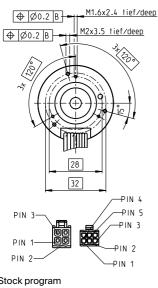
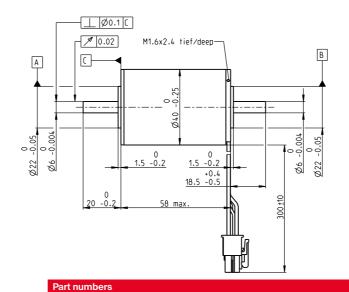
## EC-max 40 Ø40 mm, brushless, 70 watt





283866 **283867** 283868 283869 **Motor Data** Values at nominal voltage 1 Nominal voltage 12 48 2 No load speed 8030 8040 8470 9030 rpm 3 No load current mΑ 584 292 209 173 4 Nominal speed 6410 6520 7030 7610 rpm 5 Nominal torque mNm 89.7 89.6 95 94.2 6.88 3.44 2.55 2.02 6 Nominal current (max. continuous current) 497 7 Stall torque mNm 466 595 636 8 Stall current 33.3 17.8 14.9 12.7 9 Max. efficiency % 78 79 Characteristics 10 Terminal resistance phase to phase Ω 0.36 1.35 2.42 3.78 11 Terminal inductance phase to phase mΗ 0.0464 0.186 0.379 0.592 12 Torque constant mNm/A 14 28 40 50 341 239 13 Speed constant rpm/\ 682 191 14 Speed/torque gradient rpm/mNm 17.6 16.5 14.4 14.4 15 Mechanical time constant 7.73 9.41 8.82 7.74 ms gcm<sup>2</sup> 16 Rotor inertia 51.2 51.2 51.2 51.2

## Thermal data 17 Thermal resistance housing-ambient 18 Thermal resistance winding-housing 19 Thermal time constant winding 20 Thermal time constant motor 21 Ambient temperature 22 Max. winding temperature Mechanical data (preloaded ball bearings) 23 Max. speed 4.63 K/W 0.542 K/W 0.562 K/W 0.562

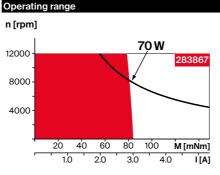
23 Max. speed 12 000 rpm
24 Axial play at axial load < 10 N 0.14 mm
25 Radial play preloaded (dynamic) 8 N 27 Max. force for press fits (static) (static, shaft supported) 50 N 80 N 80 N

29 Number of pole pairs 30 Number of phases 31 Weight of motor

Other specifications

Values listed in the table are nominal.

Connection motor (Cable AWG 20) Motor winding 1 Motor winding 2 Motor winding 3 Pin 2 black Pin 3 white Pin 4 Connector Part number Molex 39-01-2040 Connection sensor (Cable AWG 26) Pin 1 Pin 2 Pin 3 brown Hall sensor 2 Hall sensor 3 grey blue Pin 4 GND V<sub>Hall</sub> 3...24 VDC N.C. Pin 5 green Part number Connector Molex 430-25-0600 Wiring diagram for Hall sensors see p. 67



Continuous operation

Comments

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.

M3x4.5 tief/deep

М

Ф Ø0.2 A

M 1:2

Short term operation

The motor may be briefly overloaded (recurring).

Assigned power rating

 Modular system
 Sensor

 436-438\_GP 42 A
 509\_EI

3

460 g

436-438\_GP 42 A 509\_ENX 16 EASY 439-441\_GP 42 C 510\_ENX 16 EASY XT 511\_ENX 16 EASY Absolute 512\_ENX 16 EASY Absolute XT 539\_Encoder HEDL 5540

> Accessories 586\_Brake AB 28

## Motor Control 547\_DEC Module 50/5 551\_ESCON 36/3 EC 551\_ESCON Module 50/5 551\_ESCON Module 50/4 EC-S 552\_ESCON Module 50/8 HE 553\_ESCON 50/5, 70/10 557\_ESCON2 Micro 60/5 558\_ESCON2 Module 60/12 559\_ESCON2 Compact 60/12 563\_EPOS4 Micro 24/5 564\_EPOS4 Module 50/5 565\_EPOS4 Compact 24/5 3-axes 565\_EPOS4 Module 50/8 567\_EPOS4 Compact 50/5, 50/8 569\_EPOS4 50/5 569\_EPOS470/15 570\_EPOS4 Disk 60/8

Details on catalog page 52

571\_EPOS4 Disk 60/12