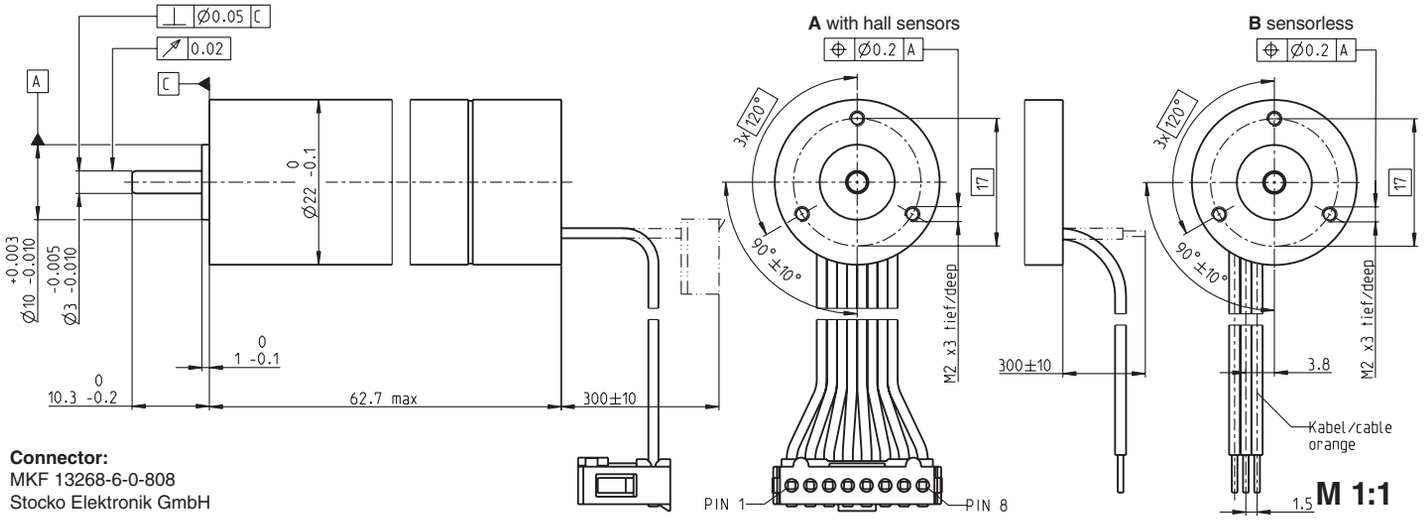
EC 22 ∅22 mm, brushless, 50 Watt

NRND See page 13
Not recommended for New Design



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

Stock program
Standard program
Special program (on request)

	Part Numbers	
A with hall sensors	167130	167129
B sensorless	201049	201048

Motor Data (provisional)

	Values at nominal voltage			
1	Nominal voltage	V	32	32
2	No load speed	rpm	38700	22400
3	No load current	mA	327	128
4	Nominal speed	rpm	36600	20200
5	Nominal torque (max. continuous torque)	mNm	30.6	37.2
6	Nominal current (max. continuous current)	A	4.16	2.82
7	Stall torque	mNm	692	437
8	Starting current	A	88.2	32.1
9	Max. efficiency	%	88	88
	Characteristics			
10	Terminal resistance phase to phase	Ω	0.363	0.997
11	Terminal inductance phase to phase	mH	0.0490	0.147
12	Torque constant	mNm/A	7.85	13.6
13	Speed constant	rpm/V	1220	702
14	Speed/torque gradient	rpm/mNm	56.2	51.4
15	Mechanical time constant	ms	2.47	2.26
16	Rotor inertia	gcm²	4.20	4.20

Specifications

	Thermal data	
17	Thermal resistance housing-ambient	7.0 K/W
18	Thermal resistance winding-housing	1.0 K/W
19	Thermal time constant winding	5.06 s
20	Thermal time constant motor	355 s
21	Ambient temperature	-20…+100°C
22	Max. permissible winding temperature	+125°C
	Mechanical data (preloaded ball bearings)	
23	Max. permissible speed[1)]	50000 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)	45 N
	(static, shaft supported)	250 N
28	Max. radial loading, 5 mm from flange	16 N

1) in combination with encoder MR n_{max} = 37500 rpm

	Other specifications	
29	Number of pole pairs	1
30	Number of phases	3
31	Weight of motor	130 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	V_{Hall} 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

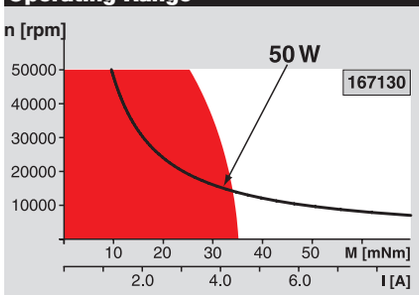
*Internal pull-up (7…13 kΩ) on pin 4

Connection B (Cable AWG 24)

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

Wiring diagram for Hall sensors see p. 35

Operating Range



Comments

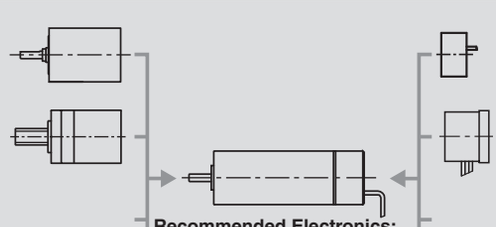
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

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 50/5	Page 321
DECS 50/5	324
EPOS2 24/2, Module 36/2	330
EPOS2 24/5	331
EPOS2 50/5	331
EPOS2 P 24/5	334
Notes	**24**