

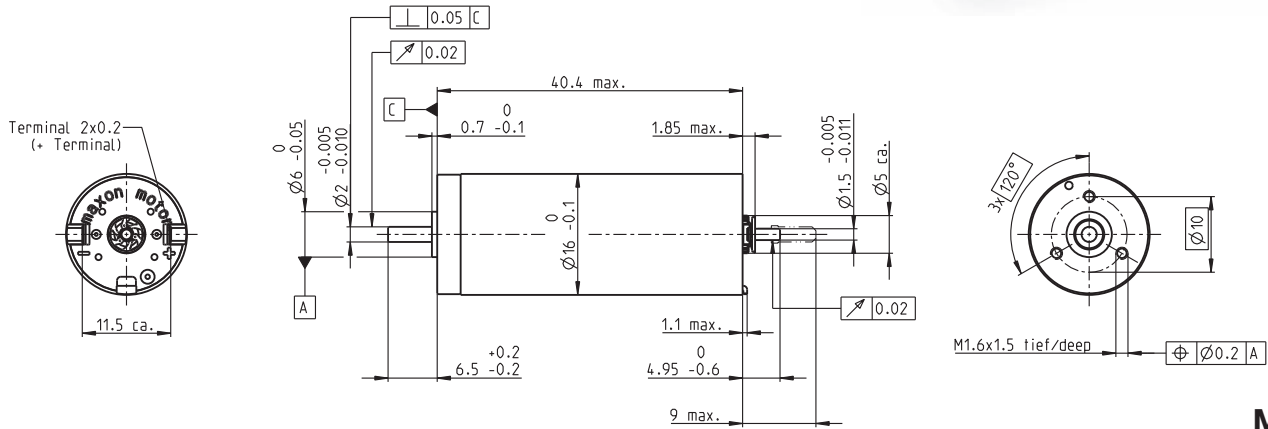
DCX 16 L Graphite Brushes

DC motor Ø16 mm

10/19 W 12.5 mNm 17000 rpm



maxon X drives



M 1:1

Motor Data

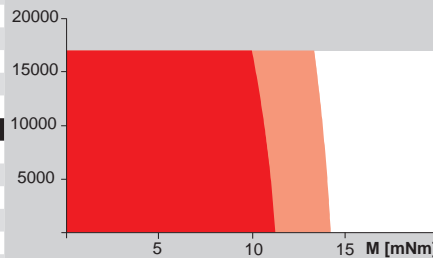
1_	Nominal voltage	V	6	9	12	18	24	36
2_	No load speed	rpm	12800	13100	13200	12800	12800	12800
3_	No load current	mA	79.3	54.8	41.6	26.4	19.8	13.2
4_	Nominal speed	rpm	11000	11000	10700	10600	10600	10700
5_	Nominal torque (max. continuous torque)	mNm	8.56	11.7	10.3	11.6	11.2	11.6
6_	Nominal current (max. continuous current)	A	2.00	1.85	1.24	0.894	0.649	0.446
7_	Stall torque	mNm	61.9	74.3	63.3	74.5	68.5	72.1
8_	Stall current	A	13.9	11.4	7.37	5.59	3.86	2.70
9_	Max. efficiency	%	85	86	83	85	85	86
10_	Terminal resistance	Ω	0.43	0.79	1.63	3.22	6.22	13.3
11_	Terminal inductance	mH	0.026	0.055	0.096	0.231	0.411	0.925
12_	Torque constant	mNm/A	4.44	6.52	8.59	13.3	17.8	26.7
13_	Speed constant	rpm/V	2150	1470	1110	716	537	358
14_	Speed/torque gradient	rpm/mNm	208	178	211	173	188	179
15_	Mechanical time constant	ms	4.76	4.46	5.21	4.70	4.48	4.37
16_	Rotor inertia	gcm ²	2.18	2.40	2.36	2.59	2.28	2.33

Thermal data

17_	Thermal resistance housing-ambient	K/W	17.9
18_	Thermal resistance winding-housing	K/W	7.21
19_	Thermal time constant winding	s	21.5
20_	Thermal time constant motor	s	294
21_	Ambient temperature ball bearings	°C	-40...+100
21_	Ambient temperature sleeve bearings	°C	-30...+100
22_	Max. winding temperature	°C	125

Operating Range

n [rpm] Winding 12 V



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

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]

Mechanical data sleeve bearings

23_	Max. speed	rpm	15000
24_	Axial play	mm	0...0.1
	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	424_EPOS2 24/2 (DC/EC)
126_GPX 19 A/C	3-4	148_ENX 16 EASY Abs.	424_EPOS2 Module 36/2
127_GPX 19 LN/LZ	3-4		428_EPOS2 P 24/5
128_GPX 19 HP	4		435_MAXPOS 50/5

Other specifications

29_	Number of pole pairs		1
30_	Number of commutator segments		7
31_	Weight of motor	g	42
32_	Typical noise level	dBA	40

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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