



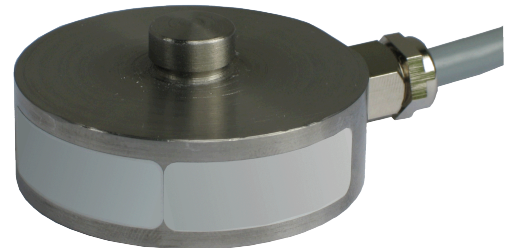
ESA Messtechnik GmbH

Schlossstr. 119 - D-82140 Olching / München
 Telefon: +49 (0)8142 444 130 - Fax: +49 (0)8142 444 131
 Internet: www.esa-messtechnik.de
 E-Mail: info@esa-messtechnik.de

Force Transducer Type CL 21

FEATURES:

- Measuring of compressive forces
- High stability and repeatability
- Easy assembling
- Low profile design
- Insensitive against side loads
- Three year warranty



The force transducer Model CL 21 is designed for measuring compressive forces. It offers a perfect combination of high measurement accuracy and compact design.

Mod. CL 21 is based on a high quality steel spring element equipped with a high-precision strain gauge full bridge. The bridge circuit is accurately balanced and fully temperature compensated. .

The configurations R1 and R2 of CL 21 employ a strain gauge bridge impedance of 700 Ω with a sensitivity of either 1 mV/V or 2 mV/V.

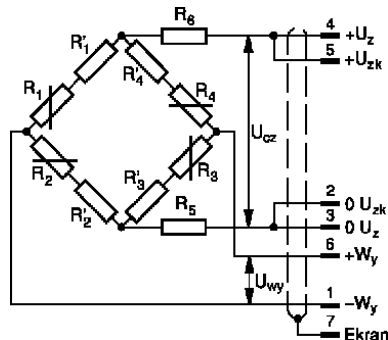
The protection standard is IP67.

TECHNICAL SPECIFICATIONS:

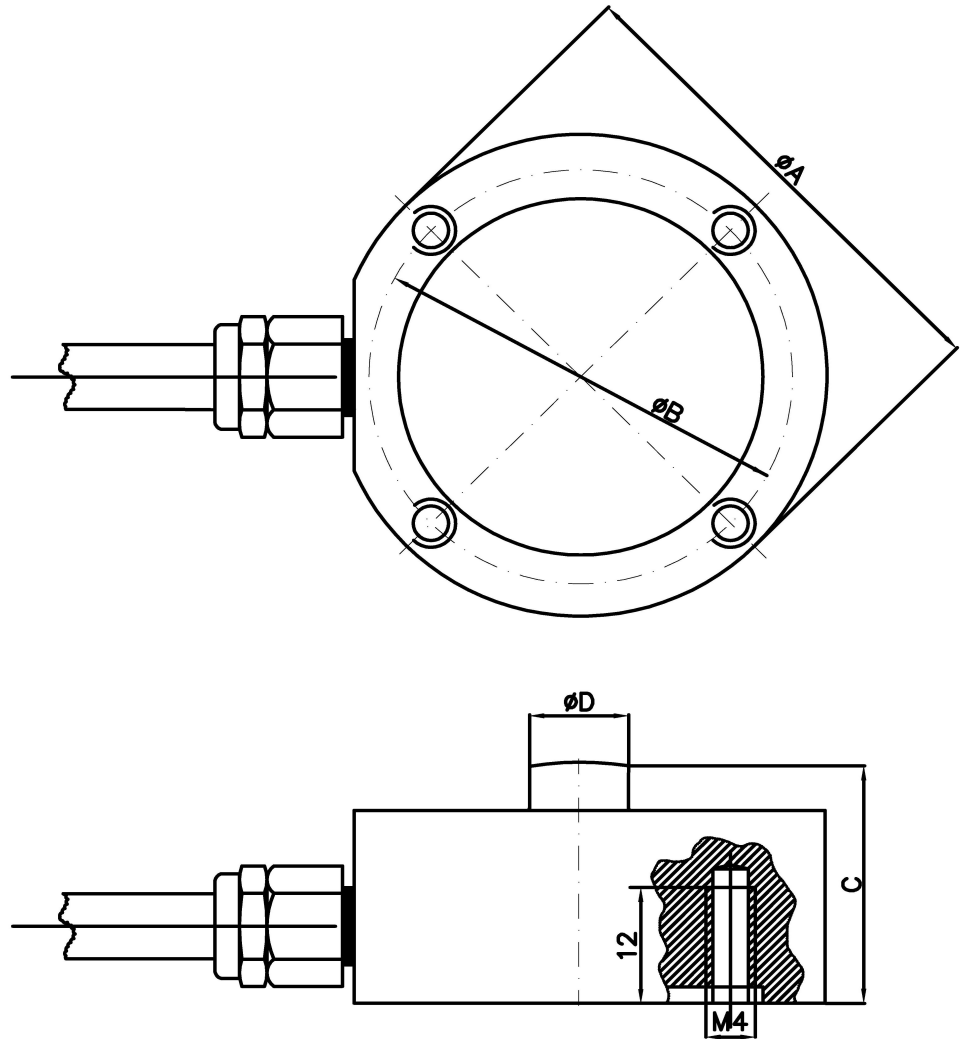
Range	[kN]	1; 2; 5; 10; 20; 50; 100; 200
Sensitivity	[mV/V]	1 - R1, 2 - R2
Accuracy	%	0,2 or 0,5 (referred to full scale)
Nominal supply voltage	[VDC]	10
Input resistance	[Ω]	730 $\pm$ 25
Output resistance	[Ω]	700 + 5
Operating temperature range	[$^{\circ}$ C]	-20 to 100
Compensated temperature range	[$^{\circ}$ C]	20 to 90
Zero drift	[%/30 min]	$\leq$ 0,03
Hysteresis after unloading from nominal load	[%]	$\leq$ 0,03
Temperature effect on sensitivity	[%/10K]	$\leq$ 0,05
Temperature effect on zero	[%/10K]	$\leq$ 0,05
Maximum strain	[mm]	0,1
Overload	[%]	50
Isolation resistance	[G Ω]	$\geq$ 40
Connectors		O-Ring gland (O1)
Protection system		IP67
Dimensions		See drawing and table below
Spring element material		Steel
Cable length		3 m (standard) or other optional

Wiring Schematic for R1 / R2:

- 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



DIMENSIONS:



Range	$\varnothing A$	$\varnothing B$	C	$\varnothing D$	Weight
kN	mm	mm	mm	mm	kg
1	49	43	25	10	0,162
2	49	43	25	10	0,180
5	49	43	25	10	0,190
10	49	43	25	10	0,197
20	76	60	38	19	0,280
50	76	60	38	19	0,281
100	76	60	38	19	0,283
200	76	60	38	19	0,290

ORDER INFORMATION:

CL 21-5 kN-0,1-R2-10-O1-1

Measuring Range _____

Accuracy Class _____

Configuration/Sensitivity (R1 or R2) _____

Excitation _____

Connectors (only O1) _____

Wire Length in m _____