

C9C

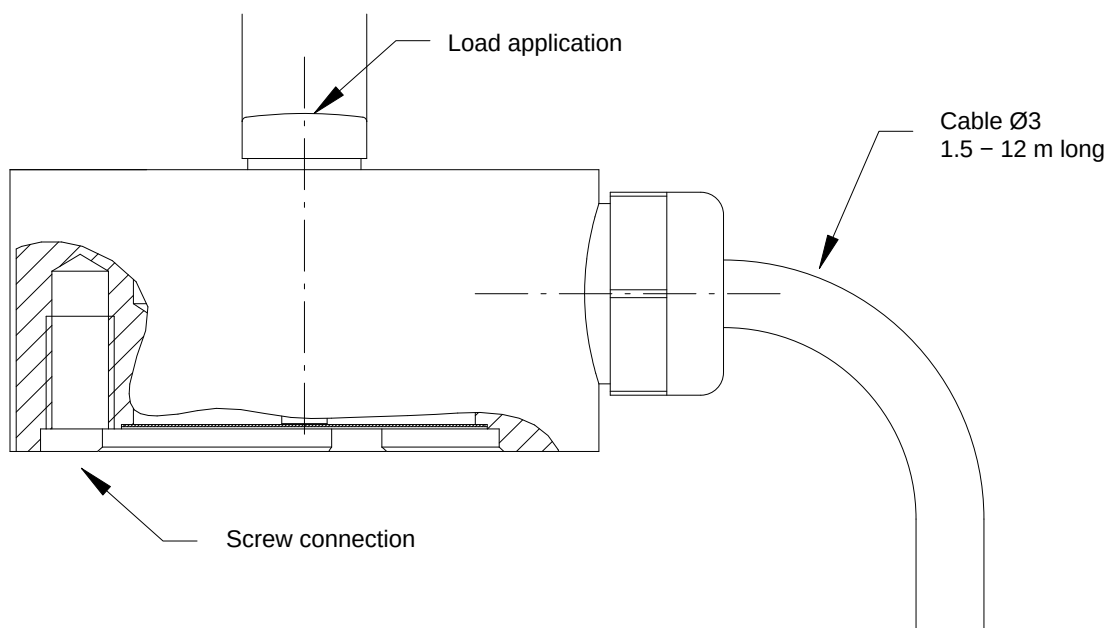
Force Transducer

Special features

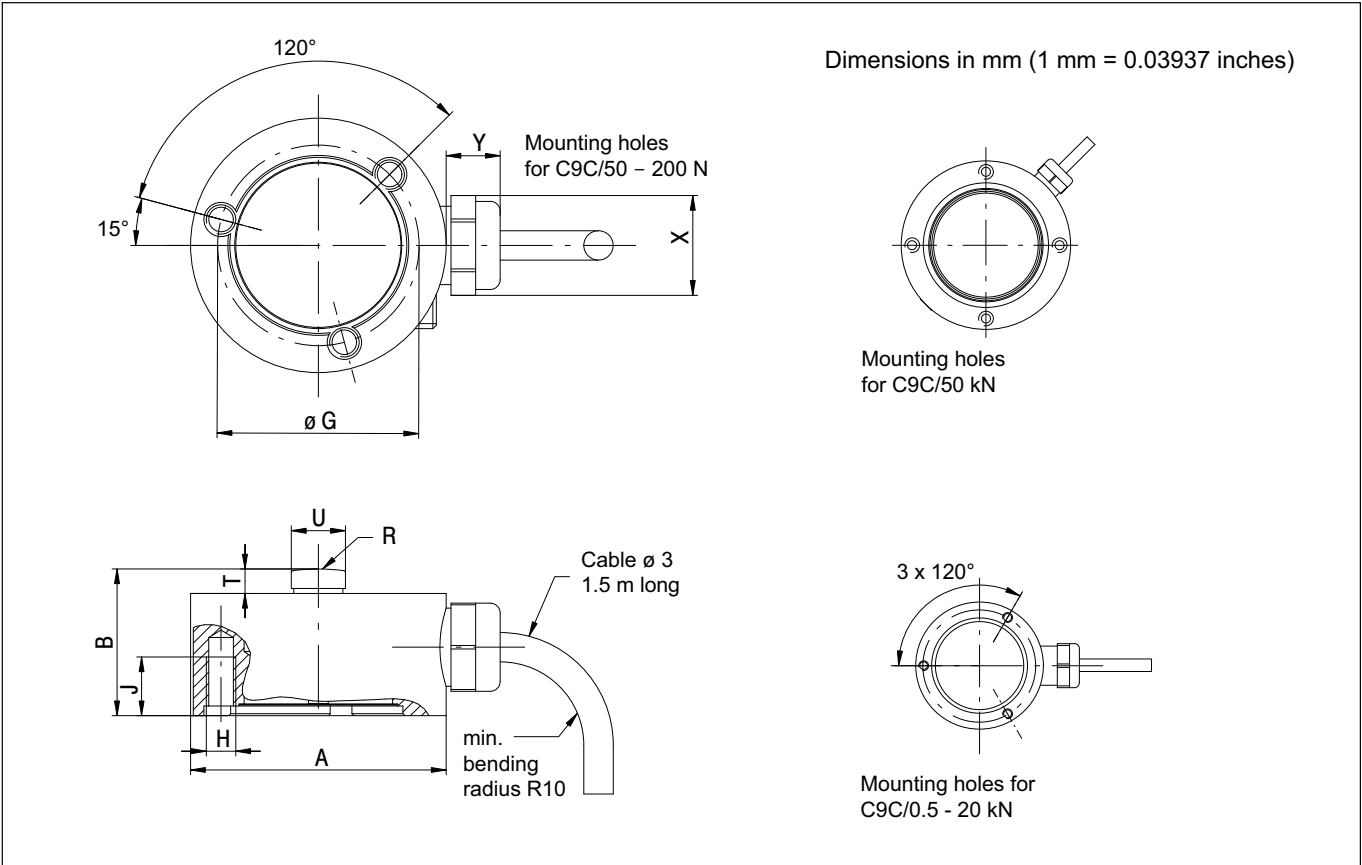
- Compact design compressive force transducer
- Accuracy class 0.2
- Nominal (rated) forces 50 N to 50 kN
- Configurable with different cable lengths, plug assembly and TEDS on request
- Made of rustless materials
- High rigidity, particularly suited for dynamic measurement tasks



