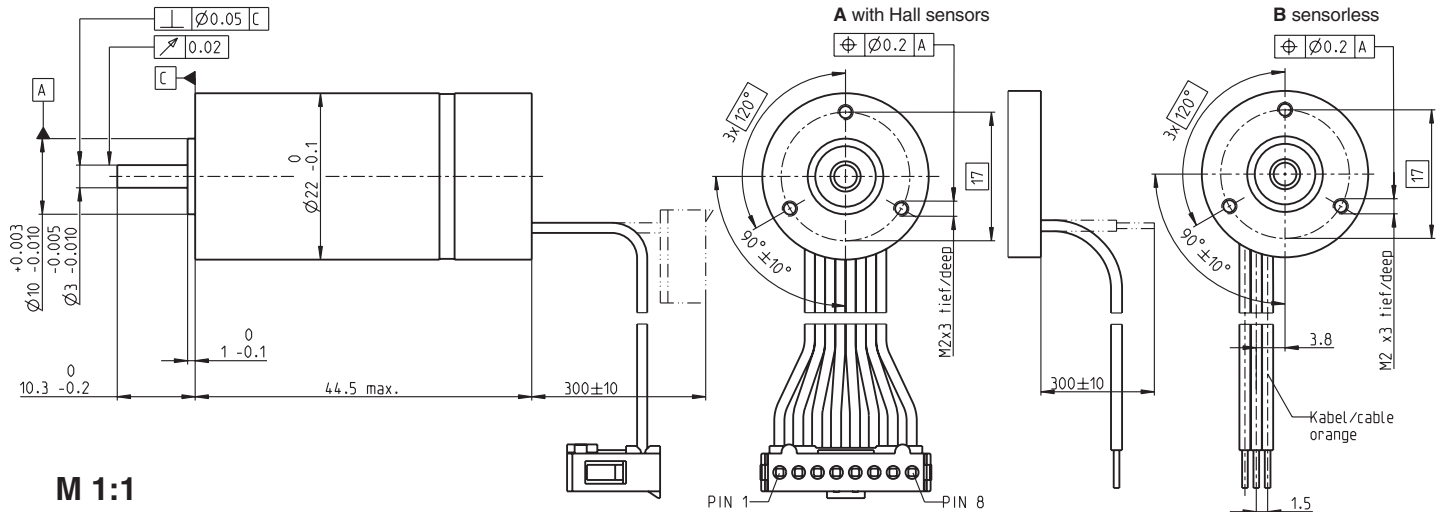


EC 22 Ø22 mm, brushless, 40 Watt

NEW

maxon EC motor

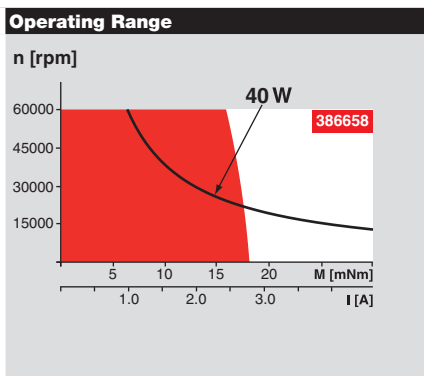


- Stock program
- Standard program
- Special program (on request)

	Order Number			
A with Hall sensors	386657	386658	386659	386660
B sensorless	386661	386662	386663	386664

Motor Data (provisional)					
Values at nominal voltage					
1 Nominal voltage	V	12	24	36	48
2 No load speed	rpm	30400	35200	31600	34200
3 No load current	mA	217	135	76.7	64.8
4 Nominal speed	rpm	27000	32200	28700	31200
5 Nominal torque (max. continuous torque)	mNm	19.6	19.3	19.1	18.3
6 Nominal current (max. continuous current)	A	5.37	3.06	1.82	1.42
7 Stall torque	mNm	192	255	232	237
8 Starting current	A	51.2	39.2	21.4	17.7
9 Max. efficiency	%	88	89	89	88
Characteristics					
10 Terminal resistance phase to phase	Ω	0.235	0.612	1.68	2.71
11 Terminal inductance phase to phase	mH	0.0182	0.0546	0.152	0.231
12 Torque constant	mNm / A	3.75	6.49	10.8	13.3
13 Speed constant	rpm / V	2550	1470	882	716
14 Speed / torque gradient	rpm / mNm	160	139	137	145
15 Mechanical time constant	ms	3.99	3.47	3.43	3.64
16 Rotor inertia	gcm ²	2.39	2.39	2.39	2.39

Specifications	
Thermal data	
17 Thermal resistance housing-ambient	10 K / W
18 Thermal resistance winding-housing	2 K / W
19 Thermal time constant winding	4.61 s
20 Thermal time constant motor	278 s
21 Ambient temperature	-20 ... +100°C
22 Max. permissible winding temperature	+125°C
Mechanical data (preloaded ball bearings)	
23 Max. permissible speed	60000 rpm
24 Axial play at axial load < 5 N	0 mm
24 Axial play at axial load > 5 N	max. 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	4 N
27 Max. force for press fits (static) (static, shaft supported)	45 N
27 Max. force for press fits (static) (static, shaft supported)	250 N
28 Max. radial loading, 5 mm from flange	16 N
Other specifications	
29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	85 g



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**

Values listed in the table are nominal.

Connection A

brown	Motor winding 1	Pin 1
red	Motor winding 2	Pin 2
orange	Motor winding 3	Pin 3
yellow	VHall 4.5 ... 24 VDC	Pin 4
green	GND	Pin 5
blue	Hall sensor 1	Pin 6
violet	Hall sensor 2	Pin 7
grey	Hall sensor 3	Pin 8

Wiring diagram for Hall sensors see p. 27

Connection B (Cable AWG 24)

brown	Motor winding 1
red	Motor winding 2
orange	Motor winding 3

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead
Ø22 mm
0.5 - 3.4 Nm
Page 224 / 225

Spindle Drive
Ø22 mm
Page 247 / 248

for type A: Encoder MR
128 / 256 / 512 Imp.,
Page 261

for type B: Resolver
on request

Recommended Electronics:

DECS 50/5	Page 289
DEC 24/3, Module 24/2	290
DEC 50/5, Module 50/5	291
DECV 50/5	297
DES 50/5	298
EPOS2 Module 36/2	304
EPOS2 24/5, EPOS2 50/5	305
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