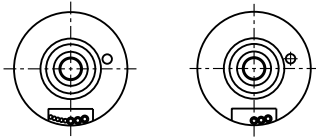


EC-4pole 30 Ø30 mm, brushless, 150 watt
Sterilizable

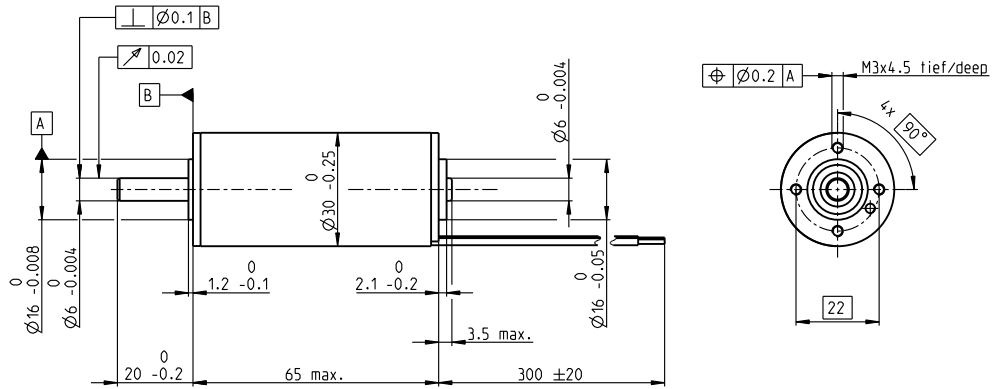
A mit Hallsensoren
with Hall sensors

B sensorlos
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

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	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 ²	35.2	35.2

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 74 K/W
 - 18 Thermal resistance winding-housing 0.209 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 25 000 rpm
 - 24 Axial play at axial load < 4.0 N 0 mm
 - 24 Axial play at axial load > 4.0 N 0.14 mm
 - 25 Radial play preloaded 5.5 N
 - 26 Max. axial load (dynamic) 73 N
 - 27 Max. force for press fits (static) (static, shaft supported) 1300 N
 - 28 Max. radial loading, 5 mm from flange 25 N

Other specifications

- 29 Number of pole pairs
- 30 Number of phases
- 31 Weight of motor

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)

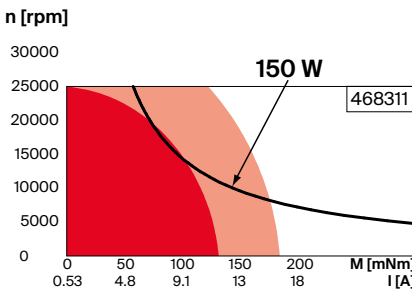
- green V_{Hall} 3...24 VDC
 - blue GND
 - red/grey Hall sensor 1
 - black/grey Hall sensor 2
 - white/grey Hall sensor 3
- Wiring diagram for Hall sensors see p. 67

Option

Hollow shaft with bore diameter up to 4.1 mm

Operating range

Comments



- Continuous operation
- Continuous operation with reduced thermal resistance R_{th2} 50%
- Intermittent operation
- Assigned power rating

Application

Sterilization information

2 135°C	Sterilizable Devices	Sensorless: typically 2000 autoclave cycles
3		Hall sensor: typically 1000 autoclave cycles
300 g	Orthopedic drills	Sterilization with steam
	Orthopedic saws	Temperature +134°C ± 4°C
	Surgical reamers	Compression pressure up to 2.3 bar
		Rel. humidity 100%
		Cycle length 18 minutes

Modular system

Details on catalog page 52

Motor Control

- 547_DEC Module 50/5
- 551_ESCON Module 50/5
- 551_ESCON Module 50/4 EC-S
- 552_ESCON Module 50/8 HE
- 553_ESCON 50/5
- 553_ESCON 70/10
- 557_ESCON2 Micro 60/5
- 558_ESCON2 Module 60/12
- 559_ESCON2 Compact 60/12