

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 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 in N (FS)	10k	25k	50k	100k	200k	500k	1000k
Ranges in lbf (FS)	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 [1/100° F]
Thermal Sensitivity Shift in CTR	<1% of reading / 50° C [1/100° 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 ¹	FN3000-A1	FN3000-A2
Supply Voltage	1 to 10Vdc	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
Sensitivity "FSO" ²	±2mV/V	±2V ±0.2V	±5V ±0.2V
Zero Offset	±1 mV	2.5V ±0.2V	0V ±0.2V
Input Impedance/Consumption	350 to 700Ω	<50mA	50mA
Output Impedance	350 to 700Ω	1 kΩ ⁶	1 kΩ ⁶
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

Notes

1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes positive in tension with standard wiring configuration. Other signal output on request
3. Electrical Termination: Connector output including mate
4. Materials: Body in stainless steel or aluminium alloy depending on F.S.; aluminum cover
5. Protection Index: IP50 (other protection levels on request)
6. Output impedance < 100Ω on request
7. 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

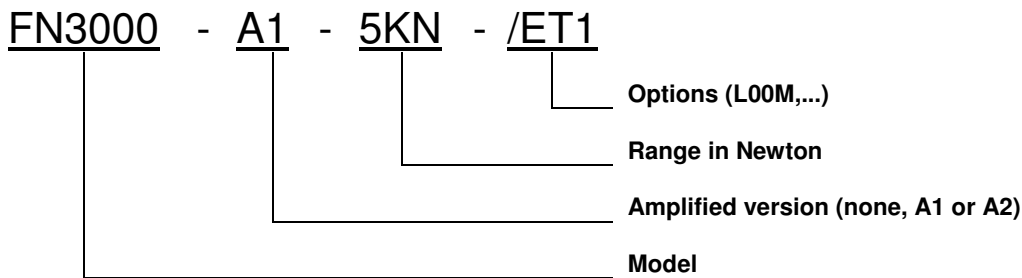
FF: Tension pull plate

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 / 1/4-85			12x10.4 / 1/2-125	16x16.2 / 1/2-169	16x24.5 / 1/2-229	
I	M8 / 1/4-85			M10 / 1/4-125	M16 / 1/4-169	M24 / 1/4-229	
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

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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