

Operational force sensor CL 16U

- High accuracy
- High stability and repeatability
- Tension and compression
- Thin shape
- Insensitive against out of alignment of force load
- Three year warranty and after market service



The operational force sensor CL 16U has been designed for measuring static and slow-changing forces. Together with ZEPWN instrumentation can find both labor and industrial usage, especially for converting force into electrical signal in industrial automatics and supervising systems.

The conversion of measured load is realized due to a steel spring element with strain gauge full bridge. The bridge is balanced and thermal compensated.

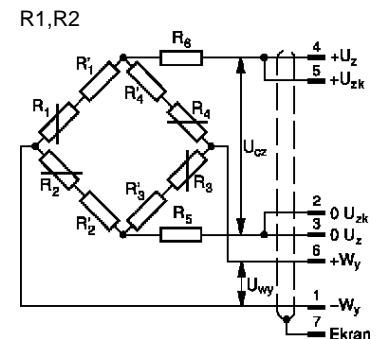
The sensor CL 18 in configurations R1, R2 has the strain gage bridge 700 Ω with sensitivity 1 mV/V or 2 mV/V. For electrical protection IP40 the sensor is equipped with connectors. For electrical protection IP68 the sensor is equipped with stuffing on connection cable.

Specifications:

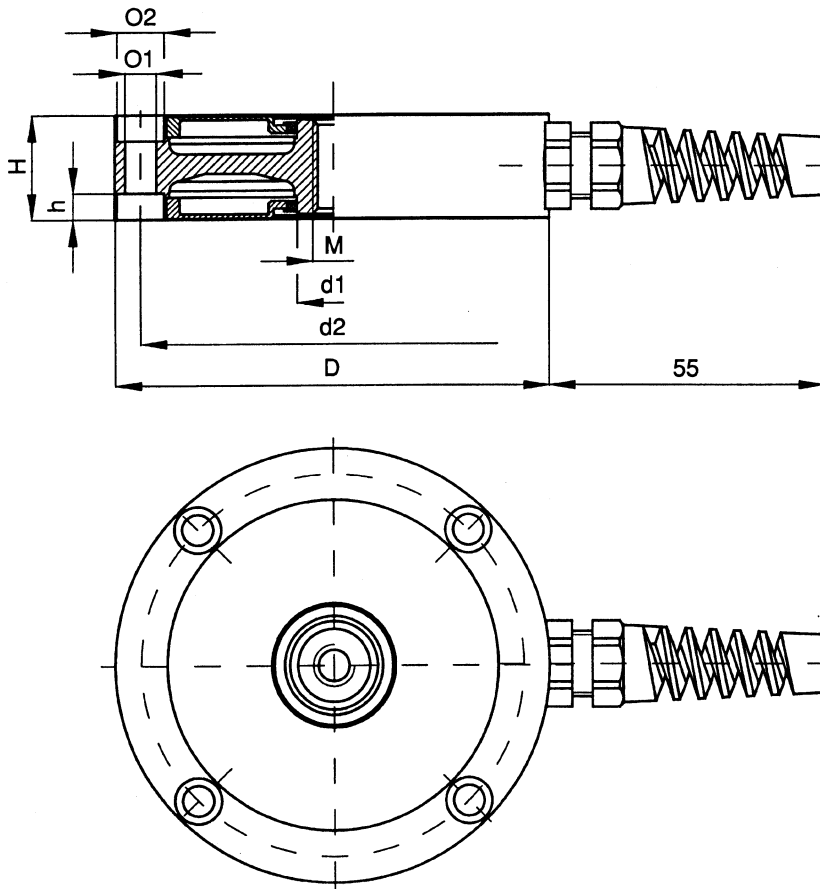
Range	[kN]	1; 2; 5; 10; 20; 50; 100; 200; 500
Configuration		R1, R2
Output signal	[mV/V]	1 - R1, 2 - R2
Accuracy		0,05 or 0,1 – related to sensor's range
Nominal supply voltage	[V]	10
Strain gage resistance	[Ω]	350
Input resistance	[Ω]	730 ±25
Output resistance	[Ω]	700 ±5
Zero point deviation	[%/30 min]	≤ 0,03
Signal of unbalance from zero after nominal load take away	[%]	≤ 0,03
Operating temperature	[°C]	-20 ÷ 100
Temperature effect on the sensitivity	[%/10K]	≤ 0,05
Temperature effect on the signal of unbalance	[%/10K]	≤ 0,05
Compensation temperature	[°C]	0 ÷ 90
Maximal strain	[mm]	0,3
Connectors		Z1 – LUMBERG or O1 – O-ring gland
Protections degree		IP40, IP68
Dimensions		as in table
Material		steel
Cable length		0,5 m (standard) or other optional

Designations and cable outlets

1 brown	-W _y
2 pink	0 U _{zk}
3 white	0 U _z
4 yellow	+U _z
5 grey	+U _{zk}
6 green	+W _y
7 black	shield



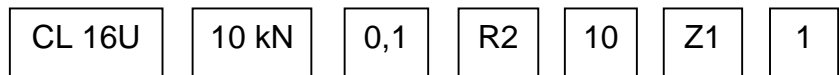
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Quality assurance
 Each sensor is detailed examined after manufacturing process. The manufacturer offers 36 month warranty for the sensor and after that time also repair and calibration services.

Range kN	D	H	M	d1	d2	O1	O2	h
mm								
1	85	20	M8	13	74	6,2	9,5	5
2	85	20	M8	13	74	6,2	9,5	5
5	85	20	M8	13	74	6,2	9,5	5
10	125	28	M12	23	110	8,2	12	6
20	130	35	M24x2	40	110	10,2	17	10
50	130	35	M24x2	40	110	10,2	17	10
100	172	40	M36x3	57	145	12,2	19	12
200	188	60	M39x3	65	155	16,5	24	16
500	290	100	M72x4	113	235	20,5	39	20

Options:



Range [kN]: 1; 2; 5; 10; 20; 50; 100; 200; 500

Accuracy class: 0,05; 0,1

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 16U – 10 kN – 0,1 – R1 – 10- O1 – 1: sensor with dimensions as in table, range 10 kN; accuracy 0,1; strain gage bridge 700 Ω, 1 mV/V; connector stuffing on the cable; cable length 1 m

Manufacturer:

Zakład Elektroniki Pomiarowej Wielkości Nielektrycznych, 05-270 Marki, ul. Kołtątaja 8

