

5103/9103: SPECIFICATIONS

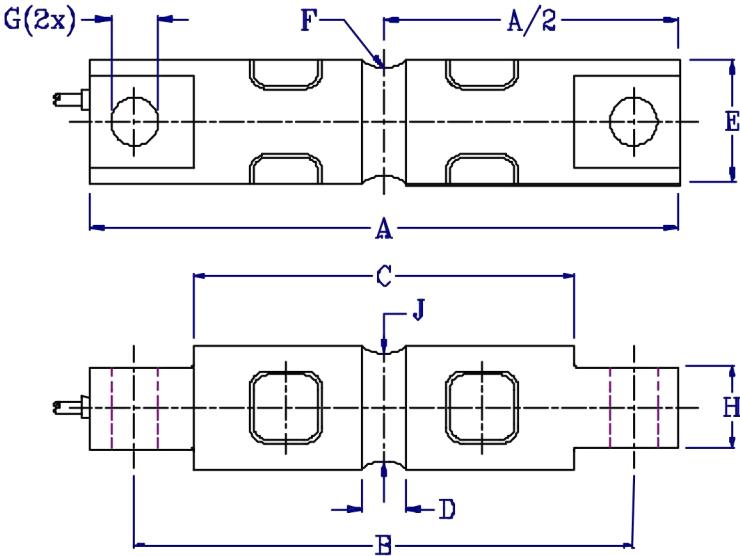


|                                                         |                   |                                                                                                                               |                |                         |                         |
|---------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|-------------------------|
| Standard Capacities (= E <sub>max</sub> )               | Klbs              | 5 <sup>2</sup> , 10 <sup>2</sup> , 20, 30, 40, 50, 60, 100, 150 <sup>2</sup> , 200 <sup>2,3</sup> , 250 <sup>2,3</sup>        |                |                         |                         |
| Metric equivalents                                      | t                 | 2.3 <sup>2</sup> , 4.5 <sup>2</sup> , 9.1, 13.6, 18.2, 22.7, 27.2, 45.4, 68 <sup>2</sup> , 91 <sup>2</sup> , 113 <sup>2</sup> |                |                         |                         |
| Accuracy Class According to OIML R-60                   |                   |                                                                                                                               |                | C2                      | C3                      |
| Max. Number of Verification Intervals (n <sub>v</sub> ) |                   |                                                                                                                               |                | 2000                    | 3000                    |
| Minimum Verification Interval (V <sub>min</sub> )       |                   |                                                                                                                               |                | E <sub>max</sub> /10000 | E <sub>max</sub> /10000 |
| Minimum Utilisation                                     | %                 |                                                                                                                               |                | 20                      | 30                      |
| Accuracy According to Type Designation                  |                   | D1                                                                                                                            | D3             | C2                      | C3                      |
| Combined Error                                          | %S                | •• 0.1000                                                                                                                     | •• 0.0300      | •• 0.0230               | •• 0.0200               |
| Non-Repeatability                                       | %S                | •• 0.0200                                                                                                                     | •• 0.0100      | •• 0.0100               | •• 0.0100               |
| Minimum Dead Load Output Return <sup>1</sup>            | %S                | •• 0.0500                                                                                                                     | •• 0.0300      | •• 0.0250               | •• 0.0167               |
| Creep Error (30 Minutes) <sup>1</sup>                   | %S                | •• 0.0600                                                                                                                     | •• 0.0300      | •• 0.0245               | •• 0.0245               |
| Creep Error (20-30 Minutes) <sup>1</sup>                | %S                | •• 0.0200                                                                                                                     | •• 0.0045      | •• 0.0053               | •• 0.0053               |
| Temp. Effect on Min. Dead Load Output                   | %S/5•C            | •• 0.0450                                                                                                                     | •• 0.0140      | •• 0.0070               | •• 0.0070               |
| Temp. Effect on Sensitivity                             | %S/5•C            | •• 0.0180                                                                                                                     | •• 0.0070      | •• 0.0060               | •• 0.0050               |
| Minimum Dead Load                                       | %E <sub>max</sub> | 0                                                                                                                             |                |                         |                         |
| Maximum Safe Overload                                   | %E <sub>max</sub> | 150                                                                                                                           |                |                         |                         |
| Ultimate Overload                                       | %E <sub>max</sub> | 300                                                                                                                           |                |                         |                         |
| Maximum Safe Sideload                                   | %E <sub>max</sub> | 100                                                                                                                           |                |                         |                         |
| Deflection at E <sub>max</sub>                          | mm                | 0.5/ 0.6/ 1.1/ 0.5/ 0.5/ 0.5/ 0.6/ 0.5/ 0.5/ 0.9/ 0.9                                                                         |                |                         |                         |
| Excitation Voltage                                      | V                 | 5...12                                                                                                                        |                |                         |                         |
| Maximum Excitation Voltage                              | V                 | 15                                                                                                                            |                |                         |                         |
| Rated Output (= S)                                      | mV/V              | 3                                                                                                                             |                |                         |                         |
| Tolerance on Rated Output                               | mV/V              | 0.03                                                                                                                          | 0.003          |                         |                         |
| Zero Balance                                            | %S                | •• 2.0                                                                                                                        | •• 1.0         |                         |                         |
| Input Resistance                                        | Ω                 | 880 • 80                                                                                                                      | 700 • 7        |                         |                         |
| Output Resistance                                       | Ω                 | 700 • 7                                                                                                                       |                |                         |                         |
| Insulation Resistance                                   | MΩ                | • 5000                                                                                                                        |                |                         |                         |
| Compensated Temperature Range                           | • C               | -10... +40                                                                                                                    |                |                         |                         |
| Operating Temperature Range                             | • C               | -40... +80                                                                                                                    |                |                         |                         |
| Storage Temperature Range                               | • C               | -40... +90                                                                                                                    |                |                         |                         |
| Element Material                                        |                   | Stainless st.                                                                                                                 | NP alloy steel |                         |                         |
| Sealing (DIN 40.050 / EN 60.529)                        |                   | IP67                                                                                                                          |                |                         |                         |
| Recommended Torque on Fixation Bolts                    | Nm                | 12...14                                                                                                                       |                |                         |                         |

