

Strain Link Transducer DKA-20(S)



description

The DKA-20(S) is a robust strain link transducer sensor that can be attached to its base by screws. Due to its closed structural design which is made of galvanized stainless steel, the device can be used for measuring the strength and the extension of machine elements and components in a rough environment. The high transmission ratio is a feature of this new class of strain link transducers.

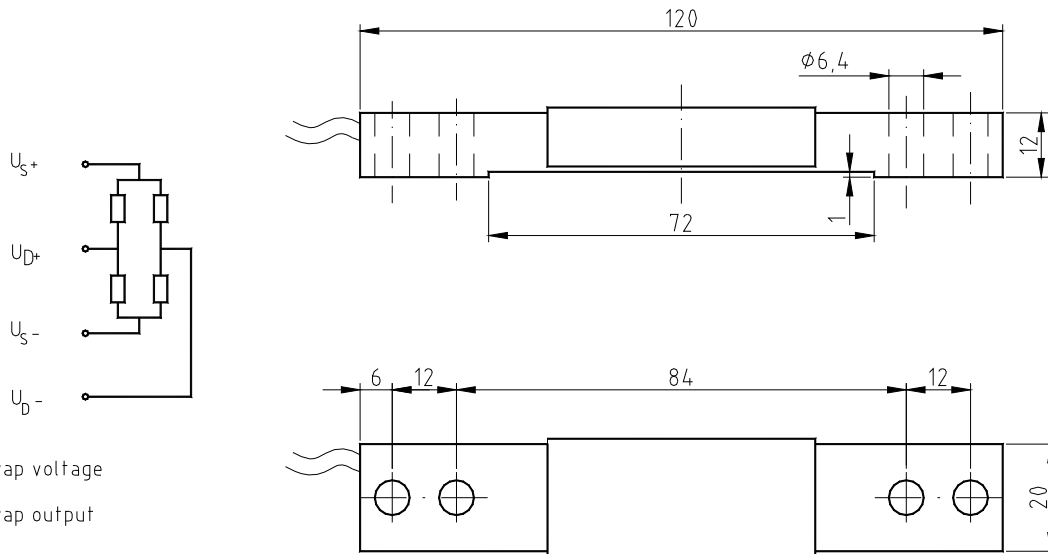
The installation is most simple by merely mounting the sensor with four M6 bolts to a plain surface of the material, which makes any direct bonding and the adjustment of extension measuring tapes superfluous.

The device can be used for monitoring forces, metering the filling level and recording the extension of building components predominantly made of steel and aluminum, to name just a few fields application. The signal, the temperature behavior and the transmission ratio are based on the principle applied and depend on how both the geometry and the material of the sensor and the component are mated.

Ideally, the sensor will therefore be calibrated best by applying a known force to the component concerned under the ambient conditions that are typical of the measurement.

The following further features are for indicating the there DKA-20(S):
passive surface strain sensor with full bridge, for cyclical applications, suitable for strain measurements on rigid structures, sensor exchange w/o recalibration.

specification



mechanical execution

sensor	tension / compression
structural design	closed
length x width x height	120 mm x 20 mm x 12 mm
mounting screws	4 x $\phi 6,4$ mm / 4 x M6 strength class 12,9
material	Ck 45, galvanized
environmental protection	IP 67

electrical execution

nominal measuring range (ϵ_N)	$\pm 750 \mu\text{m} / \text{m}$
output	1 mV / V
accuracy class	0.2
excess load factor	150 % ϵ_N
transmission ratio	≈ 10
thermal extension coefficient	$\approx 16 \times 10^{-6} 1 / \text{K}$
operating temperature range	0 °C to +85 °C
zero signal (output)	in accordance with the mating of material
input resistance	350 $\Omega \pm 0,2$ % Ω full bridge
output resistance	350 $\Omega \pm 0,2$ % Ω
insulation resistance	$> 5 \times 10^9 \Omega$
connection technique	4 circuit
linearity	$< 0,4$ % FS
hysteresis	$< 0,4$ % FS
repeatability	$< 0,1$ % FS (cycle to cycle)
bridge excitation	12 V DC

connection

electrical connections	1,5 m LiYCY 4 x 0,25 mm ²
	brown strap voltage U_{S+}
	green strap voltage U_{S-}
	yellow strap output U_{D+}
	white strap output U_{D-}
	blue protection