Force Transducer
SKA-40-30-1.S50

MESSELEKTRONIK GmbH

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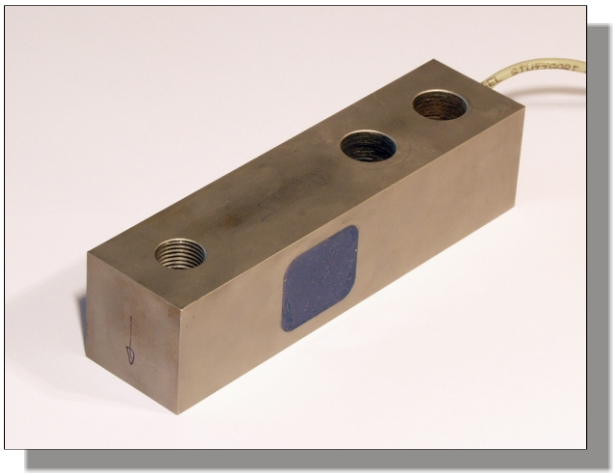

description

The force transducer works according to the principle of the clipping strength measuring crossways to the longitudinal axis.

The SKA-40 is suitable for use to band, containers, platform and hanging train balances but also for measuring strengths in terms of machine parts, levers, axes etc.

It is executed as a beam with a measuring chamber. The beam shape and two drillings with 17,5 mm of diameters permit an assembly suitable for mechanical engineerings. The strength introduction is carried out via a thread M16 x 1,5.

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

DMS-full bridges measure the deformation caused by clipping strengths on the bolt in the measuring chamber. An integrated amplifier delivers the measuring signal from 4 to 20 mA. The zero is 12 mA and allows thus the measuring of pulling forces and compressive forces.

In the unloaded state can by add-ons of the calibrating checking signal (software calibration) the nominal output current be produced. A check of the force transducer with the amplifier and the following measuring facilities is possible with that.

The SKA-40 is provided for the direct coupling to an automatic control or a controlling switch.

The shield of the cable connected with the surface of the force transducer.

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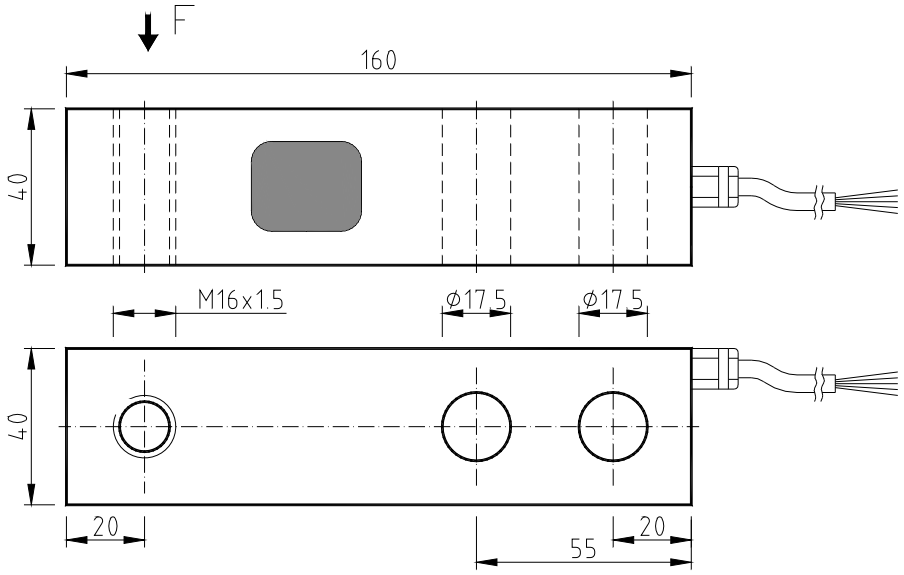
specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight	approx. 1,6 kg
material	stainless steel
degree of protection	IP 67
SKA	**40-30**
nominal force / nominal load	3000 kg (-tractive force / +compressive force)
max. overload range / force limit	150 % of nominal force
breaking force	500 % of nominal force

electrical execution

measuring signal (output)	4...12(zero point)...20 mA
operating voltage	12 - 24 V DC ±20 %
current consumption	max. 45 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 % of 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	10 m LiYCY 4 x 0,14 mm²	
cable end	wire-end-sleeve	
wiring connections	brown	operating voltage U_B
	green	ground / earth GND
	yellow	measuring signal output Im
	white	calibration signal (low activ) CC***
	blue	shielding (only in the case of 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)