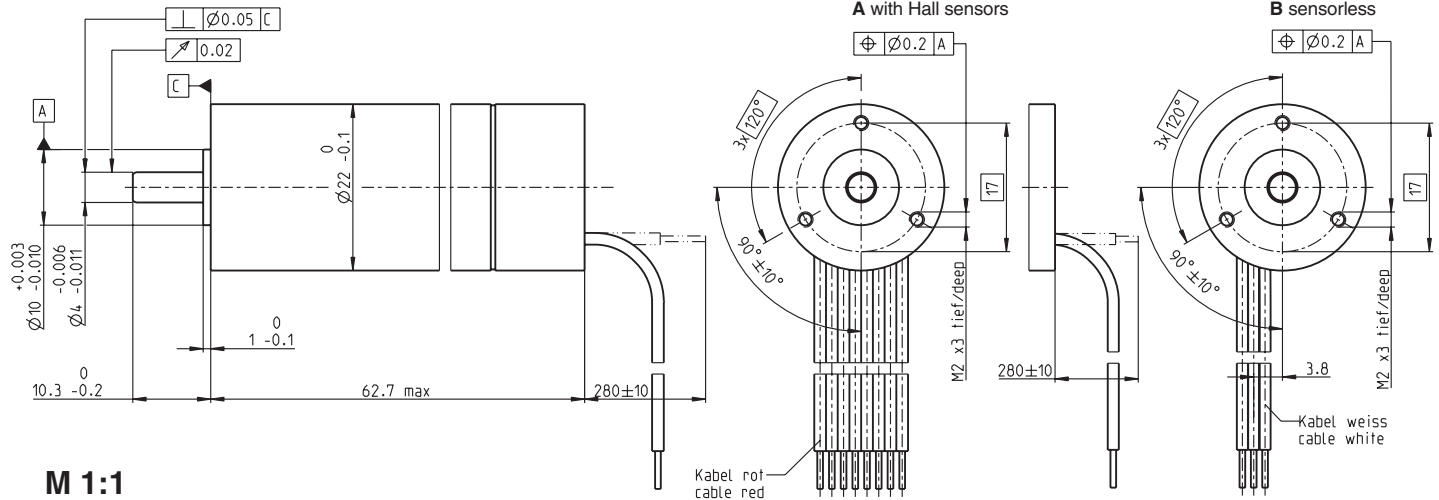


EC 22 Ø22 mm, brushless, 100 Watt, sterilizable

NEW

maxon EC motor



M 1:1

- Stock program
- Standard program
- Special program (on request)

Order Number

A with Hall sensors	386679	386680
B sensorless	386681	386682

Motor Data (provisional)

Values at nominal voltage			
1 Nominal voltage	V	24	42
2 No load speed	rpm	30700	31000
3 No load current	mA	192	112
4 Nominal speed	rpm	27900	28500
5 Nominal torque (max. continuous torque)	mNm	44	43.9
6 Nominal current (max. continuous current)	A	6	3.46
7 Stall torque	mNm	576	646
8 Starting current	A	77.4	50.1
9 Max. efficiency	%	90	91
Characteristics			
10 Terminal resistance phase to phase	Ω	0.31	0.839
11 Terminal inductance phase to phase	mH	0.0438	0.131
12 Torque constant	mNm / A	7.44	12.9
13 Speed constant	rpm / V	1280	741
14 Speed / torque gradient	rpm / mNm	53.5	48.2
15 Mechanical time constant	ms	2.29	2.06
16 Rotor inertia	gcm ²	4.09	4.09

Specifications

Thermal data	
17 Thermal resistance housing-ambient	7 K / W
18 Thermal resistance winding-housing	1 K / W
19 Thermal time constant winding	5.01 s
20 Thermal time constant motor	355 s
21 Ambient temperature	-40 ... +135°C
22 Max. permissible winding temperature	155°C
Mechanical data (preloaded ball bearings)	
23 Max. permissible speed	60000 rpm
24 Axial play at axial load < 5 N	0 mm
24 Axial play at axial load > 5 N	max. 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	4 N
27 Max. force for press fits (static) (static, shaft supported)	45 N / 250 N
28 Max. radial loading, 5 mm from flange	16 N

Other specifications

29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	128 g

Values listed in the table are nominal.

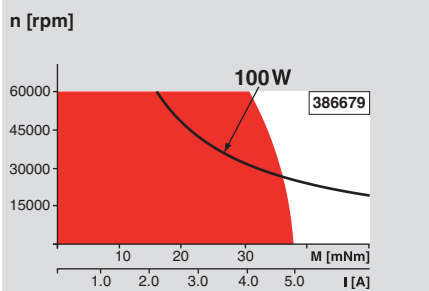
Connection A and B, motor (Cable AWG 22)

- red Motor winding 1
- black Motor winding 2
- white Motor winding 3

Connection A, sensors (Cable AWG 26)

- green V_{Hall} 4.5 ... 24 VDC
 - blue GND
 - red / grey Hall sensor 1
 - black / grey Hall sensor 2
 - white / grey Hall sensor 3
- Wiring diagram for Hall sensors see p. 27

Operating Range



Comments

- Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- Assigned power rating**

Application

- Medicine / surgery / chemicals**
- Hand tools that can be sterilized, such as bone saw, bone drilling and grinding machine
- Dermatological and dental tools
- Infusion pumps
- ECG
- Therapy aid, analysis and dialysis equipment

Sterilization information

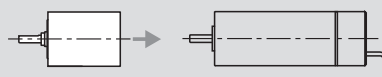
In normal use, the motor can be sterilized 100 times in an autoclave. No need to dismantle.

Sterilization with steam

Temperature	+134°C ± 4°C
Compression pressure up to	2.3 bar
Rel. humidity	100 %
Cycle length	20 minutes

maxon modular system

Planetary Gearhead
sterilizable
Ø22 mm
0.5 - 2.0 Nm
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Overview on page 16 - 21

Recommended Electronics:

DECS 50/5	Page 289
DEC Module 50/5	291
DEC 50/5	291
DECV 50/5	297
DEC 70/10	297
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