XFC200R

Miniature Compression Load Cell

SPECIFICATIONS

- **Range from 0-2N to 0-10kN [0-0.4 lbf to 0-2 klbf]**
- **High Stiffness**
- **Integrated Spherical Load Button**
- **Linearity < 0,5% FS**

The miniature size and lightweight of the **XFC200R** facilitates testing where these conditions are necessary. Unlike sensors with flat force application surfaces, the **XFC200R** incorporates a spherical load button resulting in more precise measurements.

Its high stiffness, for the size and measurement ranges, allows measurements in dynamic applications. A strain relief spring strengthens the cable output. The sensing element is fitted with a fully temperature compensated Wheatstone bridge equipped with high stability micro-machined silicon strain gages.

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.

FEATURES

- High accuracy for low ranges
- Integrated Spherical Load Button
- High Overload Capacity
- Small design

APPLICATIONS

- Robotics and effectors
- Micro component assembly tools
- Keyboard and phone buttons control
- Mechanical switches control

STANDARD RANGES

Ranges (FS)		Material	Stiffness		Overrange		Linearity	Hysteresis
N	lbf		In N/m	In lbf/ft	Without Damage	Without Destruction		
2	0.4	Aluminum	3.0 x10^6	2.1 x10^5	x4	x6	< ±0,5%FS	< ±0,5%
5	1	Aluminum	7.8x10^6	5.3 x10^5	x4	x6	|	|
10	2	Aluminum	2.3x10^6	1.6 x10^5	x4	x6	|	|
20	4	Aluminum	4.1x10^6	2.8 x10^5	x4	x6	|	|
50	10	Aluminum	9.2x10^6	6.3 x10^5	x4	x6	|	|
100	20	Stainless Steel	2.0x10^7	1.4 x10^6	x3	x5	|	|
200	40	Stainless Steel	3.5x10^7	2.4 x10^6	x3	x5	|	|
500	100	Aluminum	1.9x10^8	1.3 x10^7	x2	x3	|	|
1000	200	Aluminum	1.9x10^8	1.3 x10^7	x2	x3	|	|
2000	400	Stainless Steel	4.3x10^8	2.9 x10^7	x2	x3	|	|
5000	1k	Stainless Steel	4.6x10^8	3.2 x10^8	x2	x3	|	|
10k	2k	Stainless Steel	1.4x10^9	9.6 x10^7	x2	x3	|	|

PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°C)

Ranges (FS)		Operating Temperature Range (OTR)		Compensated Temperature Range (CTR)		Th. ZeroShift in CTR /50°C	Th. Sensitivity Shift in CTR /50°C
N	lbf	Celsius	Fahrenheit	Celsius	Fahrenheit		
All models		-40 to 120°C	-40 to 250°F	0 to 60°C	32 to 140°F	< ±2%FS	< ±2% reading

