

General

The L6P is an aluminium so called 'Planar Beam' load cell (force sensor), that can be used in a wide array of applications. A load cell translates a mechanical force into an electrical signal.

Best performance of the Load cell is achieved through adherence to the following provisions and instructions.

General Design

The low-profile build of the L6P load cell makes it ideal to use in applications where height is a matter of importance. The load cell is designed in a way so it can be fixed on both left and right side and must be loaded in the middle. The sensing element is made of high strength Aluminium (colourless anodized for environmental protection).

The L6P load cell is OIML R60 certified and can therefore also be used in OIML certified applications.

Due to the L6P load cells aluminium body and IP65 protection class it can be used in a wide array of applications where ingress protection is important.

Installation

Mechanical

To prevent load cells from being damaged during installation, load cells should be handled with care, especially those with a low rated capacity.

Special attention should be paid in preventing the load cell cable from being damaged during and after installation. Never carry load cells at their cables and provide dripping loops to prevent direct water ingress into the cable entry.

Moisture could decrease the insulation resistance of the circuit and might cause unstable readings. A bag with drying agent (e.g. silica gel) should be enclosed in the junction box to absorb condensation.

This bag should never make contact with any not-insulated wiring in the junction box.

Also, if more than one load cell is used then the deflection and output of each individual cell should be similar on each load point.

Preferably the load cell should be mounted on a stiff, rigid & level base that will not deflect while the system is loaded.

Avoid electric welding after installation of the load cells. If welding is necessary and the load cells cannot be removed, then disconnect each individual load cell cable from the junction box or measuring device.

Place the earth clamp of the welding apparatus in the close proximity of the weld to avoid a current path through the load cells.

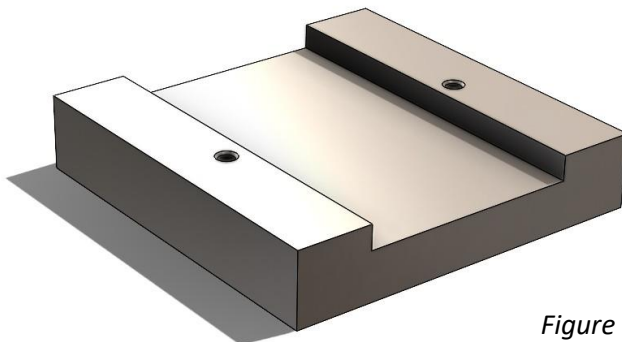


Figure 1

Figure 1 shows a type of mounting bracket design necessary for optimal functioning of the L6P.

The mounting method is to be provided by the (end-)customer.

Note the required lower middle area, that provides space for the middle part of the L6P to deflect downwards into, when a force is applied to this part of the L6P.

Figure 2 shows the L6P mounted on a bracket with two M4 screws.

The recommended torque for fastening these screws is 3Nm.

These screws are 53,00mm apart from each other. As the center hole of the L6P is 6,2mm in diameter, an M6 bolt can be used as load-introduction from above.

The center hole of the L6P is exactly halfway located between the two outer mounting holes, at 26,50mm

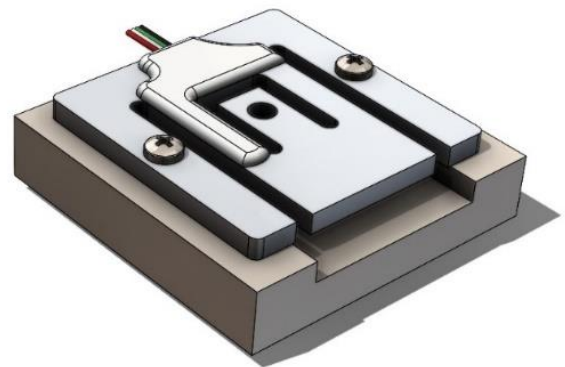


Figure 2

Dimensions

Be mindful of the following dimensions for mounting the L6P shown in Figure 3, as the middle part (34,50mm wide) needs enough unobstructed clearance for its deflection downward.

Also enough space needs to be available underneath the middle part, to accommodate the mounting method (in Figure 3 an M6 bolt is used) plus room underneath the mounting method for the deflection.