- 1 Applies for the temperature range -10 to +40 •C  
2 Accuracy class D3 only  
3 5103 only

The correct mounting of the load cells is essential to ensure optimum performance.  
The available 5103/9103 mount incorporates a unique sliding pin design which allows thermal expansion, contraction and controlled scale deck movement, whilst eliminating the need for check rods in most applications. Cable length 10m (6m for 5K, 10K and 20K). cable screen is not connected to load cell body.  
Performance may be affected if load cell cables are shortened. Further information is available on request.

|         |              |        |
|---------|--------------|--------|
| Wiring: | Excitation + | Red    |
|         | Excitation - | Black  |
|         | Output +     | Green  |
|         | Output -     | White  |
|         | Shield       | Orange |



| E <sub>max</sub> | 5K,10K | 20K   | 30K-60K | 100K  | 150K  | 200K,250K |
|------------------|--------|-------|---------|-------|-------|-----------|
| A                | 206.2  | 206.2 | 260.4   | 285.8 | 285.8 | 408.9     |
| B                | 174.6  | 174.6 | 215.9   | 241.3 | 241.3 | 330.2     |
| C                | 133.1  | 133.1 | 165.1   | 190.5 | 190.5 | 254.0     |
| D                | 15.7   | 21.3  | 25.4    | 31.8  | 31.8  | 33.0      |
| E                | 43.2   | 49.5  | 76.2    | 88.9  | 99.1  | 136.5     |
| F <sub>rad</sub> | 12.7   | 12.7  | 25.4    | 38.1  | 38.1  | 50.8      |
| G                | 16.7   | 16.7  | 26.9    | 26.9  | 26.9  | 39.6      |
| H                | 28.4   | 28.4  | 60.2    | 63.5  | 71.1  | 116.8     |
| J                | 37.6   | 37.6  | 69.3    | 82.3  | 92.5  | 131.4     |

Scales & Weighing Solution LLC  
<https://theloadcelldepot.com>

Dimensions: mm. All dimension tolerances according to DIN 7168; middle accuracy unless otherwise specified.  
All specifications subject to change without notice.