

maxon EC-i

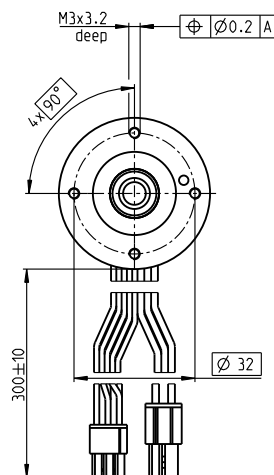
Technical drawing of the connector assembly, showing side and front views with dimensions and tolerances.

Side View Dimensions:

- Overall length: 56 max.
- Distance from front face to start of main body: 18.5 -0.7
- Distance from front face to start of pin assembly: 20 -0.2
- Distance from front face to center of main body: 1.5 -0.2
- Distance from front face to center of pin assembly: 1.3 -0.2
- Pin diameter: $\varnothing 0.2$
- Pin length: 0.2 B
- Pin spacing: 0.2 B
- Pin angle: 120°
- Pin diameter: $\varnothing 0.1$ C
- Pin length: 0.02
- Pin diameter: $\varnothing 6$ -0.004
- Pin length: 0.05
- Pin diameter: $\varnothing 22$ -0.05
- Pin length: 0
- Pin diameter: $\varnothing 40$ -0.25
- Pin length: 0
- Pin diameter: $\varnothing 6$ -0.004
- Pin length: 0

Front View Dimensions:

- Overall width: 18.5 -0.7
- Distance from front face to center of main body: 1.3 -0.2
- Distance from front face to center of pin assembly: 1.5 -0.2
- Pin diameter: $\varnothing 0.2$
- Pin length: 0.2 B
- Pin spacing: 0.2 B
- Pin angle: 120°
- Pin diameter: $\varnothing 0.1$ C
- Pin length: 0.02
- Pin diameter: $\varnothing 6$ -0.004
- Pin length: 0.05
- Pin diameter: $\varnothing 22$ -0.05
- Pin length: 0
- Pin diameter: $\varnothing 40$ -0.25
- Pin length: 0
- Pin diameter: $\varnothing 6$ -0.004
- Pin length: 0



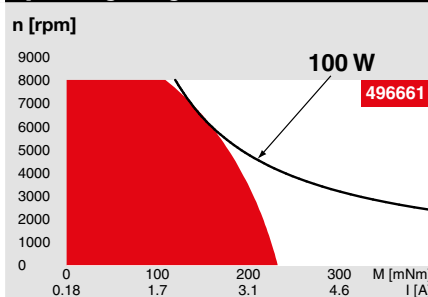
Part Numbers

496660	496661	488607
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Values at nominal voltage					
1	Nominal voltage	V	18	36	48
2	No load speed	rpm	4540	4550	5000
3	No load current	mA	352	176	150
4	Nominal speed	rpm	3920	3950	4390
5	Nominal torque (max. continuous torque)	mNm	207	207	222
6	Nominal current (max. continuous current)	A	5.46	2.72	2.39
7	Stall torque ¹	mNm	2860	3160	4330
8	Stall current	A	76.3	42.2	47.5
9	Max. efficiency	%	87	87	89
Characteristics					
10	Terminal resistance phase to phase	Ω	0.236	0.853	1.01
11	Terminal inductance phase to phase	mH	0.169	0.675	0.995
12	Torque constant	mNm/A	37.5	74.9	91
13	Speed constant	rpm/V	255	127	105
14	Speed/torque gradient	rpm/mNm	1.6	1.45	1.16
15	Mechanical time constant	ms	0.739	0.669	0.537
16	Rotor inertia	acm ²	44	44	44

Thermal data	
17 Thermal resistance housing-ambient	7.17 K/W
18 Thermal resistance winding-housing	1.35 K/W
19 Thermal time constant winding	20.7 s
20 Thermal time constant motor	1400 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C
Mechanical data (preloaded ball bearings)	
23 Max. speed	8000 rpm
24 Axial play at axial load < 9.0 N	0 mm
	> 9.0 N 0.15 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	7 N
27 Max. force for press fits (static)	87 N
(static, shaft supported)	3000 N
28 Max. radial load, 5 mm from flange	29.9 N

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.

The motor may be briefly overloaded (recurring).

- Assigned power rating

Overview on page 28–36

Planetary Gearhead
 Ø42 mm
 3 - 15 Nm
 Page 355



Notes	Page
ESCON 36/3 EC	445
ESCON Mod. 50/4 EC-S	445
ESCON Module 50/5	445
ESCON Mod. 50/8 (HE)	446
ESCON 50/5	447
ESCON 70/10	447
DEC Module 50/5	449
EPOS4 50/5	453
EPOS4 Mod./Comp. 50/5	453
EPOS4 Mod./Comp. 50/8	454
EPOS4 70/15	456
EPOS2 P 24/5	464
MAXPOS 50/5	468

Encoder HEDL 5540
500 CPT, 3 channels
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Wiring diagram for Hall sensors see p. 43
¹Calculation does not include saturation effect
 (p. 53/164)