Force Transducer
SKA-18A-0,5-1.00

VELOMAT
MESSELEKTRONIK GmbH

article-no: VX34020920
serial-no: key 36D

description

The force transducer works according to the principle of the shear force measurement crossways to the longitudinal axis.

The SKA-18A is designed for application at conveyor scales, bin-type weighing devices, platform scales and overhead conveyor scales, but can also be used for measuring the forces applied on machine parts, levers, axles etc.

The device has been designed as a beam with measuring cells. Due to the beam shape and four M4 screw thread, all machine building requirements will be met when mounting this component. The force transfer is carried through by use of a M4 screw thread.

The application room for the strain gauge (dms) is spilled with a very elastic mass and therefore protected from mechanical and chemical damages.

The strain gauge-full bridge distributed this one on the measuring chambers measures the deformation which is caused by clipping strengths on the bolt.

The strap balance is balanced in the unloaded state on approx. ±0,01 mV / V.

The SKA-18A is planned for the direct connection with an amplifier.

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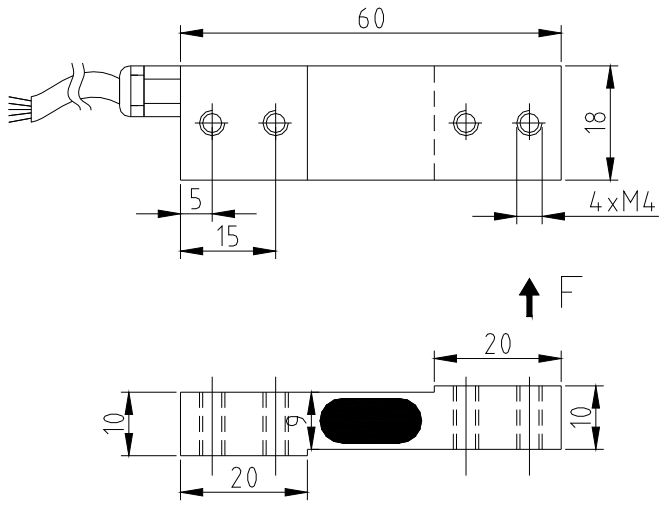
specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight	approx. 0,14 kg
material	aluminium
degree of protection	IP 67
SKA	**18-0,5t**
nominal force / nominal load	500 N (tractive force)
max. overload range / force limit	150 % of nominal force
breaking force	400 % of nominal force

electrical execution

measuring principle	wheatstone full bridge of strain gauges
input / output resistance	350 Ω / 350 Ω
nominal sensitivity	approx. 0,8 mV / V (accurate value: see type label / Banderole)
excitation voltage	max. 12 V AC / DC
current consumption	max. 35 mA
calibration tolerance	< 0,50 % of final value*
non-linearity	< 0,25 % of final value*
hysteresis	< 0,15 % of final value*
temperature coefficient:	
of zero signal	≤ 0,04 % of final value / K
of the sensitivity	≤ 0,04 % ot set point / K
insulation resistance	> 5.000 MΩ
nominal temperature range	-15 °C to +70 °C
operating temperature range	-25 °C to +80 °C

cable and connection

cable length / cable type	1 m STC-31V-4RWB 4x0,05mm²	
cable end	6-pole connector (series 680)	
pin assignment	PIN 1	signal U_D+ / S+
	PIN 2/6	not connected
	PIN 3	excitation voltage U_S- / B-
	PIN 4	signal U_D- / S-
	PIN 5	excitation voltage U_S+ / B+
	housing	shielding (only in the case of metall casing and a shielded cable)

* These details are depending on the fit, the resistance moment and the installation length. They are reached with favorable values.
** only for the case that the cable is laid with fastening (depending on cable type)
*** This cable should be connected at the operating voltage unless the calibration signal is used. (only applicable to executions with amplifier)