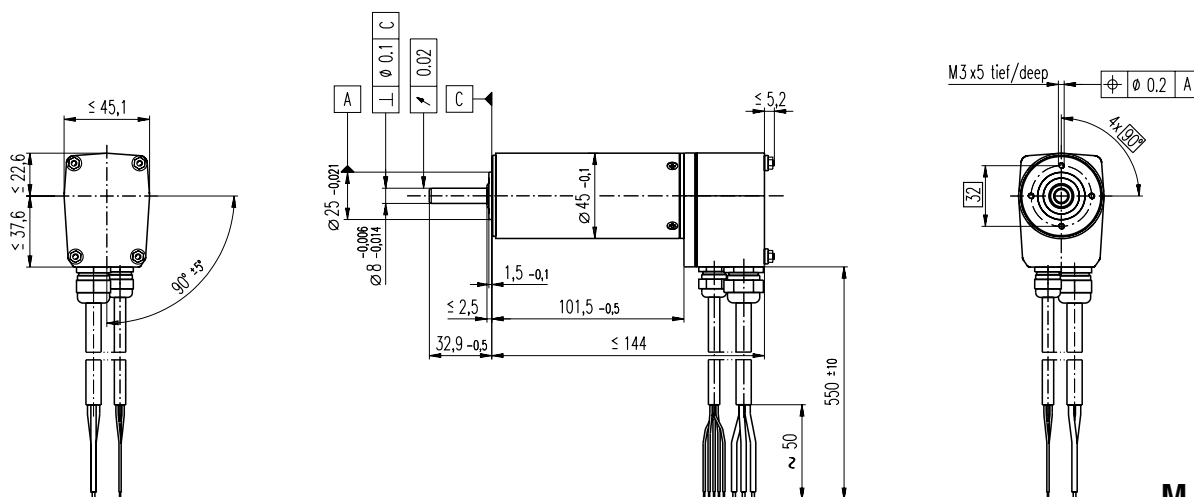


EC 45 Ø45 mm, brushless, 250 Watt, CE approved



M 1:4

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

Order Number

		Order Number							
		136207	136208	136209					
					136210	136211	136212		
Y-circuit									
Δ-circuit									
Motor Data									
1	Assigned power rating	W	250	250	250	250	250	250	
2	Nominal voltage	Volt	24.0	36.0	48.0	24.0	36.0	48.0	
3	No load speed	rpm	5300	6300	6500	9100	11000	11100	
4	Stall torque	mNm	2250	3000	3250	3910	5260	5670	
5	Speed / torque gradient	rpm / mNm	2.40	2.10	2.00	2.34	2.10	1.97	
6	No load current	mA	435	370	290	1139	1062	818	
7	Terminal resistance phase to phase	Ohm	0.46	0.64	1.04	0.15	0.21	0.35	
8	Max. permissible speed	rpm	12000	12000	12000	12000	12000	12000	
9	Max. continuous current at 5000 rpm	A	7.10	6.00	4.70	12.50	10.60	8.20	
10	Max. continuous torque at 5000 rpm	mNm	283	300	306	286	303	304	
11	Max. efficiency	%	83	85	85	84	85	86	
12	Torque constant	mNm / A	43.3	54.0	71.0	25.0	31.2	41.0	
13	Speed constant	rpm / V	220	175	135	382	306	233	
14	Mechanical time constant	ms	5	5	5	5	5	5	
15	Rotor inertia	gcm²	209	209	209	209	209	209	
16	Terminal inductance phase to phase	mH	0.170	0.260	0.440	0.060	0.090	0.150	
17	Thermal resistance housing-ambient	K / W	1.7	1.7	1.7	1.7	1.7	1.7	
18	Thermal resistance winding-housing	K / W	1.1	1.1	1.1	1.1	1.1	1.1	
19	Thermal time constant winding	s	16	16	16	16	16	16	
20	Thermal time constant stator	s	850	850	850	850	850	850	

Specifications

- Motor connections Screw fitting for cable PG7
- Axial play at axial load < 20 N 0 mm
- > 20 N max. 0.14 mm
- Preloaded **ball bearing**
- Max. **ball bearing** loads
 - axial (dynamic) 20 N
 - radial (5 mm from flange) 180 N
 - Force for press fits (static) 170 N
 - (static, shaft supported) 5000 N
- Radial play **ball bearing** 0.02 mm
- Ambient temperature range -20 ... +125°C
- Max. permissible winding temperature +125°C
- Weight of motor 1150 g
- Protection IP54
- Values listed in the table are nominal.

Connections (Cable AWG 16)

- Cable 1 Motor winding 1
- Cable 2 Motor winding 2
- Cable 3 Motor winding 3

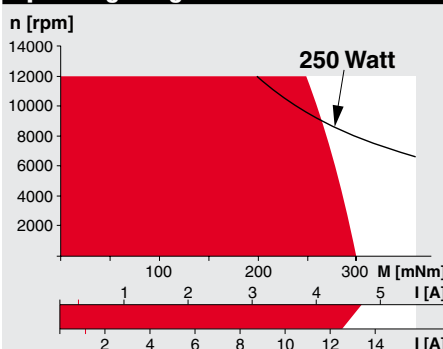
Connections (Cable AWG 24)

- white Hall sensor 3
- brown Hall sensor 2
- green Hall sensor 1
- yellow GND
- grey V_{Hall} 4.5 ... 24 VDC

- Options: Temperature monitoring
- PTC resistance micropille 110°C
- R 25°C < 0.5 kΩ
- R 105°C = 1.2 ... 1.5 kΩ
- R 115°C = 7 ... 13 kΩ
- R 120°C = 18 ... 35 kΩ

- Options: motor connection with plug

Operating Range



Comments

Curve of constant assigned power rating

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).

136209 Motor with high resistance winding

136210 Motor with low resistance winding

maxon Modular System

Planetary Gearhead

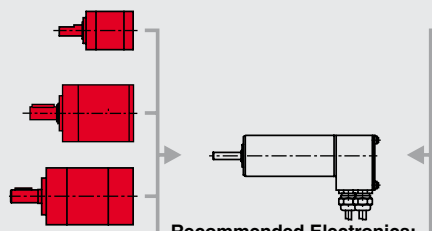
Ø42 mm
3 - 15 Nm
Details page 201

Planetary Gearhead

Ø52 mm
4 - 30 Nm
Details page 202

Planetary Gearhead

Ø62 mm
8 - 50 Nm
Details page 203



Recommended Electronics:
DEC 50/5 page 238
DES 50/5 239
DES 70/10 240
MIP 50 / MIP 100 245
Notes 17

Digital Encoder

HP HEDL 9140
500 CPT, 3 channels
Details page 220

Resolver

Ø26 mm
10 V
Details page 226

Brake

Ø28 mm, 24 VDC
0.4 Nm
Details page 249