

Operational force sensor CL 18U

- High accuracy
- High stability and repeatability
- Compressive forces
- Three year warranty and after market service

The operational force sensor CL 18U 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 sensor CL 18 can be load with compressive forces.



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 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.

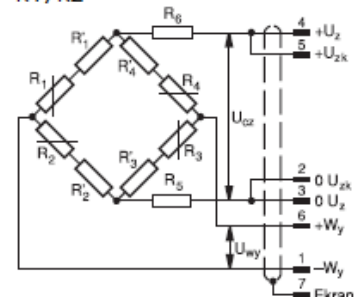
Specifications:

Range	[kN]:	10, 20, 50, 100, 200, 500, 1000, 2000, 3000, 6000, 10 000
Configuration		R1, R2
Sensitivity	[mV/V]	1 - R1, 2 - R2
Output signal	[mV/V]	1 - R1, 2 - R2
Accuracy		0,05 or 0,1 – related to the sensor range
Nominal supply voltage	[V]	10
Strain gauge resistance	[Ω]	350
Input resistance	[Ω]	730 ± 25
Output resistance	[Ω]	700 ± 5
Zero point deviation	[%/30 min]	≤ 0,03
Return of output signal to 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]	0,15
Connectors		Z1 – LUMBERG or O1 – O-ring gland
Protection degree		IP40, IP66
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

R1, R2

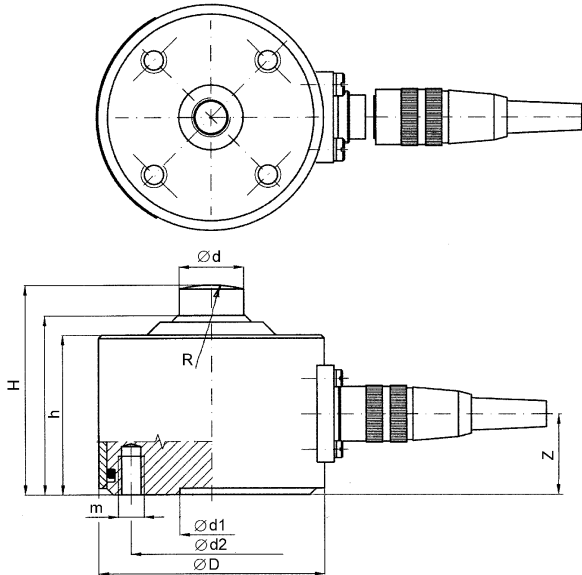


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Quality assurance

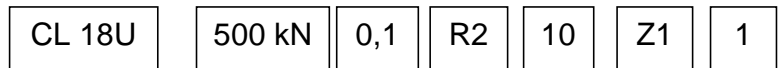
Each sensor is detailed examined after manufacturing process.

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



Range kN	H	D	d	d1	d2	h	m	Z	R
	mm								
5	65	70	20	20	50	49,5	M8*	25	40
10	65	70	20	20	50	49,5	M8*	25	40
20	65	70	20	20	50	49,5	M8*	25	40
50	65	70	20	20	50	49,5	M8*	25	40
100	80	70	46	20	50	68,5	M8*	25	80
200	80	70	46	20	50	68,5	M8*	25	80
500	80	70	46	20	50	68,5	M8*	25	80
1000*	* Dimensions individually agreed with Customer Recommended are joints PCL 18								
2000*									
3000*									
4000*									
6000*									
10000*									

Options:



Range [kN]: 10; 20; 50; 100; 200; 500; 1000; 2000; 3000; 6000; 10000

Accuracy class: 0,05; 0,1; 0,2

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 18U – 500 kN – 0,5 – R2 – 10- Z1 – 1: sensor with dimensions as in table, range 500 kN; accuracy 0,1; strain gauge bridge 700 Ω, 2 mV/V; connector Lumberg; cable length 1 m

Manufacturer _____

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