

INSTALLATION INSTRUCTIONS MODEL 31 LOAD CELL

Doc. Ref CD1040C



BS EN ISO 9001
Certificate No. FM13141



Affirmed by Declaration
of Conformity

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These instructions apply particularly to low capacity Model 31 cells (up to and including 100lb capacity) but also apply in general to higher capacities.

The Model 31 load cells require some care in handling and installation to avoid permanent damage to the load cell.

1. The Model 31 load cell is shipped with the active threaded stud removed. The active threaded stud has threads on both ends and should be finger-tightened into the load cell body.
2. The threaded stud on the base of the load cell is machined as an integral part of the load cell. The base can be threaded into the customer's part by grasping the main body of the load cell, rotating the load cell and cable assembly until finger-tight.
3. Caution should be used when attaching the active threaded stud to the customer's fixture. The customer's fixture should not be threaded below the shoulder at the bottom of the active threaded stud. The customer's fixture should not be tightened more than 8 in.lbs (0.9Nm), which is about finger-tight. No tools should be used in assembling these parts.
4. The tension or compression force to be measured must be applied as much as possible in a vertical direction along the centre line of the mounting studs.
5. Bending moment or torsion forces in excess of 3 in.lbs (0.35Nm) could cause permanent damage to the load cell.

The Model 31 load cell is available with optional mechanical overload stops for both tension and compression. The mechanical stops will usually protect the load cell from forces in the tension and compression direction; however, the load cell may be damaged by either a bending moment or excessive torque during installation. The optional mechanical overload stops will not protect the cell from bending moments or applying excessive torque to the threads. The most obvious result of damage to the load cell is the residual unbalance of the strain gauge bridge. The strain gauge bridge is balanced at the factory to within two per cent of the full rated output in millivolts. The addition of the customer's fixture will change the zero balance depending upon the weight of the fixture. Excessive unbalance can be attributed to damage resulting from excess torque or bending moment.

The Model 31 load cell has two welded stainless steel diaphragms on the top and bottom side of the active element to protect the load cell from the effects of off-axis loading. For example, a 100% full-scale load applied at 90 degrees to the base of the active stud would create a maximum error of only 2%. A 100% full scale bending moment load applied at 90 degrees to the vertical axis of the load cell and 50mm above the surface of the load cell would create a maximum error of only 3%.

The above specifications are to be used as guidelines only and the loads specified are static loads. Damage may occur from shock loads or dynamic loads that never exceed the above limits. Each application is different and we recommend the use of the mechanical overload stop options as much as possible to avoid unintentional overload damage.

Notes

WARRANTY.

R.D.P. Electronics products are warranted against defects in materials or workmanship. This warranty applies for one year from the date of delivery. We will repair or replace products that prove to be defective during the warranty period provided they are returned to R.D.P. Electronics.

This warranty is in lieu of all other warranties, expressed or implied, including the implied warranty of fitness for a particular purpose to the original purchaser or to any other person. R.D.P. Electronics shall not be liable for consequential damages of any kind.

If the instrument is to be returned to R.D.P. Electronics for repair under warranty, it is essential that the type and serial number be quoted, together with full details of any fault.

SERVICE.

We maintain comprehensive after-sales facilities and the instrument can, if necessary be returned to our factory for servicing.

Equipment returned to us for servicing, other than under warranty, must be accompanied by an official order as all repairs and investigations are subject to at least the minimum charge prevailing at the date of return.

The type and serial number of the instrument should always be quoted, together with full details of any fault and services required.

IMPORTANT NOTES.

1. No service work should be undertaken by the customer while the unit is under warranty except with the authorisation of RDP Electronics.
2. If the instrument is to be returned to R.D.P. Electronics for repair, (including repair under warranty) it is essential that it is suitably packed and that carriage is insured and prepaid. R.D.P. Electronics can accept no liability whatsoever for damage sustained during transit.
3. It is regretted that the above warranty only covers repairs carried out at our factory. Should the instrument have been incorporated into other equipment that requires our engineers to perform the repair on site, a charge will be made for the engineer's time to and from the site, plus any expenses incurred.

The aforementioned provisions do not extend the original warranty period of any product that has been either repaired or replaced by R.D.P. Electronics.

**THIS WARRANTY MAY BE NULL AND VOID SHOULD
THE CUSTOMER FAIL TO MEET OUR TERMS OF PAYMENT.**