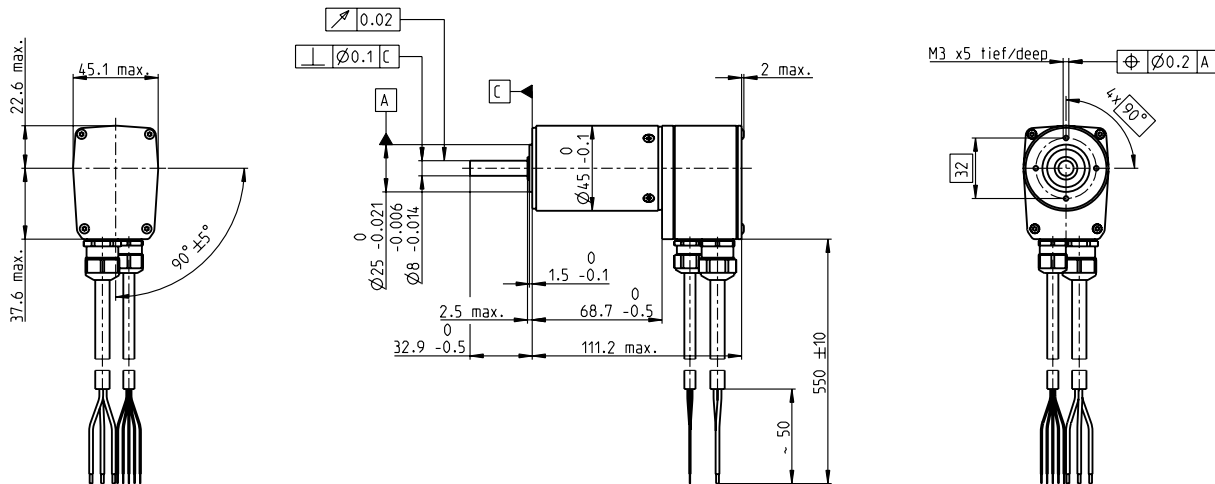


EC 45 Ø45 mm, brushless, 150 watt



M 1:4

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

Part numbers

Motor Data

Values at nominal voltage

	V	12	12	18	18	24	24	36	36	48	48
1 Nominal voltage	V	12	12	18	18	24	24	36	36	48	48
2 No load speed	rpm	9780	5650	10300	5930	10500	6090	9360	5400	10200	5860
3 No load current	mA	1530	577	1120	419	879	328	471	177	411	154
4 Nominal speed	rpm	8410	4370	9000	4680	9290	4840	8150	4190	8960	4640
5 Nominal torque	mNm	174	186	171	184	169	183	179	191	174	187
6 Nominal current (max. continuous current)	A	16.2	9.65	11.2	6.72	8.55	5.13	5.29	3.14	4.21	2.52
7 Stall torque	mNm	1380	872	1540	931	1600	952	1560	911	1650	962
8 Stall current	A	119	43.6	93.3	32.6	74.8	25.6	43.1	14.5	37.2	12.5
9 Max. efficiency	%	79	79	80	79	80	79	81	80	81	80

Characteristics

10 Terminal resistance phase to phase	Ω	0.101	0.275	0.193	0.552	0.321	0.936	0.836	2.48	1.29	3.85
11 Terminal inductance phase to phase	mH	0.0266	0.0797	0.0542	0.163	0.0917	0.275	0.263	0.788	0.395	1.19
12 Torque constant	mNm/A	11.5	20	16.5	28.6	21.4	37.1	36.3	62.8	44.5	77.1
13 Speed constant	rpm/V	827	478	579	334	445	257	263	152	214	124
14 Speed/torque gradient	rpm/mNm	7.22	6.58	6.78	6.46	6.67	6.49	6.07	6	6.22	6.18
15 Mechanical time constant	ms	8.99	8.19	8.44	8.05	8.32	8.08	7.56	7.48	7.75	7.7
16 Rotor inertia	gcm ²	119	119	119	119	119	119	119	119	119	119

Specifications

Thermal data

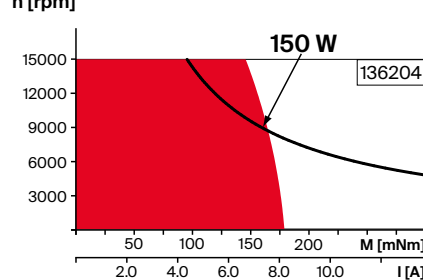
17 Thermal resistance housing-ambient	1.9 K/W
18 Thermal resistance winding-housing	0.9 K/W
19 Thermal time constant winding	15.4 s
20 Thermal time constant motor	1600 s
21 Ambient temperature	-20...+100°C
22 Max. winding temperature	+125°C

Mechanical data (preloaded ball bearings)

23 Max. speed	15000 rpm
24 Axial play at axial load < 20 N	0 mm
> 20 N	max. 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	16 N
27 Max. force for press fits (static)	182 N
(static, shaft supported)	5000 N
28 Max. radial load, 5 mm from flange	140 N

Operating range

n [rpm]



Comments

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

Modular system

Details on catalog page 52

Other specifications

29 Number of pole pairs	1 Gear
30 Number of phases	3 436-438_GP 42 A
31 Weight of motor	850 g 439-441_GP 42 C
Protection to	IP54* 443-444_GP 52 C

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)*

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. 67

*Not lead through in combination with resolver.

Accessories

588_Brake AB 28

Motor Control

547_DEC Module 50/5
551_ESCON 36/3 EC
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
559_ESCON2 Compact 60/12
564_EPOS4 Module 50/5
565_EPOS4 Module 50/8
565_EPOS4 Module 50/15
567_EPOS4 Compact 50/5
567_EPOS4 Compact 50/8
569_EPOS4 Compact 50/15
569_EPOS4 50/5
570_EPOS4 Disk 60/8
571_EPOS4 Disk 60/12

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