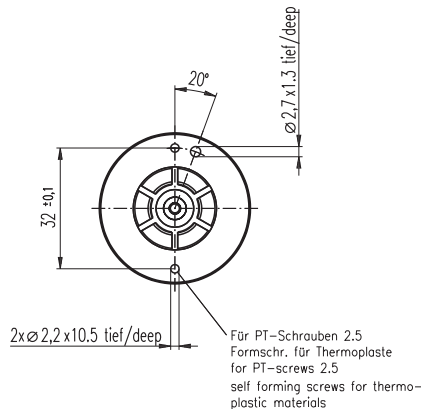
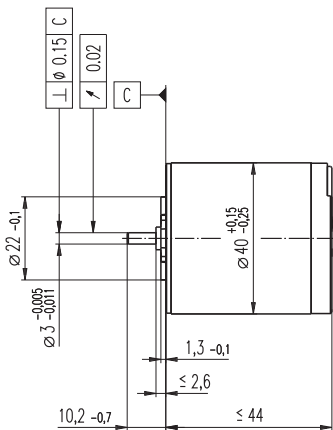
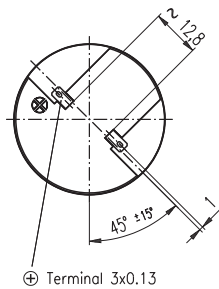


F 2140 Ø40 mm, Precious Metal Brushes CLL, 4 Watt, C€ approved



M 1:2

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

Order Number

2140. ... -22.112-050 (Insert winding number)

Winding number

931	932	933	934	935	936	937	939
-----	-----	-----	-----	-----	-----	-----	-----

Motor Data

Values at nominal voltage			6.0	9.0	9.0	12.0	15.0	18.0	24.0	36.0								
1	Nominal voltage	V	6.0	9.0	9.0	12.0	15.0	18.0	24.0	36.0								
2	No load speed	rpm	3940	4630	3740	4090	4080	3850	4110	4130								
3	No load current	mA	23.1	20.1	14.2	12.3	9.77	7.43	6.19	4.17								
4	Nominal speed	rpm	2270	2990	2080	2430	2410	2160	2420	2400								
5	Nominal torque (max. continuous torque)	mNm	13.8	13.9	13.9	13.9	13.8	13.6	13.6	13.3								
6	Nominal current (max. continuous current)	A	0.974	0.773	0.624	0.508	0.404	0.314	0.251	0.164								
7	Stall torque	mNm	32.6	39.5	31.6	34.2	33.9	31.2	33.1	31.8								
8	Starting current	A	2.26	2.15	1.39	1.23	0.974	0.706	0.601	0.387								
9	Max. efficiency	%	81	82	81	82	81	81	81	81								
Characteristics			2.65	4.19	6.47	9.73	15.4	25.5	40.0	93.0								
10	Terminal resistance	Ω	2.65	4.19	6.47	9.73	15.4	25.5	40.0	93.0								
11	Terminal inductance	mH	0.341	0.558	0.853	1.27	1.99	3.21	5.02	11.2								
12	Torque constant	mNm / A	14.4	18.4	22.7	27.8	34.8	44.1	55.2	82.3								
13	Speed constant	rpm / V	664	519	420	344	275	216	173	116								
14	Speed / torque gradient	rpm / mNm	122	118	120	121	122	125	125	131								
15	Mechanical time constant	ms	32.2	31.9	31.9	31.9	32.0	32.1	32.1	32.5								
16	Rotor inertia	gcm ²	25.1	25.7	25.5	25.3	25.1	24.6	24.5	23.6								

Specifications

Thermal data		
17	Thermal resistance housing-ambient	10.4 K / W
18	Thermal resistance winding-housing	8.8 K / W
19	Thermal time constant winding	45.5 s
20	Thermal time constant winding	988 s
21	Ambient temperature	-20 ... +65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)		
23	Max. permissible speed	6400 rpm
24	Axial play	0.2 - 0.3 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	0.5 N
27	Max. force for press fits (static)	50 N
28	Max. radial loading, 5 mm from flange	2.5 N

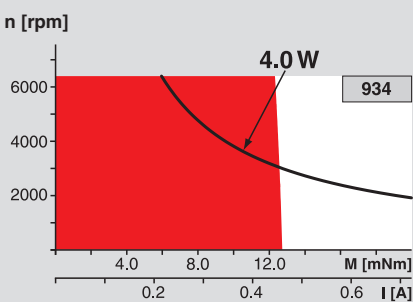
Other specifications		
29	Number of pole pairs	1
30	Number of commutator segments	7
31	Weight of motor	190 g
CLL = Capacitor Long Life		

Values listed in the table are nominal.
Explanation of the figures on page 49.

