COMPRESSION LOAD CELL

COMPRESSION



- 100 kg TO 200 t
- OIML R60 CLASS C1, C2, C3
- STAINLESS STEEL · IP68
- NOMINAL OUTPUT 2 mV/V

CE IP68 Stainless Steel mV/V

ORDERING

Nominal load	100, 250, 500 kg · 1, 2.5, 5, 7.5, 10, 20, 30, 50, 75, 100, 150, 200 t
Accuracy class	C1, C2 or C3 to OIML R60 — class C3 is not available for 150 t and 200 t
Order code	1 t in class C1: CC2S821TC15 · 10 t in class C2: CC2S8210TC25 · 50 t in class C3: CC2S16550TC35
Output	standard 5 m cable · direct MIL6M connector CMIL6MF · direct M12 connector CONNM12MF
Version with wireless transmission	available — please state with the order

The full list of order codes covers fifteen nominal loads in three classes. An octogon order code has not yet been defined; please state nominal load, accuracy class and output.

OVERVIEW

The LKAD is a round compression load cell of stainless steel with a loading head, made for nominal loads from 100 kg to 200 t. Its accuracy is stated to OIML R60 in three classes — C1 with 1000, C2 with 2000 and C3 with 3000 legal divisions — and the minimum verification interval is Emax divided by 10000 in every class. The nominal output is 2 mV/V with a calibration tolerance of ± 0.1 %, input and output resistance are 700 Ω each, and the cell carries 120 % of its nominal load in service and more than 300 % before it breaks. The body is sealed to IP68, tested for 100 hours under a metre of water, and the standard output is five metres of shielded PVC cable; a MIL6M or an M12 connector is available instead. A loading head, a mounting plate and a complete weighing unit are offered for each load group, so that four cells carry a tank without further parts.

MEASUREMENT AND ACCURACY

- Nominal load 100 kg … 200 t in 15 steps
- OIML R60 class C1, C2 or C3
- 1000, 2000 or 3000 legal divisions
- Vmin = Emax / 10000 in every class
- Nominal output 2 mV/V ± 0.1 %
- Input and output resistance 700 Ω ± 2 Ω
- Combined error from ± 0.045 % (C1)
- 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 0.06 … 0.36 mm at nominal load
- Fixing screws M8 or M16, class 12.9
- Weight 1.3 … 18.2 kg by load group
- 5 m shielded cable, 10 m on request
- MIL6M or M12 connector on request

TECHNICAL DATA

ACCURACY TO OIML R60

Accuracy class	C1 — 1000 divisions · C2 — 2000 divisions · C3 — 3000 divisions
Nominal load Emax	100, 250, 500 kg and 1, 2.5, 5, 7.5, 10, 20, 30, 50, 75, 100, 150, 200 t — the order codes give every load in C1 and C2, and all but 150 t and 200 t in C3
Minimum verification interval	Vmin = Emax / 10000 in every class
Combined error	± 0.045 % (C1) · ± 0.035 % (C2) · ± 0.028 % (C3)
Non repeatability	± 0.015 % (C1) · ± 0.010 % (C2) · ± 0.008 % (C3)
Zero return over 30 min	± 0.036 % (C1) · ± 0.023 % (C2) · ± 0.018 % (C3)
Creep at nominal load	over 30 min ± 0.010 % (C2) · ± 0.008 % (C3) — over 20 and 30 min ± 0.026 % (C1), ± 0.016 % (C2), ± 0.022 % (C3)

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	0.06 mm up to 10 t · 0.16 mm at 20 … 30 t · 0.23 mm at 50 … 100 t · 0.36 mm at 150 … 200 t

ELECTRICAL DATA

Nominal sensitivity	2 mV/V · calibration tolerance ± 0.1 %
Input resistance	700 Ω ± 2 Ω
Output resistance	700 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

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 ± 0.030 % (C1), ± 0.024 % (C2), ± 0.020 % (C3) · on sensitivity ± 0.030 % (C1), ± 0.017 % (C2), ± 0.010 % (C3)
Protection class	IP68 to EN 60529 — 100 hours under 1 m water column
Material	stainless steel

MOUNTING AND WEIGHT

Fixing screws	M8, class 12.9, 80 Nm up to 30 t · M16, class 12.9, 230 Nm from 50 t
Number of fixing holes	3 up to 30 t · 4 from 50 t
Cable gland	G 1/4"
Weight	1.3 kg up to 10 t · 3.4 kg at 20 … 30 t · 9.4 kg at 50 … 100 t · 18.2 kg at 150 … 200 t
Acceleration of gravity	the values refer to g = 9.80434 m/s²
Accessories	loading head, mounting plate and complete weighing unit per load group — see accessories

ELECTRICAL CONNECTION

Load cell	Cable	MIL6M	M12×1
Excitation +	red	A	1
Excitation –	black	B	3
Output +	white	D	2
Output –	yellow	C	4
Shield	shield	F	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 two connector options carry the same four signals on the pins given above.

ACCESSORIES

Loading head	CTIC22 up to 10 t · CTIC35 at 20 … 30 t · CTIC60 at 50 … 100 t · CTIC80 at 150 … 200 t
Mounting plate	CPB120D82 for the load group up to 10 t
Weighing unit	CUPC2 up to 10 t · CUPC3 at 20 … 30 t · CUPC5 at 50 … 100 t
Connector and cable	CMIL6FV5 — female MIL6M, 6 poles, with 5 m shielded PVC cable · CONNM12FV5 — female M12 × 1, 5 poles, with 3 m moulded shielded cable

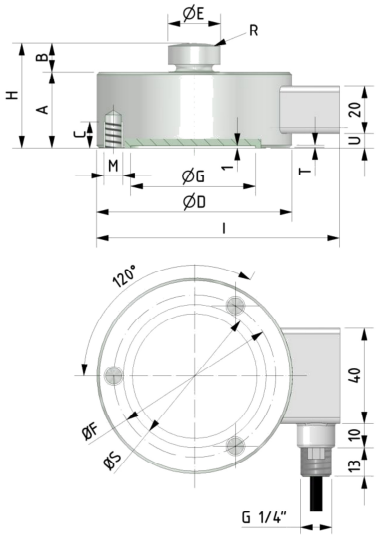
All accessories are ordered separately; the cell is not supplied with them. A weighing system for a tank on four supporting points takes four weighing units.

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 states the accuracy to OIML R60 in the classes C1, C2 and C3, and holds an EAC certificate and an ATEX certificate for the S2 series; both lie in the product folder. Please ask octogon before relying on a marking for a particular application.

DIMENSIONS (mm)



LOAD	A	B	C	D	E	F	G	H	I	M	n°M	R	S	T	U
0,1 ... 10 t	32	12	11	82	22	68	52,3	44	102	M8	3	50	60	0,3	6
20 ... 30 t	50	14	12	126	35	90	77,3	64	148	M8	3	160	93	0,5	15
50 ... 100 t	60	20	20	165	60	130	92,3	80	188	M16	4	300	115	1	17
150 ... 200 t	80	30	20	200	80	152	107	110	223	M16	4	300	128	1	21

The drawing is the one of the manufacturer document; the letters in it are read in the table beside it, one row per load group. AEP dimensions this cell by letters and not by numbers, so a drawing of our own would either have to pick one nominal load or repeat the same letters.