



Sherborne **Sensors**

... the first choice in precision

## S02 Load Cell Datasheet

**World-leading design and manufacturing you  
can trust for load measurement applications**

Sherborne Sensors is a specialist Load Cell manufacturer that provides load cells and force transducers to a global customer base for a wide range of applications.

[www.sherbornesensors.com](http://www.sherbornesensors.com)



Sherborne Sensors, a Nova Metrix company

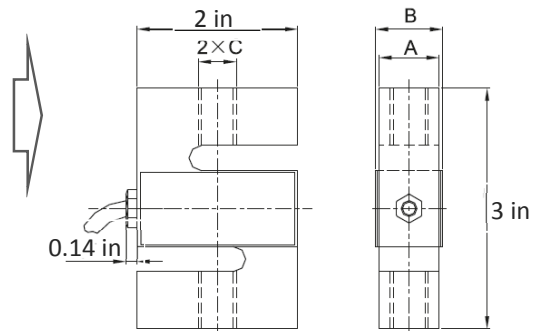
**NX** NOVA  
METRIX

## S02 Load Cell

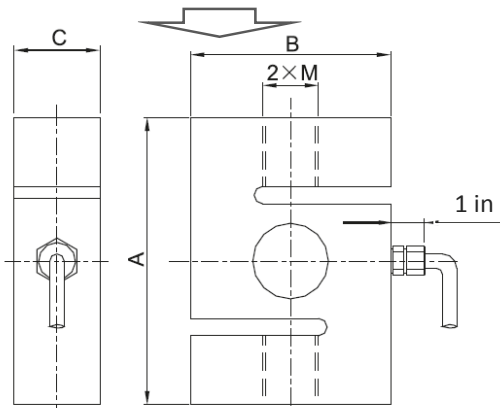
The S02 tension / compression S-type load cell series offers a compact design for a variety of weighing and test and measurements applications. The S02 S-type Load Cell series provides accuracy, compact design features, overload protection and a wide capacity range from 0-250lb up to 0-20,000lb.

|  | Unit          | Parameter   |               |              |              |
|--|---------------|---|---------------|--------------|--------------|
| Accuracy Class to OIML R60                               |               | C3  |               |              |              |
| <b>Maximum Capacity (Emax)</b>                           | <b>klbf</b>   | <b>0.25, 0.3, 0.5, 1, 1.5, 2, 3, 5, 7.5, 10, 20</b> |               |              |              |
| Minimum LC verification interval (Vmin)                  | % of Emax     | 0.01  |               |              |              |
| <b>Sensitivity (Cn)</b>                                  | <b>mV/V</b>   | <b>3.0 ± 0.003</b>                                  |               |              |              |
| <b>Zero Balance</b>                                      | <b>mV/V</b>   | <b>0.0 ± 0.03</b>                                   |               |              |              |
| Temperature effect on zero balance (TKo)                 | % of Cn / 10K | ± 0.017   |               |              |              |
| Temperature effect on sensitivity balance (TKc)          | % of Cn / 10K | ± 0.017   |               |              |              |
| Hysteresis error (dhy)                                   | % of Cn       | ± 0.018   |               |              |              |
| Non-linearity error (dlin)                               | % of Cn       | ± 0.0167  |               |              |              |
| Creep (dcr) over 30 min.                                 | % of Cn       | ± 0.0167  |               |              |              |
| <b>Input (Rlc) &amp; Output resistance (Ro)</b>          | <b>Ω</b>      | <b>400 ± 10 &amp; 352 ± 3</b>                       |               |              |              |
| <b>Nominal range of excitation voltage (Bu)</b>          | <b>V</b>      | <b>5 ~ 15</b>                                       |               |              |              |
| Insulation resistance (Ris) at 50Vdc                     | MΩ            | >5000   |               |              |              |
| Service temperature range (Btu)                          | F             | -86 to +158   |               |              |              |
| Safe load limit (EL) and Breaking load (Ed)              | % of Emax     | 120 & 200   |               |              |              |
| <b>Protection class according to En 60 529 (IEC 529)</b> |               | <b>IP 65 (0.25-3 klb), IP 68 (5-20 klb)</b>         |               |              |              |
| Wiring Scheme  |               | Exc+ (Red)  | Exc – (Black) | Sig+ (Green) | Sig- (White) |
| Cable length   | m             | 5   |               |              |              |

| Emax[klbf]  | A [in]        | B [in]         | C            |
|-------------|---------------|----------------|--------------|
| 0.25, 0.3   | 12.4<br>[0.5] | 16.6<br>[0.65] | 3/8-24UNF-2B |
| 0.5, 1, 1.5 | 19.1<br>[0.8] | 23.3<br>[0.9]  | 1/2-20UNF-2B |
| 2, 3        | 25.4 [1]      | 29.6<br>[1.2]  | 1/2-20UNF-2B |



| Emax[klbf] | A [in]       | B [in]        | C [in]      | M              |
|------------|--------------|---------------|-------------|----------------|
| 5, 7.5     | 108<br>[0.5] | 76.2<br>[3]   | 25.4<br>[1] | 3/4-16UNF-2B   |
| 10         | 121<br>[4.8] | 88.9<br>[3.5] | 25.4<br>[1] | 3/4-16UNF-2B   |
| 20         | 178<br>[7]   | 127<br>[5]    | 51<br>[2]   | 1 1/4-12UNF-2B |



Also available in metric (T) capacities, see the S03 S-Type load cell for further details





## Accessories

Sherborne Sensors offers a broad range of accessories and services to enhance the performance and capabilities of our sensor products, including:

- line voltage and battery enabled power supplies
- specialized mating connectors
- cable assemblies
- high performance digital displays and universal input indicators
- repair and calibration services for all brands of accelerometers, inclinometers and load cells

## Customization

With extensive in-house engineering capabilities, Sherborne Sensors offers not only a large range of standard sensors but also unique expertise in the design, development and manufacture of specialized sensors and systems that meet specific customer application and performance requirements.

The need to customize our sensors to the specific requirements of an application to ensure they deliver improved safety and efficiency, with optimized cost and return-on-investment is often critical to project success.

Using customer driven elements of sensor design, output and performance, Sherborne Sensors will tailor a device to meet almost any application. Major cost and performance benefits may be realized by specifying a customized sensor where performance and mechanical design are optimally matched to specific application demands.



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