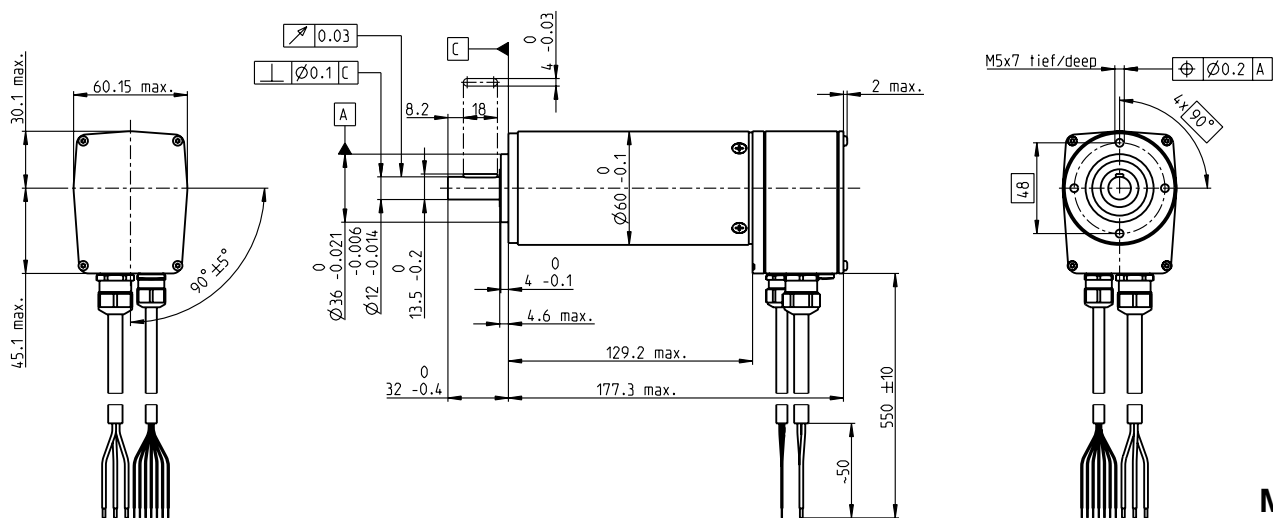


EC 60 Ø60 mm, brushless, 400 watt



M 1:4

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

Part numbers

167132 167131

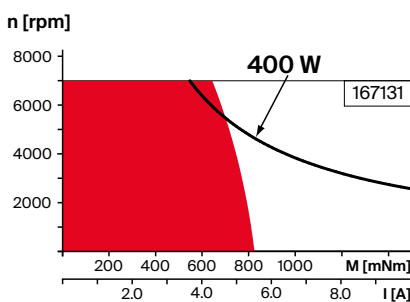
Motor Data

Values at nominal voltage			
1 Nominal voltage	V	48	48
2 No load speed	rpm	5370	3100
3 No load current	mA	670	268
4 Nominal speed	rpm	4960	2680
5 Nominal torque	mNm	768	843
6 Nominal current (max. continuous current)	A	9.56	5.9
7 Stall torque	mNm	11800	6820
8 Stall current	A	139	46.4
9 Max. efficiency	%	87	86
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
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 33.9 s
 - 20 Thermal time constant motor 1200 s
 - 21 Ambient temperature -20...+100°C
 - 22 Max. winding temperature +125°C
- Mechanical data (preloaded ball bearings)**
 - 23 Max. speed 7000 rpm
 - 24 Axial play at axial load < 30 N 0 mm
 - > 30 N max. 0.14 mm
 - 25 Radial play preloaded 24 N
 - 26 Max. axial load (dynamic) 392 N
 - 27 Max. force for press fits (static) (static, shaft supported) 6000 N
 - 28 Max. radial load, 5 mm from flange 240 N

Operating range



Comments

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

Other specifications

- 29 Number of pole pairs 1
- 30 Number of phases 3
- 31 Weight of motor 2450 g
- Protection IP54*

Modular system

- Gear**
 - 446_GP 81 A
- Sensor**
 - 540_Encoder HEDL 9140
 - 543_Resolver Res 26

Details on catalog page 52

- Motor Control**
 - 547_DEC Module 50/5
 - 551_ESCON Mod. 50/4 EC-S
 - 552_ESCON Mod. 50/8 (HE)
 - 553_ESCON 70/10
 - 558_ESCON2 Module 60/12
 - 559_ESCON2 Compact 60/12
 - 565_EPOS4 Module 50/15
 - 565_EPOS4 Module 50/8
 - 567_EPOS4 Compact 50/8 CAN
 - 568_EPOS4 Compact 50/15 CAN
 - 569_EPOS4 70/15
 - 570_EPOS4 Disk 60/8
 - 571_EPOS4 Disk 60/12

- Accessories**
 - 590_Brake AB 41

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
- brown Hall sensor 2
- green Hall sensor 1
- yellow GND
- grey V_{Hall} 4.5 ... 24 VDC
- blue Temperature sensor (PTC)
- pink Temperature sensor (PTC)

Not lead through in combination with resolver.
Temperature monitoring, PTC resistance Micro-pille 110°C, R 25°C < 0.7 kΩ, R 115°C ≥ 2.66 kΩ, R 125°C ≥ 8.0 kΩ
Wiring diagram for Hall sensors see p. 67

*Protection level only when installed with flange-side seal.