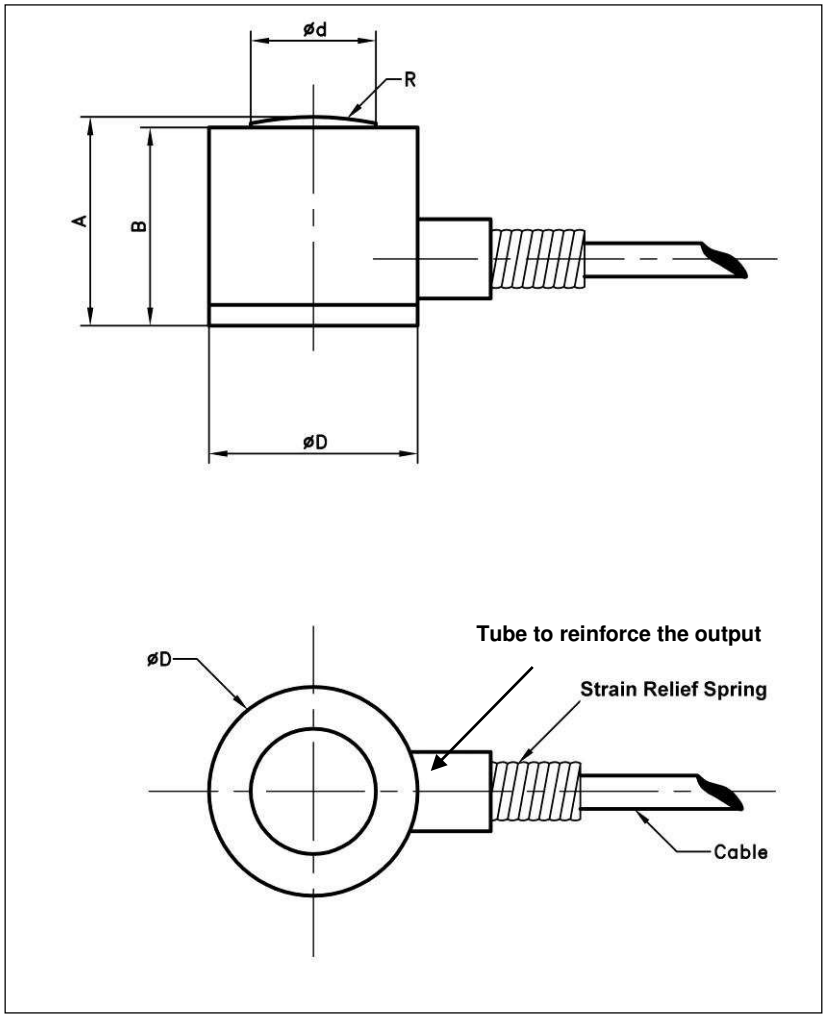
ELECTRICAL CHARACTERISTICS

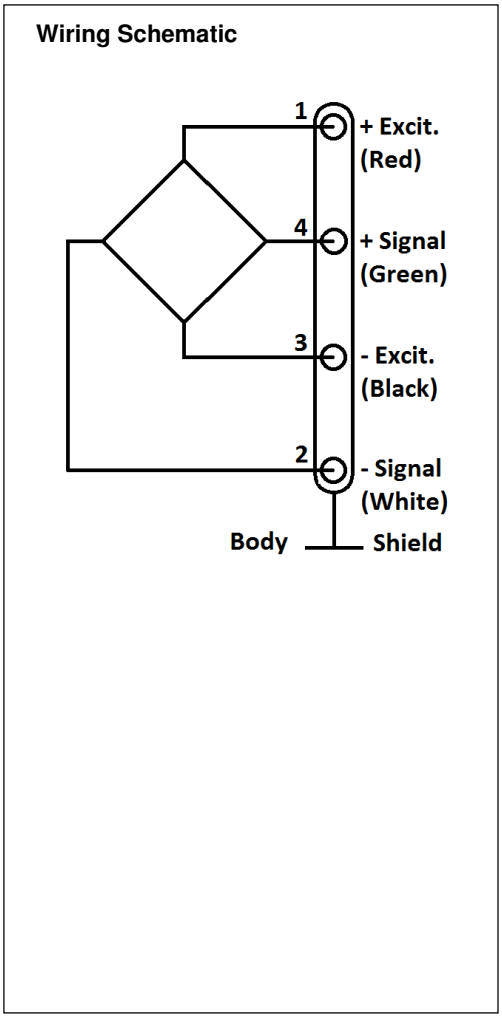
Ranges (FS)		Natural Frequency response	Power supply	Sensitivity (FSO)	Offset	Input Impedance Ze	Output Impédance Zs
N	lbf						
2	0.4	|	10 Vdc	15 mV/V	< ±1mV/V	1500 Ω	500 Ω
5	1	|	|	15 mV/V	|	|	|
10	2	|	|	15 mV/V	|	|	|
20	4	|	|	15 mV/V	|	|	|
50	10	|	|	15 mV/V	|	|	|
100	20	|	|	15 mV/V	|	|	|
200	40	|	|	15 mV/V	|	|	|
500	100	|	|	5 mV/V	|	|	|
1000	200	|	|	10 mV/V	|	|	|
2000	400	|	|	10 mV/V	|	|	|
5000	1k	|	|	15 mV/V	|	|	|
10k	2k	|	|	15 mV/V	|	|	|

Notes

1. Electrical Termination: Shielded cable with 4 wires (AWG36/28), standard length 2 m [6.5 ft] with strain relief spring
2. Material: Body in stainless steel or aluminum alloy
3. Protection Index: IP50
4. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)





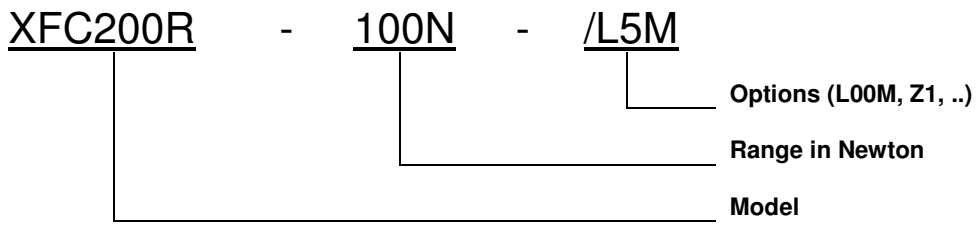
Dimensions in mm [inch]

F.S. Ranges in N [in lbf]	2-5 [0.4 - 1]	10 - 20 -50 [2 - 4 - 10]	100 - 200 [20 - 40]	500 - 1000 [100 - 200]	2000 [400]	5000 - 10000 [1000 - 2000]
A	10 [0.39]					16 [0.63]
B	9,5 [0.37]					15 [0.59]
Diameter D	10 [0.39]					16 [0.63]
Diameter d	3 [0.12]	5 [0.2]		6 [0.24]		12 [0.47]
R	15 [0.59]					30 [1.18]
Tube presence	no			yes		

OPTIONS

HA	: Accuracy (CNL&H) ≤ ±0.5% F.S.
Z0	: CTR -20 to 20º C [-4 to 68° F]
Z1	: CTR -20 to 40º C [-4 to 104° F]
Z2	: CTR 20 to 80º C [68 to 176° F]
Z35	: CTR 20 to 120º C [68 to 248° F] OTR=CTR
L00M	: special cable length, replace “00” with total length in meters
* Order Flat Force application surface with reference **XFC200**.	

ORDERING INFO



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