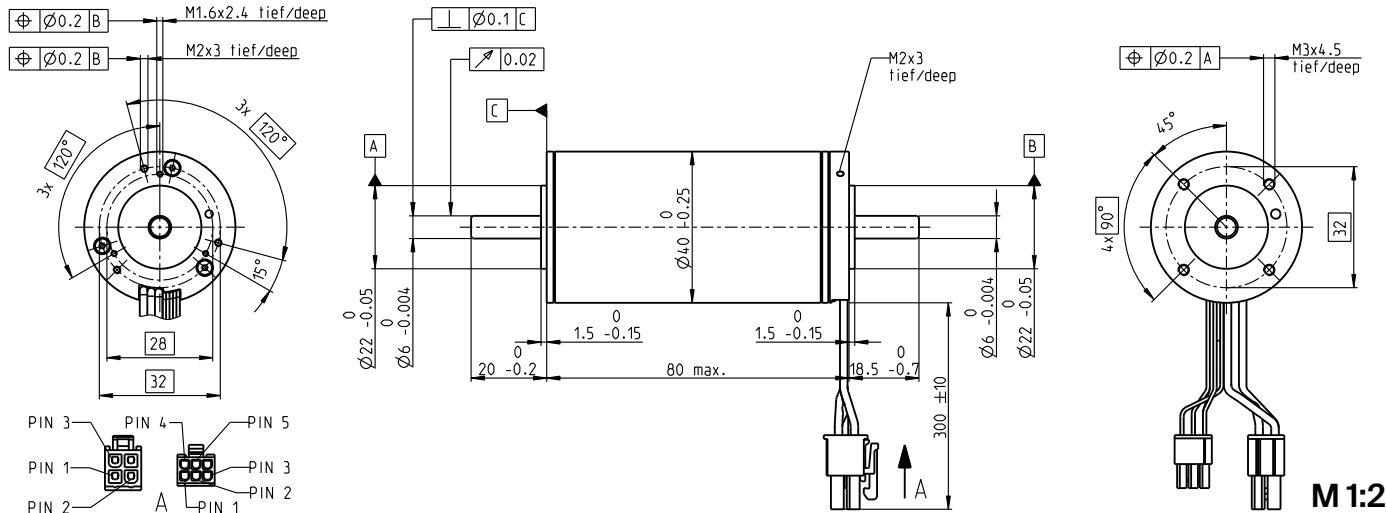


EC 40 Ø40 mm, brushless, 170 watt



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

Part numbers

369146	393023	393024	393025
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Motor Data (provisional)

Values at nominal voltage					
1 Nominal voltage	V	15	24	42	48
2 No load speed	rpm	9840	9840	10100	9840
3 No load current	mA	654	408	243	204
4 Nominal speed	rpm	9090	9130	9380	9150
5 Nominal torque	mNm	169	163	160	163
6 Nominal current (max. continuous current)	A	12.1	7.35	4.21	3.67
7 Stall torque	mNm	2620	2660	2740	2760
8 Stall current	A	181	115	69.1	59.6
9 Max. efficiency	%	89	89	89	89
Characteristics					
10 Terminal resistance phase to phase	Ω	0.0829	0.209	0.608	0.806
11 Terminal inductance phase to phase	mH	0.0329	0.0843	0.246	0.337
12 Torque constant	mNm/A	14.5	23.2	39.6	46.4
13 Speed constant	rpm/V	659	412	241	206
14 Speed/torque gradient	rpm/mNm	3.77	3.71	3.7	3.57
15 Mechanical time constant	ms	2.12	2.09	2.08	2.01
16 Rotor inertia	gcm²	53.8	53.8	53.8	53.8

Specifications

Thermal data	
17 Thermal resistance housing-ambient	5.21 K/W
18 Thermal resistance winding-housing	1.05 K/W
19 Thermal time constant winding	18.7 s
20 Thermal time constant motor	1910 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)	
23 Max. speed	18 000 rpm
24 Axial play at axial load < 9 N	0 mm
24 Axial play at axial load > 9 N	max. 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	23 N
27 Max. force for press fits (static)	106 N
27 Max. force for press fits (static) (static, shaft supported)	5500 N
28 Max. radial load, 5 mm from flange	75 N

Other specifications

29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	580 g

Values listed in the table are nominal.

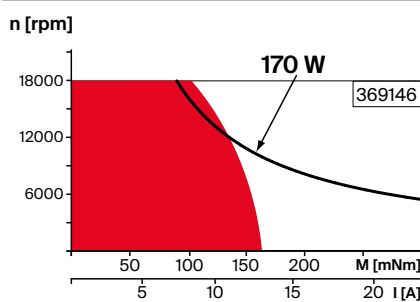
Connection motor (Cable AWG 16)		
red	Motor winding 1	Pin 1
black	Motor winding 2	Pin 2
white	Motor winding 3	Pin 3
	N.C.	Pin 4

Connector Part number		
Molex	39-01-2040	
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} 3...24 VDC	Pin 5
	N.C.	Pin 6

Connector Part number	
Molex	430-25-0600

Wiring diagram for Hall sensors see p. 67

Operating range



Comments

Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) and an ambient temperature of 25°C, the maximum permissible winding temperature will be reached during continuous operation = thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

Modular system

Gear		Sensor
436-438_GP 42 A		536_Encoder HEDS 5540
439-441_GP 42 C		538_Encoder HEDL 5540
443-444_GP 52 C		543_Resolver Res 26

Accessories
589_Brake AB 32

Details on catalog page 52

Motor Control	
547_DEC Module 50/5	
551_ESCON Module 50/5	
551_ESCON Module 50/4 EC-S	
552_ESCON Module 50/8 HE	
553_ESCON 50/5	
553_ESCON 70/10	
557_ESCON2 Micro 60/5	
558_ESCON2 Module 60/12	
559_ESCON2 Compact 60/12	
564_EPOS4 Module 50/5	
565_EPOS4 Module 50/8	
565_EPOS4 Module 50/15	
567_EPOS4 Compact 50/5	
567_EPOS4 Compact 50/8	
568_EPOS4 Compact 50/15	
569_EPOS4 50/5	
569_EPOS4 70/15	
570_EPOS4 Disk 60/8	
571_EPOS4 Disk 60/12	