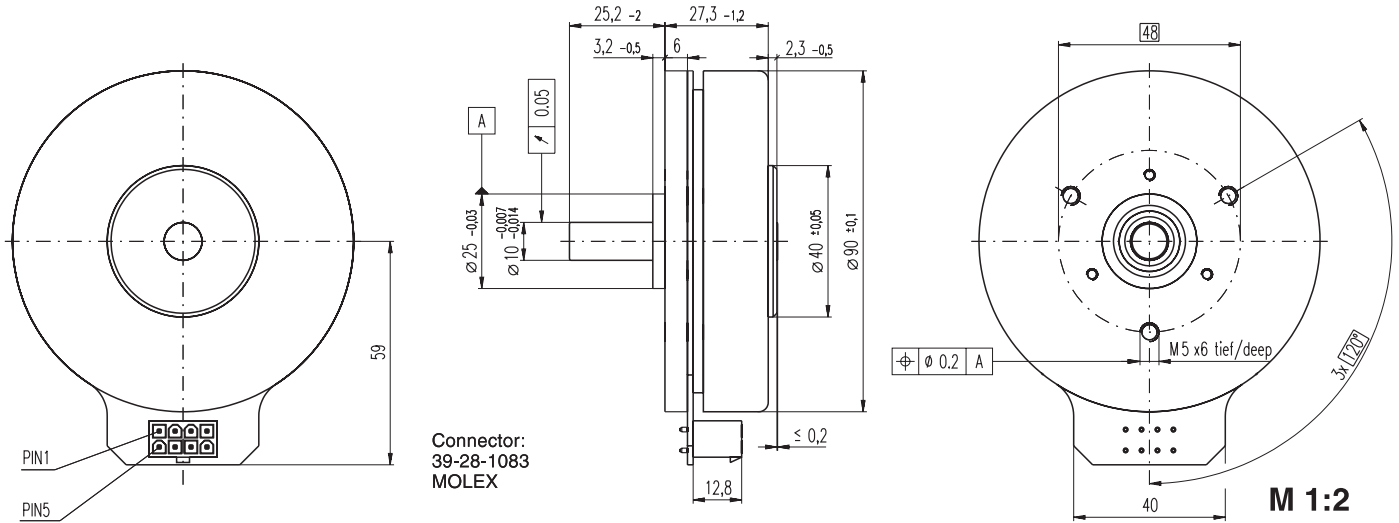


# EC 90 flat $\varnothing 90$ mm, brushless, 90 Watt



Connector:  
39-28-1083  
MOLEX

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

## Order Number

with hall sensors

**323772**      **244879**

### Motor Data

Values at nominal voltage		323772	244879	
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
<b>Characteristics</b>				
10	Terminal resistance phase to phase	$\Omega$	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	gcm <sup>2</sup>	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 winding 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 12 N
  - 26 Max. axial load (dynamic) 12 N
  - 27 Max. force for press fits (static) (static, shaft supported) 150 N
  - 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.

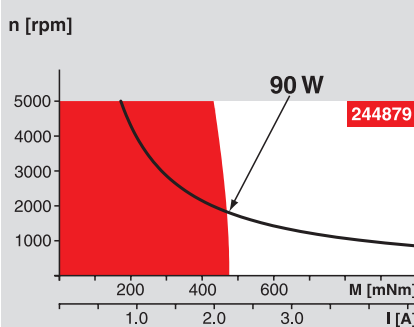
### Connection

- 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 page 29

### Cable

- Connection cable Universal, L = 500 mm **339380**
- Connection cable to EPOS, L = 500 mm **354045**

### 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:

- DECS 50/5 Page 284
- DEC 50/5 285
- DECV 50/5 286
- DEC 70/10 286
- EPOS 24/5 294
- EPOS 70/10 295
- EPOS P 24/5 297
- Notes 20