

Force Transducer DSKA-30-1t-1.00

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serial-no: key 24K



description

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

The DSKA-30 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 13 mm diameter permit assembly compatible to mechanical engineering rules. The force introduction is carried out via a thread M10.

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

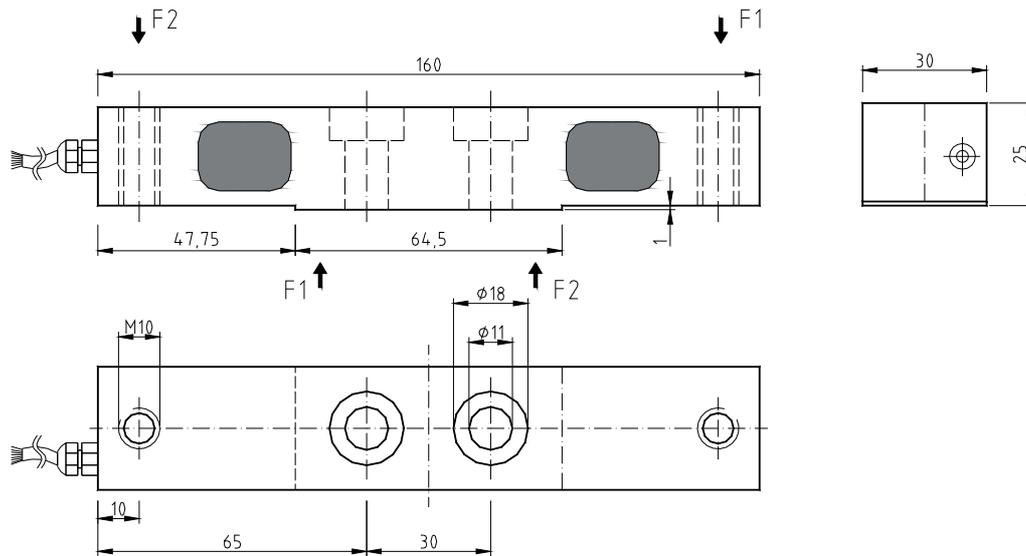
The strain gauge full bridges measure the deformation in the measurement chamber caused by the shear forces on the beam.

The bridges are adjusted in the unloaded state to approx. $\pm 0,01$ mV / V. With a screened 6 core cable the two bridges are powered together and the measurement signals are conducted separately for each channel

The transducer DSKA-30AV is designed for connection to an amplifier. The output signals of the bridges can be evaluated individually or together, for instance, the summation or the difference of two forces F1 and F2.

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

specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight approx. 0,85 kg
 material stainless steel
 degree of protection IP 67

DSKA **30-1t**
 nominal force / nominal load 1000 kg
 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. 1,6 mV / V (accurate value: see type label / banderole)
 excitation voltage max. 12 V AC / DC
 current consumption max. 70 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 $\leq 0,04$ % of final value / K
 of the sensitivity $\leq 0,04$ % of set point / K
 insulation resistance > 5.000 M Ω
 nominal temperature range -15 °C to +70 °C
 operating temperature range -25 °C to +80 °C**

cable and connection

cable length / cable type 3 m LiYCY 6 x 0,14 mm²
 cable end tinned
 pin assignment
 brown operating voltage UB+ / s+
 green operating voltage US+ / B+
 yellow strap output UD+ / s+ channel 1 = F1
 white strap output UD- / s- channel 1 = F1
 pink strap output UD+ channel 2 = F2
 grey strap output UD- channel 2 = F2
 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)