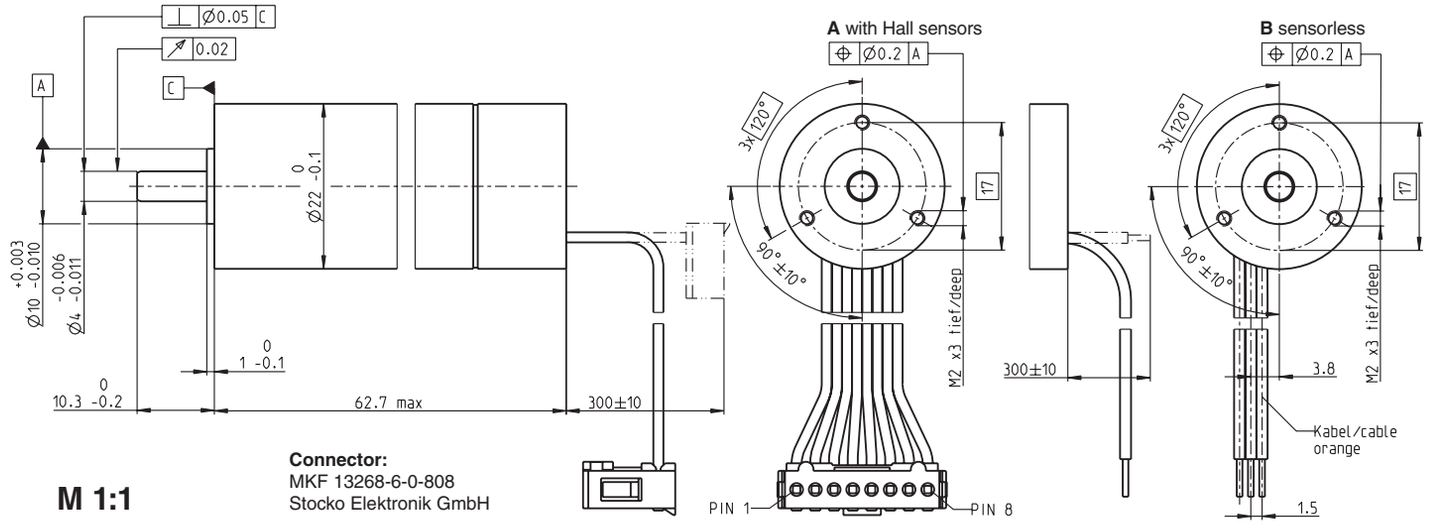
EC 22 ∅22 mm, brushless, 100 Watt



M 1:1

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

Stock program
Standard program
Special program (on request)

Part Numbers

A with Hall sensors	386673	**386674**	386675						
B sensorless	386676	**386677**	386678						

Motor Data

	Values at nominal voltage									
1	Nominal voltage	V	18	24	48					
2	No load speed	rpm	31000	29500	32200					
3	No load current	mA	383	263	153					
4	Nominal speed	rpm	28300	27100	30000					
5	Nominal torque (max. continuous torque)	mNm	49	48.2	47.3					
6	Nominal current (max. continuous current)	A	9.11	6.4	3.43					
7	Stall torque	mNm	643	690	856					
8	Starting current	A	116	89.1	60.2					
9	Max. efficiency	%	89	90	90					
	Characteristics									
10	Terminal resistance phase to phase	Ω	0.155	0.269	0.797					
11	Terminal inductance phase to phase	mH	0.0178	0.035	0.118					
12	Torque constant	mNm/A	5.53	7.75	14.2					
13	Speed constant	rpm/V	1730	1230	672					
14	Speed/torque gradient	rpm/mNm	48.4	42.9	37.7					
15	Mechanical time constant	ms	2.07	1.84	1.61					
16	Rotor inertia	gcm²	4.09	4.09	4.09					

Specifications

Thermal data

17	Thermal resistance housing-ambient		7 K/W
18	Thermal resistance winding-housing		1 K/W
19	Thermal time constant winding		4.92 s
20	Thermal time constant motor		355 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	< 4.5 N	0 mm
		> 4.5 N	max. 0.14 mm
25	Radial play		preloaded
26	Max. axial load (dynamic)		4 N
27	Max. force for press fits (static)		40 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	128 g

Values listed in the table are nominal.

Connection A

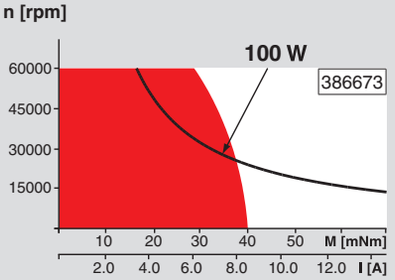
brown	Motor winding 1	Pin 1
red	Motor winding 2	Pin 2
orange	Motor winding 3	Pin 3
yellow	VHall 3…24 VDC	Pin 4
green	GND	Pin 5
blue	Hall sensor 1	Pin 6
violet	Hall sensor 2	Pin 7
gray	Hall sensor 3	Pin 8

Wiring diagram for Hall sensors see p. 35

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 20 - 25

Planetary Gearhead
∅22 mm
0.5 - 3.4 Nm
Page 252/253

Spindle Drive
∅22 mm
Page 284/285

for type A:
Encoder MR
128/256/512 CPT,
Page 301

for type B:
Resolver
on request

Recommended Electronics:

ESCON 36/3 EC	Page 320
ESCON Module 50/5	321
ESCON 50/5	321
ESCON 70/10	321
DECS 50/5	324
DEC Module 24/2, 50/5	325
EPOS2 24/2, Module 36/2	330
EPOS2 24/5, 50/5, 70/10	331
EPOS2 P 24/5	334
EPOS3 70/10 EtherCAT	337
Notes	**24**