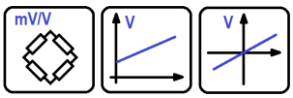
FN3000

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**

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

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

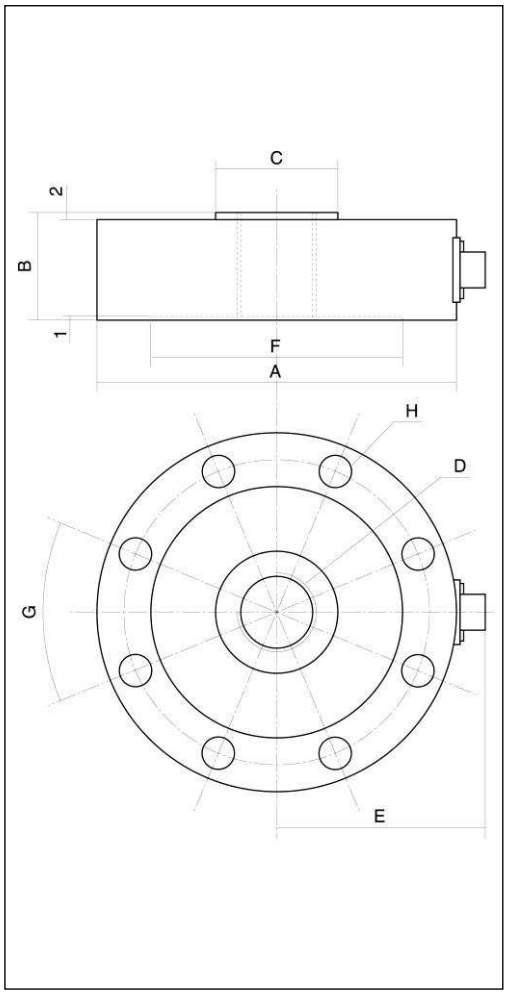
PERFORMANCE SPECIFICATIONS (typical values at temperature 23°C)

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		
Hyteresis	< ±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		

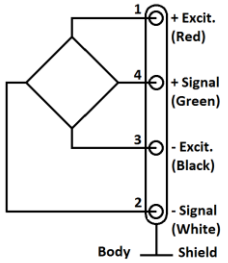
Notes

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

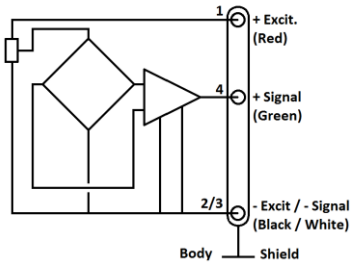
DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



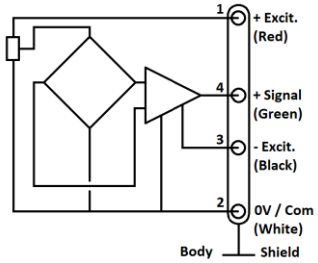
Wiring Schematic



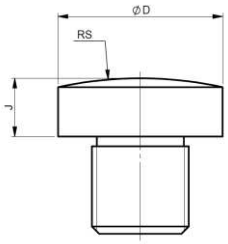
Version -A1



Version -A2



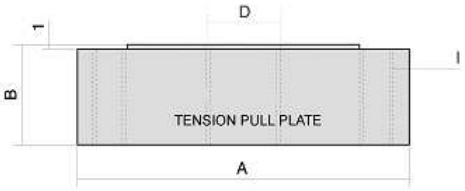
OPTEHxxx: Hemispherical Load Button



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