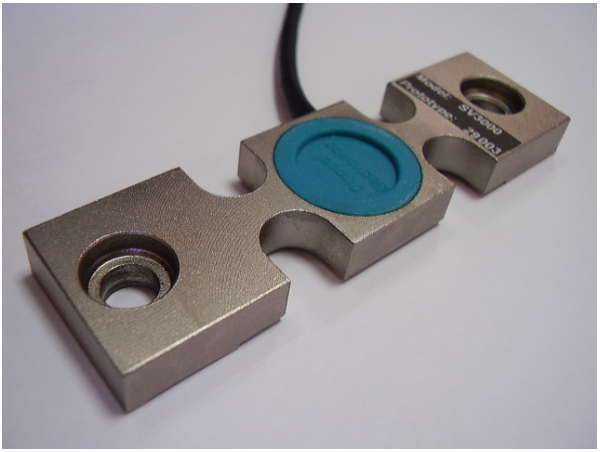
SV3000 SENSOR

Installation manual



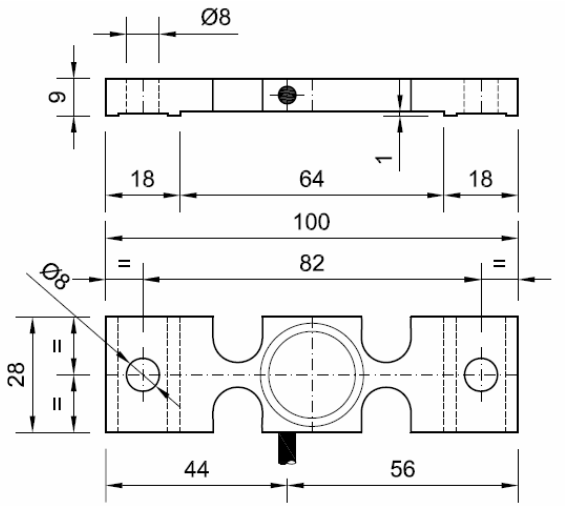
Introduction.

The SV3000 sensor is suitable to measure micro-deformations, so it lets analyze the tensions and loads in some metallic structures.

This sensor can be used to measure beams that work on traction or flexion, so it can be applied in several types of installations.

The measurement range is calculated to be applied mainly in elevators to evaluate the carried load.

Dimmensions and connection.



Picture 1

RED.....	Positive Excitation (EXC+)	
BLACK.....	Positive Excitation (EXC-)	Cable 4x0.22 + shield.
GREEN....	Positive Signal (IN+)	Cable length .... 6 m
WHITE.....	Negative Signal (IN-)	

Mounting in fixed point where the cables are engaged for elevators 2 to 1.

In this case the sensor measures the deformation on traction of the plate where it is installed.

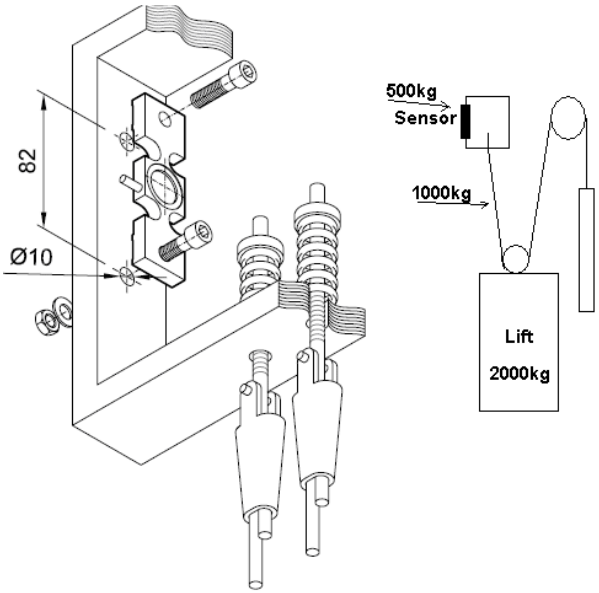
It is important that the plate is not very tough, because it must be able to be deformed.

The plate section must be lower than 25 mm^2 for each 100 kg of applied load due to get a proper value of sensibility.

