A United Kingdom company

TYPE: TCA

TCA Stainless Steel Tension & Compression Load Cell

Features

- Ranges from 1 to 150 tonnes
- Stainless steel construction
- 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*
- Environmentally sealed to IP66 (IP67 and submersible versions are also available)

* Our 1, 3, 5 and 7.5 tonne versions can be used with standard rod end bearings. All other capacities require heavy duty rod end bearings. Please contact a member of the LCM Sales Team if these are required.

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 nominal
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 (-20 to +55°C for Ex d versions)
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
ATEX certification details	Ex i	II 2G Ex ib IIC T4 Gb / II 2D Ex ib IIIC T135°C Db
	Ex d	II 2G Ex d IIC T6 Gb / II 2D Ex tb IIIC T85°C Db
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

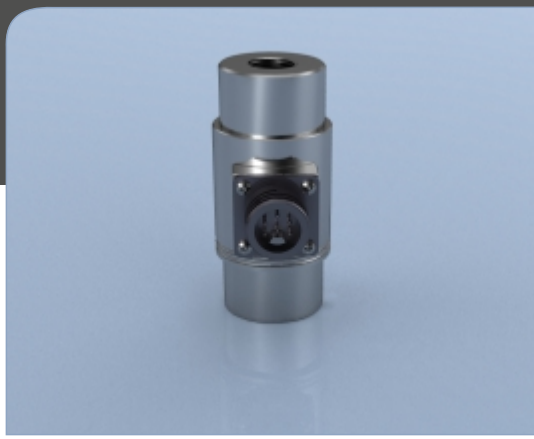
- Special ranges and sizes available
- Different thread arrangements
- Hazardous Area certified - Explosion Proof (Ex d) and Intrinsically Safe (Ex i)
- Special electrical connections
- Submersible versions available
- TEDS option when used with TR150 handheld display **(Not available with Hazardous Area versions)**

Ex d Ex i

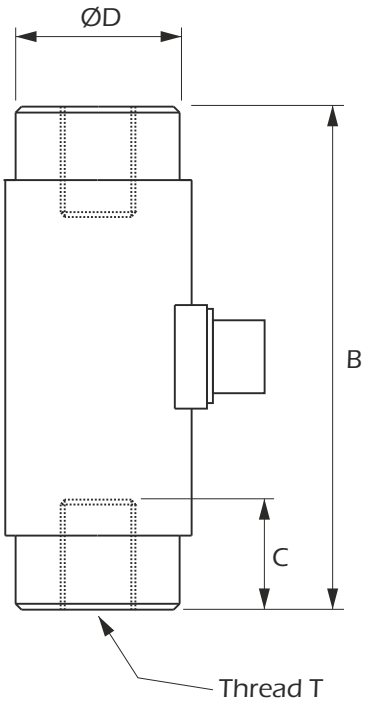
LCM SYSTEMS
Solutions in Load Cell Technology

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 1: 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).
Note 2: Part numbers for ATEX versions will be suffixed with either -ATEX-D (explosion proof) or -ATEX-I (intrinsically safe) e.g. TCA-75-ATEX-D.
Note 3: Dimensions may change for hazardous area versions.

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