

Compression Force Transducer DKA-50-0,5/1/2-1.XX



description

The compression force transducer works according to the principle of the bend strength measuring.

The DKA-50 is conceived especially for measuring pedal and presson strengths in brake testers for motor vehicles examining procedure, however modified correspondingly also elsewhere usable.

It is executed as a spring body (on both sides fixed bend disk) as s or z shaped type. A 2 mm of strong rubber profiles are against slip stuck on upper and underside. A burdock ribbon permits the simple assembly at the drivers foot or pedal.

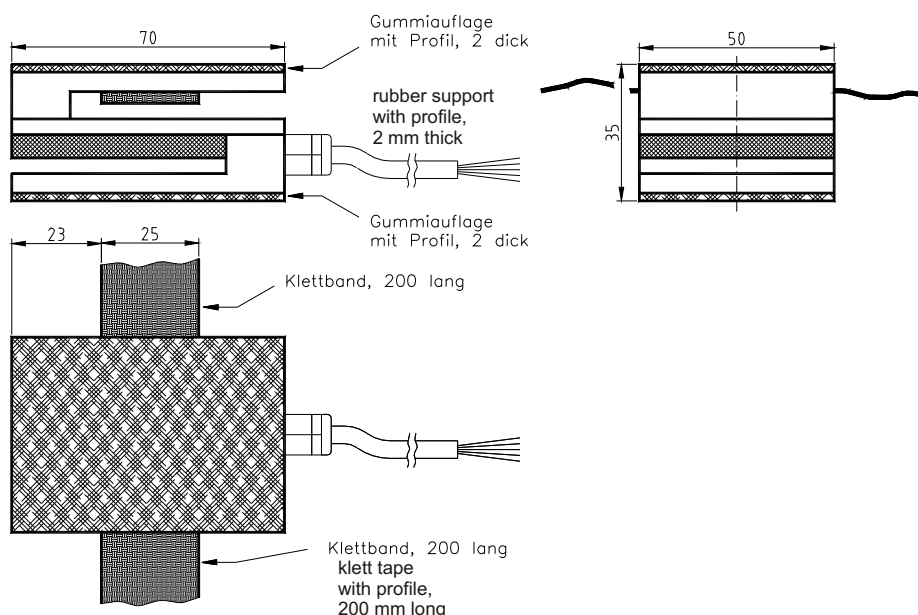
The application room for the strain gauges is spilled with a high elastic synthetic material and in this way protected against mechanical and chemical damages.

The strain gauges full bridges measure the deformation caused by pressure strength on the bend disk. 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 DKA-50 is planned according to execution for the direct connection with an amplifier or a control.

specification



mechanical execution

weight	approx. 600 g
fixing	burdock ribbon
material	refined steel
environmental protection	IP 65

DKA	50-0,5	50-1	50-2
nominal force	50 kg	100 kg	150 kg
max. use force	200 % o.t.n.f.	200 % o.t.n.f.	150 % of the nominal force
rupture force	400 % o.t.n.f.	400 % o.t.n.f.	400 % of the nominal force

electrical execution

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

connection

connector	when	strap / amplifier
		4-pole / 6-pole round socket
	PIN 1	strap voltage U_{s-} / measuring signal output
	PIN 2	strap voltage U_{s+} / not connected
	PIN 3	strap signal U_{D+} / GND
	PIN 4	strap signal U_{D-} / calibration signal (low active)***
	PIN 5	- / operating voltage
	PIN 6	- / not connected
cable	optional available, different executions with 4- or 6-pole round plug connector	

* 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.