TENSION LOAD CELL



TENSION

- 5 t TO 20 t
- OIML R60 CLASS C2 AND C3
- STAINLESS STEEL · IP68
- TRANSVERSE LOAD UP TO 200 %

CE IP68 OIML Stainless Steel mV/V

ORDERING

Class C2	CT205TC25 (5 t) · CT207T5C25 (7.5 t) · CT2010TC25 (10 t) · CT2015TC25 (15 t) · CT2020TC25 (20 t)
Class C3	CT205TC35 · CT207T5C35 · CT2010TC35 · CT2015TC35 · CT2020TC35
Output	standard 5 m cable · direct M12 connector CONNM12MF
Calibration report	CRT — tension calibration report, not available in the ATEX versions
Shackles	to be ordered separately — see accessories

An octogon order code has not yet been defined; please state nominal load, accuracy class and output.

OVERVIEW

The LTAA is a tension link of stainless steel for nominal loads of 5 to 20 t. It hangs between two shackles — the crane above, the load below — and the two connection holes take standard shackles, so no adapter is needed. Its accuracy is stated to OIML R60 in the classes C2 and C3, with a minimum verification interval of Emax divided by 10000, and the nominal output is 2 mV/V with a calibration tolerance of ± 0.1 %. What sets this cell apart from a compression cell is the transverse load it accepts: 200 % of the nominal load, because a hanging load swings. The body is sealed to IP68, tested for 100 hours under a metre of water, and the standard output is five metres of shielded cable; an M12 connector is available instead. Zinc plated shackles with a safety coefficient of 5 are offered for each load group, and a WIMOD module carries the signal without a cable.

MEASUREMENT AND ACCURACY

- Nominal load 5, 7.5, 10, 15, 20 t
- OIML R60 class C2 or C3
- 2000 or 3000 legal divisions
- Vmin = Emax / 10000
- Nominal output 2 mV/V ± 0.1 %
- Input 420 Ω ± 20 Ω, output 350 Ω ± 2 Ω
- Combined error from ± 0.019 % (C3)
- Service temperature –20 … +70 °C

MECHANICS, SEALING AND MOUNTING

- Stainless steel body, IP68 to EN 60529
- Service load 120 %, breaking load > 300 %
- Max. transverse load 200 % of nominal load
- Displacement ≤ 0.3 mm at nominal load
- Length 200 mm or 250 mm by load group
- Weight about 4.4 kg or 7.0 kg
- 5 m shielded cable, 10 m on request
- Holes for standard shackles, M12 optional

TECHNICAL DATA

ACCURACY TO OIML R60

Accuracy class	C2 — 2000 divisions · C3 — 3000 divisions
Nominal load Emax	5, 7.5, 10, 15 and 20 t
Minimum verification interval	$V_{min} = E_{max} / 10000$
Combined error	± 0.023 % (C2) · ± 0.019 % (C3)
Non repeatability	± 0.014 % (C2) · ± 0.011 % (C3)
Zero return over 30 min	± 0.030 % (C2) · ± 0.013 % (C3)
Creep at nominal load	over 30 min ± 0.024 % (C2), ± 0.014 % (C3) · over 20 and 30 min ± 0.011 % (C2), ± 0.008 % (C3)

ELECTRICAL DATA

Nominal sensitivity	2 mV/V · calibration tolerance ± 0.1 %
Input resistance	420 Ω ± 20 Ω
Output resistance	350 Ω ± 2 Ω
Insulation resistance	> 5 GΩ
Zero balance	± 1 %
Supply voltage	recommended 10 V · nominal 1 … 15 V · maximum 18 V
Output	shielded PVC cable 105 °C, Ø 5.2 mm, 4 × 0.35 mm² tinned · shield connected to the body

MECHANICAL LIMITS

Minimum load	0 %FS
Service load	120 %FS
Maximum permissible load	150 %FS
Breaking load	> 300 %FS
Maximum transverse load	200 %FS
Maximum dynamic load	50 %FS
Displacement at nominal load	≤ 0.3 mm

