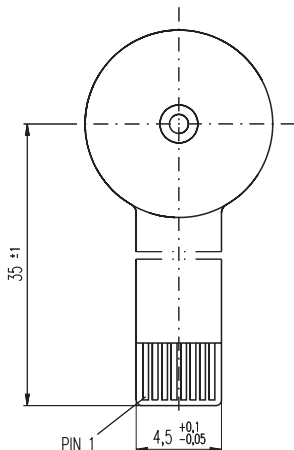
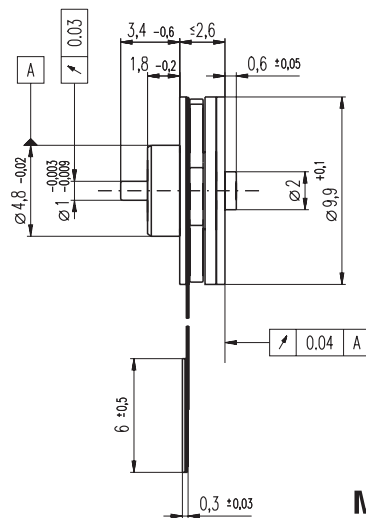
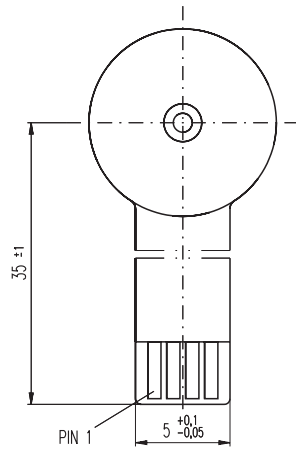


EC 10 flat $\varnothing 10$ mm, brushless, 0.2 Watt

A with hall sensors



B sensorless



M 2.5:1

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

Order Number

A with hall sensors	302000
B sensorless	301999

Motor Data (provisional)

Values at nominal voltage			
1	Nominal voltage	V	4.0
2	No load speed	rpm	15000
3	No load current	mA	15.1
4	Nominal speed	rpm	n.i.
5	Nominal torque	mNm	0.24
6	Nominal current	A	0.111
7	Stall torque	mNm	0.18
8	Starting current	A	0.0862
9	Max. efficiency	%	36.3
Characteristics			
10	Terminal resistance phase to phase	Ω	46.4
11	Terminal inductance phase to phase	mH	0.277
12	Torque constant	mNm / A	2.09
13	Speed constant	rpm / V	4570
14	Speed / torque gradient	rpm / mNm	101000
15	Mechanical time constant	ms	85
16	Rotor inertia	gcm ²	0.0800

Specifications

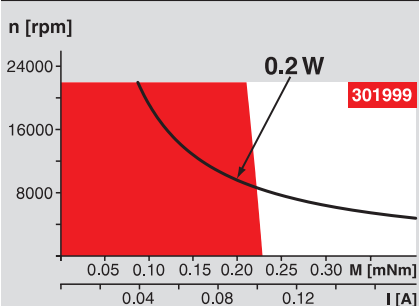
Thermal data		
17	Thermal resistance housing-ambient	50 K / W
18	Thermal resistance winding-housing	50 K / W
19	Thermal time constant winding	2.2 s
20	Thermal time constant motor	20.5 s
21	Ambient temperature	-40 ... +85°C
22	Max. permissible winding temperature	+100°C
Mechanical data (preloaded ball bearings)		
23	Max. permissible speed	22000 rpm
24	Axial play at axial load < 0.1 N	0 mm
	> 0.1 N	0.06 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	0.1 N
27	Max. force for press fits (static)	6 N
	(static, shaft supported)	20 N
28	Max. radial loading, 1 mm from flange	1 N
Other specifications		
29	Number of pole pairs	4
30	Number of phases	3
31	Weight of motor	0.82 g

Values listed in the table are nominal.

Connection with hall sensors		sensorless
Pin 1	Motor winding 3	Motor winding 1
Pin 2	Motor winding 2	Motor winding 2
Pin 3	Hall sensor 3	Motor winding 3
Pin 4	V _{hall} 4.5...12 VDC	N.C.
Pin 5	GND	
Pin 6	Hall sensor 1	
Pin 7	Hall sensor 2	
Pin 8	Motor winding 1	
Connector	Article number	Article number
MOLEX	52745-0896	52207-0485
MOLEX		52089-0419
TYCO		84953-4

Pin for design with Hall sensors:
FPC, 8 pole, pitch 0.5 mm, top contact style
Wiring diagram for Hall sensors see page 29

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 24/1 284
Notes **20**