

PIAB LOAD PIN SLC AND TRANSDUCER AMPLIFIER LCA



The PIAB Load Pin can be dimensioned to replace an existing shaft. The PIAB Load Pin/ Transducer Amplifier are compatible with all PIAB electronic systems for over-load protection and load indication. The PIAB SLC and PIAB 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 PIAB Load Pin should be installed as close as possible to the force/load for best accuracy.

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

FUNCTION

The PIAB Load Pin SLC 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 PIAB Load Pin. Since the strain-gauges are positioned in the centre of the PIAB Load Pin little or no influence is derived from bending or torsion

forces. The strain gauges shall be fed with 10 V DC from PIAB Amplifier LCA. The strain gauges delivers a signal to the amplifier (mV/V). This is converted in the PIAB 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.

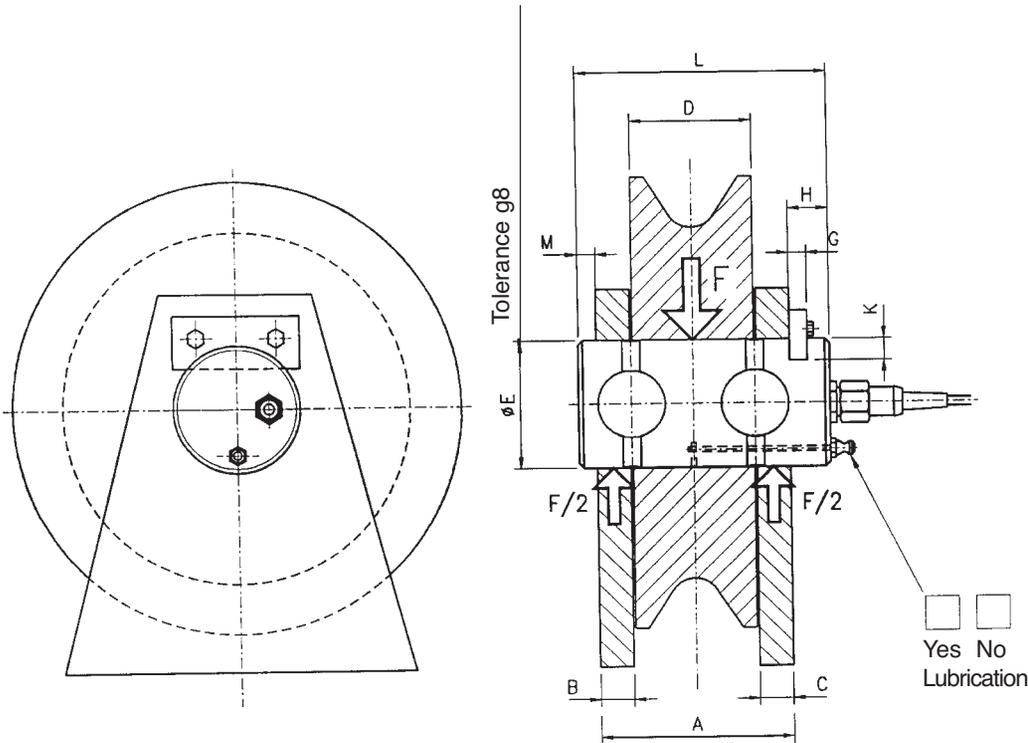


PIAB LCA TRANSDUCER AMPLIFIER FOR CURRENT SIGNAL OUTPUT

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

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

INSTALLATION EXAMPLE OF PIAB LOAD PIN SLC

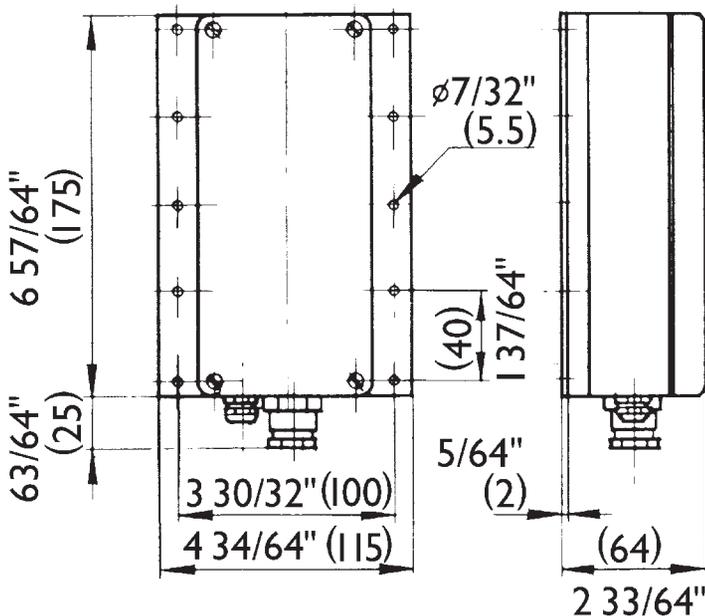


Design dimensions when ordering a PIAB SLC Load Pin. (To be filled in by the Customer)

