# Load cell K - 10 to 3000 kg

For compression and tension loads

**Type K load cells** are beam cells where the ends are attached in such a way that the measured load acts perpendicular to the beam's longitudinal axis. The beam has three transverse through holes. There are two mounting holes at one end. The other end has a single hole for rigid or compliant load connection.

The load cells are characterized by insensitivity within wide limits to disturbing lateral loads from all directions perpendicular to the measured load and to lateral displacements of the measured load's point of action (eccentric loads).

Type K load cells are designed for use in industrial environments and are available in stainless steel.

An elastic load equalizer and other mounting accessories allow simple installation to the load carrier. The mounting accessories are described overleaf.

**Load cells are** the load sensors in S-E-G weighing systems. They are installed as support points for objects to be weighed and senses their weight.

The elasticity of the load cell when subjected to a load is measured with strain gauges which transform the load-induced deflection int a proportional electrical signal.

## All S-E-G load cells are:

- Made in Sweden
- High Quality and have a long life span
- With a 5 year warranty

# Designations and specifications

Load cells are identified by a 2-unit code:

| Type | Class | Terminal resistance | – | Rated load |
|---|---|---|---|---|

The code units are taken from the table below.

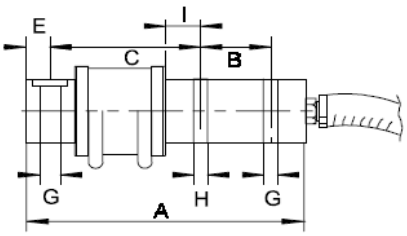
- Load cells up to 1000 kg are delivered with 3m cable.
- Load cell 3000 kg is delivered with 7m cable.

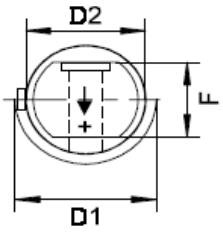
**Code example:**
**KN4-350.**
K: A load cell type K
N: Class 0,2
4: terminal resistance of 430 ohms.
350: load rating of 350 kg with 3 m cable.

| **Class** - max errors as a % of load rating, calibration, tolerance not included. | | 0,2 | 0,1 | 0,05 |
|---|---|---|---|---|
| **Designations** | Type<br>Class designation (S=Stainless steel)<br>Resistance (4 =430 ohms) | K<br>N(S)<br>4 | K<br>N(S)<br>4 | K<br>N(S)<br>4 |
| | Rated Load - designated **RL** below: 10 kg | • | | |
| | 15 kg | • | | |
| | 35 kg | • | • | |
| | 100 kg | • | • | • |
| | 200 kg | • | • | • |
| | 350 kg | • | • | • |
| | 1000 kg | • | • | • |
| | 3000 kg | • | • | • |
| **Specifications** (max values for class and rated load respectively) | | | | |
| Continuous overload | | 60 % | | |
| Brief, temporarily overload - elicits no permanent change | | 100 % | | |
| Overload, Ultimatel level | | 300 % | | |
| Mechanical deflection at RL | | approx.: 0,2 mm | | |
| Lateral load relative to RL (May alter the output voltage +/- 0,5 % of RL) | | 100 % | | |
| Lateral load relative to RL, ultimate level | | 300 % | | |
| Calibration tolerance relative to Actual load (+/- 10 mm) | | 0,25 | 0,2 | 0,1 |
| Eccentric load effect on sensitivity, relative to Actual load (± %) | | 0,25 | 0,1 | 0,1 |
| Sum of non-linearity, hysteresis and creep errors (30 min) relative to RL (±%) | | 0,15 | 0,1 | 0,03 |
| Repeatability errors relative to RL (±,%) | | 0,05 | 0,03 | 0,02 |
| Temperature effect on zero balance relative to RL (±,%10 ° C) | | 0,1 | 0,05 | 0,03 |
| Temperature effect on output voltage relative to actual load (±,%10 ° C) | | 0,1 | 0,04 | 0,014 |
| Operating temperature ( ° C) | | 70 | 70 | 50 |
| **Specifications shared by all classes and load ratings**<br>The rated load elicits at 1mV output per input volt. Zero unblance (bias): +/- 0,01 mV/V.<br>Recommended input voltage: 15V Max input Voltage: 21V<br>The temperature dependence is compensated within the range -10 to 50 ° C<br>Enclosure class: IEC IP 67 (SEN S55). Tested and approved by the Research Institutes of Sweden (RISE) | | *) Specifications are independent of resistances in the connecting cords for input voltage. | | |

