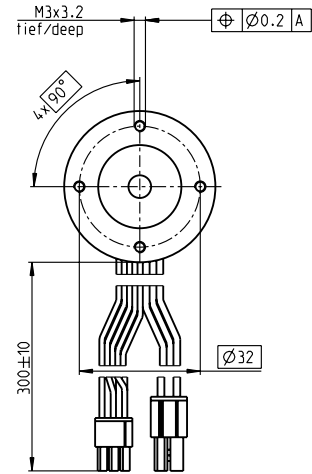
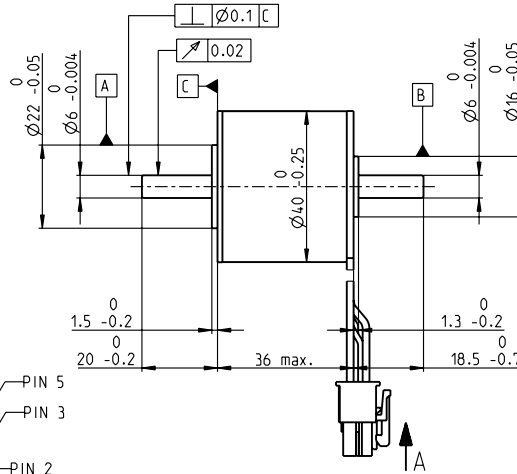
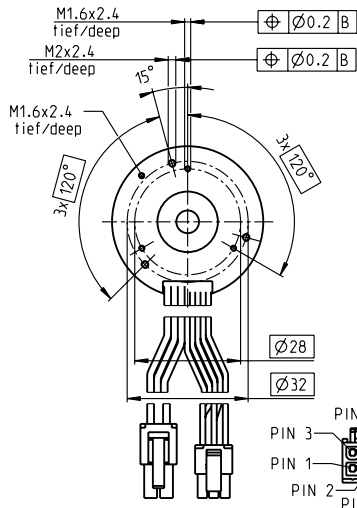


EC-i 40 Ø40 mm, brushless, 70 Watt

EC-i



M 1:2

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

Part Numbers

with Hall sensors

449469

449470

Motor Data

Values at nominal voltage

1 Nominal voltage	V	18	36
2 No load speed	rpm	10100	10700
3 No load current	mA	354	192
4 Nominal speed	rpm	8230	8740
5 Nominal torque (max. continuous torque)	mNm	68.7	83.4
6 Nominal current (max. continuous current)	A	3.93	2.43
7 Stall torque ¹	mNm	876	1460
8 Stall current	A	52.5	46.3
9 Max. efficiency	%	84	87

Characteristics

10 Terminal resistance phase to phase	Ω	0.343	0.778
11 Terminal inductance phase to phase	mH	0.18	0.644
12 Torque constant	mNm/A	16.7	31.5
13 Speed constant	rpm/V	572	303
14 Speed/torque gradient	rpm/mNm	11.7	7.47
15 Mechanical time constant	ms	2.98	1.89
16 Rotor inertia	gcm ²	24.2	24.2

Specifications

Thermal data

17 Thermal resistance housing-ambient	7.8 K/W
18 Thermal resistance winding-housing	2.6 K/W
19 Thermal time constant winding	28.1 s
20 Thermal time constant motor	936 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23 Max. speed	15000 rpm
24 Axial play at axial load < 9.0 N	0 mm
25 Radial play	0.15 mm
26 Max. axial load (dynamic)	5 N
27 Max. force for press fits (static) (static, shaft supported)	87 N
28 Max. radial load, 5 mm from flange	5000 N

Other specifications

29 Number of pole pairs	7
30 Number of phases	3
31 Weight of motor	240 g

Values listed in the table are nominal.

Connection motor (Cable AWG 20)

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	39-01-2040
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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
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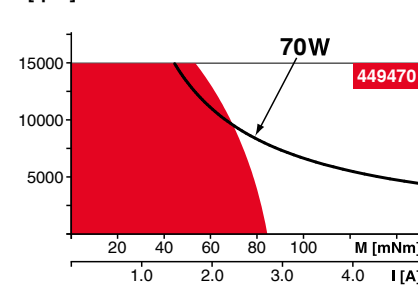
Wiring diagram for Hall sensors see p. 49

¹Calculation 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

Ø32 mm

1.0 - 6.0 Nm

Page 389

Planetary Gearhead

Ø42 mm

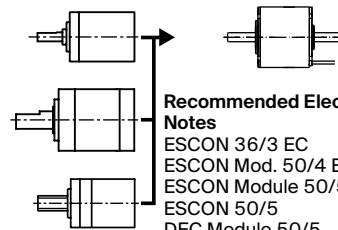
3 - 15 Nm

Page 398

Screw Drive

Ø32 mm

Page 416-421



Recommended Electronics:

Notes Page 36

ESCON 36/3 EC 487

ESCON Mod. 50/4 EC-S 487

ESCON Module 50/5 487

ESCON 50/5 489

DEC Module 50/5 491

EPOS4 Mod./Comp. 50/5 496

EPOS4 50/5 501

EPOS2 P 24/5 504

Encoder 16 EASY/XT

128 - 1024 CPT, 3 channels

Page 450/452

Encoder 16 EASY Absolute/XT

4096 steps

Page 454/456

Encoder 16 RIO

1024 - 32768 CPT, 3 channels

Page 467

Encoder AEDL 5810

1024 - 5000 CPT, 3 channels

Page 470

Encoder HEDL 5540

500 CPT, 3 channels

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