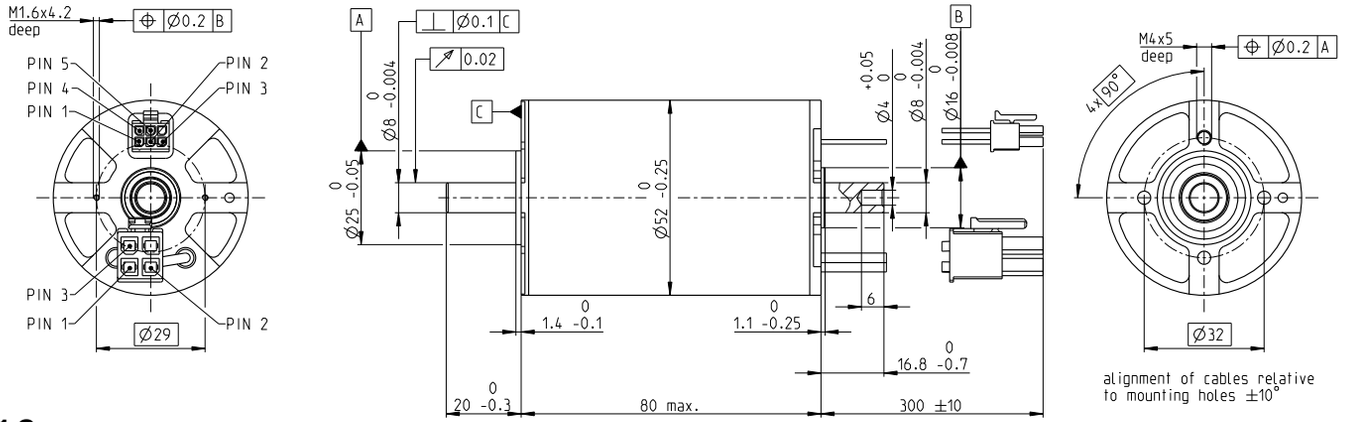
EC-i 52 ∅52 mm, brushless, 250 watt

Open Rotor



M 1:2

Stock program
Standard program
Special program (on request)

Part Numbers

with Hall sensors	667060	667061	667062	667063
Motor Data				
Values at nominal voltage				
1 Nominal voltage V	18	24	36	48
2 No load speed rpm	4450	4860	5010	5090
3 No load current mA	829	707	493	379
4 Nominal speed rpm	3840	4220	4360	4440
5 Nominal torque (max. continuous torque) mNm	520	534	564	544
6 Nominal current (max. continuous current) A	13.1	10.9	7.89	5.83
7 Stall torque[1] mNm	10300	12800	15600	15300
8 Stall current A	269	274	229	171
9 Max. efficiency %	89.3	90.2	91	90.9
Characteristics				
10 Terminal resistance phase to phase Ω	0.0668	0.0876	0.157	0.281
11 Terminal inductance phase to phase mH	0.0826	0.123	0.261	0.45
12 Torque constant mNm/A	38.2	46.7	68	89.2
13 Speed constant rpm/V	250	204	140	107
14 Speed/torque gradient rpm/mNm	0.436	0.383	0.325	0.337
15 Mechanical time constant ms	0.776	0.681	0.578	0.599
16 Rotor inertia gcm²	170	170	170	170

Specifications

Thermal data

17	Thermal resistance housing-ambient	4.09 K/W
18	Thermal resistance winding-housing	0.641 K/W
19	Thermal time constant winding	23.1 s
20	Thermal time constant motor	1530 s
21	Ambient temperature	-40...+100°C
22	Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23	Max. speed		6000 rpm
24	Axial play at axial load	< 9.0 N	0 mm
		> 9.0 N	0.14 mm
25	Radial play		preloaded
26	Max. axial load (dynamic)		12 N
27	Max. force for press fits (static)		150 N
	(static, shaft supported)		6000 N
28	Max. radial load, 5 mm from flange		110 N

Other specifications

29	Number of pole pairs	8
30	Number of phases	3
31	Weight of motor	750 g

Values listed in the table are nominal.

Connection motor (Cable AWG 16)

red	Motor winding 1	Pin 1
black	Motor winding 2	Pin 2
white	Motor winding 3	Pin 3
	N.C.	Pin 4

Connector	**Article number**
Molex	171692-0104

Connection sensor (Cable AWG 26)

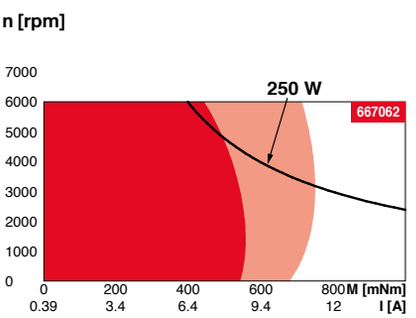
yellow	Hall sensor 1	Pin 1
brown	Hall sensor 2	Pin 2
grey	Hall sensor 3	Pin 3
blue	GND	Pin 4
green	V_{Hall} 4.5...24 VDC	Pin 5
	N.C.	Pin 6

Connector	**Article number**
Molex	430-25-0600

Wiring diagram for Hall sensors see p. 59

[1]Calculation does not include saturation effect (p. 71/178)

Operating Range



Comments

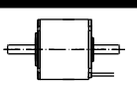
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Details on catalog page 42



Recommended Electronics:

Notes	Page **42**
ESCON Mod. 50/8 (HE)	502
ESCON 70/10	503
EPOS4 Mod./Comp. 50/8	511
EPOS4 Mod./Comp. 50/15	511
EPOS4 70/15	515

Encoder 16 EASY
128 - 1024 CPT, 3 channels
Page 465
Encoder 16 EASY XT
128 - 1024 CPT, 3 channels
Page 467
Encoder 16 EASY Absolute
4096 steps
Page 469
Encoder 16 EASY Absolute XT
4096 steps
Page 471
Encoder 16 RIO
1024 - 32768 CPT, 3 channels
Page 482