TEMPERATURE AND SEALING

Reference temperature	+23 °C
Nominal temperature range	–10 … +40 °C
Service temperature	–20 … +70 °C
Storage temperature	–20 … +80 °C
Temperature effect per 10 °C	on zero ± 0.028 % (C2), ± 0.016 % (C3) · on sensitivity ± 0.008 % in both classes
Protection class	IP68 to EN 60529 — 100 hours under 1 m water column
Material	stainless steel

SIZE, WEIGHT AND OPTIONS

Length A	200 mm for 5 … 10 t · 250 mm for 15 … 20 t
Thickness B	45 mm for 5 … 10 t · 54 mm for 15 … 20 t
Weight	about 4.4 kg for 5 … 10 t · about 7.0 kg for 15 … 20 t
Connection holes F	Ø 33 mm for 5 … 10 t · Ø 42.5 mm for 15 … 20 t — for standard shackles
Cable length	5 m, on request 10 m
Options	direct M12 connector CONNM12MF · tension calibration report CRT, not available in the ATEX versions · WIMOD for wireless transmission
Acceleration of gravity	the values refer to g = 9.80434 m/s²

ELECTRICAL CONNECTION

Load cell	Cable	M12 × 1
Excitation +	red	1
Excitation –	black	3
Output +	white	2
Output –	yellow	4
Shield	shield	5

The standard output is a shielded PVC cable of 105 °C, Ø 5.2 mm, with four tinned conductors of 0.35 mm²; the shield is connected to the body of the transducer. The optional M12 connector carries the same four signals on the pins given above.

ACCESSORIES

Shackles CGP419.5T	zinc plated, for 5, 7.5 and 10 t · overall height H about 434 mm with the cell
Shackles CGP4117T	zinc plated, for 15 and 20 t · overall height H about 566 mm with the cell
Connector and cable	CONNM12FV5 — female M12 × 1, 5 poles, with 3 m moulded shielded cable
WIMOD	module for wireless transmission of the signal

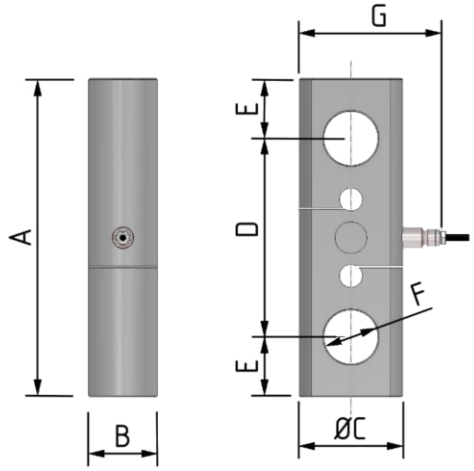
The shackles are supplied with a safety coefficient of 5 — except for the 20 t load, for which they cannot be supplied with that coefficient.

COMPLIANCE

CE	Requirements	CE according to regulation (EC) No 765/2008
IP68	Sealing	IP68 to EN 60529 — 100 hours under 1 m water column
OIML	OIML	Approved version: OIML R60
Stainless Steel	Material	stainless steel body, fully sealed
mV/V	Output	2 mV/V ± 0.1 % · supply 1 … 15 V, maximum 18 V

The manufacturer states the accuracy to OIML R60 in the classes C2 and C3 and names ATEX versions of this cell, for which the tension calibration report CRT is not available. The EAC and ATEX certificates in the product folder cover the AEP load cells; please ask octogon before relying on a marking for a particular application.

DIMENSIONS (mm)



LOAD	A	B	C	D	E	F*	G
5 ... 10 t	200	45	76	130	35	33	103
15 ... 20 t	250	54	82	156	47	42,5	109

The drawing is the one of the manufacturer document; its letters are read in the table beside it, one row per load group. F is the diameter of the two connection holes, sized for standard shackles.