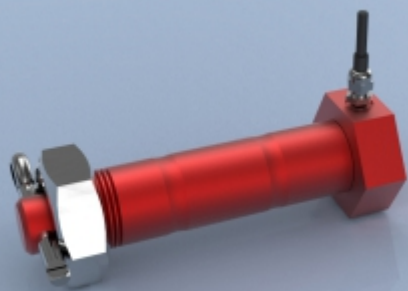




## TYPE: LPC

# LPC Stainless Steel Shackle/Clevis Load Measuring Pin



## Features

- Ranges from 1te to 1500te
- Stainless steel construction
- Environmentally sealed to IP67 (IP68 available on request)
- Can be supplied with integral connector
- Versions available with integral conditioning providing 0-10V, 0.5V, 4-20mA, RS485 outputs
- Design support software available

## Typical Applications

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

## Description

The LCM LPC load shackle/clevis pin offers precision force measurement by replacing existing pins in shackles or clevises with a load sensing pin. They are extremely durable under even the harshest working conditions and have a long operational life.

The LPC load pin range is available in ratings from 1te to 1500te and are built to exacting standards. They are proof loaded to 150% of normal rated load and are temperature compensated. The load pins employ a full strain gauge bridge as its measurement technology.

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

We also offer a standard load pin range (see separate LMP data sheet) and a custom designed load pin range (see LPB data sheet).

## Example Specification

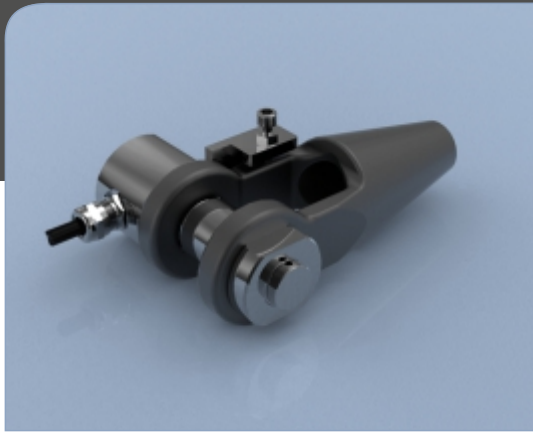
Rated load (tonne)	1 tonne to 1500 tonnes (higher available on request)
Proof load	150% of rated load
Ultimate breaking load	>300% of rated load
Output	1.5mV/V at rated load (nominal)
Non-linearity	<±0.2 to ±1.5% of rated load typically, depending on pin geometry
Non-repeatability	<±0.1% of rated load
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	5 metre 4-core screened PUR cable
Wiring connections	+ve supply: Red -ve supply: Blue +ve signal: Green -ve signal: Yellow

## Available Options

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

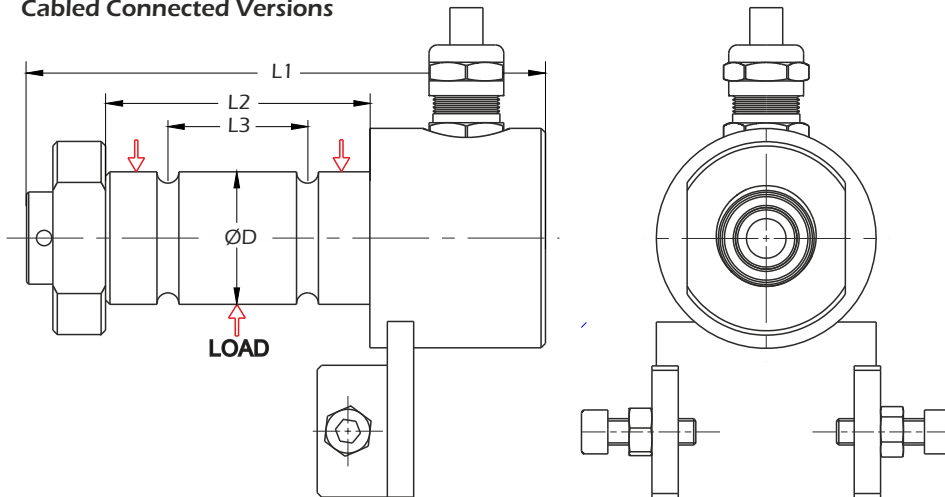


# LPC Stainless Steel Shackle Load Measuring Pin



## Dimensions

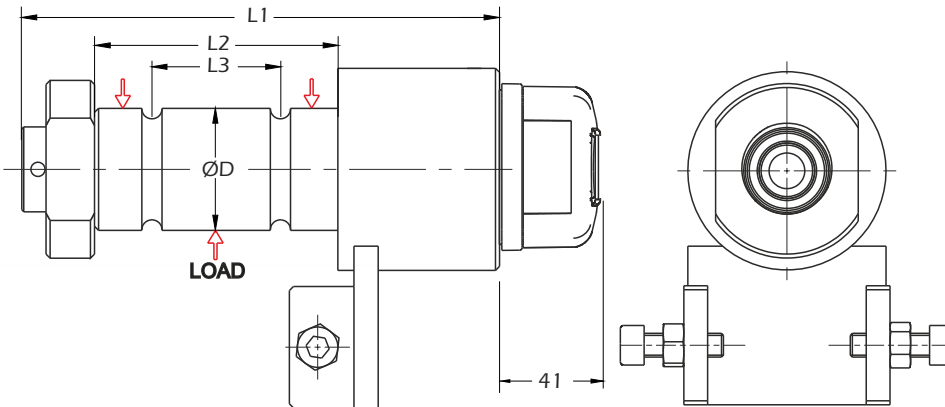
### Cabled Connected Versions



**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](http://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

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