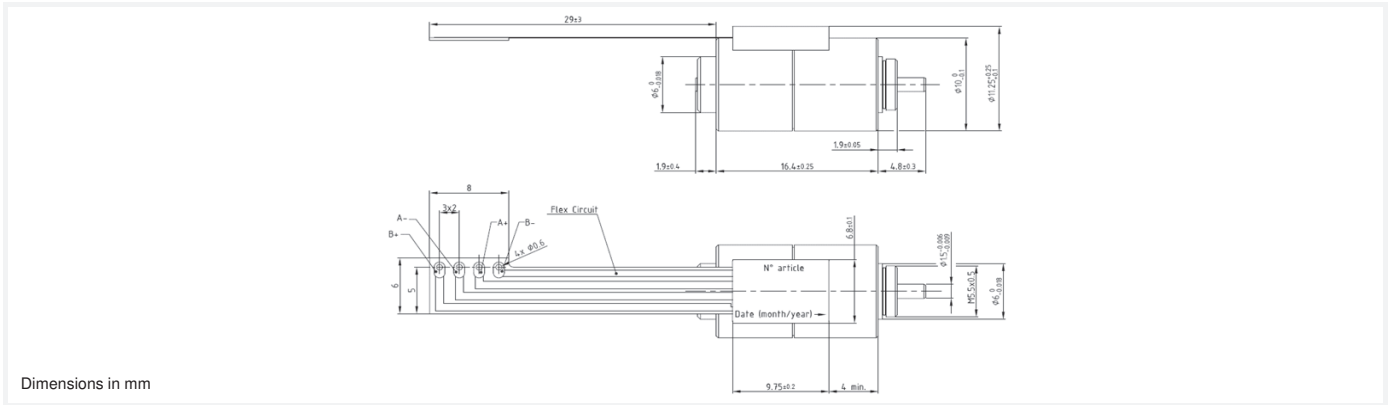


## P010 104

Ø10mm

1.5 mNm



Dimensions in mm

### P010 104

Electrical Data	P010 104 020 21	P010 104 003 21	
1 Resistance per Phase, typ	19.0	3.0	Ohms
2 Inductance per Phase, typ	13.7	1.8	mH
3 Nominal Phase Current (2 ph. On)	0.15	0.37	A
4 Nominal Phase Current (1 ph. On)	0.21	0.52	A
5 Back EMF Amplitude	1.10	0.46	V/kstep/s
<b>Coil independent parameters</b>			
6 Holding Torque, nominal current	1.5 (0.21)		mNm (oz-in)
7 Holding Torque, 1.5x nominal current (1)	2.1 (0.3)		mNm (oz-in)
8 Detent Torque	0.9 (0.13)		mNm (oz-in)
9 Rotor Inertia	0.070		kgm <sup>2</sup> x 10 <sup>-7</sup>
10 Step Angle	9		Degree
11 Absolute Accuracy 2 ph. On, Full step mode	+/- 5%		% Full Step
12 Steps Per Revolution	40		
13 Ambient Temperature Range (operating)	-20 to 50 (-4 to 122)		°C (°F)
14 Maximum Coil Temperature	130 (266)		°C (°F)
15 Thermal Resistance Coil-ambient (2)	100		°C/W
16 Natural Resonance Frequency (nominal current)	230		Hz
17 Electrical Time Constant	0.60		ms
18 Angular Acceleration (nominal current)	210,000		rad/s <sup>2</sup>
19 Bearing Type	Ball		
20 Dielectric Withstanding Voltage	500 VRMS for 5 seconds		VAC
21 Radial Shaft Play	30 @ 2N		µm
22 Axial Shaft Play	40 @ 2N		µm
23 Maximum Radial Shaft Load	2.5 (9)		N (oz)
24 Maximum Axial Shaft Load (3)	2.5 (9)		N (oz)
25 Weight	9 (0.32)		g (oz)
26 Power Rate (nominal current)	0.5		kW/s

- (1) Measured with 1 phase ON. The max coil temperature must be respected
- (2) Motor unmounted
- (3) Shaft must be supported when press-fitting a pulley or pinion

