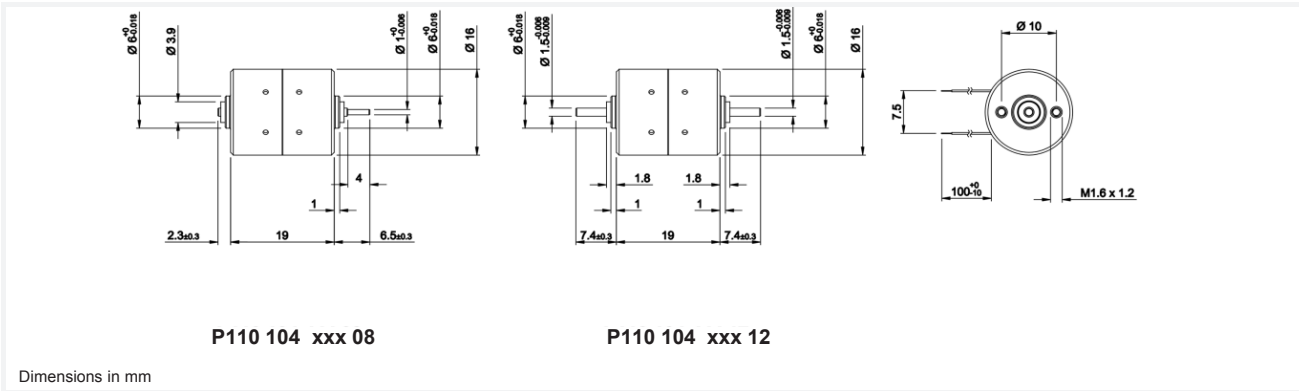


## P110 104

Ø16mm

6.2 mNm



P110 104 xxx 08

P110 104 xxx 12

Dimensions in mm

## P110 104

Electrical Data	P110 104 068 08/12	P110 104 015 08/12	P110 104 2.5 08/12	
1 Resistance per Phase, typ	62.0	15.0	2.5	Ohms
2 Inductance per Phase, typ	46.0	12.0	2.2	mH
3 Nominal Phase Current (2 ph. On)	0.12	0.25	0.63	A
4 Nominal Phase Current (1 ph. On)	0.17	0.35	0.90	A
5 Back EMF Amplitude	5.70	2.80	1.10	V/kstep/s
<b>Coil independent parameters</b>				
6 Holding Torque, nominal current		6.2 (0.88)		mNm (oz-in)
7 Holding Torque, 1.5x nominal current (1)		8.7 (1.23)		mNm (oz-in)
8 Detent Torque		1.65 (0.24)		mNm (oz-in)
9 Rotor Inertia		0.400		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)		45		°C/W
16 Natural Resonance Frequency (nominal current)		200		Hz
17 Electrical Time Constant		0.80		ms
18 Angular Acceleration (nominal current)		155,000		rad/s <sup>2</sup>
19 Bearing Type		Ball		
20 Dielectric Withstanding Voltage		500 VRMS for 5 seconds (30@2N)		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		23 (0.81)		g (oz)
26 Power Rate (nominal current)		1.2		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

