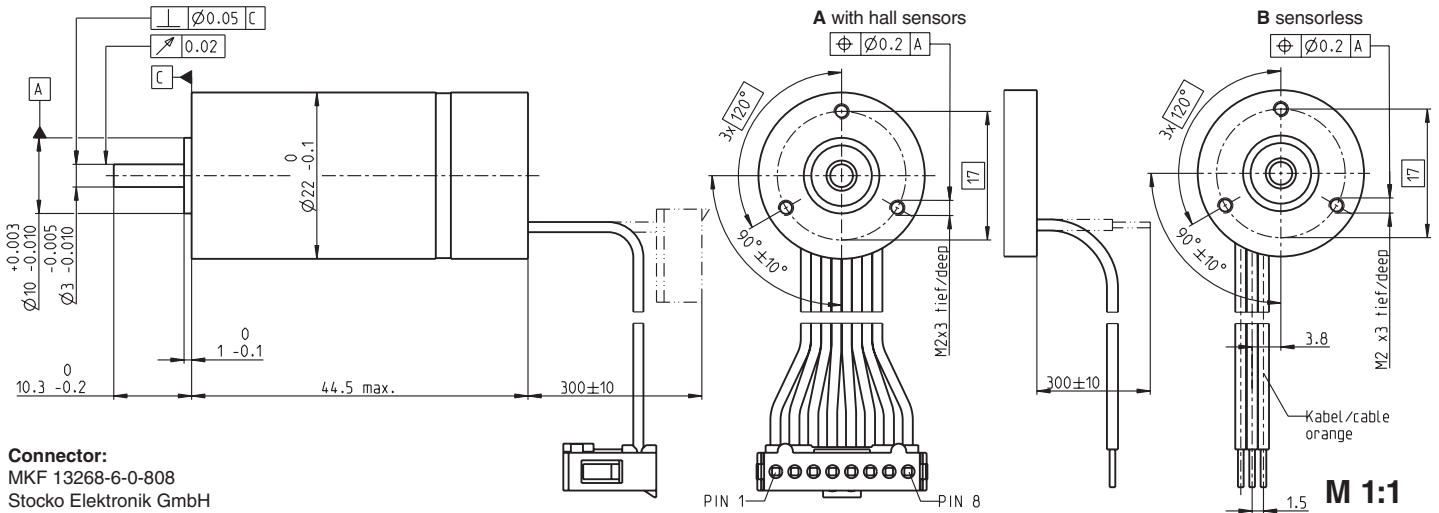


EC 22 Ø22 mm, brushless, 20 Watt

NRND See page 13
Not recommended for New Design



Connector:
MKF 13268-6-0-808
Stocko Elektronik GmbH

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

Part Numbers

	169007	169008	200685	200118
A with hall sensors	169007	169008	200685	200118
B sensorless	200859	200857	200860	200858

Motor Data

Values at nominal voltage					
1 Nominal voltage	V	24	24	24	24
2 No load speed	rpm	35500	20500	16600	9540
3 No load current	mA	210	99	76.1	38.9
4 Nominal speed	rpm	32400	17300	13300	6270
5 Nominal torque (max. continuous torque)	mNm	15.1	16.4	15.5	15.8
6 Nominal current (max. continuous current)	A	2.54	1.56	1.2	0.703
7 Stall torque	mNm	195	117	82.7	48.1
8 Starting current	A	30.4	10.5	6.08	2.04
9 Max. efficiency	%	84	82	79	75
Characteristics					
10 Terminal resistance phase to phase	Ω	0.789	2.28	3.95	11.7
11 Terminal inductance phase to phase	mH	0.071	0.214	0.322	0.966
12 Torque constant	mNm/A	6.40	11.1	13.6	23.6
13 Speed constant	rpm/V	1490	861	702	405
14 Speed/torque gradient	rpm/mNm	184	177	204	202
15 Mechanical time constant	ms	5.78	5.56	6.40	6.35
16 Rotor inertia	gcm ²	3.00	3.00	3.00	3.00

Specifications

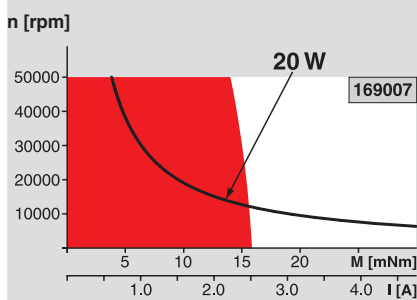
- Thermal data**
- 17 Thermal resistance housing-ambient 10 K/W
 - 18 Thermal resistance winding-housing 2.0 K/W
 - 19 Thermal time constant winding 4.93 s
 - 20 Thermal time constant motor 300 s
 - 21 Ambient temperature -20...+100°C
 - 22 Max. permissible winding temperature +125°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. permissible speed¹⁾ 50000 rpm
 - 24 Axial play at axial load < 4.5 N 0 mm
 - > 4.5 N max. 0.14 mm
 - 25 Radial play preloaded 4 N
 - 26 Max. axial load (dynamic) 4 N
 - 27 Max. force for press fits (static) (static, shaft supported) 45 N
 - 28 Max. radial loading, 5 mm from flange 250 N
 - 16 N
- ¹⁾ in combination with encoder MR n_{max} = 37500 rpm

- Other specifications**
- 29 Number of pole pairs 1
 - 30 Number of phases 3
 - 31 Weight of motor 85 g
- Values listed in the table are nominal.

- Connection A**
- | | | |
|--------|----------------------------------|-------|
| brown | Motor winding 1 | Pin 1 |
| red | Motor winding 2 | Pin 2 |
| orange | Motor winding 3 | Pin 3 |
| yellow | V _{Hall} 4.5 ... 24 VDC | Pin 4 |
| green | GND | Pin 5 |
| blue | Hall sensor 1* | Pin 6 |
| violet | Hall sensor 2* | Pin 7 |
| grey | Hall sensor 3* | Pin 8 |
- *Internal pull-up (7...13 kΩ) on pin 4

- Connection B (Cable AWG 24)**
- | | |
|--------|-----------------|
| brown | Motor winding 1 |
| red | Motor winding 2 |
| orange | Motor winding 3 |
- Wiring diagram for Hall sensors see p. 35

Operating Range

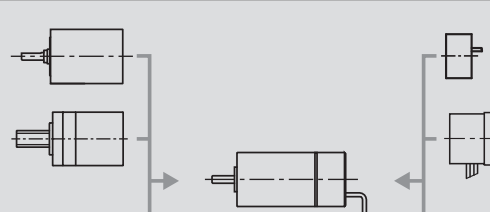


Comments

- 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**

maxon Modular System

- Planetary Gearhead
Ø22 mm
0.5 - 3.4 Nm
Page 252/253
- Spindle Drive
Ø22 mm
Page 284/285



- Recommended Electronics:**
- | | |
|-------------------------|----------|
| ESCON 50/5 | Page 321 |
| DECS 50/5 | 324 |
| DEC Module 24/2 | 325 |
| EPOS2 24/2, Module 36/2 | 330 |
| EPOS2 24/5, EPOS2 50/5 | 331 |
| EPOS2 P 24/5 | 334 |
- Notes** 24

Overview on page 20 - 25

- for type A:
Encoder MR
128/256/512 CPT.,
Page 301
- for type B:
Resolver
on request