

## Force sensor CL 15

- high accuracy
- high stability and repeatability
- tension load only
- three year warranty and after sale service



The force sensor CL 15 has been designed for measuring static and slow-changing forces.

Together with the ZEPWN instrumentation can find both labor and industrial usage.

The conversion of measured load is realized due to a steel spring element with strain gage full bridge. The bridge is balanced and thermal compensated. The sensor can be load only with tension forces.

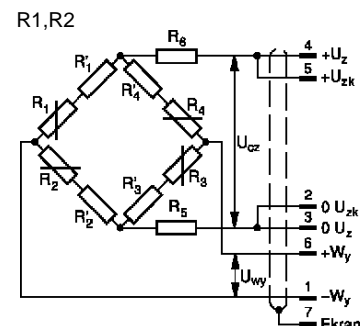
The sensor CL 18 in configurations R1, R2 has the strain gauge bridge 700 Ω with sensitivity 1 mV/V or 2 mV/V. For electrical protection IP40 the sensor is equipped with connectors. For electrical protection IP66 the sensor is equipped with stuffing on connection cable.

### Specifications:

Range	[kN]	5, 10, 20, 50, 100, 200
Non-linearity	[%]	0,5
Cumulative pitch error	[%]	0,018
Signal of unbalance	[%]	± 0,2
Signal of unbalance from zero after nominal load take away (30 min)	[%]	≤ 0,03
Zero point deviation	[%/30 min]	≤ 0,03
Temperature effect on the sensitivity	[%/10K]	≤ 0,05
Temperature effect on the signal of unbalance	[%/10K]	≤ 0,05
Nominal supply voltage	[V]	10
Sensitivity	[mV/V]	1 - R1, 2 - R2
Input resistance	[W]	760 ± 25 730 ± 25
Output resistance	[W]	700 ± 5
Overload capacity	[%]	150
Operating temperature	[K]	253 ÷ 373
Compensation temperature	[K]	273 ÷ 363
Maximal strain	[mm]	0,2
Connector		Z1 – LUMBERG or O1- O-ring gland
Protection degree		IP40, IP66
Dimensions		as in table below
Material		steel, aluminium
Cable length		3m (standard) or other optional

### Designations and cable outlets

1 brown	-W <sub>y</sub>
2 pink	0 U <sub>zk</sub>
3 white	0 U <sub>z</sub>
4 yellow	+U <sub>z</sub>
5 grey	+U <sub>zk</sub>
6 green	+W <sub>y</sub>
7 black	shield



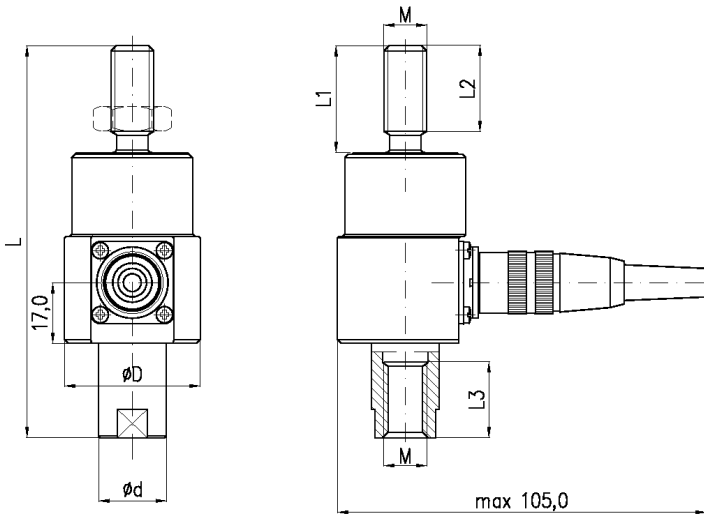
### Quality assurance

Each sensor is detailed examined after manufacturing process.

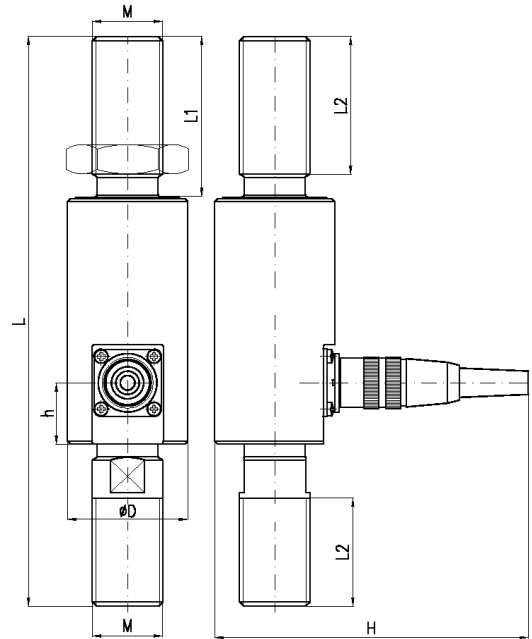
The manufacturer offers 36 month warranty for the sensor and after that time also repair and calibration services.

# Force sensor CL 15

5 kN - 10 kN



20 kN - 200 kN



Range kN	L	L1	L2	M	L3	h	D	H
mm								
5	110	30	24	M12	20	-	38	-
10	120	35	29	M12	25	-	38	-
20	140	43	37	M24x2	28	17	38	≤105
50	195	55	47	M24x2	37	21	41	≤107
100	255	75	67	M39x3	55	21	56	≤125
200	345	100	92	M52x3	74	21	69	≤137

CL 15 in range from 500 kN up to 3000 kN are manufactured on an individual order.

## Options:



Range [kN]: 5; 10; 20; 50; 100; 200

Non-linearity: 0,5%

Configuration: R1 – bridge 700Ω, 1 mV/V, R2 – 700 Ω, 2 mV/V

Supply voltage: 10 V

Connectors: Z1 – Lumberg DIN 45329; O1 – stuffing with stay wire

Cable length: standard 0,5 m or other optional

## Example of options for ordering

CL 15 – 10 kN – 0,5 – R1 – 10 – O1 – 1: sensor with dimensions as in table, range 10 kN; non-linearity 0,5%; strain gage bridge 700 W, sensitivity 1 mV/V; connector as stuffing on cable; cable length 1m.

Manufacturer

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