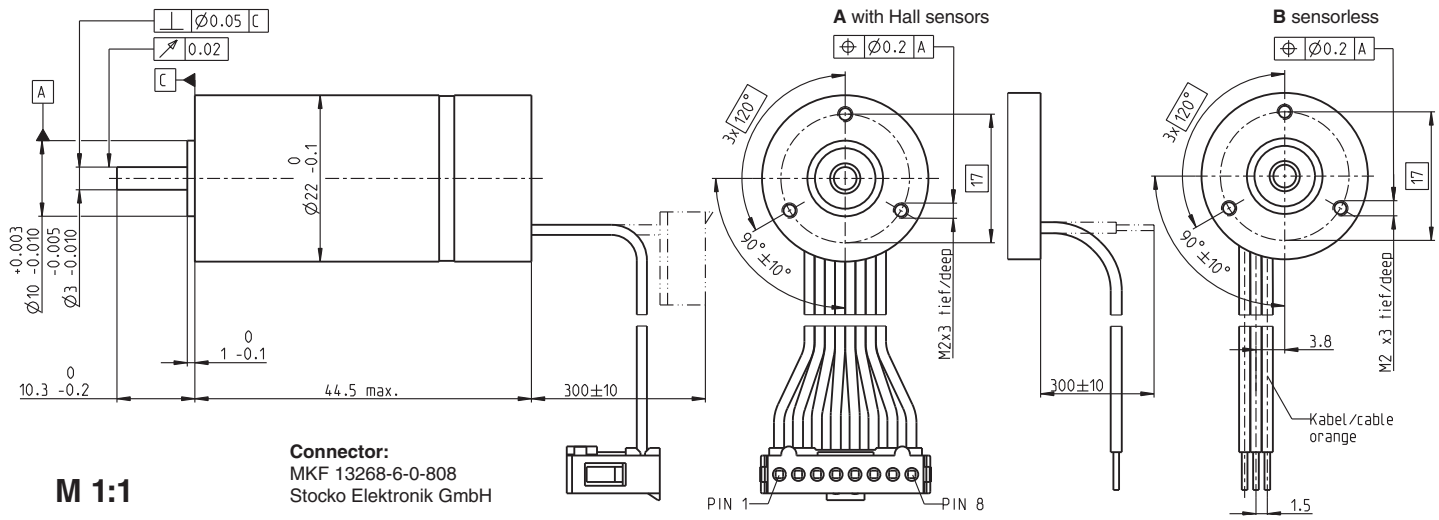
EC 22 ∅22 mm, brushless, 40 Watt



M 1:1

Connector:
MKF 13268-6-0-808
Stocko Elektronik GmbH

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

	Values at nominal voltage					
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	30400	35100	31600	34200
3	No load current	mA	268	166	94.3	79.5
4	Nominal speed	rpm	27000	31900	28400	31000
5	Nominal torque (max. continuous torque)	mNm	18.6	19.7	20	19.8
6	Nominal current (max. continuous current)	A	5.18	3.16	1.92	1.54
7	Stall torque	mNm	184	243	221	237
8	Starting current	A	49.1	37.4	20.4	17.7
9	Max. efficiency	%	86	87	87	87
	Characteristics					
10	Terminal resistance phase to phase	Ω	0.244	0.641	1.76	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	166	145	144	145
15	Mechanical time constant	ms	4.16	3.64	3.6	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	4.85 s
20	Thermal time constant motor	278 s
21	Ambient temperature	-20 ... +100°C
22	Max. permissible winding temperature	+155°C
	Mechanical data (preloaded ball bearings)	
23	Max. permissible speed	60000 rpm
24	Axial play at axial load < 5 N	0 mm
	> 5 N	max. 0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	4 N
27	Max. force for press fits (static)	45 N
	(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

Values listed in the table are nominal.

Connection A

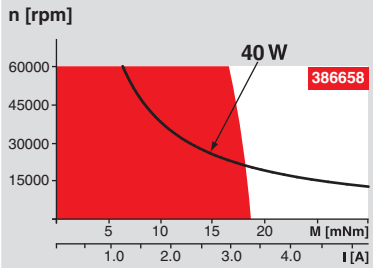
brown	Motor winding 1	Pin 1
red	Motor winding 2	Pin 2
orange	Motor winding 3	Pin 3
yellow	VHall 3 ... 24 VDC	Pin 4
green	GND	Pin 5
blue	Hall sensor 1	Pin 6
violet	Hall sensor 2	Pin 7
grey	Hall sensor 3	Pin 8

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

Operating Range



Comments

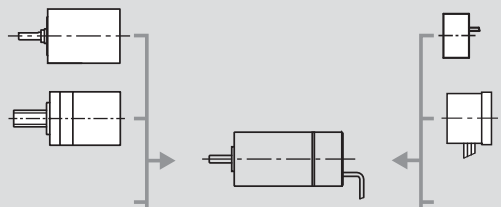
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Overview on page 16 - 21



Planetary Gearhead
∅22 mm
0.5 - 3.4 Nm
Page 223 / 224

Spindle Drive
∅22 mm
Page 247 / 248

for type A:
Encoder MR
128 / 256 / 512 CPT,
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
EPOS2 P 24/5	308
Notes	**20**