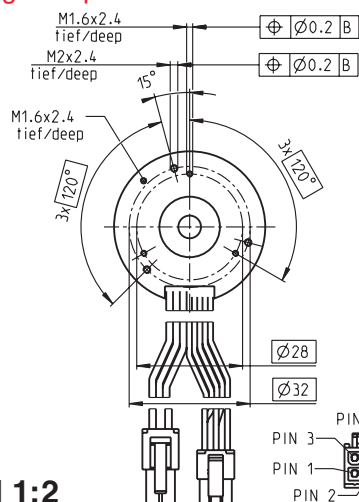


EC-i 40 Ø40 mm, brushless, 70 Watt**NEW****High Torque****M 1:2**

- Stock program
 Standard program
 Special program (on request)

Part Numbers

with Hall sensors

496654	496655	496656
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Motor Data (provisional)**Values at nominal voltage**

1 Nominal voltage	V	18	36	48
2 No load speed	rpm	7850	7400	4940
3 No load current	mA	448	205	86.4
4 Nominal speed	rpm	7050	6600	4210
5 Nominal torque (max. continuous torque)	mNm	109	135	159
6 Nominal current (max. continuous current)	A	5.15	2.9	1.67
7 Stall torque	mNm	2290	3190	2190
8 Stall current	A	106	69.3	23.8
9 Max. efficiency	%	87.5	89.5	88.4

Characteristics

10 Terminal resistance phase to phase	Ω	0.17	0.519	2.02
11 Terminal inductance phase to phase	mH	0.0852	0.385	1.54
12 Torque constant	mNm/A	21.7	46.1	92.1
13 Speed constant	rpm/V	441	207	104
14 Speed/torque gradient	rpm/mNm	3.47	2.34	2.27
15 Mechanical time constant	ms	0.769	0.519	0.504
16 Rotor inertia	gcm ²	21.2	21.2	21.2

Specifications**Thermal data**

17 Thermal resistance housing-ambient	8.17 K/W
18 Thermal resistance winding-housing	2.27 K/W
19 Thermal time constant winding	21.8 s
20 Thermal time constant motor	768 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23 Max. speed	10000 rpm
24 Axial play at axial load < 9.0 N	0 mm
24 Axial play at axial load > 9.0 N	0.15 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	7 N
27 Max. force for press fits (static) (static, shaft supported)	87 N
28 Max. radial load, 5 mm from flange	5000 N
	26.1 N

Other specifications

29 Number of pole pairs	7
30 Number of phases	3
31 Weight of motor	250 g

Values listed in the table are nominal.

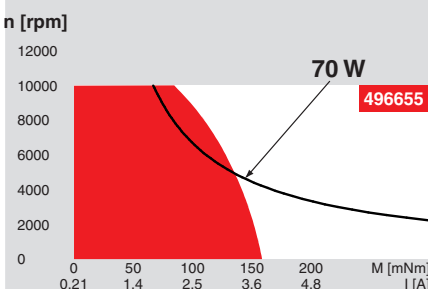
Connection (Cable AWG 20)		
red	Motor winding 1	Pin 1
black	Motor winding 2	Pin 2
white	Motor winding 3	Pin 3
	N.C.	Pin 4

Connector	Article number
Molex	39-01-2040

Connection (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. 35

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 20–25**

Planetary Gearhead
 Ø42 mm
 3 - 15 Nm
 Page 315

**Recommended Electronics:**

Notes	Page 24
ESCON 36/3 EC	379
ESCON Mod. 50/4 EC-S	379
ESCON Module 50/5	379
ESCON 50/5	380
ESCON 70/10	380
DEC Module 50/5	382
EPOS2 24/5	387
EPOS2 50/5	387
EPOS2 70/10	387
EPOS3 70/10 EtherCAT	393
MAXPOS 50/5	396

Encoder 16 EASY
 128 - 1024 CPT,
 3 channels
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Encoder 16 EASY Absolute
 4096 steps
 Page 346

Encoder 2RMHF
 3000 - 5000 CTP,
 3 channels
 Page 360

Encoder HEDL 5540
 500 CPT,
 3 channels
 Page 367