

Force Transducer SKA-40-20-5.00

article-no: VX34021211
serial-no: key 45R



description

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

The SKA-40 is suitable for use to band, container, platform and suspension track scales, but also for measuring forces on machine parts, levers, axes etc.

It is constructed as a semi-beam with measuring chambers. The semi-beam shape and two drillings of 17,5 mm diameter permit assembly compatible to mechanical engineering rules. The force introduction is carried out via two drillings of 17,5 mm diameter.

The strain gauges are protected against mechanical and chemical damages by sealing the application room with a highly elastic compound.

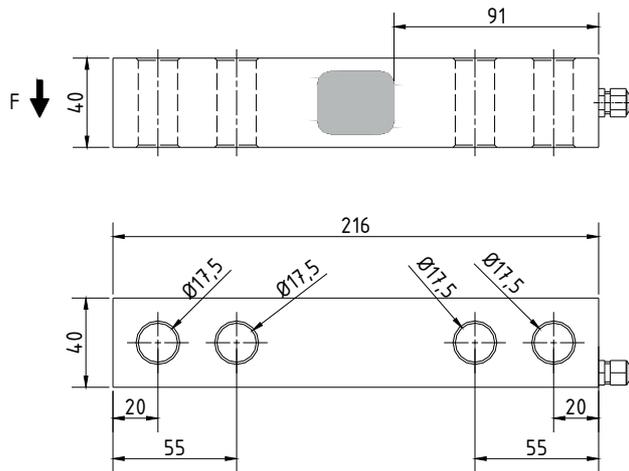
The strain gauge full bridges measure the deformation in the measurement chamber caused by the shear forces on the beam.

The bridges are adjusted in the unloaded state to approx. $\pm 0,01$ mV/V

The SKA-40 is provided for the direct coupling to a control system or a comparator switch.

The shield of the cable is not connected with the force transducer.

specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight	approx. 2,2 kg
material	stainless steel
degree of protection	IP 67
SKA	40-20
nominal force / nominal load	+20 kN bearing strength for tractive / compression forces at longitudinal direction: 20 kN
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 % 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	0,4 m SD 200 C 4 x 0,25 mm ²										
cable end	wire-end-sleeve										
wiring connections	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">brown</td> <td>excitation voltage Us+ / B+</td> </tr> <tr> <td>green</td> <td>excitation voltage Us- / B-</td> </tr> <tr> <td>yellow</td> <td>signal Ud+ / S+</td> </tr> <tr> <td>white</td> <td>signal Ud- / S-</td> </tr> <tr> <td>blue</td> <td>shielding (only in the case of a shielded cable)</td> </tr> </table>	brown	excitation voltage Us+ / B+	green	excitation voltage Us- / B-	yellow	signal Ud+ / S+	white	signal Ud- / S-	blue	shielding (only in the case of a shielded cable)
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* 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)