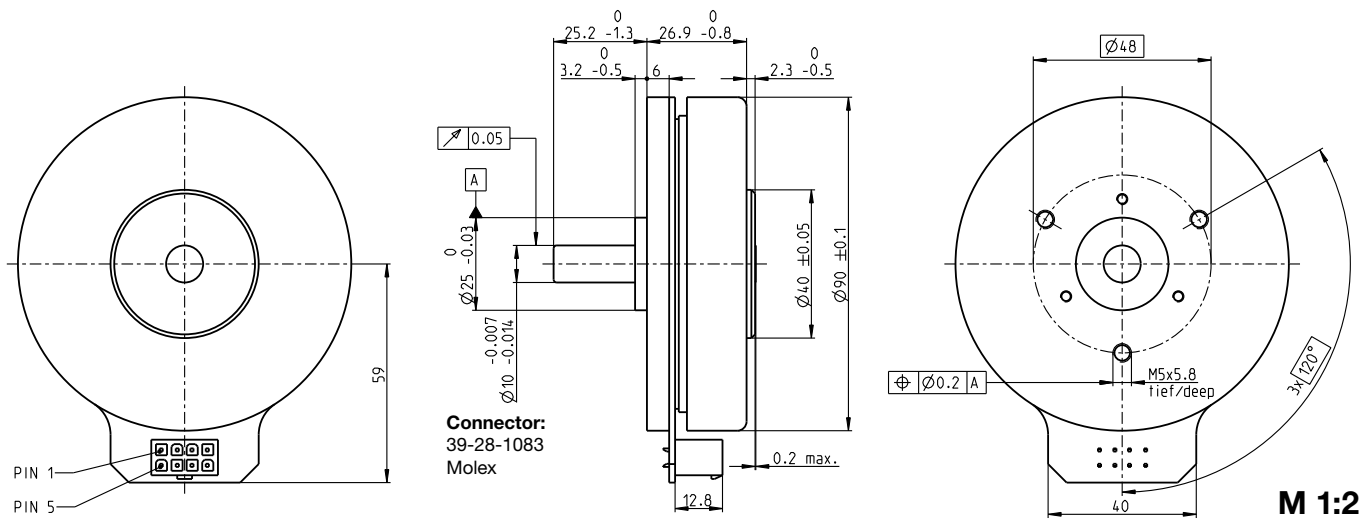


EC 90 flat Ø90 mm, brushless, 90 Watt

maxon flat motor

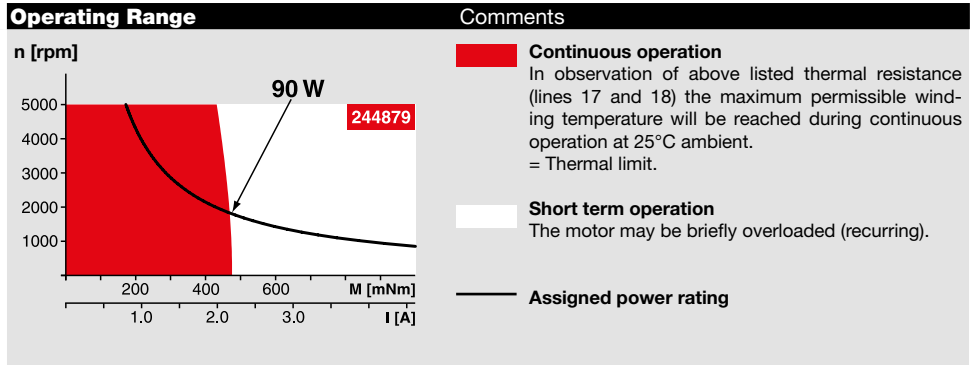


- Stock program
- Standard program
- Special program (on request)

Part Numbers				
	323772	429271	244879	

Motor Data	with Hall sensors	323772	429271	244879
Values at nominal voltage				
1 Nominal voltage	V	24	36	48
2 No load speed	rpm	3190	3120	2080
3 No load current	mA	544	348	135
4 Nominal speed	rpm	2590	2510	1610
5 Nominal torque (max. continuous torque)	mNm	444	560	533
6 Nominal current (max. continuous current)	A	6.06	4.76	2.27
7 Stall torque	mNm	4940	7480	4570
8 Stall current	A	70	69	21.1
9 Max. efficiency	%	84	87	85
Characteristics				
10 Terminal resistance phase to phase	Ω	0.343	0.522	2.28
11 Terminal inductance phase to phase	mH	0.264	0.625	2.5
12 Torque constant	mNm/A	70.5	109	217
13 Speed constant	rpm/V	135	88	44
14 Speed/torque gradient	rpm/mNm	0.659	0.423	0.462
15 Mechanical time constant	ms	21.1	13.6	14.8
16 Rotor inertia	gcm ²	3060	3060	3060

Specifications	
Thermal data	
17 Thermal resistance housing-ambient	1.91 K/W
18 Thermal resistance winding-housing	2.6 K/W
19 Thermal time constant winding	46 s
20 Thermal time constant motor	283 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+125°C
Mechanical data (preloaded ball bearings)	
23 Max. speed	5000 rpm
24 Axial play at axial load < 15 N	0 mm
> 15 N	0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	12 N
27 Max. force for press fits (static) (static, shaft supported)	183 N
28 Max. radial load, 5 mm from flange	8000 N
	68 N



Other specifications	
29 Number of pole pairs	12
30 Number of phases	3
31 Weight of motor	600 g

maxon Modular System Overview on page 28–36

Planetary Gearhead

- Ø52 mm
- 4 - 30 Nm
- Page 351

Encoder MILE

- 512 - 6400 CPT,
- 2 channels
- Page 390

Recommended Electronics:

Notes	Page 32
ESCON Mod. 50/4 EC-S	427
ESCON Mod. 50/5	427
ESCON 50/5	428
ESCON 70/10	428
DEC Module 50/5	430
EPOS2 24/5, 50/5, 70/10	435
EPOS2 P 24/5	438
EPOS4 Module/CB 50/5	442
EPOS4 Module 50/8	443
EPOS4 Comp. 50/8 CAN	443
MAXPOS 50/5	447

Values listed in the table are nominal.

Connection

Pin 1	Hall sensor 1
Pin 2	Hall sensor 2
Pin 3	V _{Hall} 4.5...18 VDC
Pin 4	Motor winding 3
Pin 5	Hall sensor 3
Pin 6	GND
Pin 7	Motor winding 1
Pin 8	Motor winding 2

Wiring diagram for Hall sensors see p. 43

Cable

Connection cable Universal, L = 500 mm	339380
Connection cable to EPOS2, L = 500 mm	354045