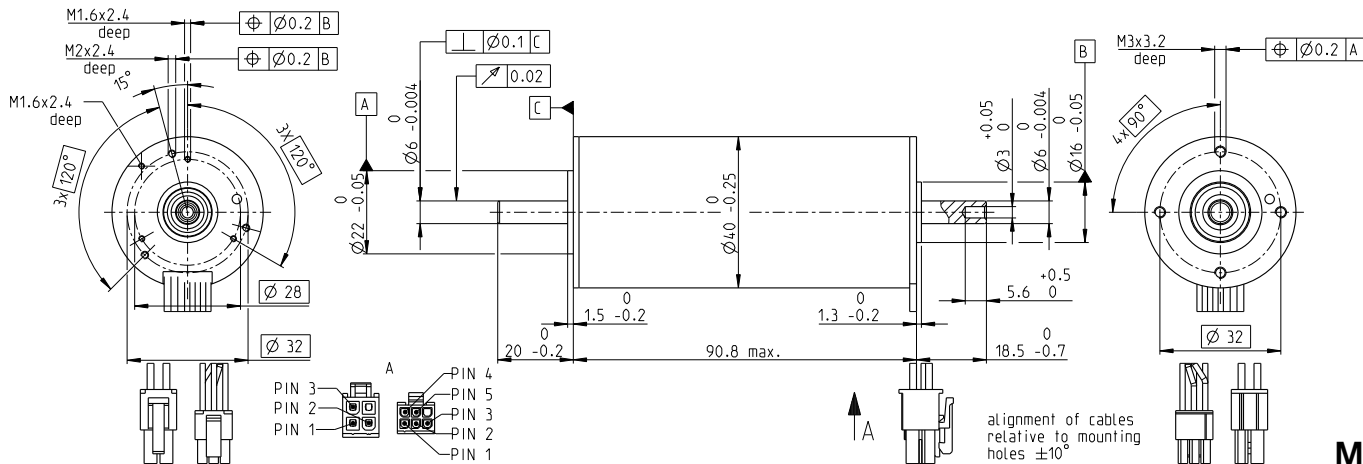


EC-i 40 Ø40 mm, brushless, 130 watt

High Torque



M 1:2

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

Part Numbers

with Hall sensors

666601 676600 666602 666603

Motor Data

Values at nominal voltage

1 Nominal voltage	V	18	24	36	48
2 No load speed	rpm	4670	4730	4670	4640
3 No load current	mA	496	379	248	185
4 Nominal speed	rpm	3920	3990	3940	3910
5 Nominal torque (max. continuous torque)	mNm	276	299	327	340
6 Nominal current (max. continuous current)	A	7.38	6.01	4.27	3.29
7 Stall torque ¹	mNm	3320	4090	4950	5360
8 Stall current	A	91	85	68	55
9 Max. efficiency	%	85.9	87.2	88.4	88.8

Characteristics

10 Terminal resistance phase to phase	Ω	0.198	0.281	0.529	0.876
11 Terminal inductance phase to phase	mH	0.128	0.222	0.512	0.922
12 Torque constant	mNm/A	36.4	47.9	72.8	97.8
13 Speed constant	rpm/V	262	199	131	97.7
14 Speed/torque gradient	rpm/mNm	1.420	1.170	0.953	0.875
15 Mechanical time constant	ms	1.16	0.956	0.778	0.715
16 Rotor inertia	gcm ²	78	78	78	78

Specifications

Thermal data

17 Thermal resistance housing-ambient	5.08 K/W
18 Thermal resistance winding-housing	0.6 K/W
19 Thermal time constant winding	18.5 s
20 Thermal time constant motor	1490 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23 Max. speed	8000 rpm
24 Axial play at axial load < 9.0 N	0 mm
> 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
3000 N	
28 Max. radial load, 5 mm from flange	29.9 N

Other specifications

29 Number of pole pairs	8
30 Number of phases	3
31 Weight of motor	587 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

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

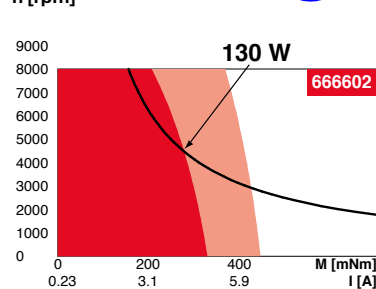
Molex 430-25-0600

Wiring diagram for Hall sensors see p. 59

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

Operating Range

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).

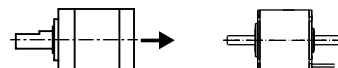
Assigned power rating

maxon Modular System

Details on catalog page 42

Planetary Gearhead

Ø42 mm
3-15 Nm
Page 407



Recommended Electronics:

Notes Page 42

ESCON Mod. 50/4 EC-S 501

ESCON Module 50/5 501

ESCON Mod. 50/8 (HE) 502

ESCON 50/5 503

ESCON 70/10 503

DEC Module 50/5 505

EPOS4 Mod./Comp. 50/5 513

EPOS4 Mod./Comp. 50/8 513

EPOS4 50/5 515

EPOS4 70/15 515

EPOS2 P 24/5 520

Encoder 16 EASY/XT

128-1024 CPT, 3 channels

Page 465/467

Encoder 16 EASY Absolute/XT

4096 steps

Page 469/471

Encoder 16 RIO

1024-32768 CPT, 3 channels

Page 482

Encoder AEDL 5810

1024-5000 CPT, 3 channels

Page 485

Encoder HEDL 5540

500 CPT, 3 channels

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