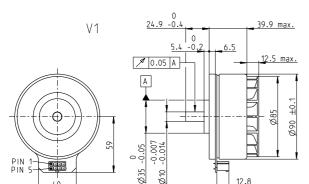
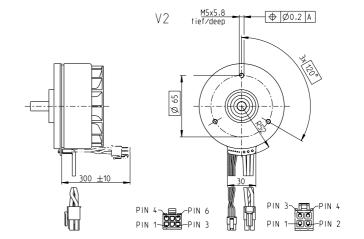
EC 90 flat ∅90 mm, brushless, 600 Watt

12.8





M 1:4

Stock program **Part Numbers** Standard program Special program (on request) 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 30 48 60 2 No load speed 2080 2080 1960 1980 rpm 3 No load current mΑ 821 493 283 230 4 Nominal speed 1620 1620 1520 1540 rpm 5 Nominal torque (max. continuous torque) mNm 1610 1560 1490 1500 6 Nominal current (max. continuous current) 5.95 18 10.5 4.83 7 Stall torque1 mNm 14900 14600 13100 13300 8 Stall current Α 183 107 56.9 9 Max. efficiency % 87.2 87 86.5 86.6 Characteristics 10 Terminal resistance phase to phase 0.0983 0.844 1.28 Ω 0.28 11 Terminal inductance phase to phase mΗ 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 0.141 0.144 0.151 0.15 15 Mechanical time constant 7.47 7.66 7.99 7.97 ms 16 Rotor inertia 5100 5100 5100 5060 acm²

maxon Modular System

Specifications Thermal data 1.04 K/W Thermal resistance housing-ambient 18 Thermal resistance winding-housing19 Thermal time constant winding 0.89 K/W 27.9 s 20 Thermal time constant motor 21 Ambient temperature 255 s -40...+100°C Max. winding temperature +125°C

Mechanical data (preloaded ball bearings) 23 Max. speed
24 Axial play at axial load
25 Radial play
26 Max. axial load (dynamic) 5000 rpm 0.14 mm preloaded 34 N 27 Max. force for press fits (static) (static, shaft supported)
28 Max. radial load, 10 mm from flange 440 N 130 N

Other specifications Number of pole pairs Number of phases 11 988 g 31 Weight of motor Values listed in the table are nominal.

Connection V1 V2 (sensors, AWG 24) Pin 1 Hall sensor 1 Hall sensor 1 Pin 2 Pin 3 Hall sensor 2 V_{Hall} 4.5...24 VDC Hall sensor 2 Hall sensor 3 Pin 4 Motor winding 3 **GND** Pin 5 Pin 6 V_{Hall} 4.5...24 VDC N.C. Hall sensor 3 GND Motor winding 1 Pin 8 Motor winding 2 **V2** (motor, AWG 16) Pin 1 Motor winding 1 Motor winding 2 Pin 2 Pin 3 Motor winding 3

Wiring diagram for Hall sensors see p. 47 Part number Connector 46015-0806 Molex 43025-0600 171692-0104

Connection cable for V1 Connection cable Universal, L = 500 mm **339380** ¹Calculation does not include saturation effect (p. 57/162)

Operating Range Comments n [rpm] Continuous operation In observation of above listed thermal resistance 6000 (lines 17 and 18) the maximum permissible wind-600 W ing temperature will be reached during continuous 5000 operation at 25°C ambient. 4000 = Thermal limit. 3000 Short term operation The motor may be briefly overloaded (recurring). 1000 Assigned power rating 1000 3.8



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Details on catalog page 36