TYPE: TCA



TCA Stainless Steel Tension & Compression Load Cell

Features

- Ranges from 1 to 150 tonnes
- Stainless steel construction
- Environmentally sealed to IP66 (IP67 and submersible versions are also available)
- Designed to fit standard metric rod-end bearing sizes
- Special sizes and ranges available
- Can be supplied with imperial threads & male or male/female end threads
- Can be supplied compete with mating spherical rod-end bearings

Typical Applications

- Structural testing
- Jack load monitoring
- Cable tension monitoring
- Material test machine feedback
- Press load monitoring

Description

The TCA series load cell is ideal for measuring both tensile and compressive forces. The standard metric threads at each end of the load cell are designed to accept standard spherical seating rod-end bearings.

There is great flexibility in the TCA design, allowing us to offer special sizes to meet specific application requirements, or different end thread sizes/combinations. There are versions available with male threads at each end, or male threads at one end and female at the other. We are also happy to supply any of the TCA series with imperial thread sizes.

The TCA series can be supplied as shown in this datasheet or can be modified to meet a particular application requirement. We are always pleased to discuss any special requirements that can be accommodated.

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

Specification

Rated load (tonnes)	1, 2, 3, 5, 7.5, 10, 20, 30, 50, 75, 100,150
Proof load	150% of rated load
Ultimate breaking load	<300% of rated load
Output	1.5mV/V (±0.1%)
Accuracy	<±0.2% of rated load
Non-repeatability	<±0.1% of rated load
Excitation voltage	10vdc recommended, 15vdc maximum
Bridge resistance	1te: 350Ω, 2 to 50te: 700Ω, 75 to 150te: 1400Ω
Insulation resistance	>500MΩ @ 500vdc
Operating temperature range	-20 to +70°C
Compensated temperature range	-10 to +50°C
Zero temperature coefficient	<±0.01% of rated load/°C
Span temperature coefficient	<±0.01% of rated load/°C
Environmental protection level	IP66 (IP67 optional)
Connection type	Integrated bayonet lock connector, supplied with 5 metre mating cable assembly
Wiring connections	+supply: Red -supply: Blue +signal: Green -signal: Yellow

Available Options

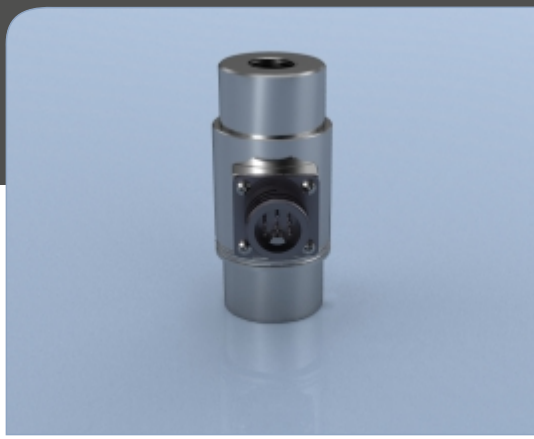
- Special ranges and sizes available
- Different thread arrangements
- Special electrical connections
- Submersible versions available
- Supply with spherical rod-end bearings
- TEDS option (when used with TR150 handheld display)
- ATEX version available

LCM Systems Ltd
Unit 15, Newport Business Park
Barry Way, Newport
Isle of Wight PO30 5GY UK
Tel: +44 (0)1983 249264
Fax: +44 (0)1983 249266
sales@lcmsystems.com
www.lcmsystems.com

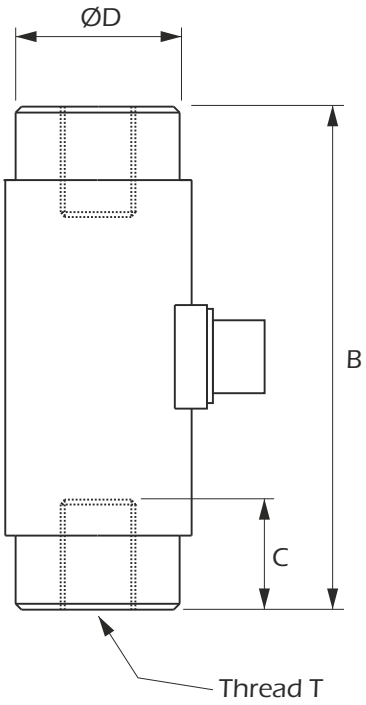
LCM SYSTEMS
Solutions in Load Cell Technology

TYPE: TCA

TCA Stainless Steel Tension & Compression Load Cell



Dimensions



All dimensions are in mm

Rating (tonnes)	B	C	ØD	Thread T	Weight (kgs)	Resolution (tonnes)
1	76	16	31	M12 x 1.25	0.4	0.001
2	76	16	31	M12 x 1.25	0.4	0.002
3	84	22	38	M20 x 1.5	0.7	0.005
5	84	22	38	M20 x 1.5	0.7	0.005
7.5	108	29	44	M24 x 2	1.3	0.01
10	108	29	44	M24 x 2	1.3	0.01
20	203	50	57	M36 x 3	3.3	0.02
30	355	89	114	M64 x 4	20	0.02
50	355	89	114	M64 x 4	20	0.05
75	458	100	130	M100 x 3	35.7	0.05
100	458	100	130	M100 x 3	35.7	0.1
150	458	100	156	M100 x 3	40.5	0.2

Note: default calibration of load cells rated up to 20 tonnes will be in tension. TCAs rated 30 tonnes and above will be in compression. If you require calibration in a different mode to the standard or in both tension & compression, please state at time of order (additional charges may apply).

www.lcmsystems.com

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

Issue No. 3
Issue date: 09/12/2015
APPROVED
(unapproved if printed)