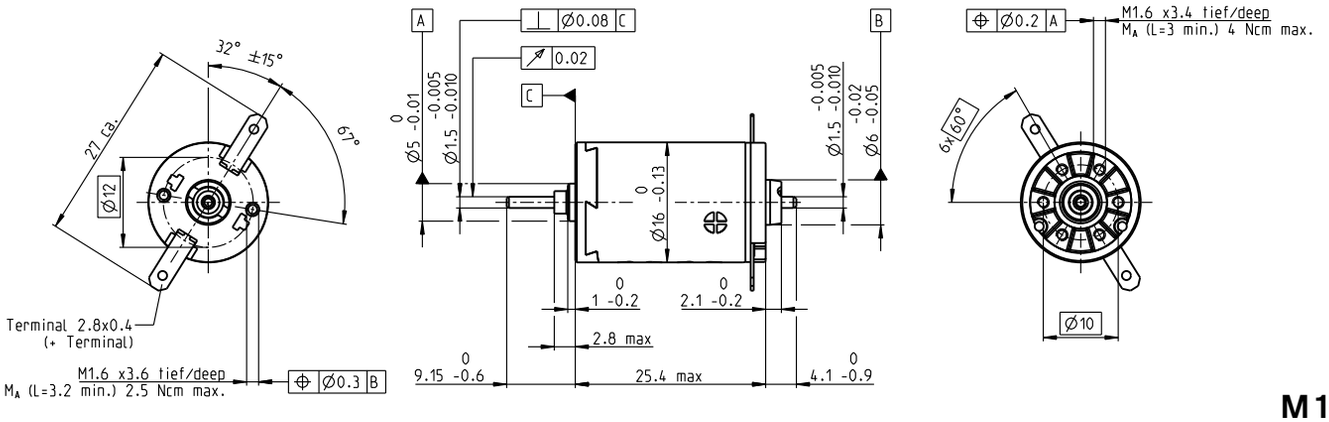
DC-max 16 S ∅16 mm, precious metal brushes, DC motor

Key Data: 2/4.3 W, 4.1 mNm, 11000 rpm



M 1:1

	Motor Data				
1_	Nominal voltage	V	6	12	24
2_	No load speed	rpm	7890	7560	7470
3_	No load current	mA	14.7	6.90	3.40
4_	Nominal speed	rpm	4830	4390	4210
5_	Nominal torque (max. continuous torque)	mNm	4.06	3.92	3.80
6_	Nominal current (max. continuous current)	A	0.577	0.267	0.128
7_	Stall torque	mNm	10.5	9.44	8.75
8_	Stall current	A	1.46	0.629	0.289
9_	Max. efficiency	%	81	80	80
10_	Terminal resistance	Ω	4.10	19.1	83.2
11_	Terminal inductance	mH	0.140	0.610	2.49
12_	Torque constant	mNm/A	7.19	15.0	30.3
13_	Speed constant	rpm/V	1330	637	315
14_	Speed/torque gradient	rpm/mNm	758	809	864
15_	Mechanical time constant	ms	8.87	8.92	9.00
16_	Rotor inertia	gcm^2	1.12	1.05	0.994

	Thermal data		
17_	Thermal resistance housing-ambient	K/W	29.8
18_	Thermal resistance winding-housing	K/W	5.5
19_	Thermal time constant winding	s	5.35
20_	Thermal time constant motor	s	288
21_	Ambient temperature	°C	-30...+65
22_	Max. winding temperature	°C	85

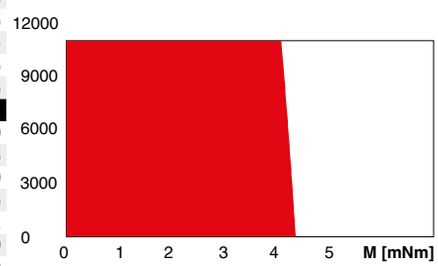
	Mechanical data ball bearings		
23_	Max. speed	rpm	11000
24_	Axial play	mm	0.05...0.15
	Preload	N	0
25_	Radial play	mm	0.025
26_	Max. axial load (dynamic)	N	2.2
27_	Max. force for press fits (static)	N	30
	(static, shaft supported)	N	200
28_	Max. radial load [mm from flange]	N	7.8 [5]

	Mechanical data sleeve bearings		
23_	Max. speed	rpm	11000
24_	Axial play	mm	0.05...0.15
	Preload	N	0
25_	Radial play	mm	0.012
26_	Max. axial load (dynamic)	N	0.8
27_	Max. force for press fits (static)	N	35
	(static, shaft supported)	N	200
28_	Max. radial load [mm from flange]	N	1.4 [5]

	Other specifications		
29_	Number of pole pairs		1
30_	Number of commutator segments		7
31_	Weight of motor	g	23.3

Operating Range

n [rpm] Winding 12 V



- Continuous operation
- Continuous operation with reduced thermal resistance R_{th2} 50%
- Intermittent operation

maxon Modular System Details on catalog page 34

maxon gear	Stages [opt.]	maxon sensor	maxon motor control
341_GPX 16 A/C	1–2 [3–4]	447_ENX 10 QUAD	500_ESCON Module 24/2
342_GPX 16 LN/LZ	1–2 [3–4]	447_ENX 10 EASY	500_ESCON 36/2 DC
345_GPX 19 A/C	3–4		509_EPOS4 Micro 24/5
346_GPX 19 LN/LZ	3–4		510_EPOS4 Mod./Comp. 24/1.5
			511_EPOS4 Comp. 24/5 3-axes

Configuration

Bearing: Sleeve bearings/ball bearings
Commutation: Precious metal brushes with CLL/Graphite Brushes
Shaft front/back: Length
Electric connection: Terminals/cable

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