

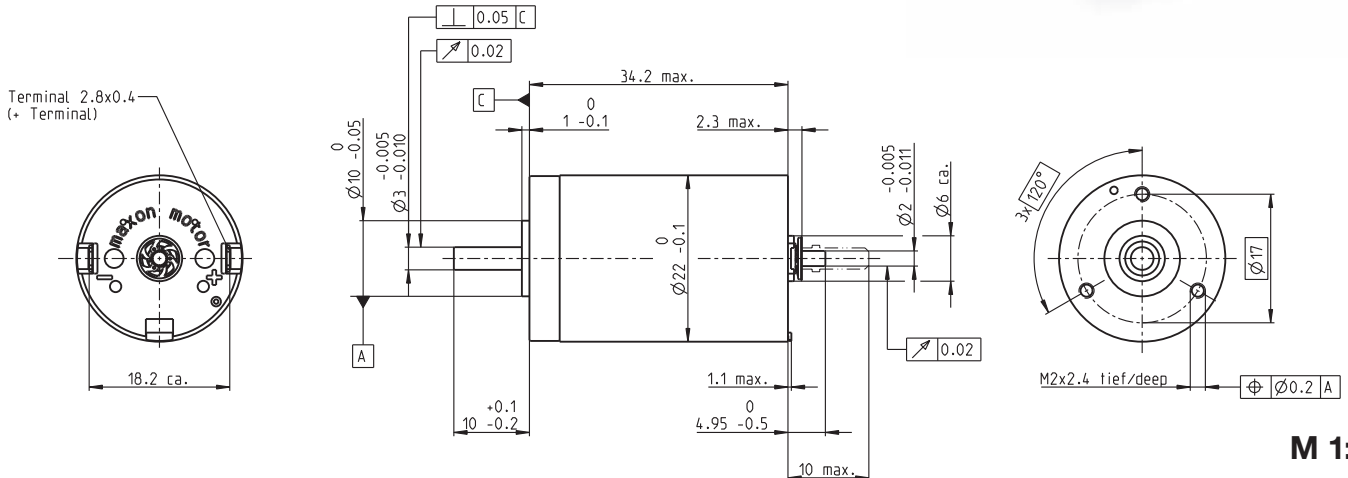
DCX 22 S Graphite Brushes

DC motor Ø22 mm

14/24 W 15.3 mNm 18000 rpm



maxon X drives



M 1:1

Motor Data

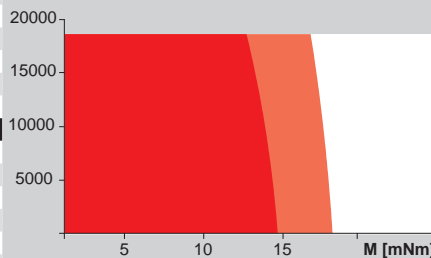
1_	Nominal voltage	V	6	12	18	24	36	48
2_	No load speed	rpm	11400	12400	12400	12400	12200	12700
3_	No load current	mA	126	71.7	47.8	35.9	23.4	18.5
4_	Nominal speed	rpm	9700	10700	10800	10800	10500	10900
5_	Nominal torque (max. continuous torque)	mNm	14.4	14.6	14.9	15.3	14.8	14.0
6_	Nominal current (max. continuous current)	A	3.00	1.65	1.12	0.869	0.552	0.406
7_	Stall torque	mNm	101	108	112	120	113	104
8_	Stall current	A	20.2	11.8	8.15	6.51	4.03	2.90
9_	Max. efficiency	%	85	85	85	86	85	84
10_	Terminal resistance	Ω	0.297	1.02	2.21	3.69	8.94	16.6
11_	Terminal inductance	mH	0.017	0.058	0.130	0.231	0.535	0.881
12_	Torque constant	mNm/A	5.01	9.18	13.8	18.4	28.0	35.9
13_	Speed constant	rpm/V	1910	1040	693	520	342	266
14_	Speed/torque gradient	rpm/mNm	113	116	111	104	109	123
15_	Mechanical time constant	ms	6.23	6.12	6.08	6.07	6.22	6.01
16_	Rotor inertia	gcm ²	5.27	5.05	5.22	5.55	5.44	4.67

Thermal data

17_	Thermal resistance housing-ambient	K/W	16
18_	Thermal resistance winding-housing	K/W	7
19_	Thermal time constant winding	s	20
20_	Thermal time constant motor	s	528
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 18 V



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

Mechanical data ball bearings

23_	Max. speed	rpm	18000
24_	Axial play	mm	0...0.1
	Preload	N	2.5
25_	Radial play	mm	0.02
26_	Max. axial load (dynamic)	N	2.5
27_	Max. force for press fits (static)	N	30
	(static, shaft supported)	N	440
28_	Max. radial load [mm from flange]	N	16 [5]

Mechanical data sleeve bearings

23_	Max. speed	rpm	18000
24_	Axial play	mm	0...0.2
	Preload	N	0
25_	Radial play	mm	0.02
26_	Max. axial load (dynamic)	N	0.1
27_	Max. force for press fits (static)	N	80
	(static, shaft supported)	N	440
28_	Max. radial load [mm from flange]	N	3 [5]

maxon Modular System

maxon gear	Stages	maxon sensor	maxon motor control
130_GPX 22 A/C	1-2	146_ENX 10 QUAD	416_ESCON Module 24/2
131_GPX 22 LN/LZ	1-2	147_ENX 16 EASY	416_ESCON 36/2 DC
132_GPX 22 HP	2-3	148_ENX 16 EASY Abs.	417_ESCON Module 50/5
134_GPX 26 A/C	3	396_ENC SCH16F	418_ESCON 50/5
135_GPX 26 LN/LZ	3	404_ENC 30 HEDL 5540	424_EPOS2 24/2 (DC/EC)
136_GPX 26 HP	4	407_ENC AEDL 5810	424_EPOS2 Module 36/2
			425_EPOS2 24/5
			425_EPOS2 50/5
			428_EPOS2 P 24/5
			435_MAXPOS 50/5

Other specifications

29_	Number of pole pairs		1
30_	Number of commutator segments		9
31_	Weight of motor	g	66
32_	Typical noise level	dBA	41

Configuration

Bearing: Ball bearings preloaded/sleeve bearings
 Commutation: Precious metal brushes with or without CLL/graphite brushes/EMI filter
 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