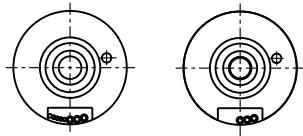


# EC-4pole 30 Ø30 mm, brushless, 150 Watt

sterilizable

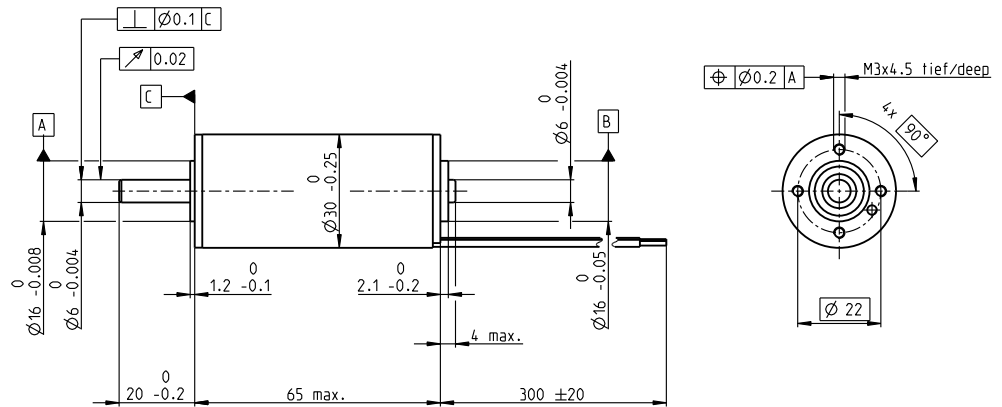
A with Hall Sensors

B sensorless



Lage des Kabelabgangs  
zum Befestigungsbohrbild ±10°

Alignment of cables relative  
to mounting holes ±10°



## M 1:2

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

### Part Numbers

A with Hall sensors  
B sensorless

468311	468313
468312	468314

### Motor Data (provisional)

Values at nominal voltage			
1 Nominal voltage	V	24	32
2 No load speed	rpm	17100	13100
3 No load current	mA	944	429
4 Nominal speed	rpm	16600	12400
5 Nominal torque (max. continuous torque)	mNm	84.6	106
6 Nominal current (max. continuous current)	A	7.23	4.9
7 Stall torque	mNm	3140	2320
8 Stall current	A	236	99.7
9 Max. efficiency	%	88	88
Characteristics			
10 Terminal resistance phase to phase	Ω	0.102	0.321
11 Terminal inductance phase to phase	mH	0.016	0.049
12 Torque constant	mNm/A	13.3	23.3
13 Speed constant	rpm/V	718	410
14 Speed/torque gradient	rpm/mNm	5.49	5.66
15 Mechanical time constant	ms	2.02	2.09
16 Rotor inertia	gcm <sup>2</sup>	35.2	35.2

### Specifications

Thermal data	
17 Thermal resistance housing-ambient	7.4 K/W
18 Thermal resistance winding-housing	0.21 K/W
19 Thermal time constant winding	2.11 s
20 Thermal time constant motor	1180 s
21 Ambient temperature	-40...+150°C
22 Max. permissible winding temperature	155°C

Mechanical data (preloaded ball bearings)	
23 Max. permissible speed	25000 rpm
24 Axial play at axial load	0 mm
	< 8 N
	> 8 N
25 Radial play	0.14 mm
26 Max. axial load (dynamic)	5.5 N
27 Max. force for press fits (static)	73 N
(static, shaft supported)	1300 N
28 Max. radial loading, 5 mm from flange	25 N

### Other specifications

29 Number of pole pairs	2
30 Number of phases	3
31 Weight of motor	300 g

Values listed in the table are nominal.

### Connection motor (Cable AWG 18)

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

### Connection sensors (Cable AWG 26)

green	VHall 3...24 VDC
blue	GND
red/grey	Hall sensor 1
black/grey	Hall sensor 2
white/grey	Hall sensor 3

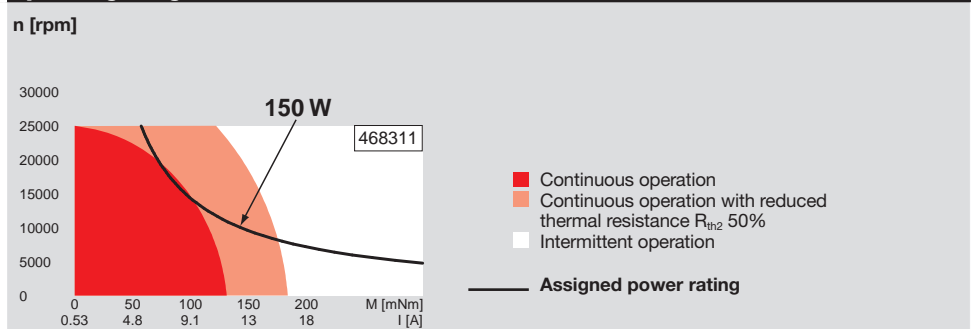
Wiring diagram for Hall sensors see p. 35

### Option

Hollow shaft with bore diameter up to 4.1 mm

### Operating Range

### Comments



### Application

**135°C**  
Sterilizable Devices

Orthopedic Drills  
Orthopedic Saws  
Surgical Reamers

### Sterilization information

Sensorless: typically 2000 autoclave cycles  
Hall sensor: typically 1000 autoclave cycles

Sterilization with steam	
Temperature	+134°C ± 4°C
Compression pressure up to	2.3 bar
Rel. humidity	100 %
Cycle length	18 minutes

### maxon Modular System

Overview on page 20-27

Recommended Electronics:	
Notes	Page 26
ESCON Mod. 50/5	417
ESCON Mod. 50/4 EC-S	417
ESCON 50/5	418
ESCON 70/10	418
DEC Module 50/5	420