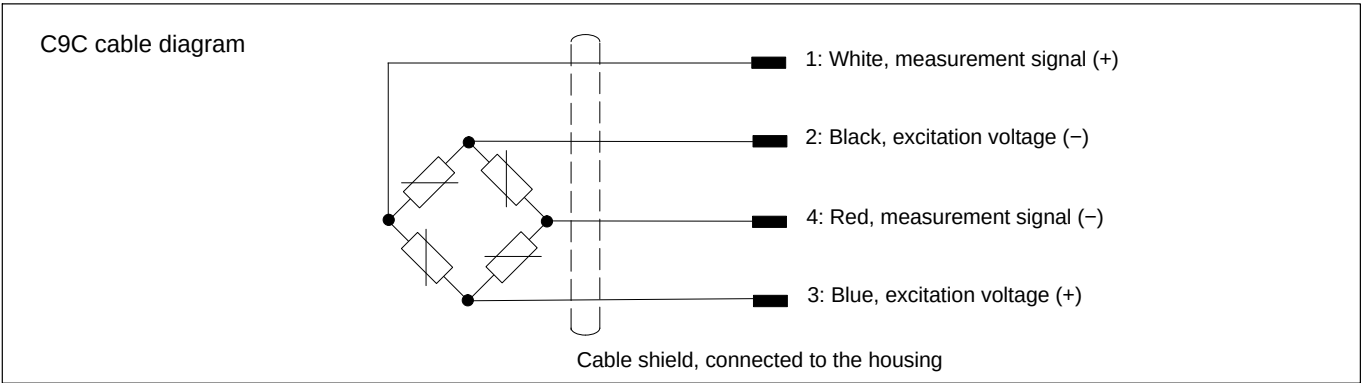
Principle of the C9C force transducer



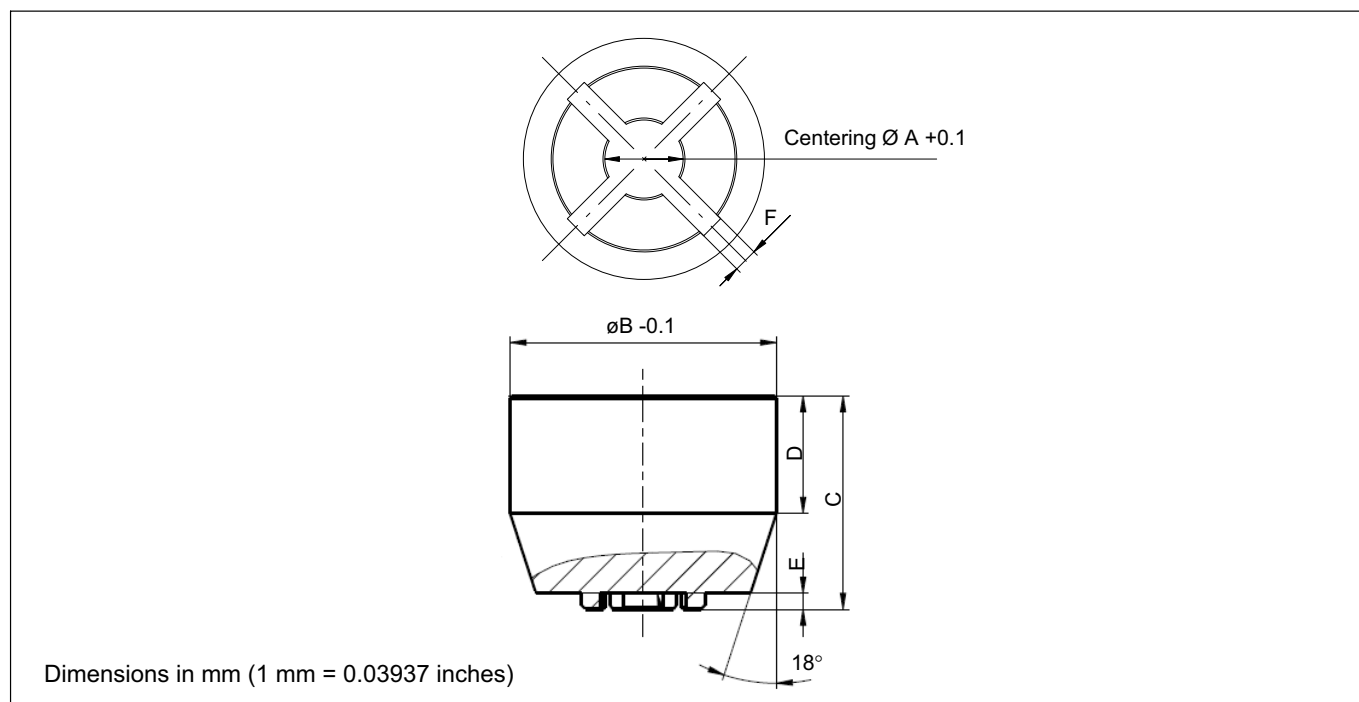
Dimensions of the C9C



Nominal (rated) force of C9C	A _{-0.1}	B	G _{+/-0.1}	H	J	R	T	U _{-0.1}	X	Y
	[mm]									
50 N - 200 N	26	15	20.5	3 x M3	6	20	2.5	5.5	10.5	5.5
0.5 kN - 20 kN	26	13	22.75	3 x M2	3.5	40	1	8	10.5	5.5
50 kN	46	28	40	4 x M4	6	80	8	16	10.5	5.5



Dimensions of the ED09



EDO9 order number	Force range	$\varnothing A$	$\varnothing B$	C	D	E	F
		[mm]					
1-EDO9/20kN	0.5 - 20 kN	8.1	25	20	11	1.5	2.5
1-EDO9/50kN	from 50 kN	16.1	30	22	8	4	8

