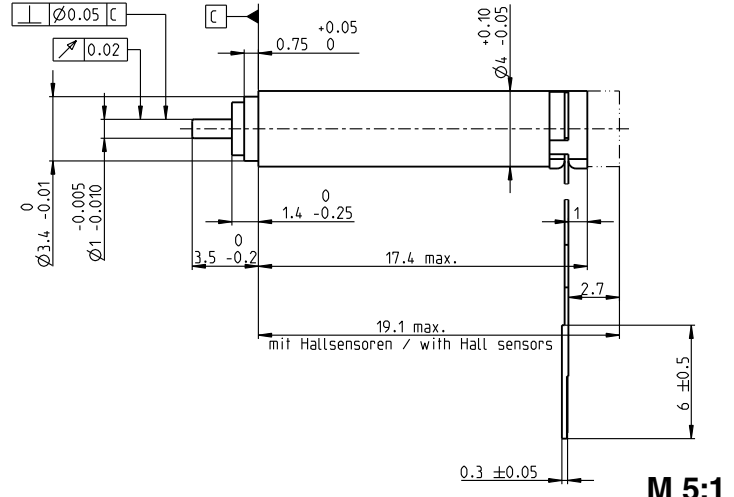
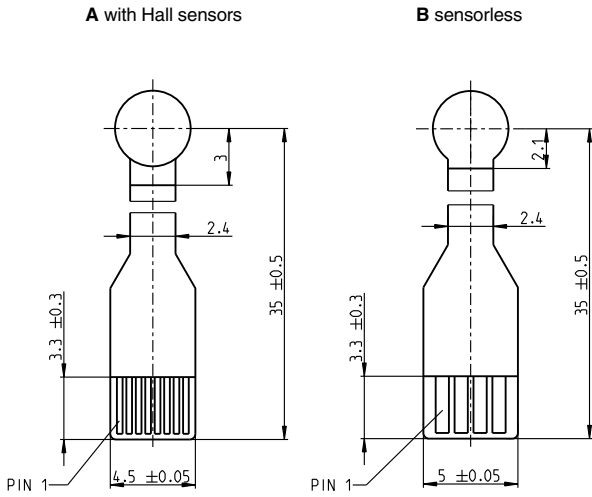


EC 4 $\varnothing 4$ mm, brushless, 0.5 Watt



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

Part Number

A with Hall sensors	431555	431558
B sensorless	423518	423525

Motor Data (provisional)

Values at nominal voltage		3.0	6.0
1 Nominal voltage	V	3.0	6.0
2 No load speed	rpm	34700	35800
3 No load current	mA	23.4	12.1
4 Nominal speed	rpm	14000	15700
5 Nominal torque	mNm	0.219	0.226
6 Nominal current	A	0.297	0.157
7 Stall torque	mNm	0.397	0.415
8 Starting current	A	0.483	0.272
9 Max. efficiency	%	62	63
Characteristics		6.21	22.1
10 Terminal resistance phase to phase	Ω	6.21	22.1
11 Terminal inductance phase to phase	mH	0.0231	0.0881
12 Torque constant	mNm/A	0.784	1.53
13 Speed constant	rpm/V	12200	6240
14 Speed/torque gradient	rpm/mNm	96400	90200
15 Mechanical time constant	ms	1.12	1.12
16 Rotor inertia	gcm ²	0.00111	0.00111

Specifications

Thermal data	
17 Thermal resistance housing-ambient	129 K/W
18 Thermal resistance winding-housing	2.39 K/W
19 Thermal time constant winding	0.113 s
20 Thermal time constant motor	78.0 s
21 Ambient temperature	-20 ... +80 °C
22 Max. permissible winding temperature	+125 °C
Mechanical data	
23 Max. permissible speed	80000 rpm
24 Axial play	max. 0.06 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	0.1 N
27 Max. force for press fits (static)	3 N
28 Max. radial loading, 4 mm from flange	2 N

Other specifications

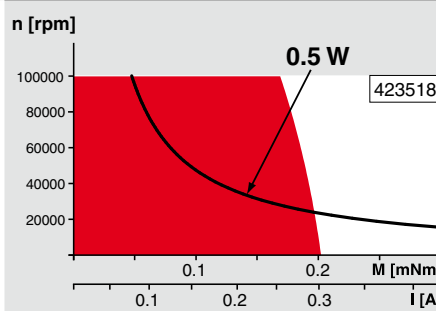
29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	1.2 g

Values listed in the table are nominal.

Connection	with Hall sensors	sensorless
Pin 1	Motor winding 1	Motor winding 1
Pin 2	Motor winding 2	Motor winding 2
Pin 3	Motor winding 3	Motor winding 3
Pin 4	V _{Hall} 4.5...18 VDC	Y
Pin 5	GND	
Pin 6	Hall sensor 1	
Pin 7	Hall sensor 2	
Pin 8	Hall sensor 3	
Connector	Part number	Part number
MOLEX	52745-0896	52207-0485
MOLEX		52089-0419
TYCO		84953-4

Pin for design with Hall sensors:
FPC, 8-pol, Pitch 0.5 mm, top contact style
Wiring diagram for Hall sensors see catalogue p. 27

Operating Range



Comments

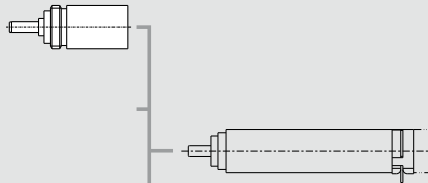
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Planetary Gearhead
 $\varnothing 4$ mm
0.002–0.015 Nm
Page 6



Recommended Electronics:
DECS 50/5 Page 6
ESCON 36/3 6