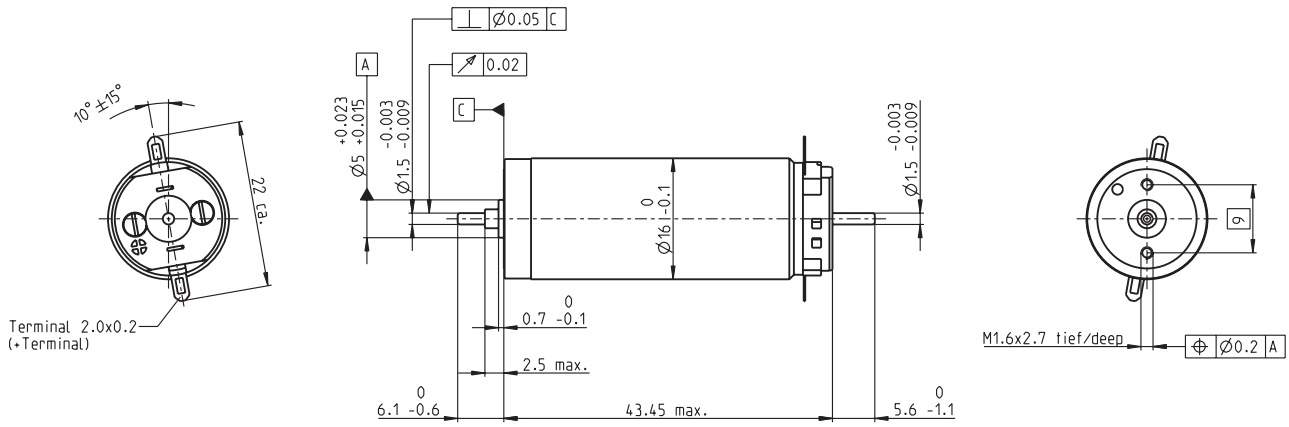
RE 16 ∅16 mm, Graphite Brushes, 4.5 Watt



M 1:1

Stock program
Standard program
Special program (on request)

Order Number

			118725	118726	118727	118728	118729	118730	118731	118732	118733	118734	118735	118736	118737	118738	118739
Motor Data																	
	Values at nominal voltage																
1	Nominal voltage	V	4.8	4.8	6.0	7.2	9.0	12.0	15.0	18.0	24.0	30.0	36.0	45.0	48.0	48.0	48.0
2	No load speed	rpm	12700	12200	13300	13700	13100	13900	14000	13200	14000	14700	14100	14500	14200	10100	5320
3	No load current	mA	105	98.8	87.7	75.5	57.0	46.0	37.1	28.5	23.0	19.6	15.6	12.9	11.8	7.66	3.64
4	Nominal speed	rpm	10400	9750	10800	11200	10900	11900	12100	11300	12100	12900	12300	12700	12400	8130	3170
5	Nominal torque (max. continuous torque)	mNm	2.16	2.28	2.67	3.16	3.67	3.95	4.14	4.35	4.42	4.32	4.41	4.39	4.40	4.64	4.77
6	Nominal current (max. continuous current)	A	0.720	0.720	0.720	0.715	0.625	0.531	0.446	0.365	0.294	0.243	0.198	0.162	0.149	0.111	0.0603
7	Stall torque	mNm	19.2	16.2	17.4	18.8	23.3	28.8	31.4	31.1	34.7	35.7	34.9	35.8	35.0	24.1	12.1
8	Starting current	A	5.52	4.46	4.15	3.82	3.61	3.55	3.12	2.42	2.14	1.85	1.45	1.22	1.10	0.539	0.144
9	Max. efficiency	%	68	68	71	73	76	78	79	79	80	81	80	81	81	78	71
	Characteristics																
10	Terminal resistance	Ω	0.870	1.08	1.45	1.89	2.49	3.38	4.81	7.44	11.2	16.2	24.8	36.9	43.7	89.1	334
11	Terminal inductance	mH	0.0208	0.0227	0.0303	0.0415	0.0711	0.113	0.174	0.285	0.452	0.640	0.994	1.48	1.75	3.44	12.1
12	Torque constant	mNm / A	3.48	3.64	4.20	4.91	6.43	8.11	10.1	12.9	16.2	19.3	24.1	29.4	31.9	44.8	83.9
13	Speed constant	rpm / V	2750	2630	2280	1940	1480	1180	948	742	589	495	397	325	299	213	114
14	Speed / torque gradient	rpm / mNm	687	778	785	745	575	490	453	429	408	415	410	409	411	425	453
15	Mechanical time constant	ms	12.3	11.6	10.9	9.73	7.84	6.84	6.22	5.79	5.53	5.41	5.32	5.26	5.24	5.23	5.25
16	Rotor inertia	gcm²	1.72	1.43	1.32	1.25	1.30	1.33	1.31	1.29	1.29	1.24	1.24	1.23	1.22	1.18	1.11

Specifications

Thermal data

17	Thermal resistance housing-ambient	30 K / W
18	Thermal resistance winding-housing	8.5 K / W
19	Thermal time constant winding	10.5 s
20	Thermal time constant motor	600 s
21	Ambient temperature	-20 ... +65°C
22	Max. permissible winding temperature	+85°C

Mechanical data (sleeve bearings)

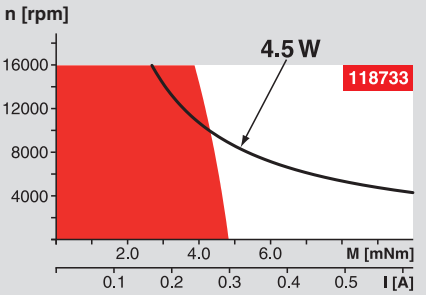
23	Max. permissible speed	16000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static) (static, shaft supported)	15 N 60 N
28	Max. radial loading, 5 mm from flange	1.5 N

Other specifications

29	Number of pole pairs	1
30	Number of commutator segments	7
31	Weight of motor	40 g

Values listed in the table are nominal.
Explanation of the figures on page 49.

Operating Range



Comments

Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

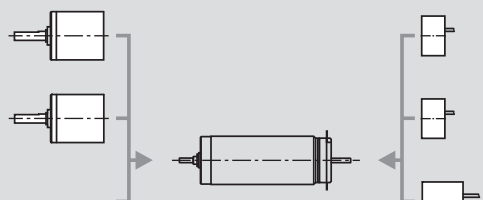
Assigned power rating

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead
∅16 mm
0.06 - 0.18 Nm
Page 215

Planetary Gearhead
∅16 mm
0.1 - 0.3 Nm
Page 216



Encoder MR
32 Imp.,
2 / 3 channels
Page 258

Encoder MR
128 / 256 / 512 Imp.,
2 / 3 channels
Page 260

Encoder MEnc
∅13 mm
16 Imp., 2 channels
Page 274

Recommended Electronics:
LSC 30/2 Page 282
EPOS2 Module 36/2 304
Notes **18**