

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**
- **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 many years of 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 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) | 10k | 25k | 50k | 100k | 200k | 500k | 1000k |
| Ranges in lbf | 2k | 5k | 10k | 20k | 40k | 100k | 200k |
| Stiffness in N/m | 2.5x10 ⁸ | 5x10 ⁸ | 1x10 ⁹ | 2x10 ⁹ | 3x10 ⁹ | 5x10 ⁹ | 7x10 ⁹ |
| Stiffness in lbf/ft | 1.7x10 ⁷ | 3.4x10 ⁷ | 6.9x10 ⁷ | 1.4x10 ⁸ | 2.1x10 ⁸ | 3.4x10 ⁸ | 4.8x10 ⁸ |
| Material | Aluminum | Stainless steel | | | | | |

PERFORMANCE SPECIFICATIONS (typical values at temperature 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 | |
| Linearity | ±0.1%F.S. |
| Hysteresis | ±0.1%F.S. |

Electrical Characteristics

| Model | FN3000 | FN3000-A1 | FN3000-A2 |
|--------------------------------|---------------|-------------------|------------------------|
| Supply Voltage | 10Vdc | 10 – 30Vdc | ±15Vdc (±12 to ±18Vdc) |
| Sensitivity "FSO" ⁴ | ±2mV/V | ±2V ±0.2V | ±5V ±0.2V |
| Zero Offset ⁴ | ±5% F.S. | 2.5V ±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)

Wiring Schematic

Version -A1

Version -A2

EH: Hemispherical Load Button

Dimensions in mm

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

FF: Tension pull plate

Dimensions in mm [inch]

| Ranges in N [in lbf] | 10k [2k] | 25k [5k] | 50k [10k] | 100k [20k] | 200k [40k] | 500k [100k] | 1000k [200k] |
|----------------------|------------|----------|-----------|---------------|---------------|---------------|--------------|
| 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 |

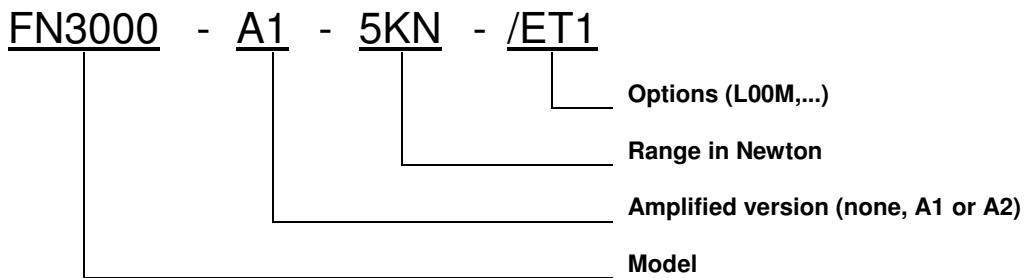
FN3000

Load Cell Tension and Compression

OPTIONS

| |
|--|
| 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 |
| PE/L00M : Additional cable length with PE option, replace "00" with total length in meters |

ORDERING INFO



SUPPLIED ACCESSOIRES

| |
|--|
| EFMX-7M : mating plug Jaeger 530-272-006 with clamp 530-371-006 for standard and ET1 |
| EFMX-7H : mating plug Jaeger 530-604-006 with clamp 530-693-006 for ET2 or ET3 option |

RECOMMENDED ACCESSORIES

| |
|---------------------------------------|
| EH : Hemispherical load button |
| FF : Tension pull plate |

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