



- Range from 0-500 N to 0-5 kN [100 lbf to 1 klbf]
- Tension and/or Compression
- Spherical Plain Rod-End Bearings
- Excellent Accuracy
- For Static and Dynamic Applications

## DESCRIPTION

Available in a range of measurements and a variety of mounting threads, the **XFU400** is easily installed. Its miniature size facilitates testing where space is at a premium. The sensing element is fitted with a fully temperature compensated Wheatstone bridge equipped with high stability micro-machined silicon strain gages. The **XFU400** is used in applications that require a spherical plain rod-end bearing and has the capacity of accepting a full scale range of up to 5 kN [1 klbf].

With many years of experience as a designer and manufacturer of sensors, Measurement Specialties, Inc. 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.

## FEATURES

- Based on standard rod end bearings
- Low deflection
- Easy to integrate
- Fast response time
- For Static and Dynamic Applications

## APPLICATIONS

- Linkage forces
- Machine tool
- Automotive systems test
- Robotics and effectors

## STANDARD RANGES

| F.S. Ranges in N    | 500               | 1k                | 3k                | 4k                | 5k                |
|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| F.S. Ranges in lbf  | 100               | 200               | 600               | 800               | 1k                |
| Stiffness in N/m    | $3.4 \times 10^8$ | $5.5 \times 10^8$ | $1.2 \times 10^9$ | $1.4 \times 10^9$ | $1.9 \times 10^9$ |
| Stiffness in lbf/ft | $2.3 \times 10^7$ | $3.8 \times 10^7$ | $8.2 \times 10^7$ | $9.6 \times 10^7$ | $1.3 \times 10^8$ |

# XFU400 Miniature Load Cell

## PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1° C

| PARAMETERS                          |                                       |
|-------------------------------------|---------------------------------------|
| Operating Temperature Range (OTR)   | -40 to 120 ° C [-40 to 248 ° F]       |
| Compensated Temperature Range (CTR) | 0 to 60 ° C [32 to 140 ° F]           |
| Zero Shift in CTR                   | <2% F.S. / 50 ° C [/100° F]           |
| Sensitivity Shift in CTR            | <2% of reading / 50° C [/100° F]      |
| Range (F.S.)                        | 0-500N to 0-5kN [0-100lbf to 0-1klbf] |
| Over-Range                          |                                       |
| Without Damage                      | 1.5 x F.S.                            |
| Without Destruction                 | 2 x F.S.                              |
| Accuracy                            |                                       |
| Linearity                           | ≤±0.3% F.S                            |
| Hysteresis                          | ≤±0.2% F.S                            |

### Electrical Characteristics

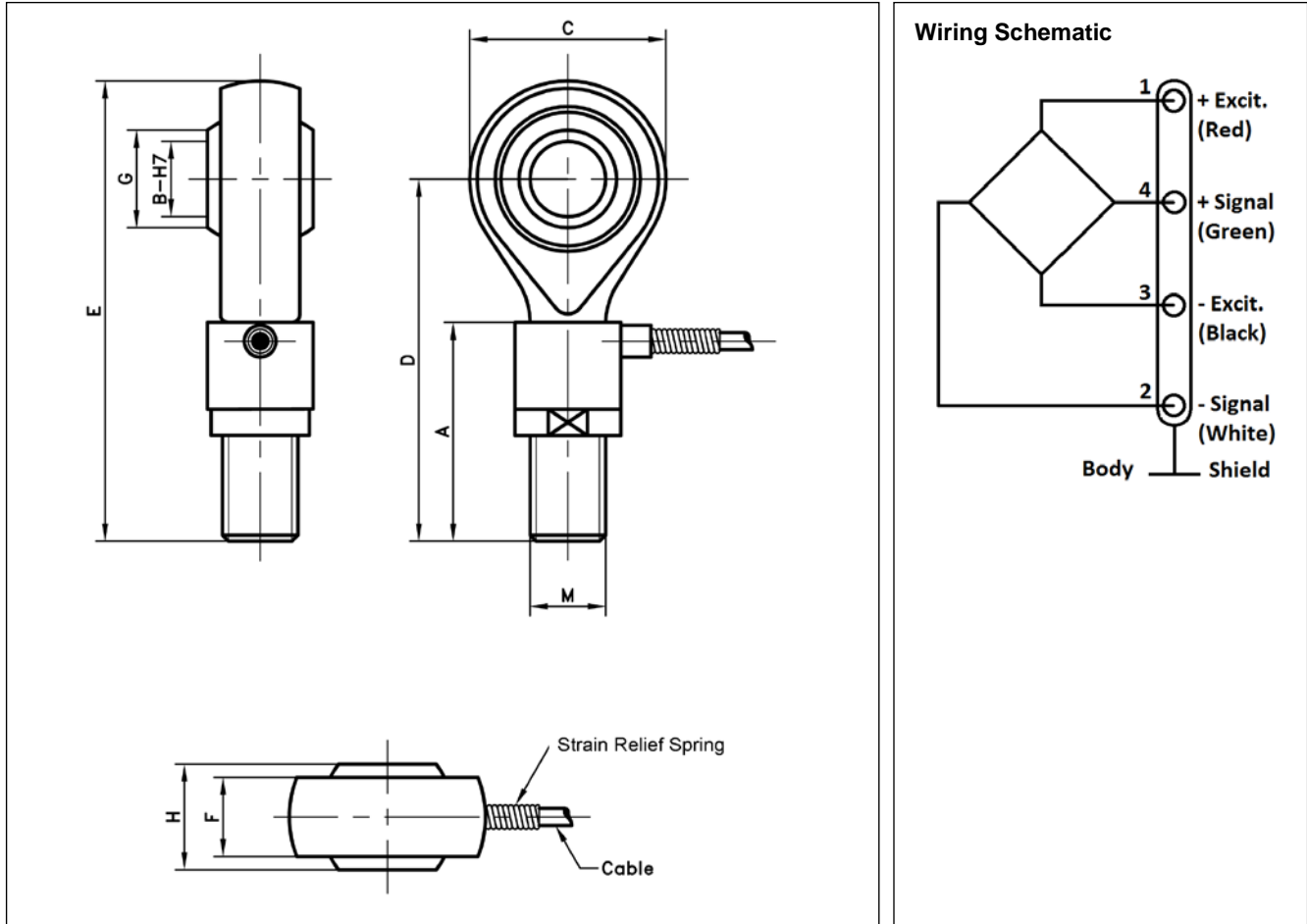
|                             |               |
|-----------------------------|---------------|
| <b>Model</b>                | <b>XFU400</b> |
| Supply Voltage              | 10Vdc         |
| F.S. Output                 | ±100 mV       |
| Zero Offset                 | <±10 mV       |
| Input Impedance/Consumption | 1000 to 3000Ω |
| Output Impedance            | 500 to 1000Ω  |
| Insulation under 50Vdc      | ≥100MΩ        |

