COMPRESSION LOAD CELL

COMPRESSION



- 250 kg TO 100 t
- COMBINED ERROR ≤ ± 0.03 %
- STAINLESS STEEL · IP68
- NOMINAL OUTPUT 2 mV/V

CE · IP68 · Stainless Steel · mV/V

ORDERING

250 kg ... 10 t	CCBS82250K5 · CCBS82500K5 · CCBS821T5 · CCBS822T55 · CCBS825T5 · CCBS827T55 · CCBS8210T5
15 t	CCBS10015T5
20 ... 30 t	CCBS12620T5 · CCBS12630T5
50 ... 100 t	CCBS16550T5 · CCBS16575T5 · CCBS165100T5
Loading head	to be ordered separately — see accessories

The codes are those of the manufacturer document. An octogon order code has not yet been defined; please state the nominal load.

OVERVIEW

The LKAF is a flat round compression load cell of stainless steel for nominal loads from 250 kg to 100 t. It is the close relative of the LKAD and shares its build, its nominal output of 2 mV/V and its sealing, but the manufacturer states no OIML class for it and instead gives one set of tight limits that holds over the whole range: combined error and zero return within ± 0.03 %, non repeatability within ± 0.01 %. Input and output resistance are 700 Ω, the cell carries 120 % of its nominal load in service and breaks above 300 %, and the body is sealed to IP68, tested for 100 hours under a metre of water. The output is five metres of shielded PVC cable, ten on request. A loading head is offered for each load group, and the LMAAA weighing unit turns the cell into a complete support.

MEASUREMENT AND ACCURACY

- Nominal load 250 kg … 100 t in 13 steps
- Combined error ≤ ± 0.03 %
- Non repeatability ≤ ± 0.01 %
- Zero return over 30 min ≤ ± 0.03 %
- Nominal output 2 mV/V ≤ ± 0.1 %
- Input and output resistance 700 Ω ± 3 Ω
- Temperature effect ≤ ± 0.05 % per 10 °C
- 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 50 % of nominal load
- Displacement about 0.06 … 0.23 mm
- Diameter 82 … 165 mm by load group
- Weight about 1.2 … 9.4 kg
- 5 m shielded cable, 10 m on request
- Loading head and weighing unit available

TECHNICAL DATA

ACCURACY

Nominal load Emax	250, 500 kg and 1, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 75, 100 t
Combined error	≤ ± 0.03 %
Non repeatability	≤ ± 0.01 %
Zero return over 30 min	≤ ± 0.03 %
Creep at nominal load	over 30 min ≤ ± 0.03 % · over 20 and 30 min ≤ ± 0.01 %
Temperature effect per 10 °C	on zero ≤ ± 0.05 % · on sensitivity ≤ ± 0.03 %
Acceleration of gravity	the values refer to g = 9.80434 m/s²

ELECTRICAL DATA

Nominal sensitivity	2 mV/V · calibration tolerance ≤ ± 0.1 %
Input resistance	700 Ω ± 3 Ω
Output resistance	700 Ω ± 3 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	50 %FS
Maximum dynamic load	50 %FS
Displacement at nominal load	about 0.06 mm, 0.16 mm and 0.23 mm — see the note below

TEMPERATURE AND SEALING

Reference temperature	+23 °C
Nominal temperature range	–10 … +40 °C
Service temperature	–20 … +70 °C
Storage temperature	–20 … +80 °C
Protection class	IP68 to EN 60529 — 100 hours under 1 m water column
Material	stainless steel
Cable length	5 m, on request 10 m

SIZE AND WEIGHT

Diameter ØC	82 mm up to 10 t · 100 mm at 15 t · 126 mm at 20 … 30 t · 165 mm at 50 … 100 t
Height H	44 mm up to 10 t · 48 mm at 15 t · 54 mm at 20 … 30 t · 80 mm at 50 … 100 t
Weight	about 1.2 kg, 2.0 kg, 3.8 kg and 9.4 kg — see the note below
Cable gland	G 1/4″
Loading head	CTIC22, CTIC28, CTIC35 or CTIC60 by load group
Note on two rows	the manufacturer document splits the rows for displacement into three fields and for weight into four, above a single joined cell for the nominal load, and gives no column heads — which value belongs to which load is therefore not stated and is not guessed here

ELECTRICAL CONNECTION

Load cell	Cable
Excitation +	red
Excitation –	black
Output +	white
Output –	yellow
Shield	shield — connected to the body

The 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 load cell. The document names no connector option for this cell.

ACCESSORIES

Loading head CTIC22	for 250 kg … 10 t · Z 59 mm, X 57 mm
Loading head CTIC28	for 15 t · Z 63 mm, X 76 mm
Loading head CTIC35	for 20 and 30 t · Z 72 mm, X 76 mm
Loading head CTIC60	for 50, 75 and 100 t · Z 106 mm, X 126 mm
LMAAA weighing unit	complete support that takes the cell

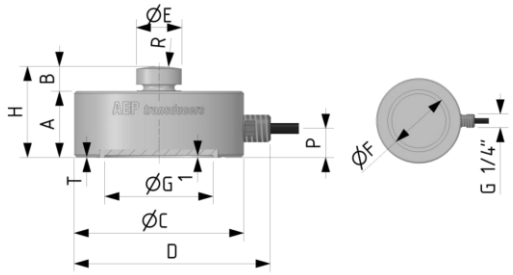
All accessories are optional and ordered separately; the cell is not supplied with them.

COMPLIANCE

CE	Requirements	CE according to Regulation (EC) No 765/2008
IP68	Sealing	IP68 to EN 60529 — 100 hours under 1 m water column
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 document states no OIML accuracy class for this cell — unlike the LKAD, which is given in the classes C1, C2 and C3. The EAC certificate of the product folder covers the AEP load cells; please ask octogon before relying on a marking for a particular application.

DIMENSIONS (mm)



LOAD	A	B	ØC	D	E	ØF	G	H	R	T	P
250 kg ... 10 t	32	12	82	93	22	60	52,3	44	50	0,3	14
15 t	35	13	100	115	28	70	57,3	48	65	0,3	14
20 ... 30 t	40	14	126	137	35	92	77,3	54	160	0,5	14
50 ... 100 t	60	20	165	180	60	115	92,3	80	300	1	28

The drawing is the one of the manufacturer document; its letters are read in the table beside it, one row per load group. The name of the manufacturer is part of the drawing and has not been retouched.