

C9C

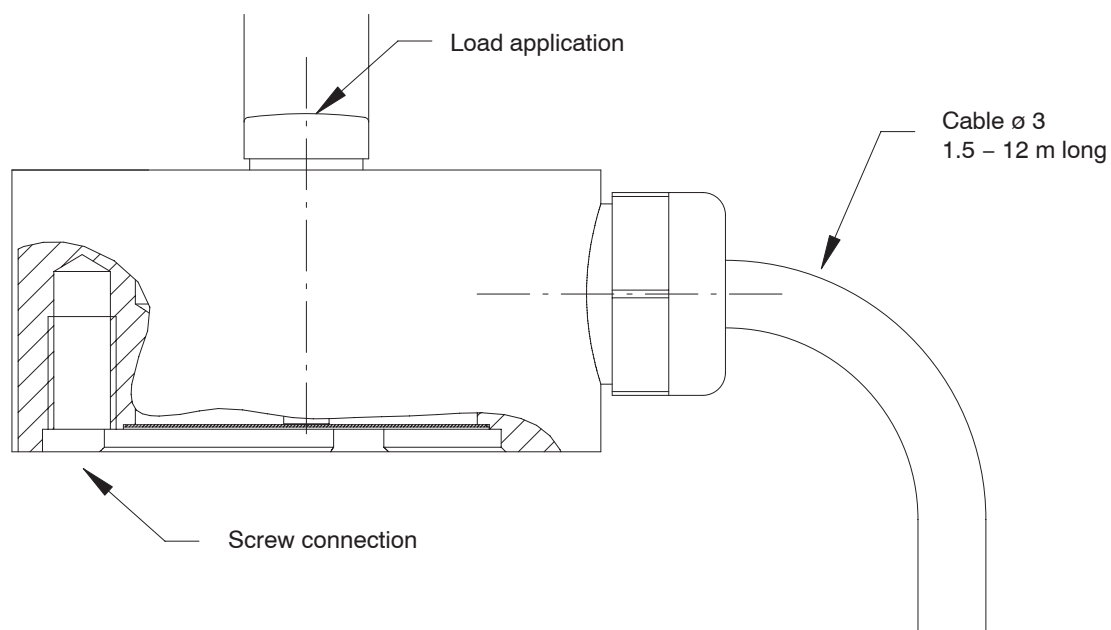
Force Transducer



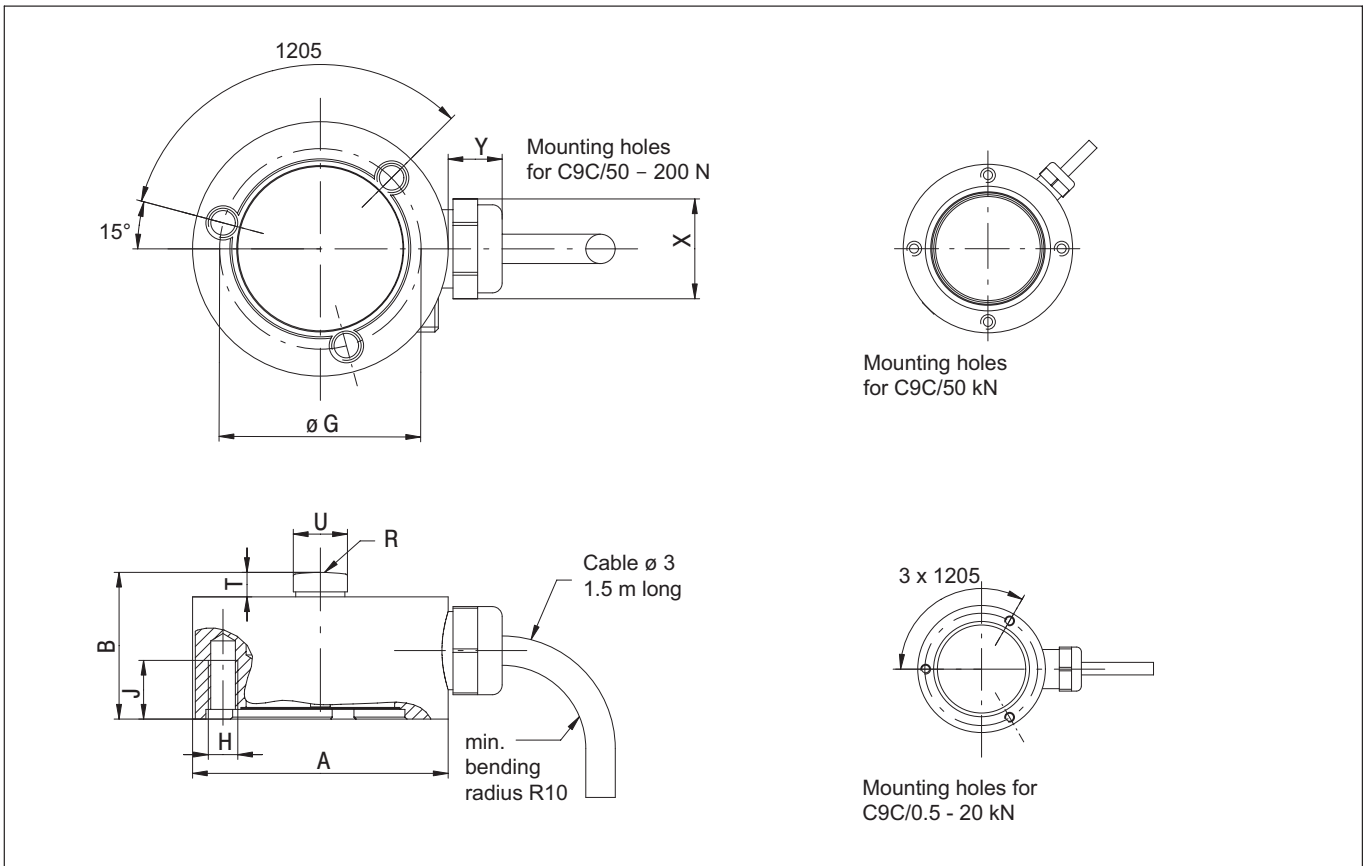
Special features

- 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

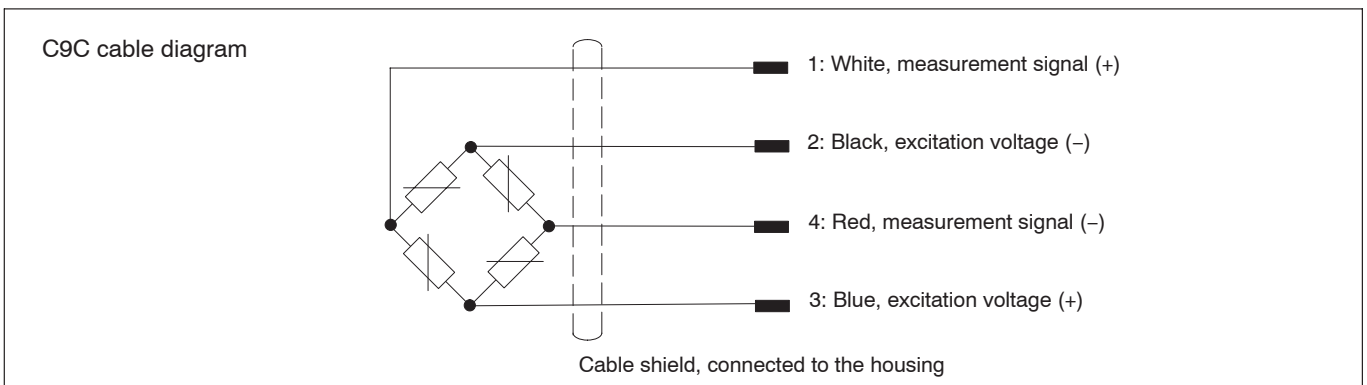
Principle of the C9C force transducer



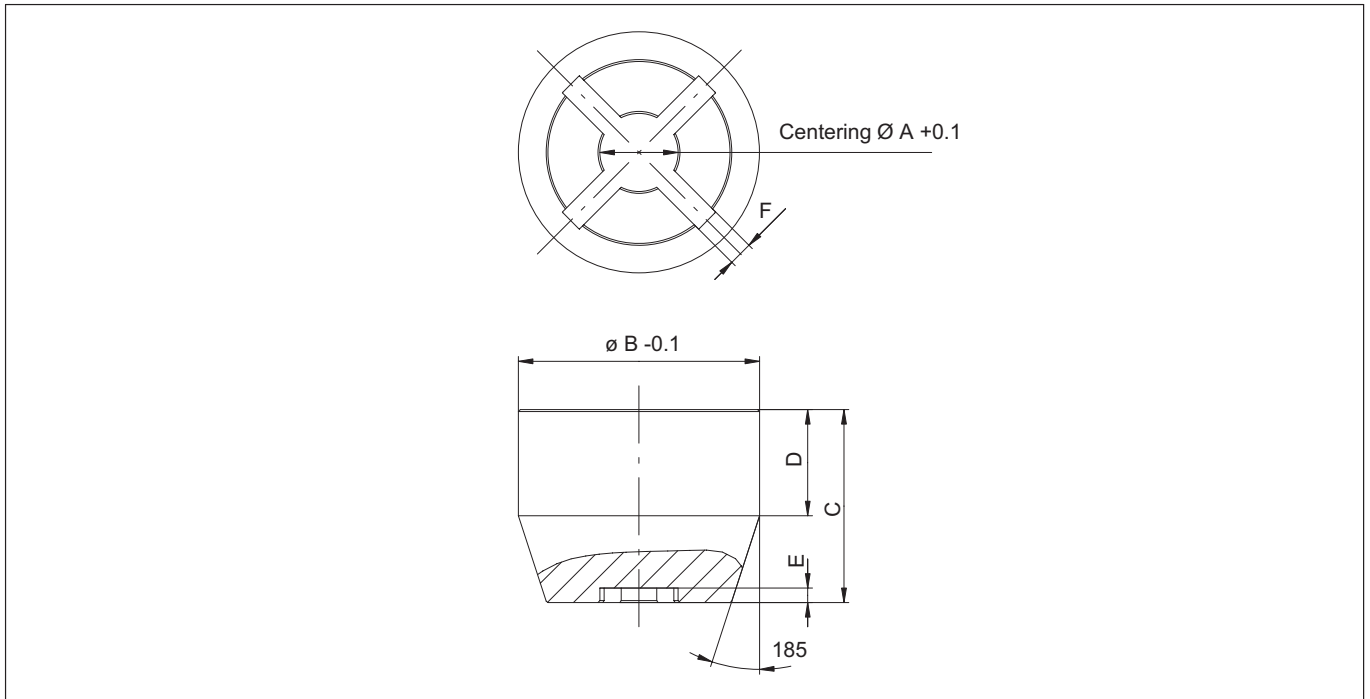
Dimensions of the C9C (in mm)



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 (in mm)



EDO9 ordering 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}	%	< 0.1											
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											
Tensile/compressive sensitivity variation	d_{zd}	%												
Input resistance	R_i	Ω	> 345				300 - 400							
Output resistance	R_o	Ω	300 - 400				> 350							
Insulation resistance	R_{is}	Ω	> $1 \cdot 10^9$											
