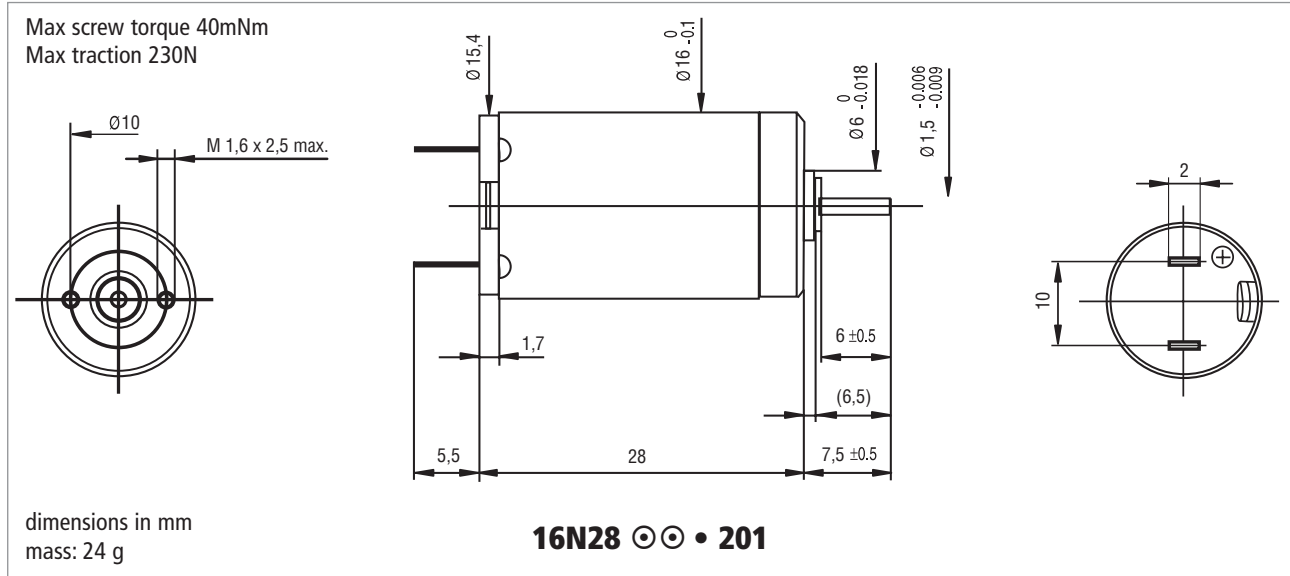


**escap 16N28**

Precious Metal Commutation System - 9 Segments

2.3 Watt



Winding Type	☉☉	-111P	-210E	-208E	-207E	-106	-205E
<b>Measured Values</b>							
Measuring voltage	V	3	7.5	9.0	12.0	16.0	18.0
No-load speed	rpm	9500	9700	8900	10800	10200	9600
Stall torque	mNm (oz-in)	3.7 (0.52)	3.7 (0.52)	3.1 (0.45)	3.1 (0.45)	3.4 (0.48)	2.9 (0.41)
Average No-load current	mA	28	13.3	8.4	7.7	6.3	4.9
Typical starting voltage	V	0.10	0.15	0.2	0.3	0.4	0.45
<b>Max. Recommended Values</b>							
Max. continuous current	A	1.01	0.42	0.29	0.24	0.19	0.15
Max. continuous torque	mNm (oz-in)	2.9 (0.44)	2.9 (0.41)	2.7 (0.38)	2.4 (0.34)	2.7 (0.38)	2.5 (0.35)
Max. angular acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	161	148	172	192	200	182
<b>Intrinsic Parameters</b>							
Back-EMF constant	V/1000 rpm	0.31	0.75	1.0	1.1	1.5	1.8
Torque constant	mNm/A (oz-in/A)	2.96 (0.42)	7.2 (1.0)	9.5 (1.35)	10.3 (1.45)	14.6 (2.07)	17.3 (2.45)
Terminal resistance	ohm	2.4	14.6	28	40.5	68.5	109
Motor regulation R/k <sup>2</sup>	10 <sup>3</sup> /Nms	270	280	310	380	320	360
Rotor inductance	mH	0.08	0.5	0.8	0.9	2	3
Rotor inertia	kgm <sup>2</sup> 10 <sup>-7</sup>	0.72	0.77	0.63	0.51	0.53	0.55
Mechanical time constant	ms	20	22	20	19	17	20

Executions			
		Single Shaft	With F16
Gearbox	Page	16N28	16N28
B16 200	110	235	235
BA16 200	111	235	235
R16	112	201	201

- Thermal resistance: rotor-body 7°C/W, body-ambient 28°C/W
- Thermal time constant - rotor / stator: 7 s / 390 s
- Max. rated coil temperature: 100°C (210°F)
- Recom. ambient temperature range: -30°C to +85°C (-22°F to +185°F)
- Viscous damping constant: 0.04 x 10<sup>-6</sup> Nms
- Max. axial static force for press-fit: 100 N (with sleeve bearing only)
- End play: ≤ 150 µm Radial play: ≤ 30 µm Shaft runout: ≤ 10 µm
- Max. side load at 5 mm from mounting face: - sleeve bearings 1.5 N - ball bearings 3 N
- Motor fitted with sleeve bearings (ball bearings optional)

