

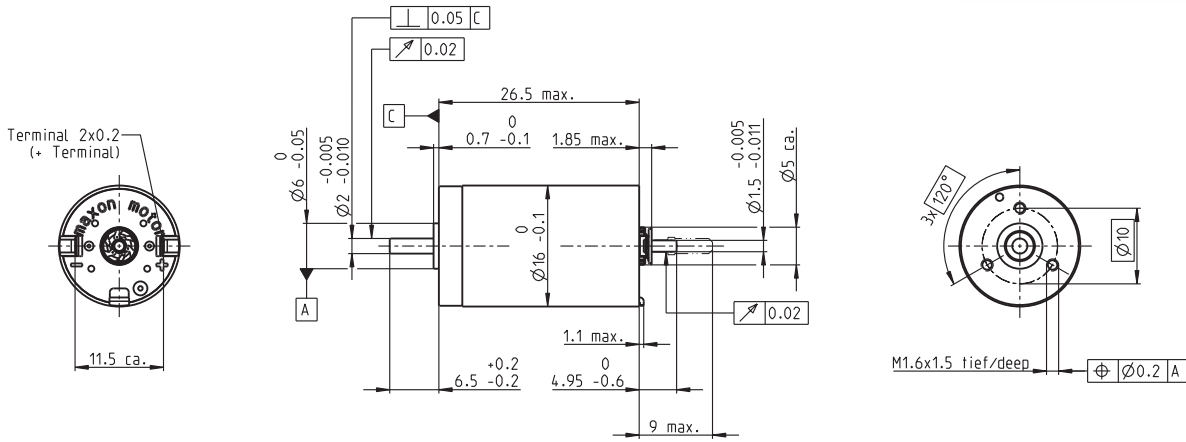
DCX 16 S Graphite Brushes

DC motor Ø16 mm

5/10 W 5.7 mNm 17000 rpm



maxon X drives



M 1:1

Motor Data

1_	Nominal voltage	V	6	9	12	18	24	48
2_	No load speed	rpm	12700	12700	13200	12700	12700	12600
3_	No load current	mA	67.1	44.8	35.4	22.4	16.8	8.28
4_	Nominal speed	rpm	9400	9410	9850	9260	9430	9250
5_	Nominal torque (max. continuous torque)	mNm	5.41	5.37	5.36	5.21	5.43	5.32
6_	Nominal current (max. continuous current)	A	1.28	0.845	0.662	0.411	0.321	0.156
7_	Stall torque	mNm	21.3	21	22.6	20.1	21.7	20.6
8_	Stall current	A	4.79	3.15	2.65	1.51	1.22	0.572
9_	Max. efficiency	%	77	78	76	76	78	77
10_	Terminal resistance	Ω	1.25	2.85	4.53	12	19.7	83.9
11_	Terminal inductance	mH	0.036	0.080	0.131	0.320	0.569	2.32
12_	Torque constant	mNm/A	4.45	6.67	8.53	13.3	17.8	36.0
13_	Speed constant	rpm/V	2150	1430	1120	715	536	265
14_	Speed/torque gradient	rpm/mNm	605	612	594	641	592	620
15_	Mechanical time constant	ms	6.35	6.21	6.74	6.43	6.32	6.23
16_	Rotor inertia	gcm ²	1.00	0.970	1.08	0.959	1.02	0.960

Thermal data

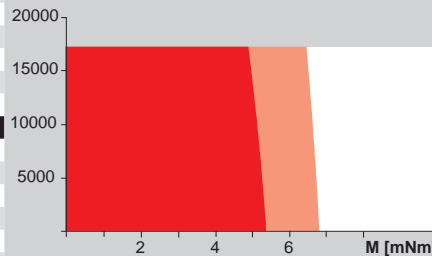
17_	Thermal resistance housing-ambient	K/W	23.5
18_	Thermal resistance winding-housing	K/W	9.9
19_	Thermal time constant winding	s	9.63
20_	Thermal time constant motor	s	227
21_	Ambient temperature ball bearings	°C	-40...+100
21_	Ambient temperature sleeve bearings	°C	-30...+100
22_	Max. winding temperature	°C	125

Mechanical data ball bearings

23_	Max. speed	rpm	17000
24_	Axial play	mm	0...0.1
	Preload	N	0.8
25_	Radial play	mm	0.015
26_	Max. axial load (dynamic)	N	0.8
27_	Max. force for press fits (static)	N	18
	(static, shaft supported)	N	300
28_	Max. radial load [mm from flange]	N	10 [5]

Operating Range

n [rpm] Winding 12 V



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

Mechanical data sleeve bearings

23_	Max. speed	rpm	17000
24_	Axial play	mm	0...0.2
	Preload	N	0
25_	Radial play	mm	0.015
26_	Max. axial load (dynamic)	N	0.1
27_	Max. force for press fits (static)	N	60
	(static, shaft supported)	N	300
28_	Max. radial load [mm from flange]	N	2 [5]

maxon Modular System

maxon gear	Stages	maxon sensor	maxon motor control
122_GPX 16 A/C	1-2	146_ENX 10 EASY	416_ESCON Module 24/2
123_GPX 16 LN/LZ	1-2	146_ENX 10 QUAD	416_ESCON 36/2 DC
124_GPX 16 HP	2-3	147_ENX 16 EASY	417_ESCON Module 50/5
126_GPX 19 A/C	3-4	148_ENX 16 EASY Abs.	418_ESCON 50/5
127_GPX 19 LN/LZ	3-4		424_EPOS2 24/2 (DC/EC)
128_GPX 19 HP	4		424_EPOS2 Module 36/2
			425_EPOS2 50/5
			435_MAXPOS 50/5

Other specifications

29_	Number of pole pairs		1
30_	Number of commutator segments		7
31_	Weight of motor	g	26
32_	Typical noise level	dBA	38

Configuration

Bearing: Ball bearings preloaded/sleeve bearings
 Commutation: Precious metal brushes with CLL/graphite brushes
 Flange front/back: Standard flange/configurable flange/no flange
 Shaft front/back: Length/diameter/flat face
 Electric connection: Terminals or cable/alignment of connection/cable length/connector type

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