Ranges in N | 10k | 25k | 50k | 100k | 200k | 500k | 1000k |
|----------------------|------------|------|------|---------------|---------------|---------------|-------|
| A | 100 [3.94] | | | 150 [5.91] | 195 [7.68] | 272 [10.71] | |
| B | 30 [1.18] | | | 40 [1.57] | 60 [2.36] | 80 [3.15] | |
| C | 34 [1.34] | | | 65 [2.56] | 87 [3.43] | 120 [4.72] | |
| D (Thread) | M20x1.5 | | | M32x2 | M56x2 | M80x3 | |
| E | 65 [2.56] | | | 90 [3.54] | 106 [4.17] | 150 [5.91] | |
| F | 70 [2.76] | | | 100 [3.94] | 143 [5.63] | 186 [7.32] | |
| G | 45° | | | 30° | 22.5° | | |
| H | 8x8.2 /Φ85 | | | 12x10.4 /Φ125 | 16x16.2 /Φ169 | 16x24.5 /Φ229 | |
| I | M8 /Φ85 | | | M10 /Φ125 | M16 /Φ169 | M24 /Φ229 | |
| Screw-down (m.kg) | 2.2 | 2.5 | 2.5 | 5 | 5 | 15 | 50 |
| Screw-down in lbf/ft | 15.9 | 18.1 | 18.1 | 36.2 | 36.2 | 108.5 | 361.7 |

FN3000

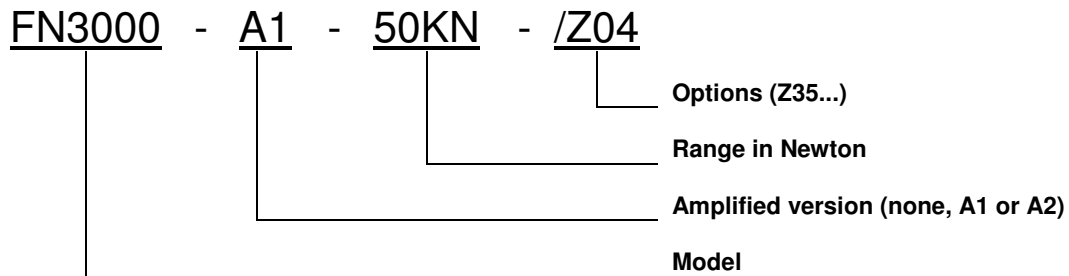
Load Cell Tension and Compression

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 to +150°C) - Not available with A1/A2 versions |

Other options may be offered as custom designed sensors. Please contact your local Customer Service.+

ORDERING INFO



SUPPLIED ACCESSORIES

| |
|--|
| EFMX-7M : mating plug Jaeger 530-272-006 with clamp 530-371-006 for standard and Z04 option |
| EFMX-7H : mating plug Jaeger 530-604-006 with clamp 530-693-006 for Z35 or Z36 options |

RECOMMENDED ACCESSORIES

| | | |
|----------|----------------|--|
| OPTEHxxx | 10kN to 1000kN | Hemispherical load button (Contact us) |
| OPTFFxxx | 10kN to 1000kN | Tension pull plate (Contact us) |

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