



LPB Custom Designed Stainless Steel Load Measuring Pin

Description

The LCM Systems range of load measuring pins are designed for general use. They are a simple and versatile type of load cell that are used in a large variety of applications, including harsh environments such as subsea, marine and offshore. They are easily installed into machines by replacing any existing load bearing pin with no modifications to the equipment required. They are very easy to install new or retrofitted and have a long design life to offer many years of trouble-free operation.

The LPB load pin range is entirely custom designed to meet specific customer requirements, and over 4500 different product variants have been manufactured to date. Machined from high tensile stainless steel, they are built to exacting standards and proof loaded to 150% of normal rated load. We also offer a standard load pin range that covers load ratings between 500kgs and 1500 tonnes (see LMP data sheet).

The LPB series can be supplied on its own or combined with our extensive range of instrumentation to provide a complete load monitoring system.

Example Specification

Rated load (tonne)	100 kgs to 1500 tonnes (higher available on request)
Proof load	150% of rated load or higher
Ultimate breaking load	300% to 500% of rated load
Output	1.5mV/V at rated load (nominal)
Non-linearity	<±0.2 to ±1.5% of rated load typically, depending on pin geometry
Non-repeatability	<±0.1% of rated load
Excitation voltage	10vdc recommended, 15vdc maximum
Bridge resistance	350Ω, 1000Ω or 5000Ω
Insulation resistance	>500MΩ @ 500vdc
Operating temperature range	-20 to +70°C for standard and Ex i cabled -20 to +55°C for Ex d cabled, -20 to +50°C for Ex i wireless
Compensated temperature range	-10 to +70°C
Zero temperature coefficient	<±0.01% of rated load/°C
Span temperature coefficient	<±0.01% of rated load/°C
ATEX certification: Ex i (cabled)	II 2G Ex ib IIC T4 Gb / II 2D Ex ib IIIC T135°C Db
Ex i (wireless)	II 2G Ex ib IIC T4 Gb
Ex d (cabled)	II 2G Ex d IIC T6 Gb / II 2D Ex tb IIIC T85°C Db
Environmental protection level	As required (standard IP67)
Connection type	4-core screened PUR cable. Length as required
Wiring connections	+ve supply - Red -ve supply - Blue +ve signal - Green -ve signal - Yellow

Available Options

- Submersible and subsea versions
- Integral signal conditioning
- Special electrical connectors
- Wireless option (not available with Explosion Proof (Exd) certification)
- Hazardous Area certified - Explosion Proof (Ex d) and Intrinsically Safe (Ex i)
- Anti-rotation plate
- TEDS option when used with TR150 handheld display (Not available with Hazardous Area versions)



Features

- Ranges: 100kg to 1500+ tonnes
- Dimensions to suit specific individual requirements
- Stainless steel construction
- Choice of environmental sealings
- Many special design options available
- Versions available to meet offshore, subsea and marine specifications
- Design support software available

Typical Applications

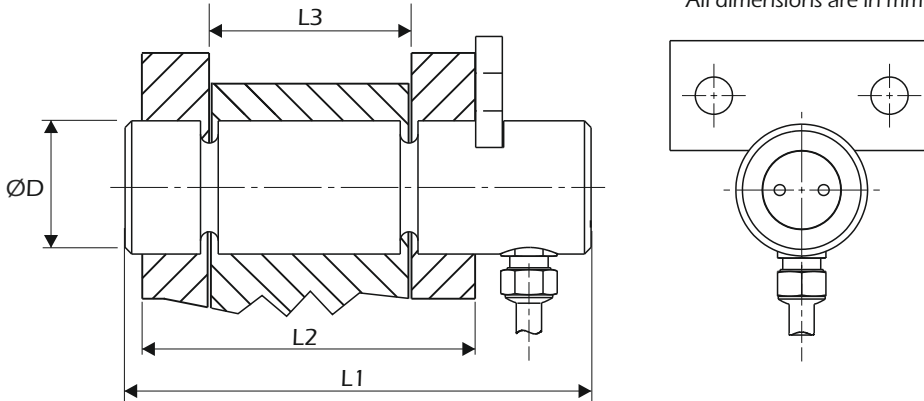
- Crane overload protection
- Winch force monitoring
- Cable and wire dynamometers
- Hoist overload protection
- Mooring load tension measurement



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Dimensions

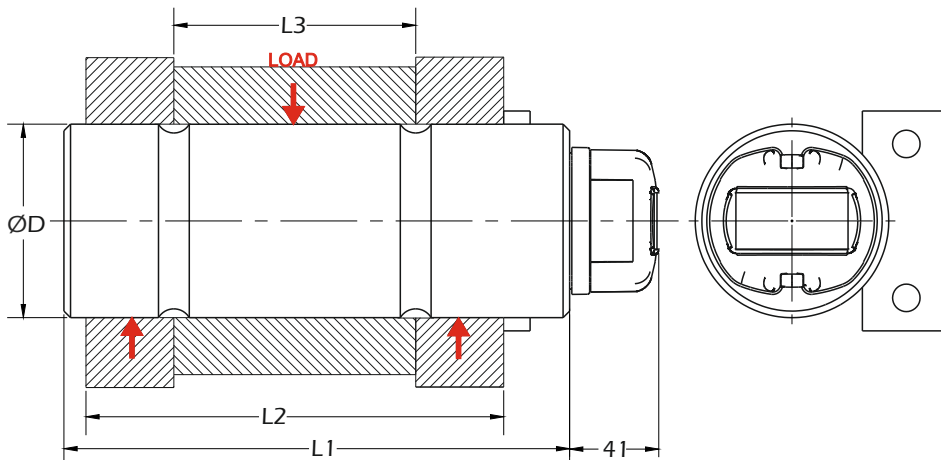
Cabled Connected Versions



Note

Depending on the combination of pin diameter, cable type required and internal instrumentation, it may be necessary for the load pin to have a larger diameter head than the main pin diameter.

Wireless Connected Versions



Note

Depending on the load pin diameter, it may be necessary to add a head of a larger diameter to accommodate the wireless housing. Generally this applies to pins with a diameter of less than Ø78mm.

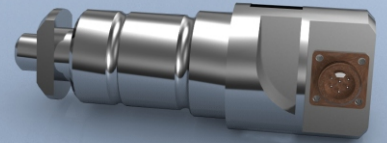
Rating (tonne)	Part No.	ØD	L1	L2	L3
ALL	LCMXXXX	As required	As required	As required	As required

Note 1: Part numbers will be assigned when an order is placed, taking the form LCMXXXX.

Note 2: ATEX versions will be suffixed -ATEX for both explosion proof and intrinsically safe versions (e.g. LCM5684-ATEX). Details of the ATEX protection method and levels will be detailed in the drawings that will be sent for approval.

Note 3: Ex d certification is not available for wireless versions of this product.

If you would like to receive a quotation for a custom designed load pin, please visit our website at www.lcmsystems.com/lpq and fill in our Load Pin Questionnaire



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Due to continual product development, LCM Systems Ltd reserves the right to alter product specifications without prior notice.

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APPROVED

(unapproved if printed)