

## Tension Compression Load Cells



ATEX

### FEATURES

- Capacities 50 - 1000kg
- Nickel plated alloy steel (615) or stainless steel (616) construction
- IP67 protection
- For use in tension or compression
- 6 wire (sense) circuit
- Model 615 output standardised to  $\pm 0.1\%$

### OPTIONAL FEATURE

- EEx ia IIC T4 hazardous area approval

### DESCRIPTION

Models 615 and 616 are tension-compression load cells which share the same dimensions. Humidity resistant coating and shielded cables enable these load cells to be used in harsh environments while maintaining their operating specifications.

The additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension.

Ideally suited for lever conversions, hanging scales, force measurement and a wide range of other industrial applications.

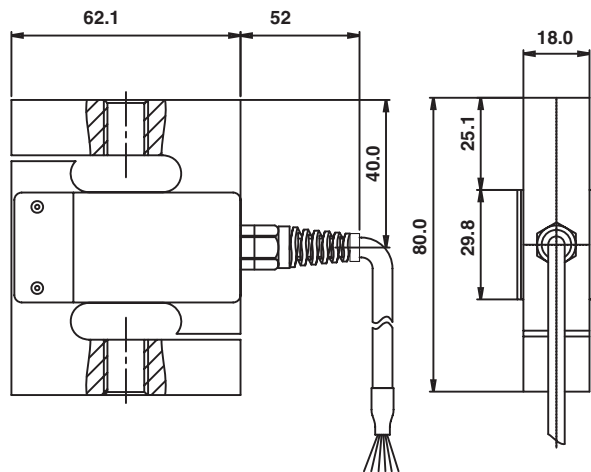
Model 616 is made from stainless steel and has bonded covers for additional protection (except 50kg). An alternative lower cost version is made from alloy steel (model 615), with rivetted covers.

### APPLICATIONS

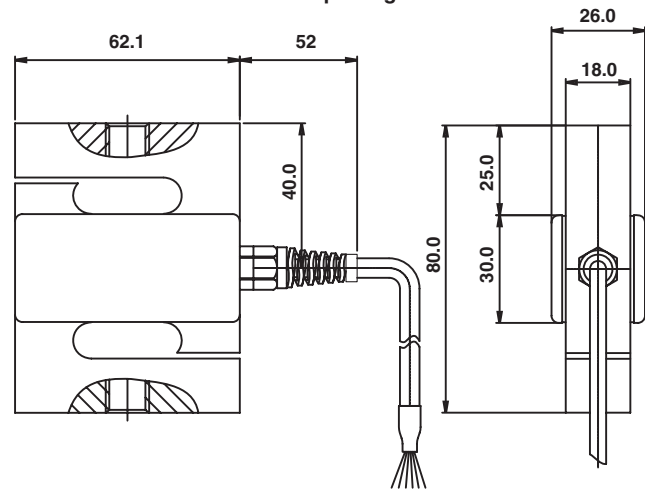
- Hopper (Tank weighing)
- Hybrid scales
- Belt weighing
- Lever arm conversions
- Material testing machines
- Vibrations filling equipment
- Dynamometers

### OUTLINE DIMENSIONS in mm

Dimensions - Models 615 and 616 - 50kg only



Dimensions - Model 616 - except 50kg



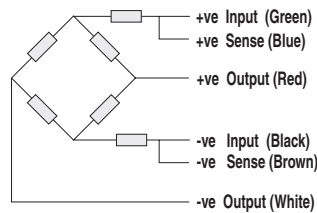
All dimensions in mm

**SPECIFICATIONS**

| PARAMETER                         | VALUE                                    |        | UNIT                  |
|-----------------------------------|--|--------|-----------------------|
|                                   | Non-Approved                             | G      |                       |
| Accuracy class                    |  |        |                       |
| Maximum no. of intervals (n)      | 1000                                     | 3000   |                       |
| Rated capacity-R.C. ( $E_{max}$ ) | 50, 100, 150, 200, 300, 500, 750, 1000*  |        | kg                    |
| Rated output-R.O.                 | 2.0                                      |        | mV/V                  |
| Rated output tolerance            | 0.002                                    |        | ±mV/V                 |
| Zero balance                      | 0.2                                      |        | ±mV/V                 |
| Zero Return, 30 min.              | 0.05                                     | 0.017  | ±% of applied load    |
| Total Error (per OIML R60)        | 0.05                                     | 0.02   | ±% of rated output    |
| Temperature effect on zero        | 0.01                                     | 0.004  | ±% of rated output/°C |
| Temperature effect on output      | 0.003                                    | 0.0012 | ±% of load/°C         |
| Temperature range, compensated    | -10 to +40                               |        | °C                    |
| Temperature range, safe           | -30 to +70                               |        | °C                    |
| Maximum safe central overload     | 150                                      |        | % of R.C.             |
| Ultimate central overload         | 300                                      |        | % of R.C.             |
| Excitation, recommended           | 10                                       |        | Vdc or Vac rms        |
| Excitation, maximum               | 15                                       |        | Vdc or Vac rms        |
| Input impedance                   | 400±20                                   |        | Ohms                  |
| Output impedance                  | 350±3                                    |        | Ohms                  |
| Insulation resistance             | >2000                                    |        | Mega-Ohms             |
| Cable length                      | 3.0                                      |        | m                     |
| Cable type                        | 6 wire, PVC, single floating screen**    |        | Standard              |
| Construction                      | 615 - alloy steel, 616 - stainless steel |        |                       |
| Environmental protection          | IP67                                     |        |                       |

\* 616 does not include 50kg

\*\* 616 has polyurethane jacket braided cable with dual floating screen

**Wiring Schematic Diagram**  
 (Balanced bridge configuration)




### Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay Precision Group"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify Vishay Precision Group's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

Vishay Precision Group makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, Vishay Precision Group disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on Vishay Precision Group's knowledge of typical requirements that are often placed on Vishay Precision Group products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of Vishay Precision Group.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay Precision Group products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay Precision Group for any damages arising or resulting from such use or sale. Please contact authorized Vishay Precision Group personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.