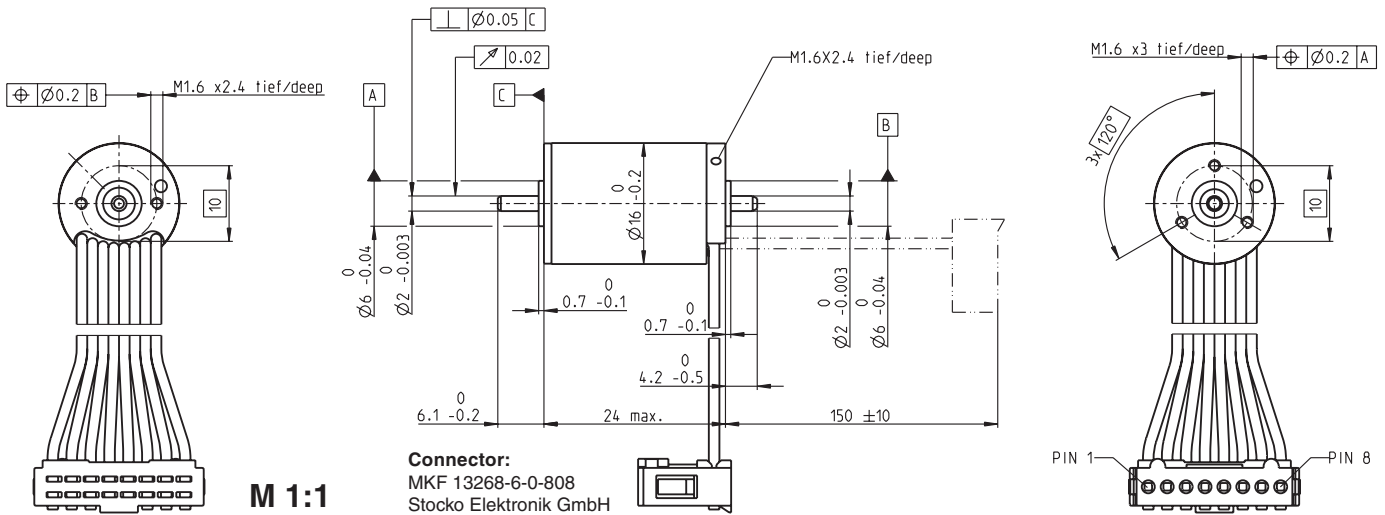


EC-max 16 \varnothing 16 mm, brushless, 5 Watt



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

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

Order Number

283825 **283826** 283827 283828

Motor Data

Values at nominal voltage		4.5	6.0	9.0	12.0
1 Nominal voltage	V	4.5	6.0	9.0	12.0
2 No load speed	rpm	12800	13500	12600	13500
3 No load current	mA	148	120	72.4	60.2
4 Nominal speed	rpm	5230	5730	4930	5840
5 Nominal torque (max. continuous torque)	mNm	3.3	3.19	3.28	3.23
6 Nominal current (max. continuous current)	A	1.17	0.90	0.573	0.455
7 Stall torque	mNm	5.82	5.79	5.64	5.95
8 Starting current	A	1.89	1.49	0.901	0.762
9 Max. efficiency	%	53	53	53	53
Characteristics					
10 Terminal resistance phase to phase	Ω	2.38	4.04	9.99	15.7
11 Terminal inductance phase to phase	mH	0.0396	0.0634	0.163	0.254
12 Torque constant	mNm / A	3.08	3.9	6.26	7.8
13 Speed constant	rpm / V	3100	2450	1530	1220
14 Speed / torque gradient	rpm / mNm	2390	2540	2440	2470
15 Mechanical time constant	ms	10.7	11.4	10.9	11.1
16 Rotor inertia	gcm ²	0.428	0.428	0.428	0.428

Specifications

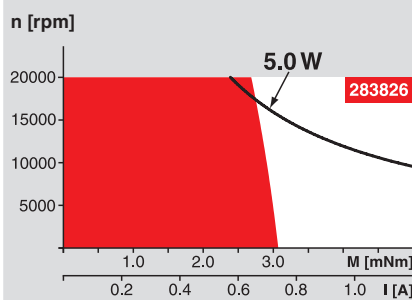
- Thermal data**
- 17 Thermal resistance housing-ambient: 23.5 K / W
 - 18 Thermal resistance winding-housing: 2.57 K / W
 - 19 Thermal time constant winding: 0.883 s
 - 20 Thermal time constant motor: 390 s
 - 21 Ambient temperature: -40 ... +100°C
 - 22 Max. permissible winding temperature: +155°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. permissible speed: 20000 rpm
 - 24 Axial play at axial load < 2.0 N: 0 mm
 - > 2.0 N: 0.14 mm
 - 25 Radial play preloaded: 1.5 N
 - 26 Max. axial load (dynamic): 18 N
 - 27 Max. force for press fits (static) (static, shaft supported): 600 N
 - 28 Max. radial loading, 5 mm from flange: 6 N
- Other specifications**
- 29 Number of pole pairs: 1
 - 30 Number of phases: 3
 - 31 Weight of motor: 36 g

Values listed in the table are nominal.

Connection (Cable AWG 24)

- | | | |
|--------|----------------------------------|-------|
| 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 |
- Wiring diagram for Hall sensors see p. 27

Operating Range



Comments

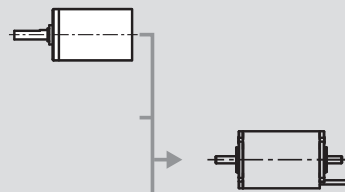
- Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- Assigned power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

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead

\varnothing 16 mm
0.1 - 0.3 Nm
Page 216



Encoder MR
128 / 256 / 512 Imp.,
2 / 3 channels
Page 261

Recommended Electronics:

- | | |
|-------------------|----------|
| DECS 50/5 | Page 289 |
| DEC 24/1 | 289 |
| DEC Module 24/2 | 290 |
| DECV 50/5 | 297 |
| DES 50/5 | 298 |
| EPOS2 Module 36/2 | 304 |
| EPOS 24/1 | 304 |
| Notes | 20 |