# Dimensions and weight

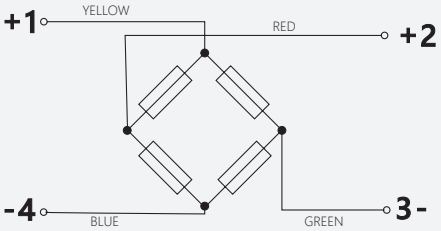
| Type | Measurements in mm | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D1 | D2 | E | F | G | H | I | Weight in kg |
| K-10 | 150 | 50 | 80 | 70 | - | 10 | 36 | 9,5 | 9,5 | 10 | 2,1 |
| K-15 | | | | | | | | | | | |
| K-35 | | | | | | | | | | | |
| K-100 | | | | | | | | | | | |
| K-200 | | | | | | | | | | | |
| K-350 | 190 | 60 | 85 | 70 | - | 17 | 44 | 14 | 14 | 13 | 25 |
| K-1000 | | | | | | | | | | | |
| K-3000 | 270 | 90 | 125 | - | 82 | 30 | 64 | 24 | 22 | 23 | 7,2 |



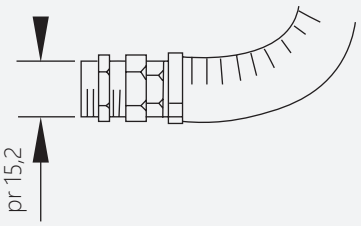




# Connections

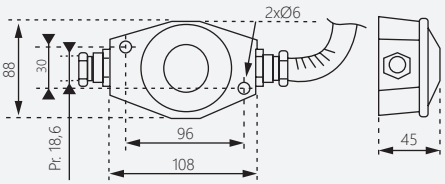
Markings




Load cell cable and connection:



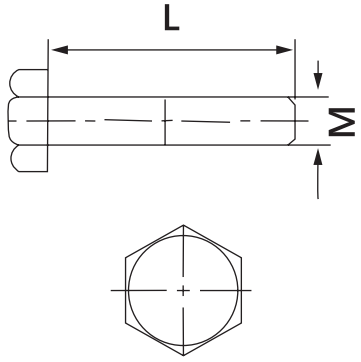

Terminal box type A-1
Terminal box w. with 4m cable A-1-14




# Mounting accessories

Type **KS** fastening screws

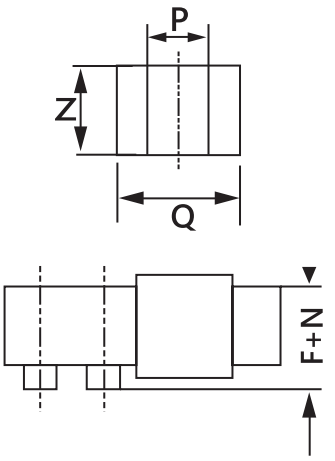
| Standard type | Stainless type | For load cell | L mm | M mm | Tight. Torque with oiled thread Nm | Weight kg/pair |
|---|---|---|---|---|---|---|
| KS-0S | KS-0S-SS | K-10/15/35/100/200 w. plate KM | 50 | 8 | 20 | 0,05 |
| KS-0L | KS-0L-SS | K-10/15/35/100/200 w. ring KM | 70 | 8 | 20 | 0,06 |
| KS-1S | KS-1S-SS | K-350/1000 w. plate KM | 60 | 12 | 68 | 0,15 |
| KS-1L | KS-1L-SS | K-350/1000 w ring KR | 75 | 12 | 68 | 0,16 |
| KS-3S | KS-3S-SS | K-3000 w. plate KM | 95 | 20 | 323 | 0,6 |
| KS-3L | KS-3L-SS | K-3000 w. ring KR | 110 | 20 | 323 | 0,7 |



