

# Force Transducer DZA-40-2/2,5/3-1.XX



## description

The force transducer is useable for tension or compression and works according to the strength measuring principle on a transverse basis to the longitudinal axis.

The DZA-40 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 powers applied on machine parts, levers, axles etc.

It is executed as a z/s shaped beam with a measuring cell. The beam shape and two threads M10 on the waister and underside permit a simple assembly and strength introduction.

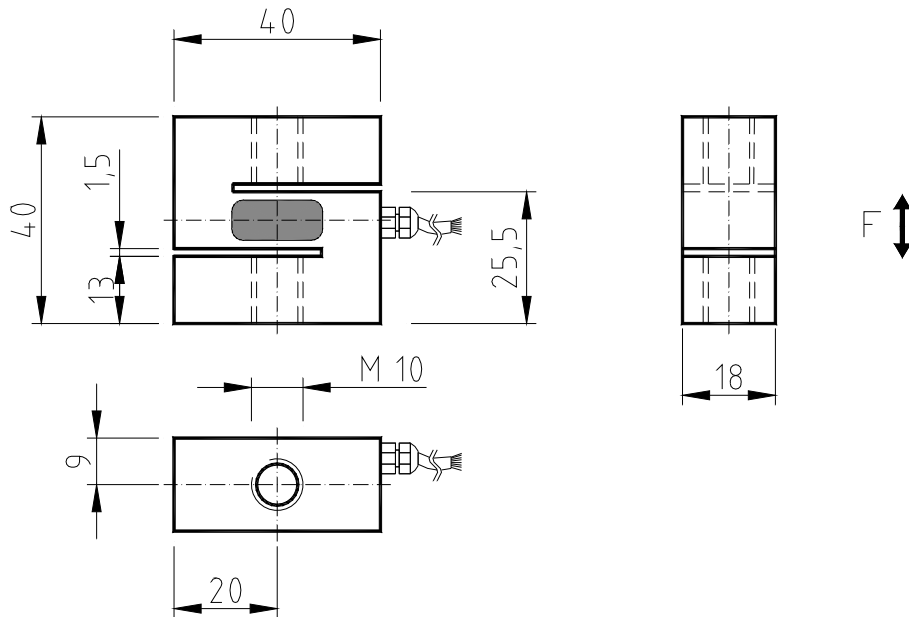
The measuring cell for the strain gauge has been cast with a high-elastic compound and is thus protected against mechanical or chemical damages.

The strain gauge bridges measure the caused deformation in the measuring cell. Executions with strap output or amplifier with a measuring signal of 1 - 9 mA or 4 - 20 mA are possible for it.

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

The DZA-40 is planned according to execution for the direct connection with an amplifier or a control.

## specification



### mechanical execution

<b>weight</b>	approx. 140 g
<b>mounting</b>	2 x screw threads M10
<b>material</b>	steel
<b>environmental protection</b>	IP 67

<b>DZA</b>	<b>40-2</b>	<b>40-2,5</b>	<b>40-3</b>
<b>nominal force</b>	200 kg	250 kg	300 kg
<b>max. use force</b>	150 % o.t.n.f.	150 % o.t.n.f.	150 % of the nominal force
<b>rupture force</b>	400 % o.t.n.f.	400 % o.t.n.f.	400 % of the nominal force

### electrical execution

<b>operating voltage</b>	when strap with 350 $\Omega$ : max. 12 V AC / DC when amplifier: 9 - 30 V DC
<b>current consumption</b>	max. 35 mA / 40 mA (according to execution)
<b>output / measuring signal</b>	350 $\Omega$ / 1 - 9 mA / 4 - 20 mA (options)
<b>calibration in</b>	N / kg
<b>calibration tolerance</b>	< 0,50 % of the final value*
<b>nonlinearity</b>	< 0,25 % of the final value*
<b>hysteresis</b>	< 0,15 % of the final value*
<b>temperature coeff.</b>	
<b>zp.</b>	$\leq 0,04$ % of the final value / K
<b>rec.</b>	$\leq 0,04$ % of the set point / K
<b>operating condition</b>	-25 $^{\circ}$ C to +80 $^{\circ}$ C**

### connection

<b>cable type</b>	1,5 m LiYCY 4 x 0,14 mm <sup>2</sup> (example)												
<b>electrical connections</b>	<table border="0"> <tr> <td><b>when</b></td> <td><b>strap / amplifier</b></td> </tr> <tr> <td>brown</td> <td>strap voltage <math>U_{s+}</math> / operating voltage</td> </tr> <tr> <td>green</td> <td>strap voltage <math>U_{s-}</math> / GND (ground)</td> </tr> <tr> <td>yellow</td> <td>strap signal <math>U_{D+}</math> / measuring signal output</td> </tr> <tr> <td>white</td> <td>strap signal <math>U_{D-}</math> / calibration signal (low active)***</td> </tr> <tr> <td>blue</td> <td>protection</td> </tr> </table>	<b>when</b>	<b>strap / amplifier</b>	brown	strap voltage $U_{s+}$ / operating voltage	green	strap voltage $U_{s-}$ / GND (ground)	yellow	strap signal $U_{D+}$ / measuring signal output	white	strap signal $U_{D-}$ / calibration signal (low active)***	blue	protection
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blue	protection												

\* These details are depending on the fit, the resistance moment and the installation length. They are reached with favorable values.

\*\* in case the laid cable is fixed

\*\*\* If the calibration signal is not used, then this cable should be clamped together with the brown wire at the operating voltage.