

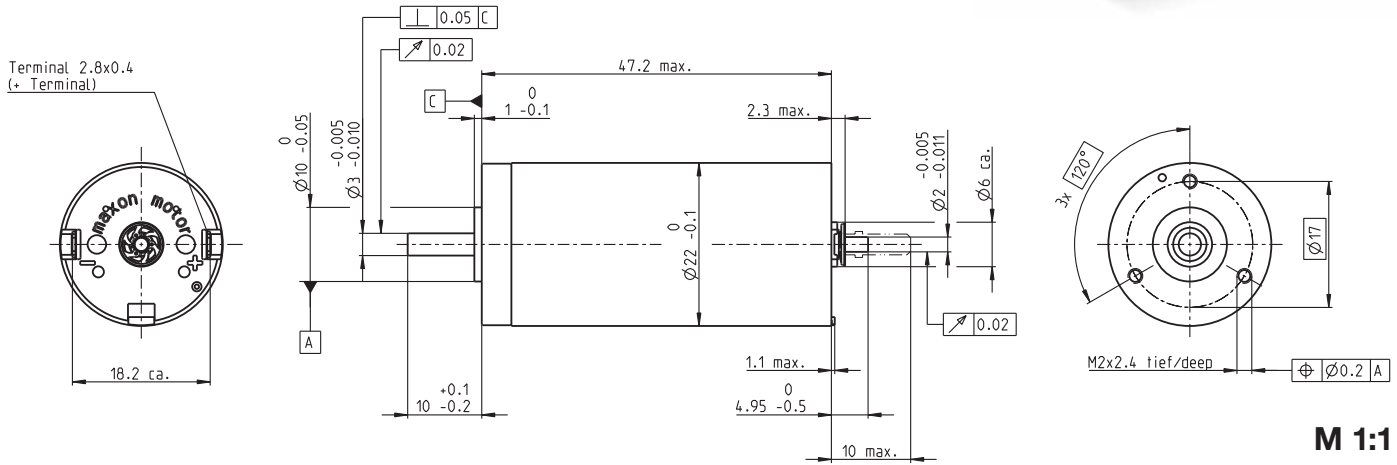
DCX 22 L Graphite Brushes

DC motor Ø22 mm

20/49 W 32.2 mNm 18000 rpm



maxon X drives



M 1:1

Motor Data

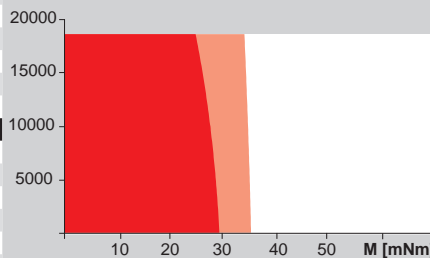
1_	Nominal voltage	V	9	12	18	24	36	48
2_	No load speed	rpm	12300	11700	11800	9970	11400	10100
3_	No load current	mA	118	81.8	54.6	31.8	26.3	16.2
4_	Nominal speed	rpm	11400	10700	10800	8920	10400	9020
5_	Nominal torque (max. continuous torque)	mNm	27.0	30.5	32.2	31.5	30.0	30.3
6_	Nominal current (max. continuous current)	A	4.00	3.21	2.26	1.40	1.03	0.687
7_	Stall torque	mNm	371	348	386	301	346	294
8_	Stall current	A	53.4	35.8	26.5	13.1	11.6	6.50
9_	Max. efficiency	%	90	91	91	90	90	90
10_	Terminal resistance	Ω	0.168	0.335	0.680	1.83	3.11	7.39
11_	Terminal inductance	mH	0.018	0.035	0.078	0.192	0.326	0.746
12_	Torque constant	mNm/A	6.95	9.73	14.6	22.9	29.9	45.2
13_	Speed constant	rpm/V	1370	981	654	416	320	211
14_	Speed/torque gradient	rpm/mNm	33.3	33.8	30.5	33.2	33.3	34.6
15_	Mechanical time constant	ms	3.27	3.21	3.13	3.13	3.23	3.20
16_	Rotor inertia	gcm ²	9.37	9.06	9.82	9.00	9.26	8.85

Thermal data

17_	Thermal resistance housing-ambient	K/W	13.6
18_	Thermal resistance winding-housing	K/W	4.57
19_	Thermal time constant winding	s	22
20_	Thermal time constant motor	s	646
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
			431_EPOS4 Module/Comp. 50/8
			435_MAXPOS 50/5

Other specifications

29_	Number of pole pairs		1
30_	Number of commutator segments		9
31_	Weight of motor	g	95
32_	Typical noise level	dBA	44

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