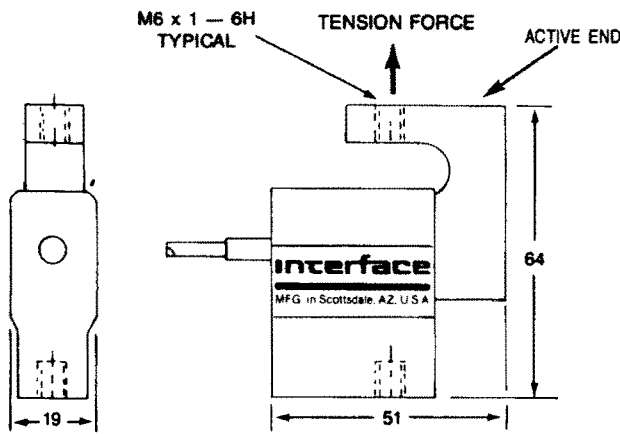
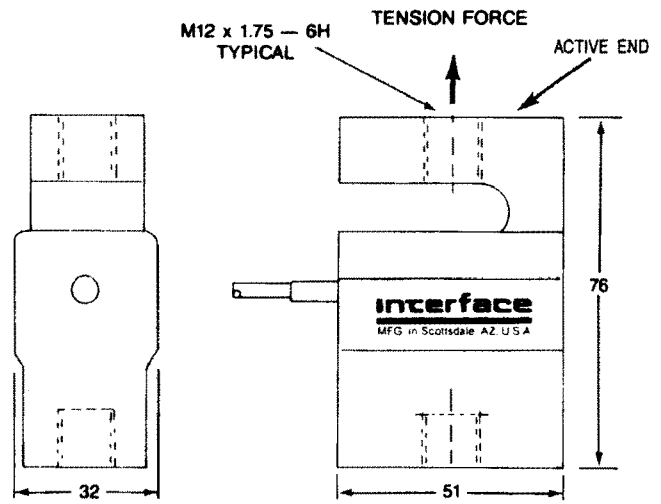


## APPLICATION NOTES



METRIC SM-50N, SM-100N, SM-200N, SM-500N, SM-1000N

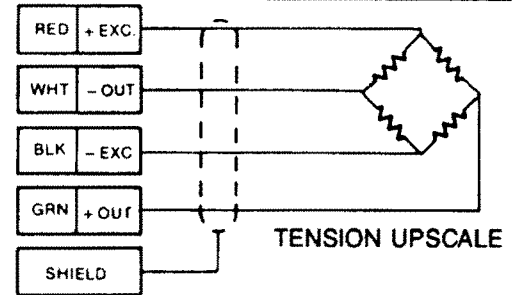


METRIC SM-2000N, SM-5000N

## ELECTRICAL INFORMATION

SM Series is provided with a 4-conductor shielded cable (AWG 28) 1.5m long.

Wiring color code complies with ISA S37.8 "Specifications and Tests for Strain Gage Force Transducers" and SMA Load Cell Terminology.



## INSTALLATION DIMENSIONS

- Super-Mini load cells are designed for controlled environmental applications. In general, they can be used almost anywhere a readout instrument is used.
- One diameter thread engagement is desirable, approximately 6mm on the SM-200N through 1000N ranges and 12mm on the SM-2000N and 5000N units.
- The force to be measured should be applied to the active end of the cell to eliminate possible errors due to cable interaction. The active end of the cell is separated from the cable/connector side by the slot (cutout) in the flexure (the serial number is always shown on the inactive side).
- These units are not intended for submerged operation. A Moisture Resistant coating is applied to protect SM Series from high humidity conditions up to and including 95% Relative Humidity and periodic exposure to condensation.

- Jam Nuts may be used, however care should be exercised to not apply excessive torque across the load cell. Torque should be reacted against the load cell structure immediately adjacent to the jam nut and should not exceed the following recommended torque:

| Model    | Jam Nut Torque N · m |
|----------|----------------------|
| SM-50N   | .6 (0.06 kg · m)     |
| SM-100N  | 1.1 (0.1 kg · m)     |
| SM-200N  | 2.2 (0.2 kg · m)     |
| SM-500N  | 4.5 (0.5 kg · m)     |
| SM-1000N | 4.5 (0.5 kg · m)     |
| SM-2000N | 22.5 (2.3 kg · m)    |
| SM-5000N | 22.5 (2.3 kg · m)    |

Bottoming out of the mounting stud can cause irreparable damage to the load cell.

## PERFORMANCE DATA

|  |                  |
|--|------------------|
| Normal Output — MV/V                             | 3                |
| Input Resistance — ohms                          | 350 + 50 / - 3.5 |
| Output Resistance — ohms                         | 350 ± 3.5        |
| Recommended Excitation — VDC                     | 10               |
| Non-Linearity — % FS                             | ± 0.03           |
| Non-Linearity for SM-5000N — % FS                | ± 0.05           |
| Hysteresis — % FS                                | ± 0.02           |
| Compensated Temp. Range                          | - 15° C to 65° C |
| Temperature Effect on Zero — % Rated Output/55°C | + 0.15           |
| Zero Balance — % Rated Output                    | ± 1              |

## METRIC SUPER-MINI LOAD CELL

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