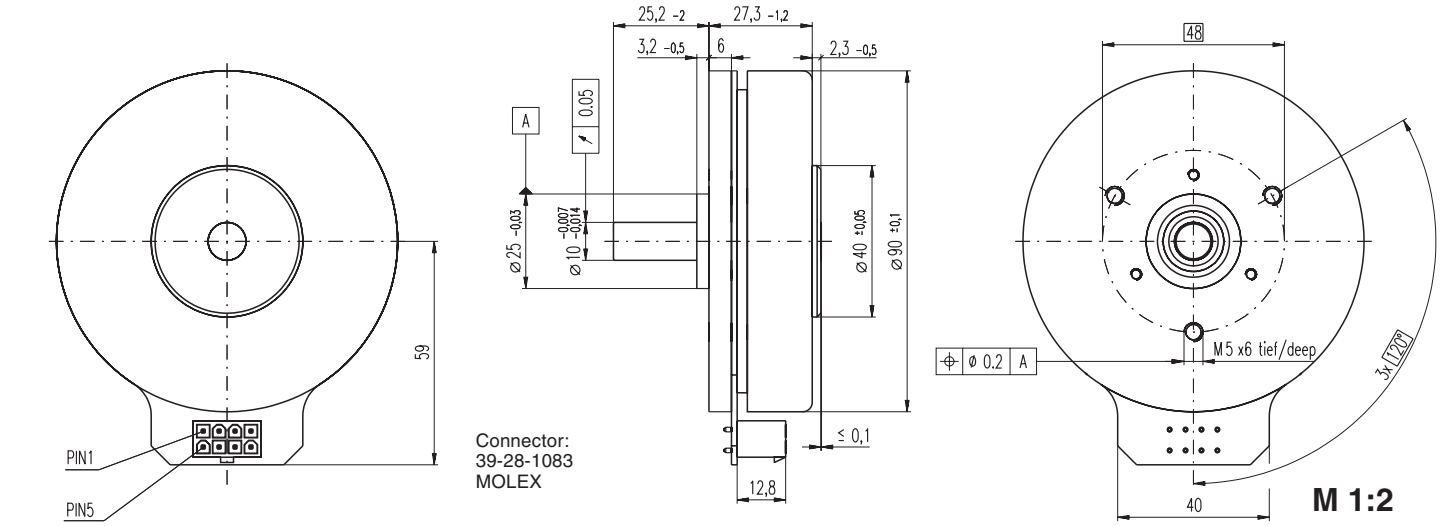
EC 90 flat ∅90 mm, brushless, 90 Watt



Stock program
Standard program
Special program (on request)

			Order Number	
		with Hall sensors	323772	244879
Motor Data (provisional)				
	Values at nominal voltage			
1	Nominal voltage	V	24.0	48.0
2	No load speed	rpm	3190	2080
3	No load current	mA	539	130
4	Nominal speed	rpm	2650	1640
5	Nominal torque (max. continuous torque)	mNm	387	494
6	Nominal current (max. continuous current)	A	5.39	2.12
7	Stall torque	mNm	4670	4530
8	Starting current	A	66.2	20.9
9	Max. efficiency	%	83	85
	Characteristics			
10	Terminal resistance phase to phase	Ω	0.363	2.30
11	Terminal inductance phase to phase	mH	0.264	2.50
12	Torque constant	mNm / A	70.5	217
13	Speed constant	rpm / V	135	44.0
14	Speed / torque gradient	rpm / mNm	0.697	0.466
15	Mechanical time constant	ms	22.3	14.9
16	Rotor inertia	gcm²	3060	3060

Specifications

Thermal data

17	Thermal resistance housing-ambient	1.89 K / W
18	Thermal resistance winding-housing	2.99 K / W
19	Thermal time constant windings	52.6 s
20	Thermal time constant motor	281 s
21	Ambient temperature	-40 ... +100°C
22	Max. permissible winding temperature	+125°C

Mechanical data (preloaded ball bearings)

23	Max. permissible 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)	150 N
	(static, shaft supported)	8000 N
28	Max. radial loading, 7.5 mm from flange	30 N

Other specifications

29	Number of pole pairs	12
30	Number of phases	3
31	Weight of motor	648 g

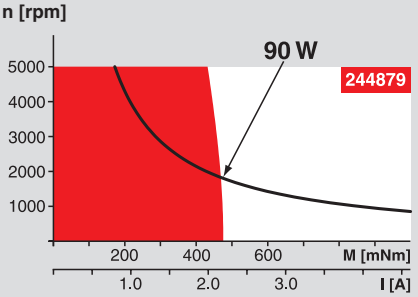
Values listed in the table are nominal.

Connection

Pin 1	Hall sensor 1
Pin 2	Hall sensor 2
Pin 3	4.5 ... 24 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. 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

Recommended Electronics:

DEC 50/5	page 271
DECV 50/5	271
DEC 70/10	271
EPOS 24/5	278
EPOS P 24/5	279
EPOS 70/10	279
Notes	**17**