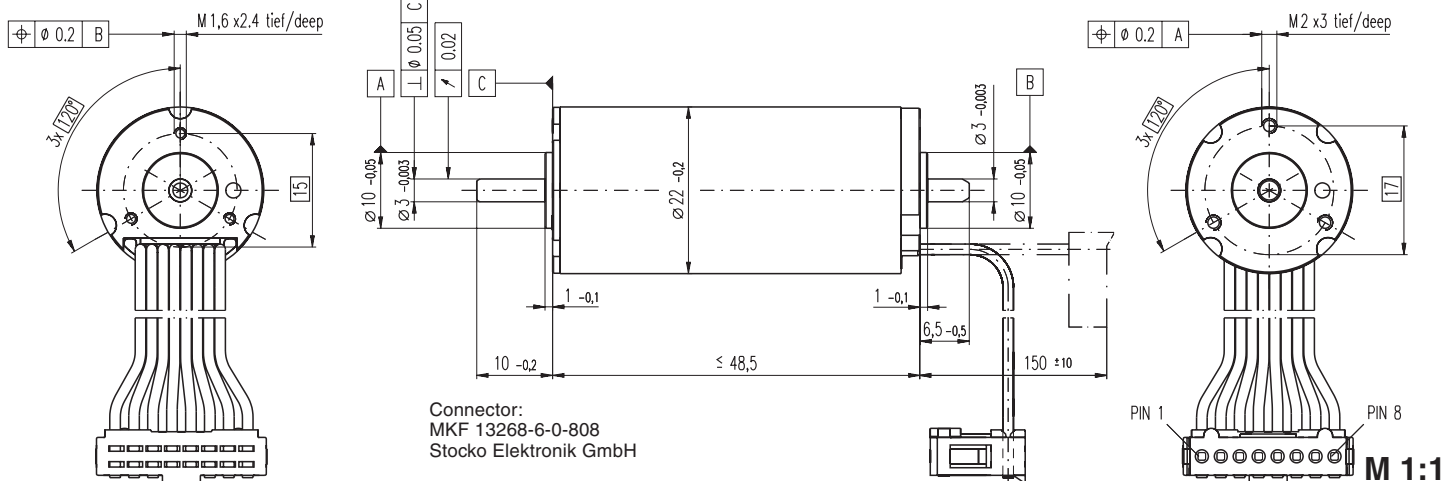


EC-max 22 Ø22 mm, brushless, 25 Watt



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

Order Number

283856 283857 283858 283859 283860

Motor Data

		283856	283857	283858	283859	283860	
Values at nominal voltage							
1	Nominal voltage	V	12.0	18.0	24.0	36.0	48.0
2	No load speed	rpm	12400	12900	12900	12200	13000
3	No load current	mA	214	153	115	69.7	57.6
4	Nominal speed	rpm	9820	10300	10400	9610	10500
5	Nominal torque (max. continuous torque)	mNm	22.9	21.9	22.9	22.7	23.4
6	Nominal current (max. continuous current)	A	2.69	1.80	1.41	0.877	0.720
7	Stall torque	mNm	114	112	121	111	127
8	Starting current	A	12.6	8.55	6.97	4.00	3.66
9	Max. efficiency	%	76	76	77	76	77
Characteristics							
10	Terminal resistance phase to phase	Ω	0.955	2.10	3.44	9.01	13.1
11	Terminal inductance phase to phase	mH	0.0499	0.103	0.182	0.462	0.730
12	Torque constant	mNm / A	9.10	13.0	17.4	27.7	34.8
13	Speed constant	rpm / V	1050	732	549	345	274
14	Speed / torque gradient	rpm / mNm	110	118	109	112	103
15	Mechanical time constant	ms	5.14	5.50	5.06	5.23	4.82
16	Rotor inertia	gcm ²	4.45	4.45	4.45	4.45	4.45

Specifications

Thermal data		
17	Thermal resistance housing-ambient	10.2 K / W
18	Thermal resistance winding-housing	1.02 K / W
19	Thermal time constant winding	1.97 s
20	Thermal time constant motor	628 s
21	Ambient temperature	-40 ... +100°C
22	Max. permissible winding temperature	+155°C
Mechanical data (preloaded ball bearings)		
23	Max permissible speed	18000 rpm
24	Axial play at axial load < 5.0 N	0 mm
	> 5.0 N	0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	4.5 N
27	Max. force for press fits (static) (static, shaft supported)	60 N
28	Max. radial loading, 5 mm from flange	1000 N
		16 N

Other specifications

29	Number of pole pairs	1
30	Number of phases	3
31	Weight of motor	110 g

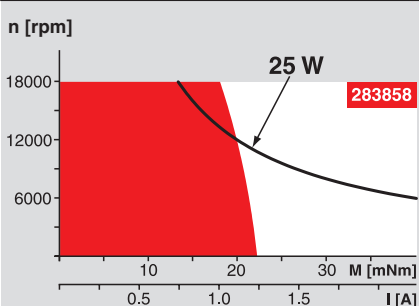
Values listed in the table are nominal.

Connection (Cable AWG 24)

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

Wiring diagram for Hall sensors see page 26

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).

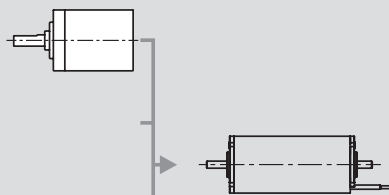
— Assigned power rating

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead

Ø32 mm
1.0 - 6.0 Nm
Page 232



Encoder MR
128 / 256 / 512 CPT,
2 / 3 channels
Page 249

Brake AB 20
Ø20 mm
24 VDC, 0.1 Nm
Page 298

Recommended Electronics:

DEC 24/3	Page 277
DEC 50/5	277
DECV 50/5	278
DES 50/5	279
EPOS 24/5	286
EPOS P 24/5	287
MIP 50	289
Notes	20