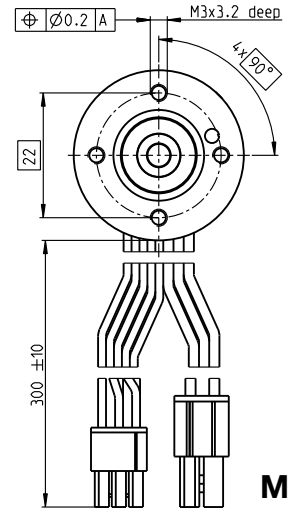
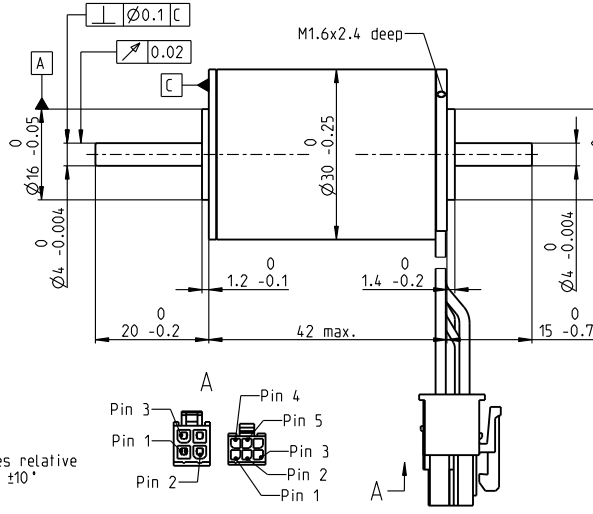
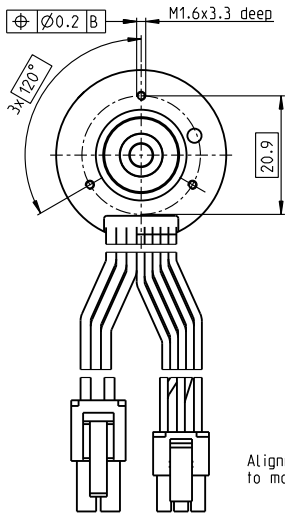


EC-i 30 Ø30 mm, brushless, 30 Watt

NEW

maxon EC-i



Alignment of cables relative to mounting holes $\pm 10^\circ$

M 3:4

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

Part Numbers

with Hall sensors

539472 **539473** 539474 539475

Motor Data (provisional)

Values at nominal voltage

	V	12	24	36	48
1 Nominal voltage	V	12	24	36	48
2 No load speed	rpm	9190	9190	9190	9010
3 No load current	mA	206	103	68.6	50.1
4 Nominal speed	rpm	7710	7770	7760	7600
5 Nominal torque (max. continuous torque)	mNm	37.3	37.3	35.9	37.4
6 Nominal current (max. continuous current)	A	3.05	1.52	0.982	0.748
7 Stall torque ¹	mNm	341	360	338	358
8 Stall current	A	27.7	14.6	9.15	7.11
9 Max. efficiency	%	83.7	84.1	83.6	84.1

Characteristics

	Ω	0.434	1.64	3.93	6.76
10 Terminal resistance phase to phase	Ω	0.434	1.64	3.93	6.76
11 Terminal inductance phase to phase	mH	0.279	1.12	2.51	4.66
12 Torque constant	mNm/A	12.3	24.6	37	50.3
13 Speed constant	rpm/V	775	387	258	190
14 Speed/torque gradient	rpm/mNm	27.3	25.8	27.5	25.5
15 Mechanical time constant	ms	2.08	1.98	2.1	1.95
16 Rotor inertia	gcm ²	7.3	7.3	7.3	7.3

Specifications

Thermal data

17 Thermal resistance housing-ambient	11.1 K/W
18 Thermal resistance winding-housing	3.75 K/W
19 Thermal time constant winding	29.1 s
20 Thermal time constant motor	849 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+125°C

Mechanical data (preloaded ball bearings)

23 Max. speed	15000 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)	5 N
27 Max. force for press fits (static) (static, shaft supported)	98 N
2000 N	
28 Max. radial load, 5 mm from flange	25 N

Other specifications

29 Number of pole pairs	2
30 Number of phases	3
31 Weight of motor	153 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 sensors (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

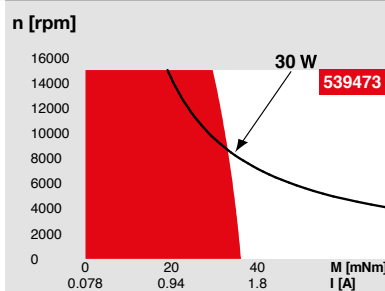
Connector Article number

Molex	430-25-0600
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Wiring diagram for Hall sensors see p. 43

¹Calculation does not include saturation effect (p. 53/164)

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

Overview on page 28–36

Planetary Gearhead

Ø32 mm

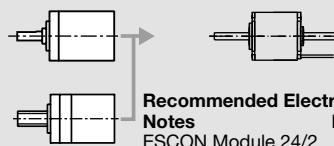
1.0 - 6.0 Nm

Page 347

Screw Drive

Ø32 mm

Page 374–378



Recommended Electronics:

Notes Page 32

ESCON Module 24/2 444

ESCON 36/3 EC 445

ESCON Mod. 50/4 EC-S 445

ESCON Mod. 50/5 445

ESCON 50/5 447

DEC Module 24/2 449

DEC Module 50/5 449

EPOS4 50/5 453

EPOS4 Mod./Comp. 50/5 453

EPOS2 P 24/5 464

MAXPOS 50/5 468

Encoder 16 EASY

128 - 1024 CPT, 3 channels

Page 409

Encoder 16 EASY Absolute

4096 steps

Page 411

Encoder 16 RIO

1024 - 32768 CPT, 3 channels

Page 423

Encoder HEDL 5540

500 CPT, 3 channels

Page 427

Encoder AEDL 5810

1024 - 5000 CPT, 3 channels

Page 434