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}	$^{\circ}C$	23											
Nominal (rated) temperature range	$B_{t,nom}$	$^{\circ}C$	-10 to +70											
Operating temperature range	$B_{t,g}$	$^{\circ}C$	-30 to +85											
Storage temperature range	$B_{t,S}$	$^{\circ}C$	-30 to +85											
Characteristic mechanical quantities														
Max. operating force	F_G	% of F_{nom}	200				120							
Limit force	F_L	% of F_{nom}	> 150											
Breaking force	F_B	% of F_{nom}	> 400											
Permissible eccentricity	e_g	mm	4	5	7.5	7	3.5	5	3	1	0.5	0.5		
Nominal (rated) displacement +/- 15%		mm	0.1	0.1	0.1	0.1	0.04	0.04	0.06	0.09	0.11	0.13		
Fundamental resonance frequency		kHz												
Relative permissible oscillatory stress		% of F_{nom}	80									70		
General information														
Degree of protection per EN 60529			IP67											
Spring element material			Steel											
Potting material			Silicone											
Cables			Four-wire circuit, PUR insulation											
Cable length	m		1.5 m, 3 m, 6 m, 12 m											
Weight	g		55				65				260			

Versions and ordering numbers

Code	Measuring range	Ordering 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 ordering 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 ordering 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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托驰（上海）工业传感器有限公司
上海市嘉定区华江路348号1号楼707室
Tel. 021-51069888 Fax. 021-51069009
www.yanatoo.com zhang@yanatoo.com

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