

U1A

Force Transducers

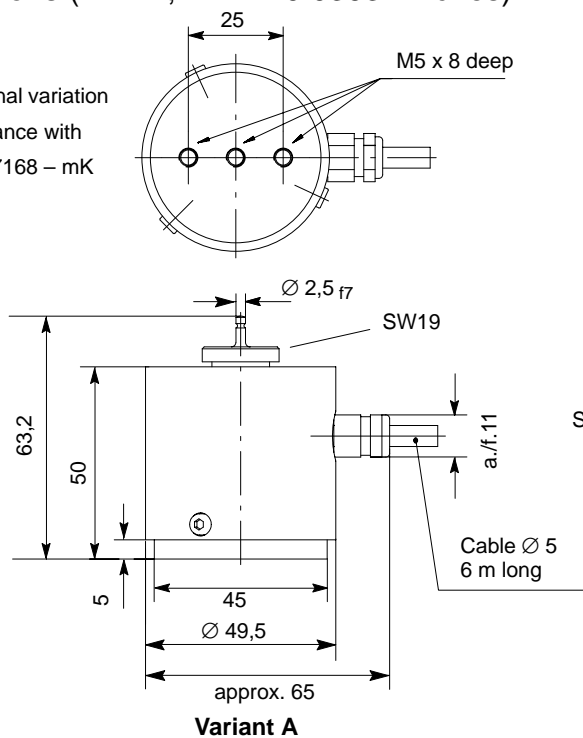


Special features

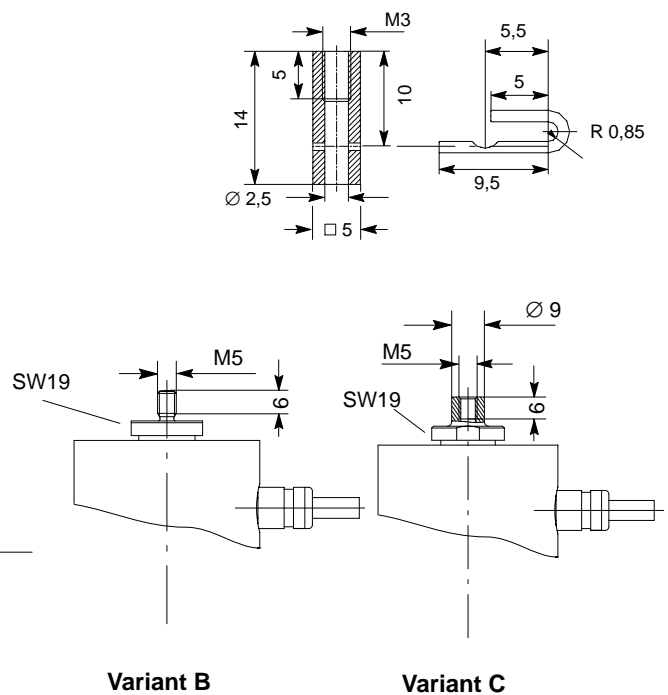
- Tensile force / compressive force transducers
- Nominal forces 10 N ... 50 N
- Integrated overload protection
- Side-force support
- Variable force introduction

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} mV/V	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 Ω	> 345		
Output resistance		R_a Ω	300 – 400		
Isolation resistance		R_{is} Ω	>5 x 10 ⁹		
Reference excitation voltage		U_{ref} V	5		
Operating range of the excitation voltage		$B_{U,G}$ V	0.5 ... 6		
Nominal temperature range		$B_{t,nom}$ °C	-10 ... +50		
Operating temperature range		$B_{t,G}$ °C	-20 ... +50		
Storage temperature range		$B_{t,S}$ °C	-30 ... +60		
Reference temperature		t_{ref} °C	+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} mm	0.28	0.21	0.2
Fundamental resonance frequency		f_G Hz	300	450	700
Weight		kg	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	10N
020N	20N
050N	50N

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, 6m, free ends
M	with cable, 6m, MS connector
D	with cable, 6m, D15 connector

Bestell-Beispiel
K-U1A- 0 1 0 N - A K

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

Accessories (not included in the scope of supply):

U1/5N/ZGO upper knuckle eye
U1/5N/ZGU lower knuckle eye

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.



measurement with confidence