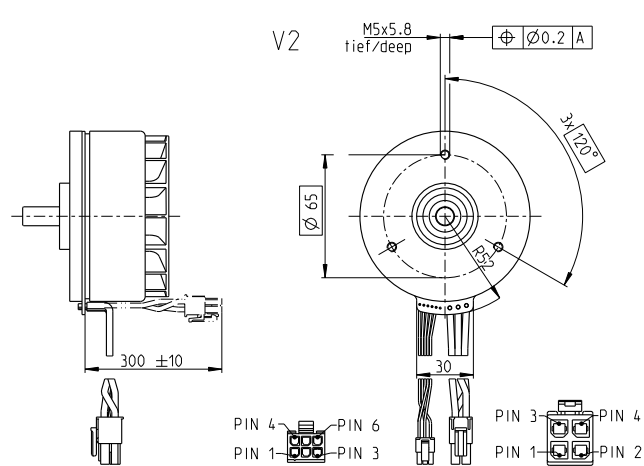
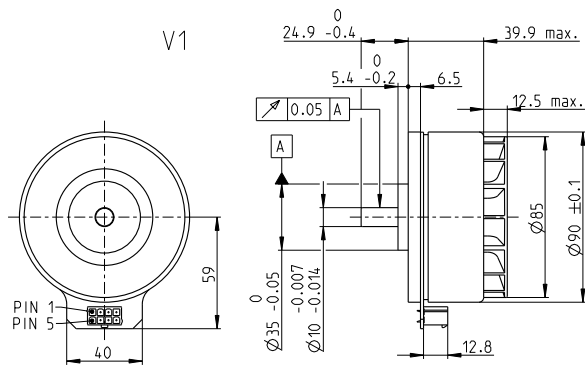


EC 90 flat Ø90 mm, brushless, 600 watt

Ventilated



EC flat

M 1:4

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

Part numbers

V1 with Hall sensors	597974	597975	597976
V2 with Hall sensors and cables	607937	607938	607939
	607940		

Motor data					
Values at nominal voltage					
1 Nominal voltage	V	18	30	48	60
2 No load speed	rpm	2080	2080	1960	1980
3 No load current	mA	821	493	283	230
4 Nominal speed	rpm	1620	1620	1520	1540
5 Nominal torque	mNm	1620	1570	1500	1510
6 Nominal current (max. continuous current)	A	18.1*	10.6	5.99	4.86
7 Stall torque	mNm	10200	10000	9490	9570
8 Stall current	A	186	109	57.8	47.5
9 Max. efficiency	%	87	86.8	86.3	86.4
Characteristics					
10 Terminal resistance phase to phase	Ω	0.0968	0.275	0.831	1.26
11 Terminal inductance phase to phase	mH	0.133	0.369	1.07	1.63
12 Torque constant	mNm/A	81.6	136	231	286
13 Speed constant	rpm/V	117	70.2	41.3	33.4
14 Speed/torque gradient	rpm/mNm	0.139	0.142	0.148	0.148
15 Mechanical time constant	ms	7.41	7.6	7.92	7.9
16 Rotor inertia	gcm ²	5100	5100	5100	5060

Specifications	Operating range	Comments
Thermal data 17 Thermal resistance housing-ambient 0.87 K/W 18 Thermal resistance winding-housing 0.89 K/W 19 Thermal time constant winding 27.9 s 20 Thermal time constant motor 25.5 s 21 Ambient temperature -40...+100°C 22 Max. winding temperature +125°C Mechanical data (preloaded ball bearings) 23 Max. speed 5000 rpm 24 Axial play at axial load 0.14 mm 25 Radial play preloaded 26 Max. axial load (dynamic) 34 N 27 Max. force for press fits (static) (static, shaft supported) 440 N 28 Max. radial load, 10 mm from flange 8000 N 130 N	n [rpm] 	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

Other specifications	Modular system	Details on catalog page 56
29 Number of pole pairs 11 30 Number of phases 3 31 Weight of motor 988 g Values listed in the table are nominal.	Gear 444_GP 52 C 458_GB 80' 459_GB 12' 460_GB 9' 461_GB 65'	Sensor 531_Encoder MILE Motor Control 547_DEC Module 50/5 551_ESCON Module 50/5 552_ESCON Module 50/8 HE 553_ESCON 50/5 553_ESCON 70/10 557_ESCON2 Micro 60/5 558_ESCON2 Module 60/12 558_ESCON2 Module 60/30 559_ESCON2 Compact 60/12 559_ESCON2 Compact 60/30

Connection V1
 Pin 1 Hall sensor 1
 Pin 2 Hall sensor 2
 Pin 3 V_{Hall} 4.5...24 VDC
 Pin 4 Motor winding 3
 Pin 5 Hall sensor 3
 Pin 6 GND
 Pin 7 Motor winding 1
 Pin 8 Motor winding 2

V2 (sensors, AWG 24)
 Hall sensor 1
 Hall sensor 2
 Hall sensor 3
 GND
 V_{Hall} 4.5...24 VDC
 N.C.

V2 (motor, AWG 14)
 Motor winding 1
 Motor winding 2
 Motor winding 3
 N.C.

Wiring diagram for Hall sensors see p. 69

Connector
 Molex 46015-0806
 Molex

Connection cable for V1
 Universal, L = 500 mm
339380

Note: The cable alignment relative to the mounting holes of the gearhead is not defined.
 *on request
 *607937 cannot be combined with the MILE encoder, because the current limit of the connectors of the MILE circuit board is 13 A.