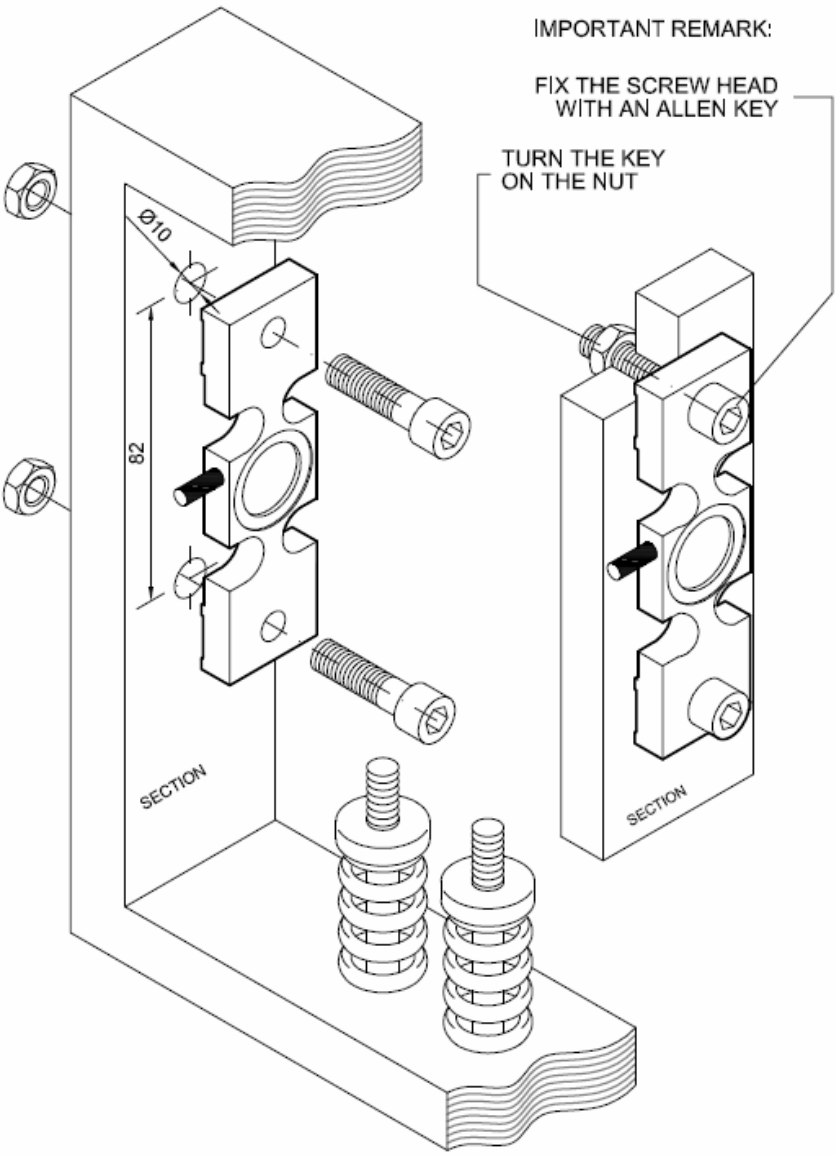
Example:

In a 2:1 elevator of 2000 kg the fixed point supports the half load of the lift, and the plate where the deformation is measured supports the half weight of the fixed point. So the sensor is measuring 500 kg.

