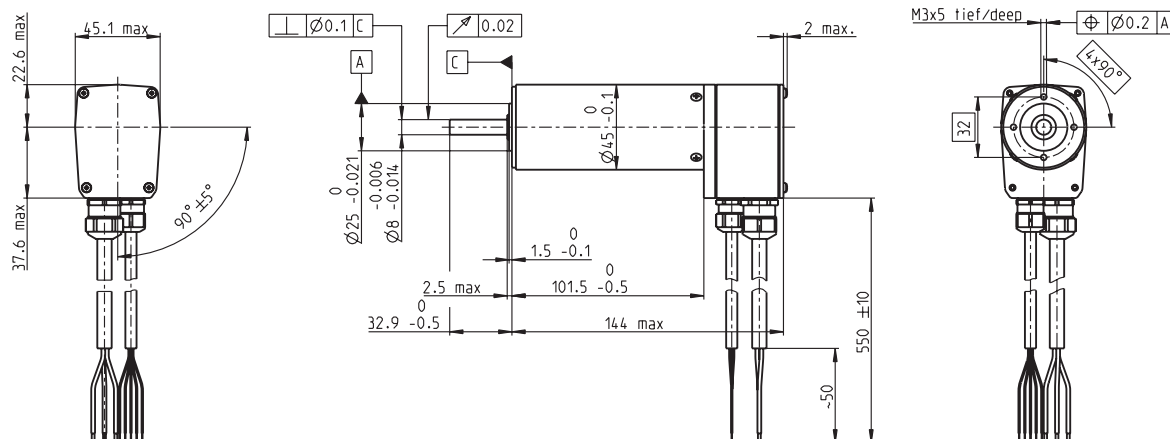


EC 45 Ø45 mm, brushless, 250 Watt, C€ approved



M 1:4

Stock program

Motor Data

Values at nominal voltage

1 Nominal voltage	V	24
2 No load speed	rpm	5000
3 No load current	mA	341
4 Nominal speed	rpm	4300
5 Nominal torque (max. continuous torque)	mNm	331
6 Nominal current (max. continuous current)	A	7.51
7 Stall torque	mNm	2540
8 Starting current	A	55.8
9 Max. efficiency	%	85

Characteristics

10 Terminal resistance phase to phase	Ω	0.43
11 Terminal inductance phase to phase	mH	0.17
12 Torque constant	mNm/A	45.5
13 Speed constant	rpm/V	210
14 Speed/torque gradient	rpm/mNm	1.98
15 Mechanical time constant	ms	4.34
16 Rotor inertia	gcm ²	209



Specifications

Thermal data

17 Thermal resistance housing-ambient	1.7 K/W
18 Thermal resistance winding-housing	1.1 K/W
19 Thermal time constant winding	31 s
20 Thermal time constant motor	1570 s
21 Ambient temperature	-20...+100°C
22 Max. permissible winding temperature	+125°C

Mechanical data (preloaded ball bearings)

23 Max. permissible speed	12000 rpm
24 Axial play at axial load < 20 N	0 mm
24 Axial play at axial load > 20 N	max. 0.15 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	16 N
27 Max. force for press fits (static) (static, shaft supported)	182 N
27 Max. force for press fits (static) (static, shaft supported)	5000 N
28 Max. radial loading, 5 mm from flange	180 N

Other specifications

29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	1150 g
Protection to	IP54*

Values listed in the table are nominal.

Connection motor (Cable AWG 16)

Cable 1	Motor winding 1
Cable 2	Motor winding 2
Cable 3	Motor winding 3

Connection sensors (Cable AWG 24)¹⁾

white	Hall sensor 3
brown	Hall sensor 2
green	Hall sensor 1
yellow	GND
grey	V _{hall} 4.5...24 VDC

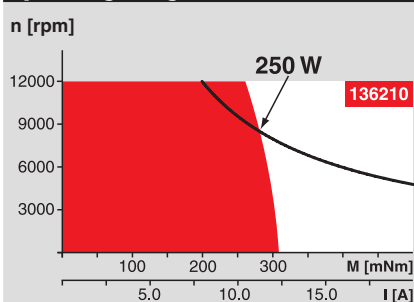
Wiring diagram for Hall sensors see p. 27

¹⁾ Not lead through in combination with resolver.

Option

Temperature monitoring, PTC resistance Micropille
110°C, R 25°C < 0.5 kΩ, R 105°C = 1.2...1.5 kΩ,
R 115°C = 7...13 kΩ, R 120°C = 18...35 kΩ

Operating Range



Comments

Continuous operation

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

Short term operation

The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Planetary Gearhead

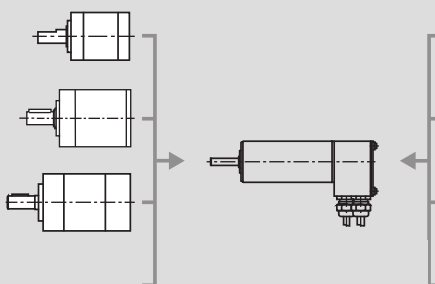
Ø42 mm
3 - 15 Nm

Planetary Gearhead

Ø52 mm
4 - 30 Nm

Planetary Gearhead

Ø62 mm
8 - 50 Nm



Encoder HEDL 9140

500 CPT,
3 channels

Resolver Res 26

Ø26 mm
10 V

Brake AB 28

24 VDC
0.4 Nm

*Protection level only when installed with flange-side seal.