### Notes

1. Shielded cable with 4 wires (AWG36/28), standard length 2 m [6.5 ft] with strain relief spring
2. Material: Body in zinc coated and passivated steel
3. Protection Index: IP50 (other levels available on request)
4. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

# XFU400 Miniature Load Cell

## DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



Dimensions in mm [inch]

| Full Scale Range in N<br>[in lbf] | 500<br>[100]      | 1k<br>[200]       | 3k<br>[600]       | 4k<br>[800]       | 5k<br>[1k]        |
|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Threading                         | M4                | M5                | M8                | M10               | M12               |
| A                                 | 18 [0.71]         | 20 [0.79]         | 25 [0.98]         | 29 [1.14]         | 33 [1.3]          |
| B                                 | 4 [0.16]          | 5 [0.2]           | 8 [0.31]          | 10 [0.39]         | 12 [0.47]         |
| C                                 | 14 [0.55]         | 16 [0.63]         | 22 [0.87]         | 26 [1.02]         | 30 [1.18]         |
| D                                 | 30 [1.18]         | 33 [1.3]          | 42 [1.65]         | 48 [1.89]         | 54 [2.13]         |
| E                                 | 37 [1.46]         | 41 [1.61]         | 53 [2.09]         | 61 [2.4]          | 69 [2.72]         |
| F                                 | 5.25 [0.207]      | 6 [0.24]          | 9 [0.35]          | 10.5 [0.41]       | 12 [0.47]         |
| G                                 | 6.46 [0.25]       | 7.71 [0.3]        | 10.4 [0.41]       | 12.92 [0.51]      | 15.43 [0.61]      |
| H                                 | 7 [0.28]          | 8 [0.31]          | 12 [0.47]         | 14 [0.55]         | 16 [0.63]         |
| Stiffness in N/m                  | $3.4 \times 10^8$ | $5.5 \times 10^8$ | $1.2 \times 10^9$ | $1.4 \times 10^9$ | $1.9 \times 10^9$ |
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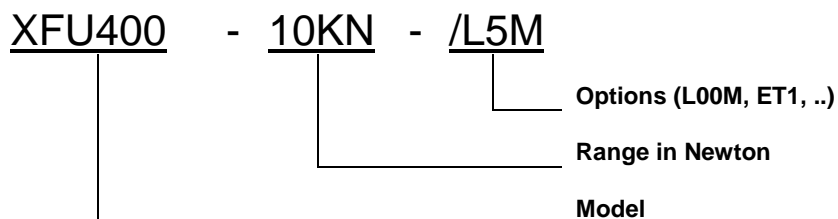
# XFU400 Miniature Load Cell

## OPTIONS

**ET1** : CTR -20 to 100° C [-4 to 212° F]

**L00M** : special cable length, replace "00" with total length in meters

## ORDERING INFO



## 联系方式



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