

PIAB LOAD PIN SLC and LCA Transducer Amplifier



The Load Pin can be dimensioned to replace an existing shaft. The Load Pin/ Transducer Amplifier are compatible with all PIAB electronic systems for overload protection and load indication. The SLC and LCA are made for use in aggressive environments and fully conform to IP 67.

Range of Application

When overload protection and/ or load indication is to be installed in a conveyor/crane or other device, the PIAB SLC may be the ideal solution. The Load Pin can easily replace the existing shaft at an equalizing pulley or in other parts of the construction.

The Load Pin should be installed as close as possible to the force/load for best accuracy.

Both the Load Pin and the Amplifier are designed to withstand extreme environmental conditions for a long operation time.

Function

The PIAB SLC Load Pin is designed as a shaft. Built into the shaft is a number of foil-strain-gauges for sensing of the de-formation of the shaft during exposure to load. Shear forces appear in the section between the support and the applied load. Those shear forces are relative to the load on the Load Pin. Since the strain-gauges are positioned in the centre of the Load Pin little or no influence is derived from bending or torsion

forces. The strain gauges shall be fed with 10 VDC from PIAB Amplifier LCA. The strain gauges delivers a signal to the amplifier (mV/V). This is converted in the LCA Amplifier to a current signal of 4-20 mA which is extremely resistant to interference. The Transducer Amplifier should be installed as close as possible to the Load Pin. The Load Pins can be designed within very wide limits for dimensions and capacities.

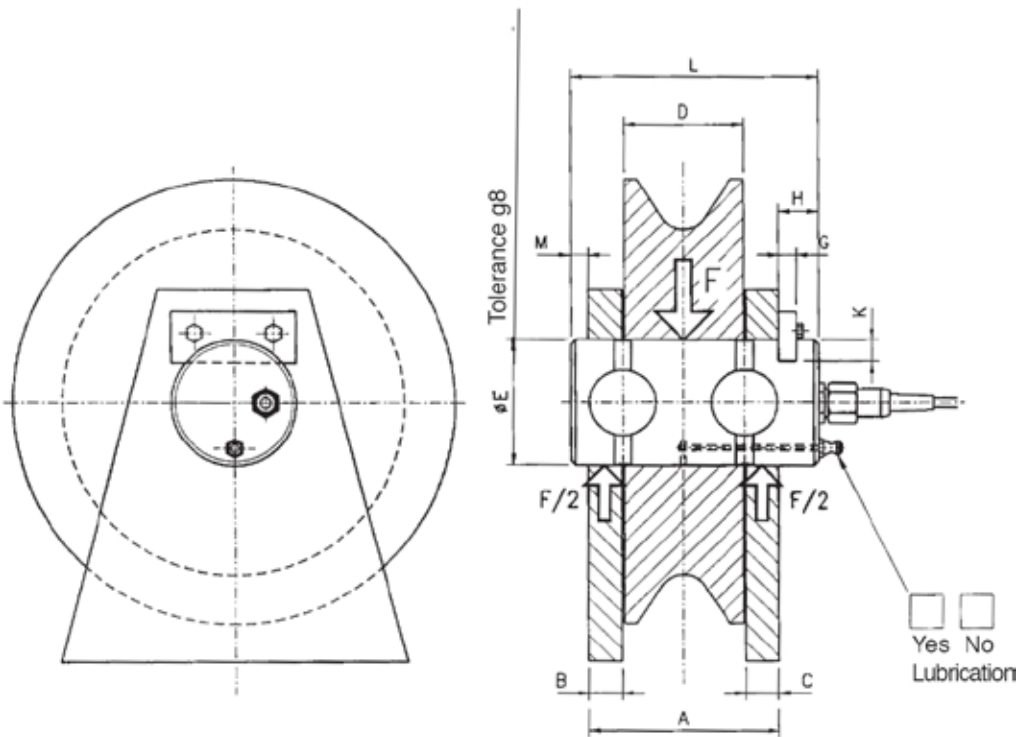


PIAB LCA Transducer Amplifier for Current Signal Output

The PIAB LCA Transducer Amplifier, Art. No. 301281, is an instrument amplifier with "chopper"-input. A DC Power Supply 10VDC for strain gauges is integrated with the Am-

plifier. The Amplifier converts the mV/V signal from the Transducer to a robust, standardized "Current Signal" of 4-20 mA.

Installation example of PIAB SLC Load Pin

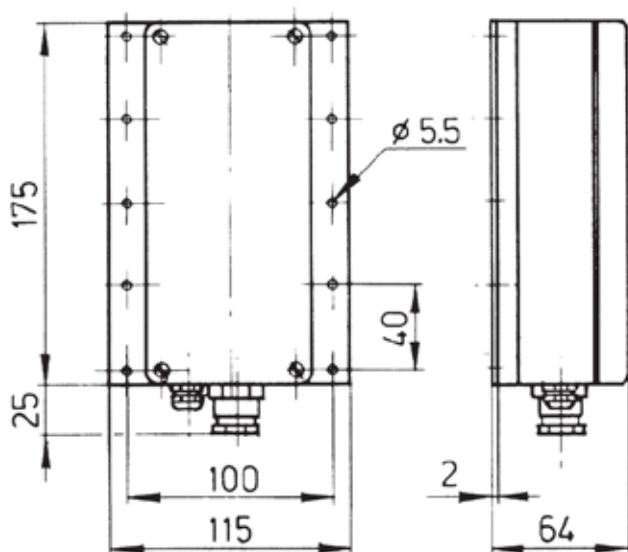


Design dimensions when ordering a PIAB SLC LoadPin. (To be filld in by the customer)

A	B	C	D	E	Tol:	G	H	K	L	M

Force F = metric ton. F= Force to the Load Pin when crane is loaded to Safe Working Load (SWL).

PIAB LCA Load Cell Amplifier



Technical Data

PIAB SLC

CAPACITY

Minimum 500 kg.

DIAMETER

Minimum 20 mm.

INACCURACY

Typical value approx. 1% of rated capacity for Load Pin in equalization pulley close to the load. (Installation-dependant)

MATERIAL

High-tensile alloy steel.

PROTECTION SPECIFICATION

IP 67, according to IEC 529.

TEMPERATURE RANGE

-20°C – +70°C.

OVERLOAD

Can occasionally be overloaded up to 100% of rated capacity.

SAFETY FACTOR

5:1 (Guaranteed safety against rupture 5 times nominal load.).

CABLE

Length 5 m as standard.

SIGNAL OUTPUT

0,5-1,5 mV/V.

DIMENSIONS

See figure.

Technical Data

PIAB LCA

TRANSDUCER INPUT

For strain gauges of 350 ohm impedance, up to max. 4 each in parallel.

TEMPERATURE RANGE

-20°C – +70°C.

POWER SUPPLY

15 to 30 VDC.

CURRENT DRAIN

Max. 70 mA at full load on one load cell.

PROTECTION CLASS

IP 67, according to IEC 529.

NEMA 4X

DIMENSIONS

See figure.

Applications for **PIAB** Load Pins and LCA

PIAB Load Pin SLC installed on a EOT as overload guard.



PIAB Load Pin SLC mounted in an equalisation sheave.



Top view of the PIAB LCA Load Cell Amplifier without top cover. It gives an output signal of 4-20mA.



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