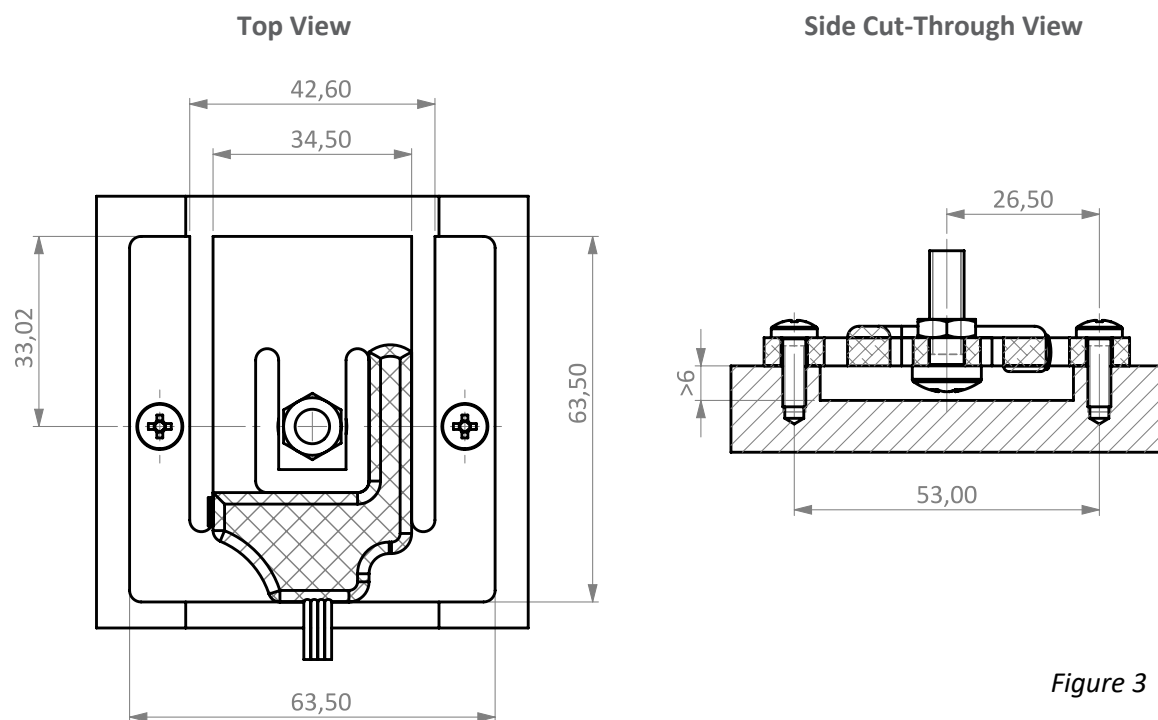


Figure 3

Please make sure that the mounting method above the L6P does not rest on the silicone covered area (indicated by the diamond hatching in the Top View drawing), as this may damage the electronics.

Note: Not adhering to these instructions will negatively affect the L6P's accuracy.

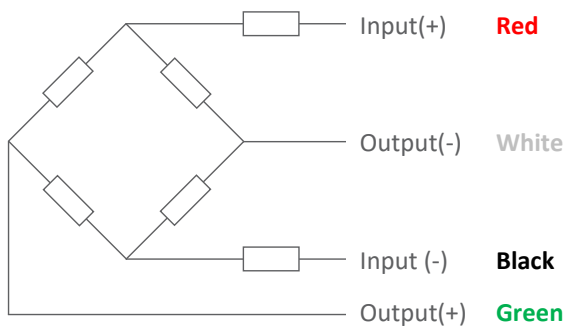
Electrical

Always review the load cells attached calibration certificate to see the correct wiring colours and to correctly connect the load cells to indicating device. Load cells are always connected in parallel.

A (passive) junction box is used to connect multiple load cells in parallel.

It is strongly recommended not to change the length of a 4-wire cable, since this will affect the calibration and accuracy of the load cell.

4-Wire Connection Diagram



Use

A load cell will perform within specifications until the safe load limit or safe side load limit is passed. Beyond this point, even for a very short period of time, the load cell will be permanently damaged. The load cell may physically break at the ultimate load limit.

Maintenance

Do regularly inspect load cells and weigh system especially after extreme conditions (hosing down, heavy shocks, etc.).

Do check for corrosion damage to the load cell and mounting hardware. If practical, carry out cleaning and any remedial work (paint or other protective coating) before it is too late.

Do give special care and attention to critical areas of the load cell such as metal bellows, seals etc. Those features are important in the operation and performance of the product.

Don't allow build-up of dirt, debris etc. around load cell or their mounts.

Don't allow any drains to become blocked with leaves or other debris.

Don't disconnect and just re-calibrate one or more load cells in a system if they cease to function. Mechanical failure may have catastrophic effects.

Return for Repair

Do Remove the load cell(s) with care and attach a label with comments relating to the problem or mode of failure.

Do return a copy of the Certificate of Calibration with the load cell if available.

Don't cut the cable at the gland to facilitate removal - please - we cannot test load cells without cables!