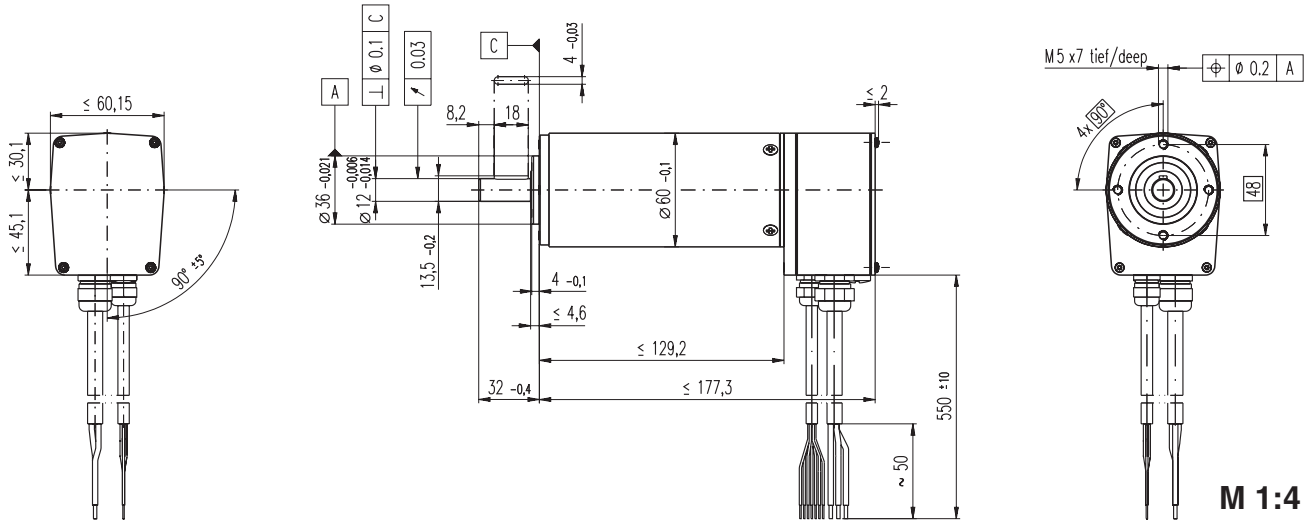


EC 60 Ø60 mm, brushless, 400 Watt, CE approved



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

Order Number

167132 167131

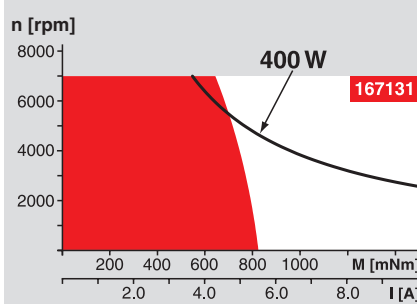
Motor Data

Values at nominal voltage		167132	167131	
1	Nominal voltage	V	48.0	48.0
2	No load speed	rpm	5370	3100
3	No load current	mA	733	304
4	Nominal speed	rpm	4960	2680
5	Nominal torque (max. continuous torque)	mNm	747	830
6	Nominal current (max. continuous current)	A	9.38	5.85
7	Stall torque	mNm	11800	6820
8	Starting current	A	139	46.4
9	Max. efficiency	%	86	85
Characteristics				
10	Terminal resistance phase to phase	Ω	0.345	1.03
11	Terminal inductance phase to phase	mH	0.273	0.82
12	Torque constant	mNm / A	84.9	147
13	Speed constant	rpm / V	113	65.0
14	Speed / torque gradient	rpm / mNm	0.457	0.457
15	Mechanical time constant	ms	3.98	3.98
16	Rotor inertia	gcm ²	831	831

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 1.3 K / W
 - 18 Thermal resistance winding-housing 0.5 K / W
 - 19 Thermal time constant winding 33.7 s
 - 20 Thermal time constant motor 1200 s
 - 21 Ambient temperature -20 ... +100°C
 - 22 Max. permissible winding temperature +125°C
- Mechanical data (Preloaded ball bearings)**
- 23 Max. permissible speed 7000 rpm
 - 24 Axial play at axial load < 30 N 0 mm
 - > 30 N max. 0.14 mm
 - 25 Radial play preloaded
 - 26 Max. axial load (dynamic) 26 N
 - 27 Max. force for press fits (static) 320 N
 - (static, shaft supported) 8000 N
 - 28 Max. radial loading, 5 mm from flange 240 N
- Other specifications**
- 29 Number of pole pairs 1
 - 30 Number of phases 3
 - 31 Weight of motor 2450 g
 - Protection to IP54
- Values listed in the table are nominal.
- Connection Motor (Cable AWG 16)**
- Cable 1 Motor winding 1
 - Cable 2 Motor winding 2
 - Cable 3 Motor winding 3
- Connection Sensors (Cable AWG 24)**
- white Hall sensor 3
 - braun Hall sensor 2
 - green Hall sensor 1
 - gelb GND
 - grey V_{Hall} 4.5 ... 24 VDC
 - blue Temperature sensor (PTC)
 - rosa Temperature sensor (PTC)
- 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
- Wiring diagram for Hall sensors see page 26
Option: motor connection with plug

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
 Ø81 mm
 20 - 120 Nm
 Page 250

Encoder HEDL 9140
 500 CPT,
 3 channels
 Page 267

Resolver Res
 Ø26 mm
 10 V
 Page 272

Brake AB 41
 Ø41 mm
 24 VDC, 2.0 Nm
 Page 310

Recommended Electronics:

DECS 50/5	Page 284
DEC 50/5	285
DEC 70/10	286
DES 50/5	287
DES 70/10	287
EPOS 70/10	295
Notes	20