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 AMPLIFIER LCA



TECHNICAL DATA SLC

CAPACITY
Minimum 1100 lb (500 kg).

DIAMETER
Minimum 3/4" (20 mm).

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

MATERIAL
High-tensile alloy steel.

INTERNATIONAL PROTECTION SPECIFICATION CLASS
IP 67, according to IEC 529.

TEMPERATURE RANGE
-40°F - +158 °F
(-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 15 feet (5 m) as standard.

SIGNAL OUTPUT
0.5-1.5 mV/V.

DIMENSIONS
See figure.

TECHNICAL DATA LCA

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

TEMPERATURE RANGE
-40°F - +158 °F
(-20°C - +70°C).

POWER SUPPLY
+15 to +30 V DC.

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

INTERNATIONAL PROTECTION SPECIFICATION CLASS
IP 67, according to IEC 529.

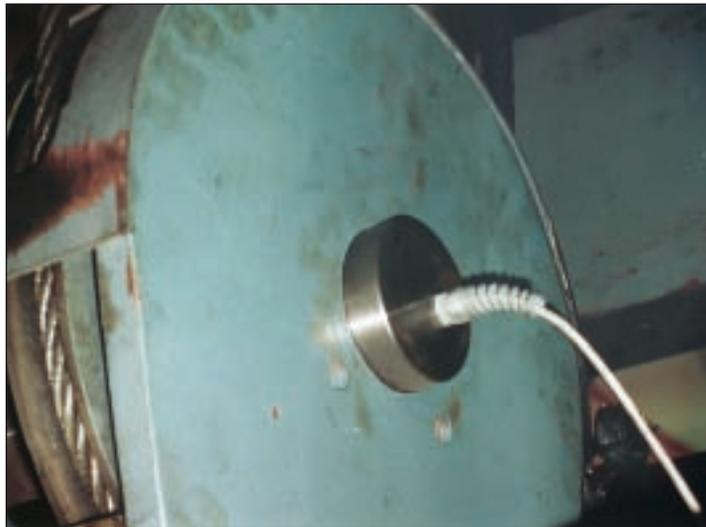
DIMENSIONS
See figure.

APPLICATIONS USING PIAB SLC AND LCA

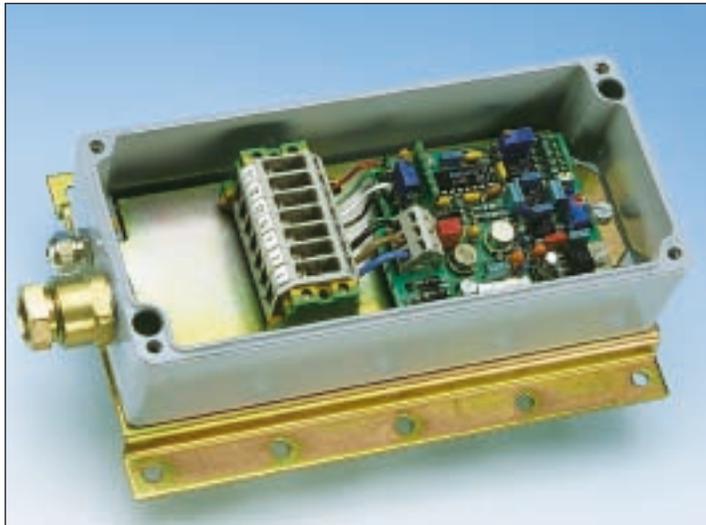
PIAB Load Pin SLC installed on a EOT as overload guard.



PIAB Load Pin SLC mounted in an equalisation sheave.



The PIAB 9:200 has two separate tripping relays. One intended for warning or slack rope indication and the other for tripping at overload. The PIAB 9:200 is designed for 0-2 mV/V input.



GIGASENSE
Force Measurement

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