*Maximum plate section = 500 kg / 100 * 25 = 125 mm^2*



Picture 2

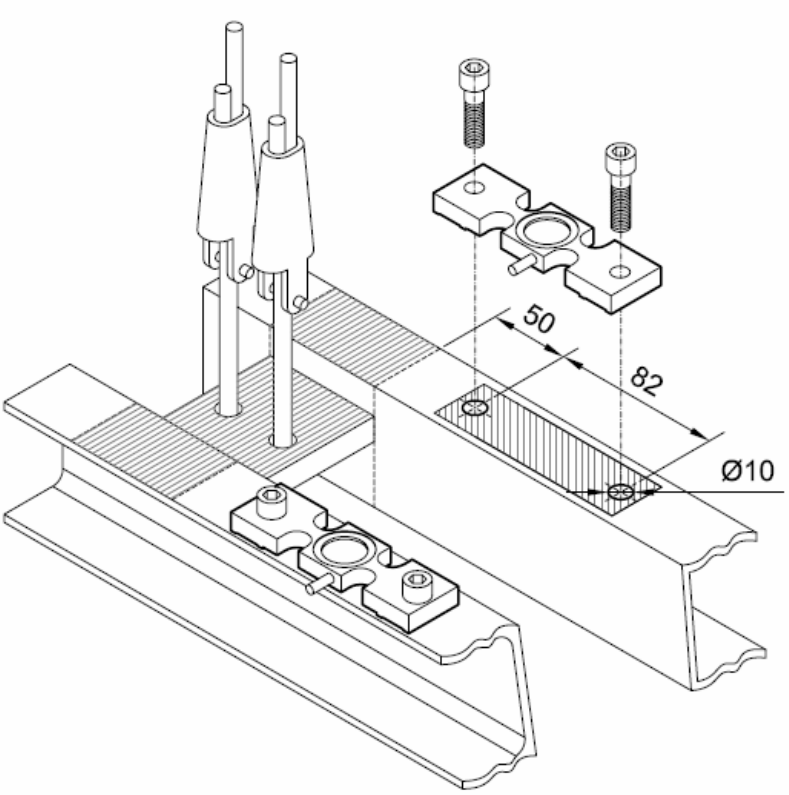

IMPORTANT REMARK:
FIX THE SCREW HEAD
WITH AN ALLEN KEY
TURN THE KEY
ON THE NUT
Ø10
82
SECTION
SECTION

Picture 3

Mounting on the main beam that supports the elevator weight.

This is the typical mounting and usually it is applied in modernizations of old installations.

In this mounting the position of the sensor is very important and it should be 50mm from the point that supports the beam where the measure is made as indicated in the drawing.



Picture 4

Installation of the sensor.

It is recommended the sensor installation with the elevator on the ground floor and the cabin empty, because in this case the measurement point supports less load.

In case of mounting on the main beam it is important to put the sensor in the position shown in Picture 4. (On the top of the beam, 50 mm away from the support of the beam).

Drills for fixation should be 10mm diameter and they must be done with an angle of 90º with the beam, so close as possible to the beam web.

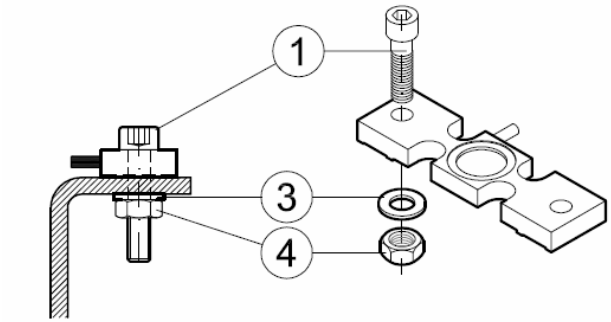
Once drills are ready it is necessary to remove all the scraps and eliminate the paint from the areas where the sensor will be placed.

Drills should be well placed enough to introduce easily the screws without force the sensor. If necessary use the sensor as model to mark the position of the second drill, taking care of the sensor to avoid damage.
The screw is introduced where the sensor is with the screw head located in the right place for it, and the washers in the opposite side. In case of a UPN beam, use a wedge washer for the nut support being in 90º with the screw axis.

Once the washers (wedge and flat in case of UPN beam) and the nut are placed in the opposite side of the sensor, the screw head must be hold with an allen key (don't move it to avoid damage on the sensor) and the nut is strongly tight in the opposite side as shown in picture 4 (torque = 35Nm, that it is 85 % of the maximum strength able to be applied on this screw type)

Supplied Material.

Quantity	Description	Rule	Item
1	SV-3000 Sensor		
2	Allen Screws 8x40 Quality 12.9	DIN 912	1
2	Hexagonal nuts Quality 10.0	DIN 985	4
2	Wedge Washers 8% M8	DIN 434	2
2	Flat washers M8	DIN 125	3



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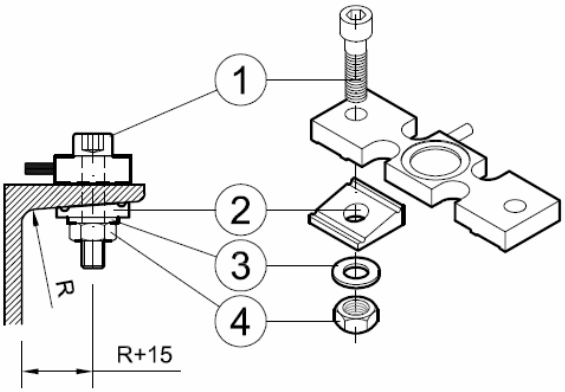
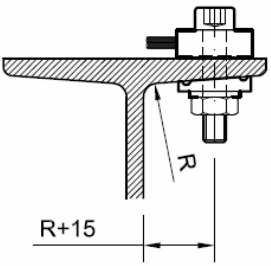


UPN



IPN

Installation quick guide.

1. Set the elevator in the ground floor with the cabin empty.
2. Mark the fixation drills so close as possible to the beam web (Pictures 2 or 4).
3. Drill the two holes with a 10mm drill.
4. Remove all the scraps and eliminate the paint on the supports.
5. Place the sensors with the screws and tight strongly the nuts (torque of 35Nm).
6. Connect the sensor to the device.
7. Adjust the device on zero.
8. Introduce a well known weight in the cabin.
9. Adjust the weight on the device.