

Data sheet for Load Cells

Shear Beam with integrated analogue amplifier

Series KT705



- Compact shear beam with integrated analogue amplifier
- Output options 0...10 V, -10... +10 V, 4... 20 mA
- Response time < 1 ms
- Strain gauge full bridge
- Force transmission via M5-thread
- Compact size 68x30x31 mm
- Test report included

The KT705 sensors measure forces up to 1kN in tension or compression or both. They can be easily mounted to any flat and stable surface using 2 screws. Their compact size makes them a good choice where space is at a premium. Application examples: Force measurement in assembly processes in automation, motion control in handling systems.

Data Load Cell			
Rated force (F _{nom.})	200 N	500 N	1kN
Sensitivity voltage output	20 N/V	50 N/V	100 N/V
Sensitivity current output	12.5 N/mA	31.3 N/mA	62.5 N/mA
Output signal options (Signal details see page 3)	0...10 V / -10...+10 V / 4...20 mA		
Rated supply voltage	24 VDC		
Operating range of supply voltage	12 - 32 VDC		
Cut-off frequency	1600 Hz		
Response time	< 1ms		
Relative linearity error	≤ 0.2 % F _{nom.}		
Hysteresis	≤ 0.05 % F _{nom.}		
Relative repeatability error	≤ 0.05 % F _{nom.}		
Relative deviation of zero signal	≤ 1.0 % F _{nom.}		
Relative Deviation of signal @ F _{nom.}	≤ 1.0 %		
Relative creep (30min.)	≤ 0.05 % F _{nom.}		
Maximum operation force	≤ 150 % F _{nom.}		
Rated displacement	≤ 0.3 mm @ F _{nom.}		
Operating temperature range	-10 °C up to +70 °C		
Temperature effect on output	≤ 0.15 % F _{nom.} / 10 K		
Temperature effect on zero signal	≤ 0.1 % F _{nom.} / 10 K		
Protection	IP40		
Insulation resistance	≥ 5 GΩ @ 50 VDC		
Cable material / length / diameter	Pur / 2 m / Ø 3.4 mm		
Electrical connection	3 x AWG28; shielded (shield connected to body)		
Material body / Housing	Aluminium / Steel with paint finish		
Mass	180 g		

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Order code

Description					
Series	KT705				
Connecting cable: Cable length 2 m	K				
Rated force: 200 N 500 N 1000 N	200N 500N 1kN				
Output signal (supply Voltage 24V): 0..10 V 4..20 mA -10... +10 V (only with ZDP)	2410 2442 2411				
Direction of force (each with test report P): Tension Pressure Tension + Pressure (only with 2411)	ZP DP ZDP				
Order code example: KT705 K 200N 2410 ZP					

For higher quantities or on-going demand, additional options are available as described below on request

For example:

- Modified cable with or without connectors
- For project needs: modified mounting holes or threads

Drawing

The drawing shows two views of the load cell. The top view is a side profile showing a cable with a diameter of approximately 3.40 mm. Dimensions include a total length of 68 ± 0.5 mm, a mounting hole diameter of 6.2 ± 0.05 mm, and a mounting hole depth of 8 ± 0.2 mm. The bottom view is a front view showing a cable with a diameter of 5.3 ± 0.2 mm (2x). Dimensions include a total width of 38 ± 0.3 mm, a mounting hole diameter of 9 ± 0.2 mm, and a mounting hole depth of 14 ± 0.2 mm. The terminal assignment table is as follows:

Terminal assignment	
White	GND
Brown	VSUP
Green	(+) OUT
Shield	on housing

direction of force

Z Tension
D Pressure

Dimensions in mm

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Signal details

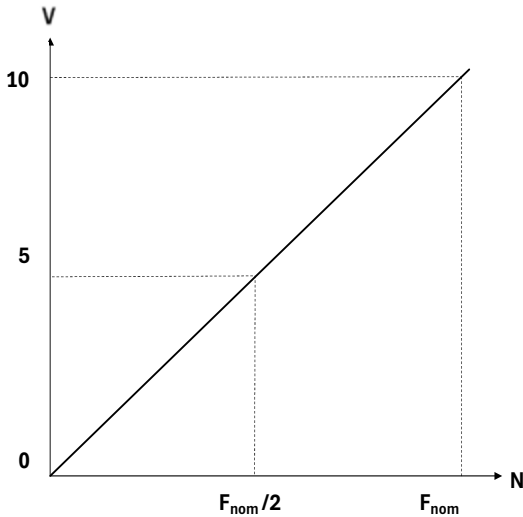


Diagram 1 Curve for 0...+10 V

Force direction pressure (Order code **DP** or **ZDP**)
Force direction tension (Order code **ZP**)

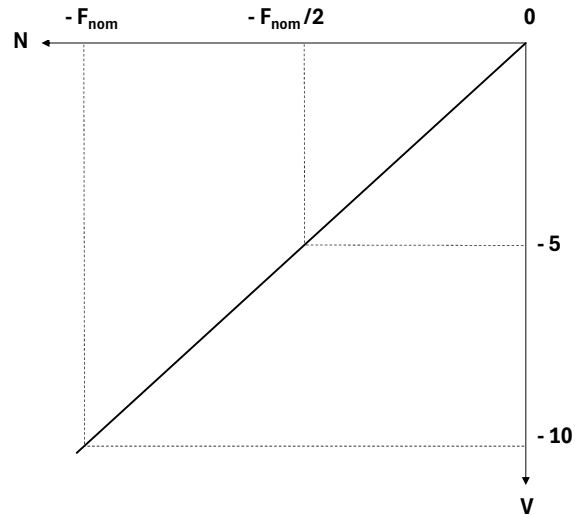


Diagram 2 Curve for 0... -10 V

Force direction tension (Order code **ZDP**)
For any other Order code: If the force direction is opposite to the selected Order code, a negative output signal is given

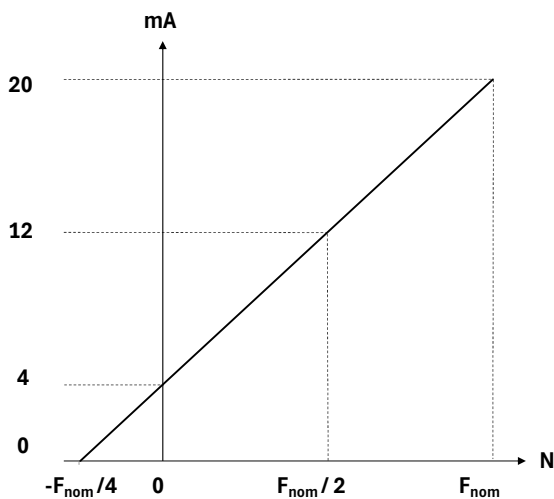


Diagram 3 Curve for 4...20 mA

Force direction tension (**ZP**) or pressure (**DP**)
If the force direction is opposite to the selected Order code, an output signal from 0 to 4 mA is given