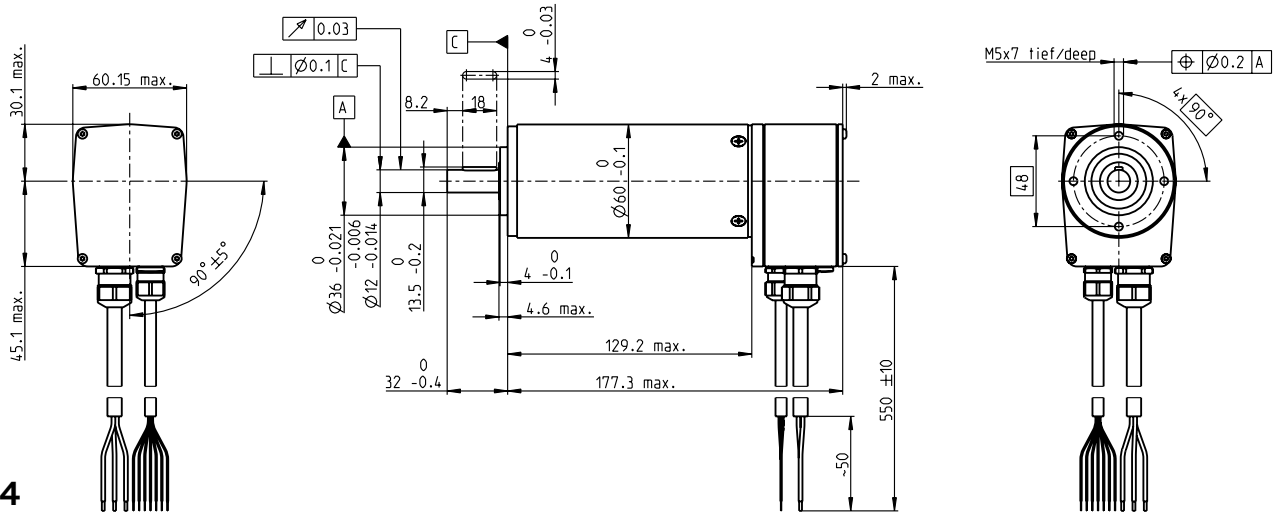


EC 60 Ø60 mm, brushless, 400 watt

EC



M 1:4

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

Part Numbers

167132	167131
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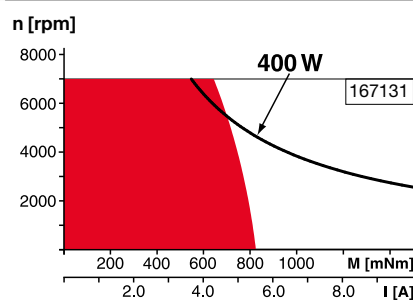
Motor Data

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 (max. continuous 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
26 Max. axial load (dynamic)	24 N
27 Max. force for press fits (static)	392 N
(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) 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**

Other specifications

- 29 Number of pole pairs
- 30 Number of phases
- 31 Weight of motor
- Protection to

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)¹⁾

- 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)

¹⁾ Not lead through in combination with resolver.

Temperature monitoring, PTC resistance Micropille
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. 57

maxon Modular System

- 1 Planetary Gearhead
- 3 Ø81 mm
- 2450 g
- IP54*
- 15.4 - 92.3 Nm
- Page 413



Details on catalog page 42

Recommended Electronics:

- | Notes | Page 42 |
|-----------------------|---------|
| ESCON Mod. 50/4 EC-S | 501 |
| ESCON Mod. 50/8 (HE) | 502 |
| ESCON 70/10 | 503 |
| DEC Module 50/5 | 505 |
| EPOS4 Module 50/15 | 511 |
| EPOS4 Module 50/8 | 511 |
| EPOS4 Comp. 50/8 CAN | 513 |
| EPOS4 Comp. 50/15 CAN | 514 |
| EPOS4 70/15 | 515 |
| EPOS4 Disk 60/8 | 516 |
| EPOS4 Disk 60/12 | 517 |

Encoder HEDL 9140

- 500 CPT,
- 3 channels
- Page 493

Resolver Res

- Ø26 mm
- 10 V
- Page 496

Brake AB 41

- 24 VDC
- 2.0 Nm
- Page 539

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