Specifications

Nominal (rated) force	F _{nom}	N	50	100	200								
		kN				0.5	1	2	5	10	20	50	
Accuracy													
Accuracy class			0.2										
Relative reproducibility and repeatability errors without rotation	b _{rg}	%	< 0.2										
Relative reversibility error	v	%	< 0.2										
Non-linearity	d _{lin}	%	< 0.2										
Relative creep	d _{crF+E}	%	< 0.2			< 0.1							
Effect of temperature on sensitivity													
in the nominal (rated) temperature range	TK _C	% / 10 K	< 0.2										
in the operating temperature range	TK _C	% / 10 K	< 0.50										
Effect of temperature on the zero signal													
in the nominal (rated) temperature range	TK ₀	% / 10 K	< 0.2										
in the operating temperature range	TK ₀	% / 10 K	< 0.50										
Electrical characteristics													
Nominal (rated) sensitivity	C _{nom}	mV/V	1										
Relative zero signal error	d _{s,0}	mV/V	± 0.2										
Sensitivity error	d _c	%	< 1										
Input resistance	R _i	Ω	250 - 400			300 - 450							
Output resistance	R _o	Ω	200 - 400			100 - 450							
Insulation resistance	R _{is}	Ω	> 1*10 ⁹										
Operating range of the excitation voltage	B _{u,gt}	V	0.5 - 12										
Reference excitation voltage	U _{ref}	V	5										
Connection			4-wire circuit										
Temperature													
Reference temperature	t _{ref}	°C	23										
Nominal (rated) temperature range	B _{t,nom}	°C	-10 to +70										
Operating temperature range	B _{t,g}	°C	-30 to +85										
Storage temperature range	B _{t,S}	°C	-30 to +85										
Characteristic mechanical quantities													
Max. operating force	F _G	% of F _{nom}	200			120							
Limit force	F _L	% of F _{nom}	> 200			> 150							
Breaking force	F _B	% of F _{nom}	> 400										
Permissible eccentricity when loading with nominal (rated) force	e _g	mm	2.6	2.5	2.5	3.5	2.6	3.2	1.8	2.0	0.8	2.5	
Nominal (rated) displacement +/- 15%	S _{nom}	mm	0.009			0.015	0.019	0.020	0.025	0.040	0.055	0.075	
Fundamental resonance frequency	f _G	kHz	7.3	10	15.7	3.5	5	7	13	15.1	20	12	
Relative permissible oscillatory stress	F _{rb}	% of F _{nom}	80										70
General information													
Degree of protection per EN 60529			IP67										
Spring element material			Steel										
Measuring point protection			Hermetically welded										

Nominal (rated) force	F _{nom}	N	50	100	200							
		kN				0.5	1	2	5	10	20	50
Cables			Four-wire circuit, PUR insulation									
Cable length	m		1.5 m; 3 m; 5 m; 6 m; 7 m; 12 m									
Weight	g		55				65					260

Versions and order numbers

Code	Measuring range	Order number
0050	50 N	1-C9C/50N
0100	100 N	1-C9C/100N
0200	200 N	1-C9C/200N
00K5	0.5 kN	1-C9C/0.5kN
01k0	1 kN	1-C9C/1kN
02k0	2 kN	1-C9C/2kN
05k0	5 kN	1-C9C/5kN
10k0	10 kN	1-C9C/10kN
20k0	20 kN	1-C9C/20kN
50k0	50 kN	1-C9C/50kN

The order numbers shown in gray are preferred types, they can be delivered rapidly.
All force transducers with 1.5 m cable, open ends and without TEDS.

The order no. for the preferred types is 1-C9C...

The order no. for customer-specific designs is K-C9C-...

The order number example **K-C9C-05k0-12m0-F-T** shown further below refers to a:
C9C, 5 kN nominal (rated) force with 12 m cable, 15-pin Sub-D connector and TEDS

Cable length	Plug version	Transducer identification
1.5 m 01m5	Free ends Y	With TEDS T
3 m 03m0	15-pin Sub-D connector F	Without TEDS S
5 m 05m0	MS3106PEMV connector N	
6 m 06m0	15-pin Sub-HD connector Q	
7 m 07m0		
12 m 12m0		

K-C9C-	05k0-	12m0-	F-	T
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All cable lengths can be combined with all plugs.

TEDS can only be ordered in conjunction with a plug option. It is not possible to combine TEDS and free cable ends.



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