LOADCELL K - 10 to 3000kg

FOR COMPRESSION AND TENSION LOADS

The 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 into a proportional electric signal.

Type K load cells are beam cells whose ends are attached in such a way that the measured load acts perpencicular to the beams 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 available in an explosion-proof version (with the additional EEx designation)
Class: EEx ia IIC T4 -10 - +40 by CENELEC standard. Approved by KEMA no.Ex-94.C.7485

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.

Loadcells up to 1000kg are delivered with 3m cable.
Loadcell 3000kg is delivered with 7m cable.

Code example:

KN4-350. A load cell type K, class 0,2, with a terminal resistance of 430 ohms, a 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
	Type		K	K	K
	Class designation (S = Stainless steel)		N(S)	P(S)	U(S)
	Resistance (4 = 430 ohms)		4	4	4
DESIGNATION		10 kg	•		
		15	•		
		35	•	•	
	Rated load - designated **RL** below	100	•	•	•
		200	•	•	•
		350	•	•	•
		1000	•	•	•
		3000	•	•	•
SPECIFICATIONS - max.values for class and rated load respectively					
Continuos overload		%	60		
Brief, temporarily overload - elicits no permanent change		%	100		
Overload, ultimate level		%	300		
Mechanical deflection at RL		mm	approx: 0,2		
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		±%	0,25	0,2	0,1
Eccentric load effect on sensitivity, relative to Actual load		± /10mm	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
The rated load elicits a 1mV output per input volt. Zero unbalance (bias): +/- 0,01 mV/V.
Recommended input voltage: 15V. Max input voltage: 21V.
The temperature dependence is compensated within the range -10 to +50°C.
Enclosure class: IEC IP 67 (SEN S55). Tested and approved by the swedish Testing institute (SP)

*) Specifications are independent of resistances in the connecting cords for input voltage.

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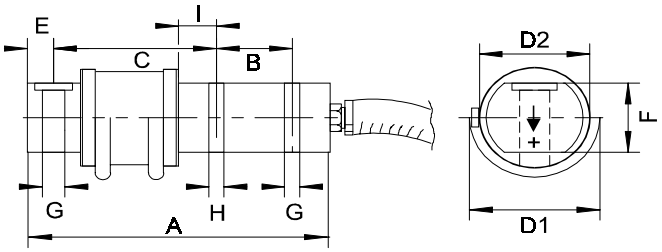
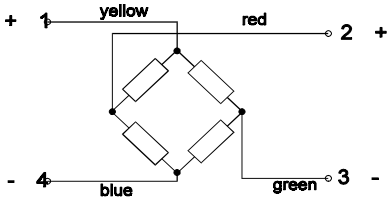
DIMENSIONS and WEIGHT



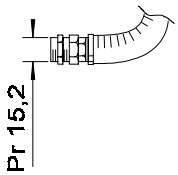
Type	Measurements in mm A	B	C	D1	D2	E	F	G	H	I	Weight kg
K-10 K-15 K-35 K-100 K-200	150	50	80	70	-	10	36	9,5	9,5	10	2,1
K-350 K-1000	190	60	85	70	-	17	44	14	14	13	2,5
K-3000	270	90	125	-	82	30	64	24	22	23	7,2

CONNECTIONS

Markings

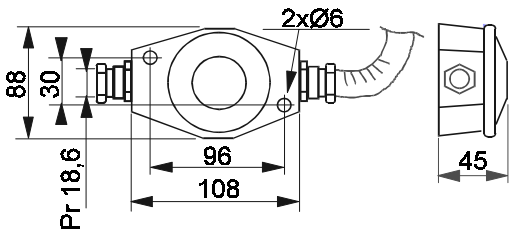


Load cell cable end connection:



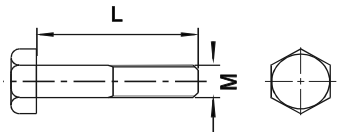
Terminal box type **A-1**

Terminal box with 4m cable: **A-1-14**



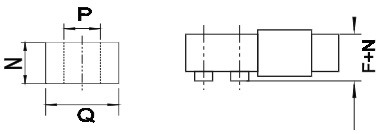
MOUNTING ACCESSORIES

Type **KS** fastening screws



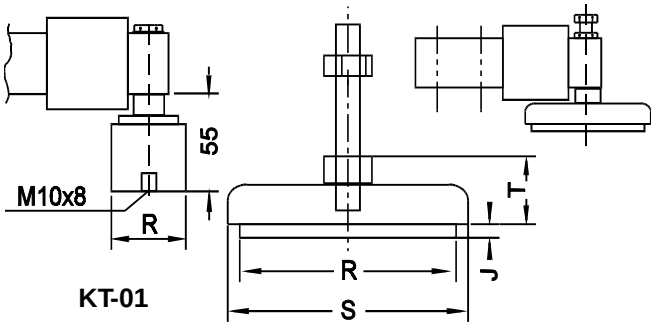
Standard Type	Stainless Type	For Loadcell	L mm	M mm	Tight. Torque with oiled thread Nm	Weight kg/pair
KS-0S	KS-0S-SS	K-10/15/35/100/200 w. plate KM	50	8	20	0,05
KS-0L	KS-0L-SS	K-10/15/35/100/200 w. ring KR	70	8	20	0,06
KS-1S	KS-1S-SS	K-350/1000 w. plate KM	60	12	68	0,15
KS-1L	KS-1L-SS	K-350/1000 w. ring KR	75	12	68	0,16
KS-3S	KS-3S-SS	K-3000 w. plate KM	90	20	323	0,6
KS.3L	KS-3L-SS	K-3000 w. ring KR	110	20	323	0,7

Type **KR** spacer ring



Standard Type	Stainless Type	For load cells	Measurements in mm N	P	Q	Weight kg/pair
KR-0	KR-0-SS	K-10/15/35/100/200	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



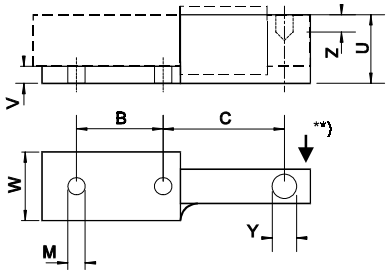
KT-01
KT-02
KT-03

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

Type	For load cells	Measurements in mm J	R	S	T	Weight kg
KT-01	K-35	-	50	-	-	0,25
KT-02	K-100	-	50	-	-	0,25
KT-03	K-200	-	60	-	-	0,30
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

*) Load equalizer in SIS2333 is designated "SS"

Type **KM** mounting plate with jig



Type	For load cells	Measurements in mm B	C	M	U	V	W	Y	Z	Weight kg
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 S31-16.