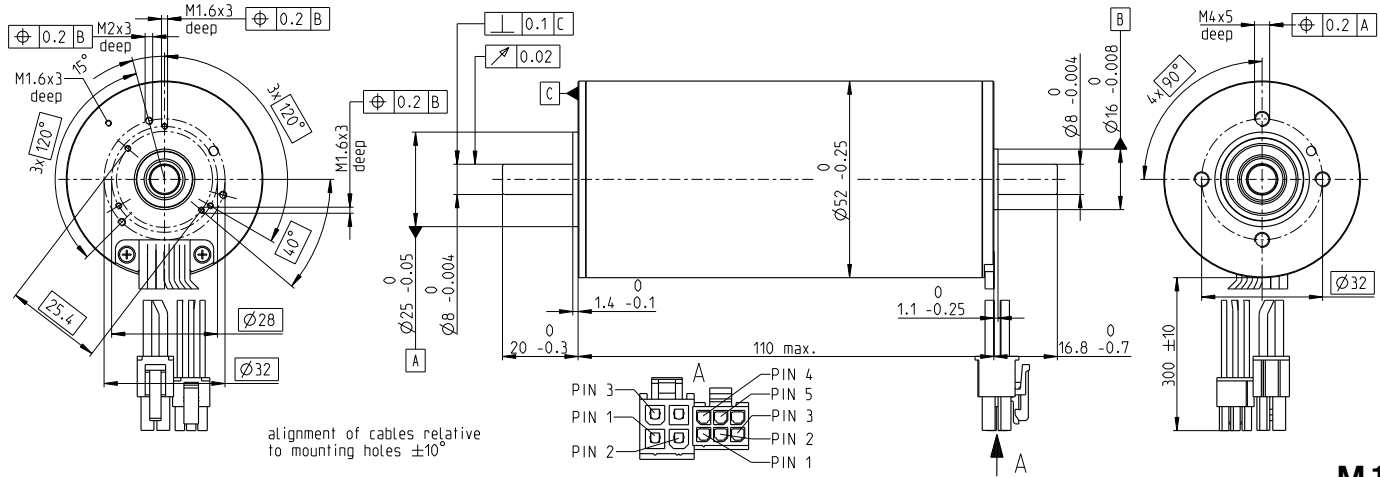


# EC-i 52 Ø52 mm, brushless, 200 Watt

High Torque



EC-i

M 1:2

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

## Part Numbers

with Hall sensors

606793 596099 634043

## Motor Data (provisional)

### Values at nominal voltage

1 Nominal voltage	V	24	36	48
2 No load speed	rpm	3340	3660	3970
3 No load current	mA	657	499	419
4 Nominal speed	rpm	2970	3300	3610
5 Nominal torque (max. continuous torque)	mNm	640	649	622
6 Nominal current (max. continuous current)	A	9.36	6.93	5.44
7 Stall torque <sup>1</sup>	mNm	13800	18800	22900
8 Stall current	A	202	202	200
9 Max. efficiency	%	89	90.4	91.1

### Characteristics

10 Terminal resistance phase to phase	Ω	0.119	0.178	0.24
11 Terminal inductance phase to phase	mH	0.149	0.28	0.424
12 Torque constant	mNm/A	68	93.1	115
13 Speed constant	rpm/V	140	103	83.3
14 Speed/torque gradient	rpm/mNm	0.245	0.196	0.174
15 Mechanical time constant	ms	0.677	0.543	0.482
16 Rotor inertia	gcm <sup>2</sup>	264	264	264

## Specifications

### Thermal data

17 Thermal resistance housing-ambient	4.02 K/W
18 Thermal resistance winding-housing	0.53 K/W
19 Thermal time constant winding	12.8 s
20 Thermal time constant motor	2310 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C

### Mechanical data (preloaded ball bearings)

23	Max. permissible speed	5000 rpm
24	Axial play at axial load	0 mm
	< 15 N	
	> 15 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
  - 30 Number of phases
  - 31 Weight of motor
- Values listed in the table are nominal.

<b>Connection</b>	motor (Cable AWG 16)
red	Motor winding 1
black	Motor winding 2
white	Motor winding 3
	N.C. Pin 4
<b>Connector</b>	Article number
Molex	39-01-2040
<b>Connection</b>	sensor (Cable AWG 26)
yellow	Hall sensor 1
brown	Hall sensor 2
grey	Hall sensor 3
blue	GND
green	V <sub>Hall</sub> 4.5...24 VDC
	N.C. Pin 6
<b>Connector</b>	Article number
Molex	430-25-0600

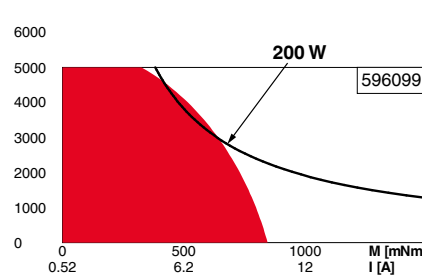
Wiring diagram for Hall sensors see p. 49

<sup>1</sup>Calculation does not include saturation effect (p. 61/168)

## Operating Range

## Comments

n [rpm]



### 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

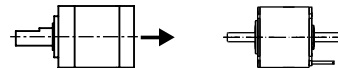
Details on catalog page 36

### Planetary Gearhead

Ø52 mm

4 - 30 Nm

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### Recommended Electronics:

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ESCON Mod. 50/8 (HE) 488

ESCON 70/10 489

EPOS4 Mod./Comp. 50/8 497

EPOS4 Mod./Comp. 50/15 497

EPOS4 70/15 501

### Encoder 16 EASY/XT

128 - 1024 CPT, 3 channels

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### Encoder 16 EASY Absolute/XT

4096 steps

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### Encoder 16 RIO

1024 - 32768 CPT, 3 channels

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### Encoder AEDL 5810

1024 - 5000 CPT, 3 channels

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### Encoder HEDL 5540

500 CPT, 3 channels

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