# Mounting accessories

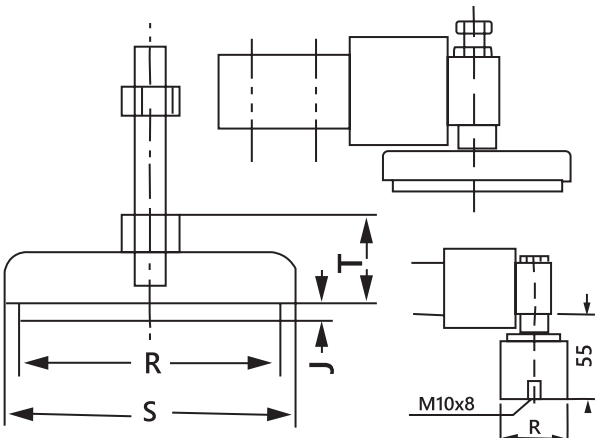
## Type **KR** Spacer ring

| Standard type | Stainless type | For load cell | Measurements in mm | | | Weight kg/pair |
|---|---|---|---|---|---|---|
| | | | N | P | Q | |
| KR-0 | KR-0-SS | K-10/15/35/1000/200 | 19 | 8,5 | 20 | 0,1 |
| KR-1 | KR-1-SS | K-350/1000 | 16 | 14 | 26 | 0,1 |
| KR-3 | KR-3-SS | K-3000 | 26 | 22 | 40 | 0,4 |




## Type **KT** elastic load equalizer

| Type | For load cells | Measurements in mm | | | | Weight kg/pair |
|---|---|---|---|---|---|---|
| | | J | R | S | T | |
| KT-01 | K-35 | - | 50 | - | - | 0,25 |
| KT-02 | K-100 | - | 50 | - | - | 0,25 |
| KT-03 | K-200 | - | 60 | - | - | 0,3 |
| KT-1SS | K-350 | 11 | 90 | 98 | 42 | 0,6 |
| KT-2SS | K-1000 | 11 | 90 | 98 | 42 | 0,6 |
| KT-3A | K-3000 | 2 | 109 | 119 | 43 | 1,5 |
| KT-3ASS | K-3000 | 2 | 109 | 119 | 43 | 1,5 |



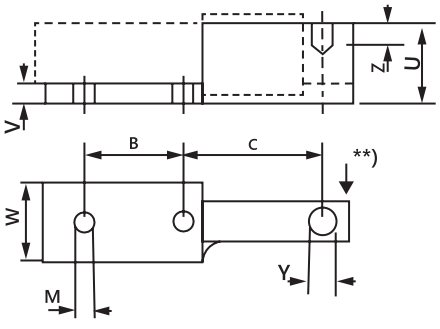

**KT-1. -2. &-3 SS***
Including screw and spacer ring **KR**

**KT-01**
**KT-02**
**KT-03**

** Load equalizer in SIS2333 is designated SS*

## Type **KM** mounting plate with jig

| Type | For load cells | Measurements in mm | | | | | | | | Weight kg |
|---|---|---|---|---|---|---|---|---|---|---|
| | | B | C | M | U | V | W | Y | Z | |
| KM-0 | K-10/15-35/100/200 | 50 | 80 | 8 | 55 | 20 | 50 | 9 | 15 | 1,2 |
| KM-1 | K-350/1000 | 60 | 85 | 12 | 60 | 15 | 50 | 12,5 | 20 | 1,3 |
| KM-3 | K-3000 | 90 | 125 | 20 | 90 | 25 | 70 | 20 | 30 | 4,5 |




***) The distance block is to be struck away when the mounting plate has been welded in position. See mounting instruction S-31-16*