

U1A

Force Transducer

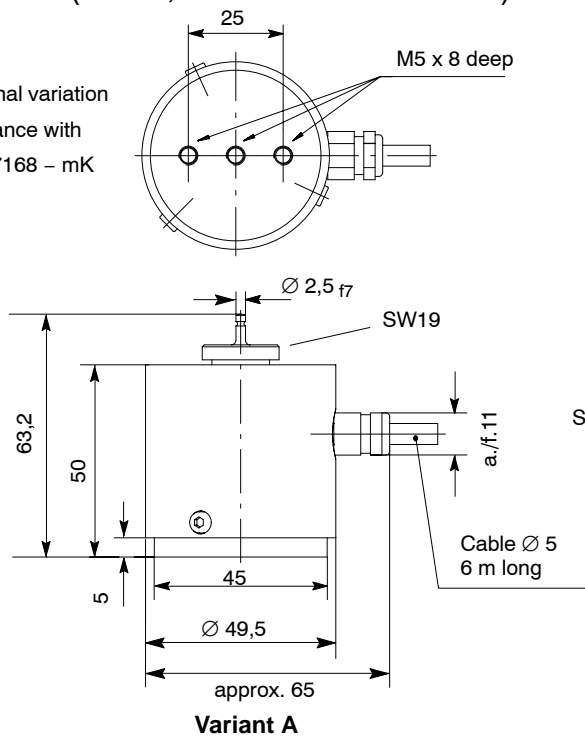


Special features

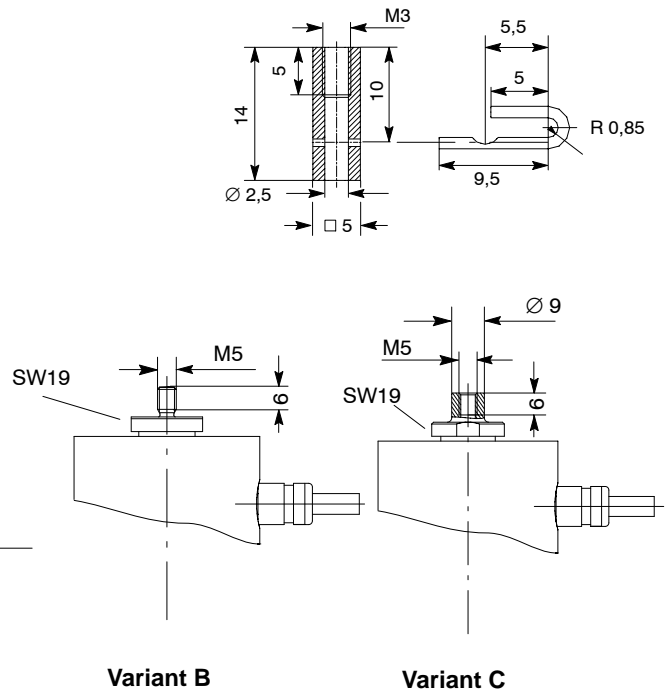
- Tensile force / compressive force transducer
- Nominal forces 10 N ... 50 N
- Integrated overload protection
- Side-force support
- Variable force introduction

Dimensions (in mm; 1 mm=0.03937 inches)

Dimensional variation
in accordance with
DIN ISO 7168 - mK



Coupling for knuckle eye (variant A)



Specifications

Type			U1A		
Accuracy class			0.1		
Nominal force		N	10	20	50
Nominal sensitivity		C_{nom}	2		
rel. sensitivity deviation		d_c	0.2		
rel. tensile-compressive sensitivity difference		d_{zd}	0.4		
rel. deviation from zero		$d_{s,o}$	1		
Rel. range of inversion ($0.2F_{nom}$ to F_{nom})		u	0.15		
Linearity deviation		d_{lin}	0.1		
Temperature effect on the sensitivity/10 K by reference to nominal sensitivity		TK_C	0.1		
Temperature effect on the zero signal/10 K by reference to nominal sensitivity		TK_0	0.05		
Effect of eccentricity / mm		d_E	0.1		
Rel. creep over 30 min		d_{crF+E}	± 0.06		
Input resistance		R_e	> 345		
Output resistance		R_a	300 – 400		
Isolation resistance		R_{is}	$> 5 \times 10^9$		
Reference excitation voltage		U_{ref}	5		
Operating range of the excitation voltage		$B_{U,G}$	0.5 ... 6		
Nominal temperature range		$B_{t,nom}$	$-10 \dots +50$		
Operating temperature range		$B_{t,G}$	$-20 \dots +50$		
Storage temperature range		$B_{t,S}$	$-30 \dots +60$		
Reference temperature		t_{ref}	$+23$		
Max. operational force		(F_G)	120		
Limit force		(F_L)	1000	500	200
Breaking force		(F_B)	2000	1000	400
Static lateral limit force		(F_Q)	200	100	40
Nominal displacement		S_{nom}	0.28	0.21	0.2
Fundamental resonance frequency		f_G	300	450	700
Weight			0.3		
Rel. permissible vibrational stress		F_{rb}	70		
Degree of protection to DIN EN 60529			IP 40		

Knuckle eyes

Options

Code	Option 1: Measuring range
010N	10 N
020N	20 N
050N	50 N

Code	Option 2: Force introduction
A	with pin
B	with M5 external thread
C	with M5 internal thread

Code	Option 3: Cable type
K	with cable, 6 m, free ends
M	with cable, 6 m, MS connector
D	with cable, 6 m, D15 connector

Bestell-Beispiel
K-U1A-010N-AK

Scope of supply: transducer and corresponding force introduction piece, coupling for knuckle eye for Code A

Accessories: (not included in scope of supply)

Upper knuckle eye for coupling M3 (Option A), 1-U1/5kg/ZGO

Upper knuckle eye for internal thread M5 (Option C), 1-U1/5kg/ZGU

Lower knuckle eye for internal thread M5 (all types), 1-U1/5kg/ZGU

Modifications reserved.

All details describe our products in general form only. They are not to be understood as express warranty and do not constitute any liability whatsoever.

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