

TENSION LINK LOAD CELL



TENSION

Type: **D200**

- 20 t TO 100 t
- ACCURACY CLASS 0.1 %
- STAINLESS STEEL · IP65
- SIX WIRE, MIL CONNECTOR



IP65



Stainless
Steel



mV/V

ORDERING

20 t · 30 t	CD20020TC25 · CD20030TC25
50 ... 100 t	CD20050TC25 · CD20075TC25 · CD200100TC25
Redundant version	CD210...C25 — with a second strain gauge bridge
Output	standard MIL-C-5015 connector, 7 poles · cable output with IP67 on request
Pivot	Ø 57 mm up to 30 t, Ø 70 mm from 50 t — not part of the delivery

An octagon order code has not yet been defined; please state nominal load, output and whether the redundant version is wanted.



OVERVIEW

The D200 is a tension link of stainless steel for nominal loads of 20 to 100 t — the large relative of the T20. Its two eyes are bored for pivots rather than for shackles: Ø 57 mm up to 30 t, Ø 70 mm from 50 t, and the document is explicit that no other pivot is to be used. Accuracy, linearity and hysteresis are each stated as 0.1 %, the nominal output is 2 mV/V with a tolerance of 0.1 %, and the cell is connected in six wires, so that sense lines compensate the drop in a long cable. The output is a MIL-C-5015 connector with seven poles; a version with a cable and IP67 is available, as is a version with a second, redundant strain gauge bridge for installations that must watch themselves.

MEASUREMENT AND ACCURACY

- Nominal load 20, 30, 50, 75, 100 t
- Accuracy class 0.1 %
- Linearity and hysteresis 0.1 %
- Nominal output 2 mV/V $\leq$ 0.1 %
- Six wire connection with sense lines
- Input $420 \Omega \pm 20 \Omega$, output $350 \Omega \pm 2 \Omega$
- Temperature effect ≤ 0.028 % per 10 °C
- Service temperature -20 ... +70 °C

MECHANICS, SEALING AND MOUNTING

- Stainless steel body, IP65 to EN 60529
- Service load 120 %, breaking load > 200 %
- Pivot Ø 57 mm up to 30 t, Ø 70 mm from 50 t
- Length B 280 mm or 350 mm
- Weight about 10 kg or 19 kg
- MIL-C-5015 connector, 7 poles, male
- IP67 with cable output on request
- Redundant second bridge on request



TECHNICAL DATA

ACCURACY

Accuracy class	0.1 %
Linearity and hysteresis	0.1 %
Nominal load	20 and 30 t · 50, 75 and 100 t
Nominal sensitivity	2 mV/V · calibration tolerance ≤ 0.1 %
Temperature effect per 10 °C	on zero ≤ 0.028 % · on sensitivity ≤ 0.008 %
Zero balance	≤ 1 %
Redundancy	CD210...C25 — second strain gauge bridge, on request

MECHANICAL LIMITS

Minimum load	0 % of the nominal load
Service load	120 %
Maximum permissible load	150 %
Breaking load	> 200 %
Fifth limit value	50 % — the Italian column of the document names this row the maximum dynamic load, the English column the maximum transverse load
Pivot	Ø 57 mm for 20 and 30 t · Ø 70 mm for 50, 75 and 100 t — the document allows no other
Acceleration of gravity	the values refer to $g = 9.80434 \text{ m/s}^2$

SIZE AND VERSIONS

Eye diameter ØA	102 mm for 20 ... 30 t · 130 mm for 50 ... 100 t
Length B	280 mm for 20 ... 30 t · 350 mm for 50 ... 100 t
Thickness C	78 mm for 20 ... 30 t · 88 mm for 50 ... 100 t
Bore ØD	60 mm for 20 ... 30 t · 73 mm for 50 ... 100 t
Version with cable	IP67, cable output instead of the connector
Version with two bridges	CD210...C25 — redundant circuit
Wireless	WIMOD module for wireless transmission

ELECTRICAL DATA

Input resistance	$420 \Omega \pm 20 \Omega$
Output resistance	$350 \Omega \pm 2 \Omega$
Insulation resistance	> 5 GΩ
Supply voltage	recommended 10 V · nominal 1 ... 15 V · maximum 18 V
Connection	six wires — excitation, sense and output, each as a pair
Connector	MIL-C-5015, 7 poles, male
Cable version	shielded PVC cable 105 °C, Ø 5.2 mm, 6 × 0.25 mm ² tinned, with IP67 — on request

TEMPERATURE AND SEALING

Reference temperature	+23 °C
Nominal temperature range	-10 ... +40 °C
Working temperature	-20 ... +70 °C
Storage temperature	-20 ... +80 °C
Protection class	IP65 to EN 60529 · IP67 in the version with cable output
Material	stainless steel
Weight	about 10 kg for 20 ... 30 t · about 19 kg for 50 ... 100 t



ELECTRICAL CONNECTION

Load cell	MIL7M	Cable
Excitation +	C	red
Sense +	F	orange
Output +	A	white
Excitation -	B	black
Sense -	G	blue
Output -	D	yellow
Shield	E	shield

Six wires instead of four: the sense pair measures the voltage that actually reaches the bridge, so that the drop in a long cable does not enter the result. The shield is connected to the body of the load cell.

ACCESSORIES

Connector and cable CMIL7FV5	female MIL7, 7 poles, straight, with 5 m shielded PVC cable
Version with cable output	IP67 instead of IP65 — ordered with the cell
Redundant bridge	CD210...C25 — a second strain gauge bridge in the same body
WIMOD	module for wireless transmission of the signal

The pivots are not part of the delivery. Use only the diameter named for the load group — Ø 57 mm up to 30 t, Ø 70 mm from 50 t.

COMPLIANCE

 IP65	Sealing	IP65 to EN 60529 · IP67 in the version with cable output
 Stainless Steel	Material	stainless steel body
 mV/V	Output	2 mV/V ≤ 0.1 % · six wire · supply 1 ... 15 V

The manufacturer states an accuracy class of 0.1 % for this cell and no OIML class. The EAC certificate in the product folder covers the AEP load cells; please ask octogon before relying on a marking for a particular application.



DIMENSIONS (mm)



LOAD	ØA	B	C	ØD	E	F
20 t - 30 t	102	280	78	60 (1)	50	140
50 ... 100 t	130	350	88	73 (2)	75	171

The drawing is the one of the manufacturer document; its letters are read in the table beside it. (1) use only with a pivot of Ø 57 mm, (2) use only with a pivot of Ø 70 mm.

