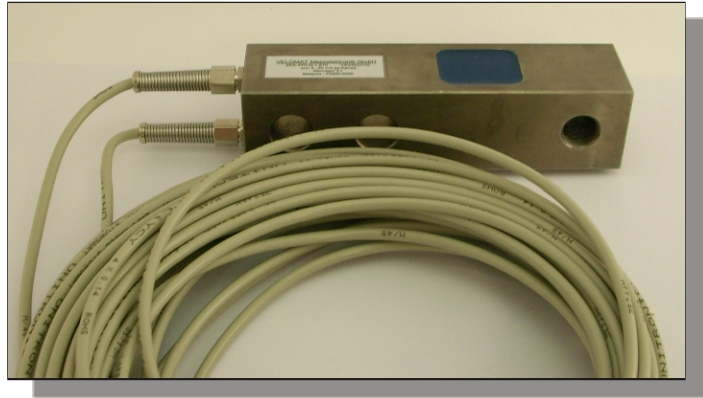


# Force Transducer SKA-40D-2t-1.S70

article-no: VX34020745

serial-no: key 29W



## description

The redundant force transducer works according to the strength measuring principle on a transverse basis to the longitudinal axis.

The SKA-40D 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 two measuring cells. Due to the beam shape and two 17,5 mm size boreholes, all machine building requirements will be met when mounting this component. The force introduction is carried through by use of a M16 x 1,5 screw thread. The measuring bridge has been arranged redundant, if failed one measuring cell or the amplifier, then the other bridge take over this one service.

The measuring cell for the strain gauge has been cast with a high-elastic compound and is thus protected against mechanical or chemical damages.

The strain gauge bridges measure the caused deformation in the measuring cell due to the shear forces at the beam.

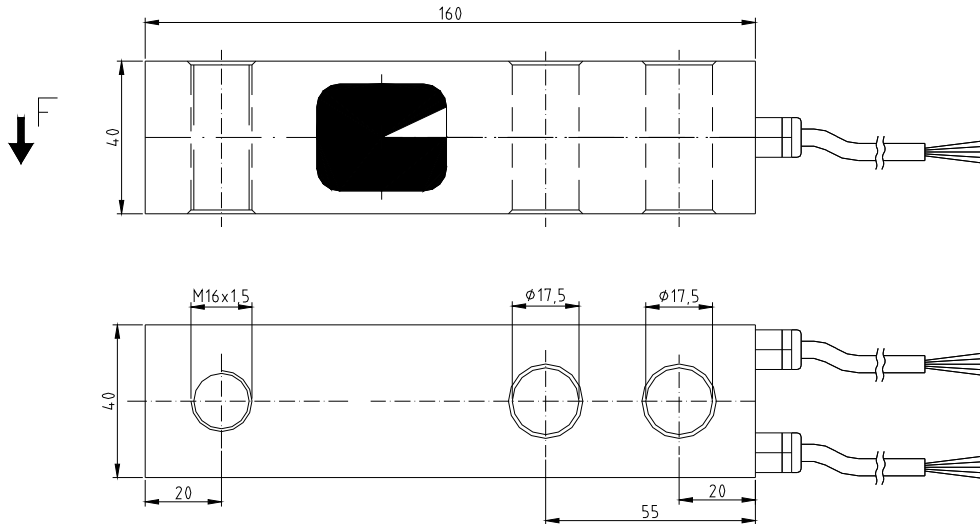
Per integrated amplifier gives a measuring signal between 4 and 20 mA. The amplifier quality was so influenced by this force transducer by additional attenuation cell that quick strength changes are suppressed ( barrier frequency approx. 2 Hz).

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 redundant force transducer with the amplifiers and the following measuring facilities is possible with that.

The SKA-40D is assigned for the direct coupling to an automatic control.

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

## specification



## mechanical execution

diameter, force transmission and mounting see assembly drawing

<b>weight</b>	approx. 2,2 kg
<b>material</b>	stainless steel
<b>degree of protection</b>	IP 67

<b>SKA</b>	<b>40D-2t</b>
<b>nominal force / nominal load</b>	2 t
<b>max. overload range / force limit</b>	150 % of nominal force
<b>breaking force</b>	500 % of nominal force

## electrical execution

<b>per channel</b>	
<b>measuring signal (output)</b>	4 - 20 mA
<b>operating voltage</b>	12 - 24 V DC $\pm 20$ %
<b>current consumption</b>	max. 45 mA
<b>calibration tolerance</b>	< 0,50 % of final value*
<b>non-linearity</b>	< 0,25 % of final value*
<b>hysteresis</b>	< 0,15 % of final value*
<b>temperature coefficient:</b>	
<b>of zero signal</b>	$\leq 0,04$ % of final value / K
<b>of the sensitivity</b>	$\leq 0,04$ % of set point / K
<b>insulation resistance</b>	> 5.000 M $\Omega$
<b>nominal temperature range</b>	-15 °C to +70 °C
<b>operating temperature range</b>	-25 °C to +80 °C**

## cable and connection

<b>per channel</b>											
<b>cable length / cable type</b>	10 m LiYCY 4 x 0,14 mm <sup>2</sup>										
<b>cable end</b>	wire-end-sleeve										
<b>wiring connections</b>	<table border="0" style="width: 100%;"> <tr> <td style="padding-right: 20px;">brown</td> <td>operating voltage U<sub>B</sub></td> </tr> <tr> <td>green</td> <td>ground / earth GND</td> </tr> <tr> <td>yellow</td> <td>measuring signal output I<sub>m</sub></td> </tr> <tr> <td>white</td> <td>calibration signal (low active) CC***</td> </tr> <tr> <td>blue</td> <td>shielding (only in the case of a shielded cable)</td> </tr> </table>	brown	operating voltage U <sub>B</sub>	green	ground / earth GND	yellow	measuring signal output I <sub>m</sub>	white	calibration signal (low active) CC***	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)