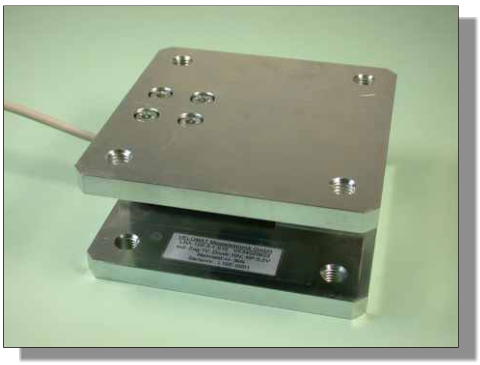
Force Transducer
LBA-120-7,5/30-1.XX

VELOMAT MESSELEKTRONIK



description

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

It is suitable for measuring of tension and compression forces.

The LBA-120 is universal usable and find used by the measurement from pulling forces at metal hoist, handling for heavy workpieces and robots.

The LBA-120 consist of a beam shear force transducer, on under- and topside is two equal in size flanged with respective four M10 screw threads. The mounting different flanged is possible.

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. 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 LBA-120 is planned according to execution for the direct connection with an amplifier or a control.

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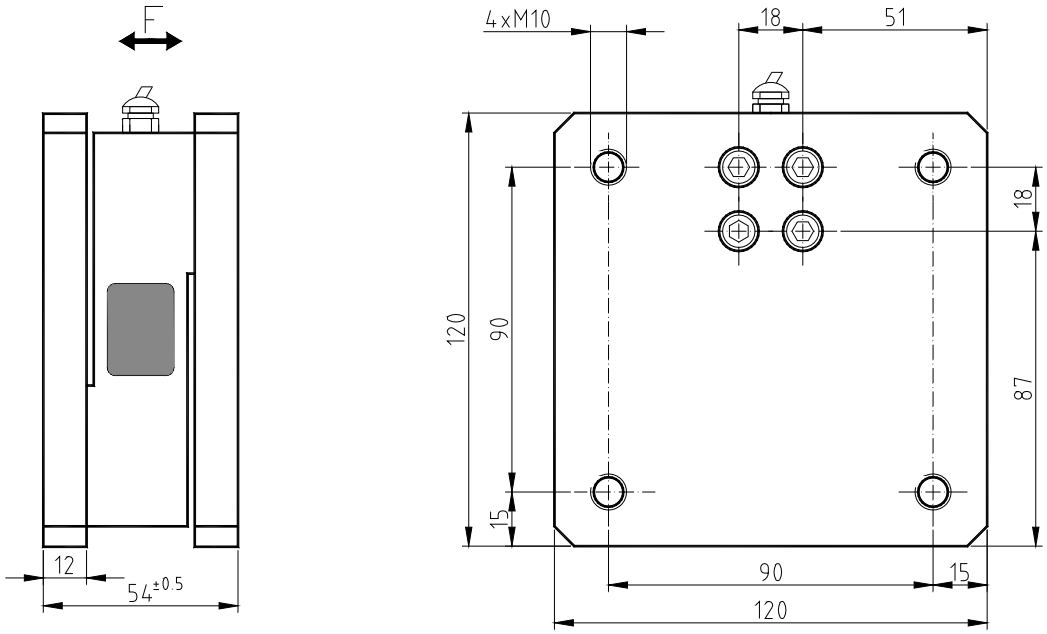
specification



mechanical execution

weight	approx. 4 kg
mounting	flange on both sides with 4 screw threads M10
material	high-grade steel
environmental protection	IP 67

LBA	**120-7,5**	**120-30**
nominal force	75 kg	300 kg
max. use force	200 % of the nominal force	200 % of the nominal force
rupture force	500 % of the nominal force	500 % 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 / 45 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

cable type	1,5 m LiYCY 4 x 0,14 mm² (example)	
electrical connections	**when**	**strap / amplifier**
	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 activ)***
	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.