

# LFS 270-UW SUBMERSIBLE MINIATURE S-BEAM LOAD CELL

The LFS 270-UW is a submersible version of the popular LFS 270 load cell. It features the same compact size and adaptability, but also can be used submerged in a variety of liquids. Like its terrestrial counterpart, the LFS 270-UW is a miniature tension/compression load cell. Using metal foil strain gauge technology, one of its unique features is its extremely high overload capacity – 1,000% of rated output. So it's perfect for applications where total force may not be clear before measurement. Smaller than a postage stamp and made of sturdy aluminum (stainless steel for higher load models), the sensor's built-in overload protection keeps it safe in any test situation. The cell has two threaded M3 x 0.5 mounting holes at either end, making installation in any setting a snap. This load cell is popular in the automotive, aerospace and automation industries for such applications as fuel tank fullness measurements. But it is adaptable to any application where loads must be measured in liquid environments.

- **PROTECTIVE COATING FOR UNDERWATER (OR OTHER LIQUID) APPLICATIONS**
- **COMPLETELY SUBMERSIBLE TO MOST WORKING DEPTHS**
- **COMPACT SIZE – SMALLER THAN A POSTAGE STAMP**
- **AVAILABLE IN 4 DIFFERENT LOAD RANGES**
- **MADE OF STURDY ALUMINUM (OR STAINLESS STEEL)**
- **EXTREME OVERLOAD CAPACITY – 1,000% OF RATED OUTPUT**
- **BUILT IN OVERLOAD PROTECTION**
- **ADAPTABLE MOUNTING**

## SPECIFICATIONS

|                          |   |
|--------------------------|---|
| LOAD RANGES:             | 100 gm to 100 lb in 4 different ranges                                    |
| NON-LINEARITY:           | 1 to 3% of rated output, depending on load range                          |
| HYSTERESIS:              | 1.5 to 5% of rated output, depending on load range                        |
| ZERO RETURN:             | 1 to 3% of rated output, depending on load range                          |
| CREEP (10 minutes):      | 2 – 12% of rated output, depending on load range                          |
| MATERIAL:                | 100 gm to 10 lb – aluminum<br>100 lb – stainless steel                    |
| TEMPERATURE RANGE:       | 0 to 160° F (-17 to 72° C)  |
| COMPENSATED TEMP. RANGE: | 60 to 160° F (15 to 72° C)  |
| TEMPERATURE SHIFT ZERO:  | ± 0.02 of rated output/° F<br>(0.04% of rated output/° C)                 |
| TEMPERATURE SHIFT SPAN:  | ± 0.04 of load/° F (0.08% of load/° C)                                    |
| OUTPUT (nominal):        | 1 – 2 mV/V nominal, depending on load range<br>2 mV/V – 2 to 100 lb cells |
| BRIDGE RESISTANCE:       | 350 ohms nominal  |
| EXCITATION:              | 10 VDC maximum  |
| SAFE OVERLOAD:           | 1,000% of rated output  |
| CABLE:                   | 5 ft (1.5 m) or 50 ft (15.24 m)   |
| WEIGHT:                  | 0.3 oz (9 gm) – 100 gm to 10 lb cells<br>0.9 oz (26 gm) – 100 lb cells    |
| SIZE:                    | .63 X .75 X .25 in  |



## AVAILABLE RANGES

100 gm; 2; 10; 100 lb

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|                   | Capacity       | Rated Output | Non--Linerity | Hysteresis | Zero Return | Creep 10 mins. | Material              |
|-------------------|----------------|--------------|---------------|------------|-------------|----------------|-----------------------|
| LFS 270-UW 100G * | 100 gm (1 N)   | 1mV/V nom.   | 3% R.O.       | 5% R.O.    | 3% R.O.     | 12% R.O.       | Red Anodized Aluminum |
| LFS 270-UW 2 *    | 2 lb (8.9 N)   | 2 mV/V nom.  | 1% R.O.       | 2% R.O.    | 2% R.O.     | 3% R.O.        | Red Anodized Aluminum |
| LFS 270-UW 10 *   | 10 lb (44.5 N) | 2 mV/V nom.  | 1% R.O.       | 1.5% R.O.  | 1% R.O.     | 2% R.O.        | Red Anodized Aluminum |
| LFS 270-UW 100 *  | 100 lb (445 N) | 2 mV/V nom.  | 1% R.O.       | 1.5% R.O.  | 1% R.O.     | 2% R.O.        | 17-4PH S.S.           |

Note: Sensor structure can handle high overloads but threads may limit overload at higher capacity.

\* Cable length is specified here. Length of cable determines the price of the unit. Standard unit comes with 5 ft or 50 ft of cable.

Sample Part Number: LFS 270-UW100 50

