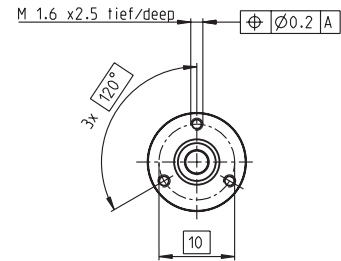
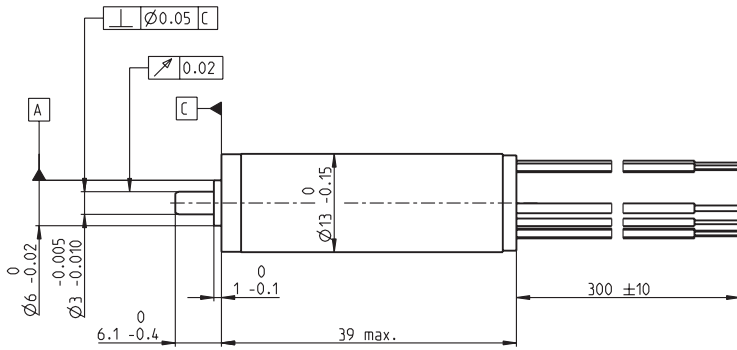


EC 13 Ø13 mm, brushless, 30 Watt, sterilizable



M 1:1

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

Order Number

	368851	368852	370540
A with Hall sensors			
B sensorless	371407	371408	371409

Motor Data (provisional)

Values at nominal voltage		12.0	24.0	48.0
1 Nominal voltage	V	12.0	24.0	48.0
2 No load speed	rpm	71200	71200	82900
3 No load current	mA	175	87.6	53.5
4 Nominal speed	rpm	63900	64100	75600
5 Nominal torque (max. continuous torque)	mNm	4.87	5.04	4.63
6 Nominal current (max. continuous current)	A	3.17	1.63	0.882
7 Stall torque	mNm	55.2	59.0	62.5
8 Starting current	A	34.5	18.4	11.4
9 Max. efficiency	%	86	87	87
Characteristics				
10 Terminal resistance phase to phase	Ω	0.348	1.30	4.22
11 Terminal inductance phase to phase	mH	0.0180	0.0720	0.213
12 Torque constant	mNm / A	1.60	3.20	5.50
13 Speed constant	rpm / V	5970	2980	1740
14 Speed / torque gradient	rpm / mNm	1300	1210	1330
15 Mechanical time constant	ms	3.47	3.24	3.56
16 Rotor inertia	gcm ²	0.255	0.255	0.255

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient: 18.0 K / W
 - 18 Thermal resistance winding-housing: 1.55 K / W
 - 19 Thermal time constant winding: 1.12 s
 - 20 Thermal time constant motor: 306 s
 - 21 Ambient temperature: -40 ... +135°C
 - 22 Max. permissible winding temperature: +155°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. permissible speed: 90000 rpm
 - 24 Axial play at axial load < 2 N: 0 mm
 - > 2 N: max. 1.2 mm
 - 25 Radial play: preloaded
 - 26 Max. axial load (dynamic): 2 N
 - 27 Max. force for press fits (static): 2 N
 - 28 Max. radial loading, 5 mm from flange: 4 N

Other specifications

- 29 Number of pole pairs: 1
 - 30 Number of phases: 3
 - 31 Weight of motor: 34 g
- Alignment of the electronic connections not specified.

Values listed in the table are nominal.

Connection A and B, motor (cable AWG 22)

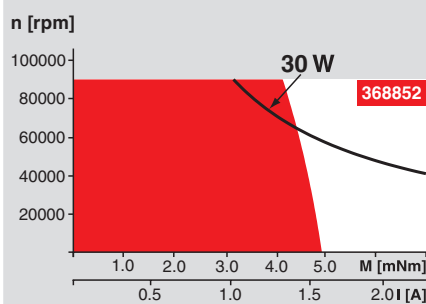
- red Motor winding 1
- black Motor winding 2
- white Motor winding 3

Connection A, sensors (cable AWG 26)

- green V_{Hall} 3.8...24 VDC
- blue GND
- red/grey Hall sensor 1
- black/grey Hall sensor 2
- white/grey Hall sensor 3

Option: Inch-version size 5 available as standard version.

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
- EKG
- Therapy aid, analysis and dialysis equipment

Sterilization information

In normal use, the motor can be sterilized 500 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
Ø13 mm
0.1 - 0.15 Nm
Page 210



Overview on page 16 - 21

Recommended Electronics:
DECS 50/5, DEC 24/1 P. 289
DEC 24/3 290
DEC Module 24/2 290
DEC 50/5, Module 50/5 291
DECV 50/5 297
Notes 20
Chokes sometimes required