





## M 1:2

Stock program Part Numbers Standard program Special program (on request) according to dimensional drawing 310005 310006 310007 310008 310009 shaft length 15.7 shortened to 8.7 mm 268193 268213 268214 268215 268216 **Motor Data** Values at nominal voltage Nominal voltage 12 18 24 36 48 2 No load speed 8170 8590 8810 8590 8490 rpm 3 No load current mΑ 301 213 165 106 78.6 4 Nominal speed 7630 7910 8050 7840 7760 rpm 5 Nominal torque mNm 51.6 75.5 85.6 86.6 89.7 6 Nominal current (max. continuous current) 3.47 2.28 1.74 7 Stall torque 853 1000 1020 1000 1050 mNm 8 Stall current 61.1 50.3 39.3 25.2 19.6 Δ 9 Max. efficiency % 85 87 88 Characteristics 10 Terminal resistance Ω 0.196 0.358 0.611 1.43 2.45 11 Terminal inductance mΗ 0.034 0.07 0.119 0.281 0.513 12 Torque constant mNm/A 13.9 19.9 25.9 39.8 53.8 13 Speed constant 479 369 240 rpm/\ 685 178 14 Speed/torque gradient rpm/mNm 9.64 8.61 8.7 8.61 8.09

#### Specifications **Operating Range** Comments Thermal data n [rpm] Continuous operation 6.0 K/W 17 Thermal resistance housing-ambient In observation of above listed thermal resistance 18 Thermal resistance winding-housing 1.7 K/W 60 W (lines 17 and 18) the maximum permissible winding 19 Thermal time constant winding $16.3 \, s$ 12000 temperature will be reached during continuous 310007 593 s +100°C.. 20 Thermal time constant motor operation at 25°C ambient. 21 Ambient temperature = Thermal limit. 22 Max. winding temperature +125°C 8000 Mechanical data (ball bearings) Short term operation 23 Max. speed 12000 rpm 4000 The motor may be briefly overloaded (recurring). 24 Axial play 0.05 - 0.15 mm 25 Radial play 0.025 mm Assigned power rating 26 Max. axial load (dynamic) 5.6 N 25 50 75 100 M [mNm] 27 Max. force for press fits (static) (static, shaft supported) 110 N 1.0 2.0 3.0 4.0 1200 N ΙΪ́ΑΊ 28 Max. radial load, 5 mm from flange 28 N

3.24

35.9

### Other specifications

15 Mechanical time constant

16 Rotor inertia

29 Number of pole pairs

30 Number of commutator segments

31 Weight of motor

Values listed in the table are nominal. Explanation of the figures on page 90.

#### Option

Preloaded ball bearings

# Modular System 1 Gear 260 g 418\_GP 32 BZ

3.4

33.7

ms

gcm<sup>2</sup>

418\_GP 32 BZ 419\_GP 32 A 421\_GP 32 AR 422\_GP 32 C 425\_GP 32 CR

452-460\_GP 32 S

429\_KD 32

#### Sensor

3.05

33.5

511\_Encoder MR 256-1024 CPT 518\_Encoder HEDS 5540 520\_Encoder HEDL 5540

2.98

33.1

2.94

34.7

#### Motor Control

547\_EPOS4 50/5

532\_ESCON 36/2 DC 533\_ESCON Module 50/5 535\_ESCON 50/5 541\_EPOS4 Micro 24/5 542\_EPOS4 Module 24/1.5 543\_EPOS4 Compact 24/5 3-axes 544\_EPOS4 Compact 24/1.5

Details on catalog page 44

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