Option

Ball bearings in place of sleeve bearings

Operating Range



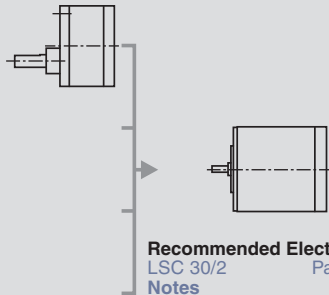
Comments

- 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

Overview on page 16 - 21

Spur Gearhead
Ø38 mm
0.1 - 0.6 Nm
Page 237



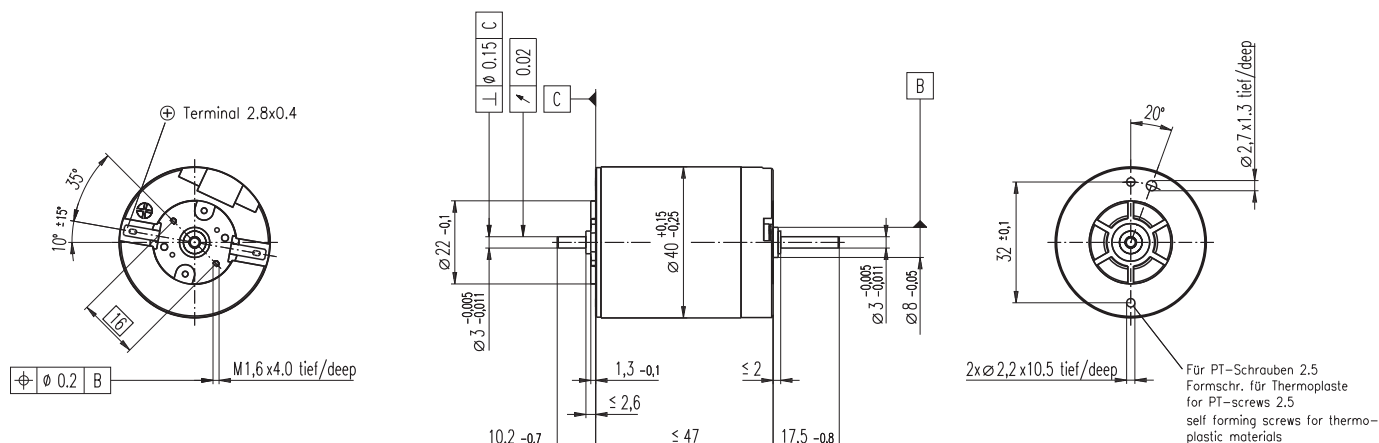
Recommended Electronics:
LSC 30/2 Page 282
Notes 18

maxon special program



maxon special program 329

F 2140 Ø40 mm, Graphite Brushes, 6 Watt, C€ approved



M 1:2

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

Order Number

2140. ... -58.236-050 (Insert winding number)

Winding number

931	932	933	934	935	936	937	939
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Motor Data

Values at nominal voltage																			
1	Nominal voltage	V	6.0	9.0	9.0	12.0	15.0	18.0	24.0	36.0									
2	No load speed	rpm	3540	4310	3490	3880	3900	3710	3980	4030									
3	No load current	mA	55.5	46.6	34.9	29.7	23.7	18.4	15.1	10.2									
4	Nominal speed	rpm	1900	2730	1880	2270	2300	2080	2360	2380									
5	Nominal torque (max. continuous torque)	mNm	11.0	11.6	12.0	12.2	12.4	12.5	12.5	12.4									
6	Nominal current (max. continuous current)	A	0.814	0.671	0.559	0.465	0.377	0.298	0.240	0.160									
7	Stall torque	mNm	26.3	34.4	27.9	31.2	31.6	29.5	31.9	31.1									
8	Starting current	A	1.83	1.87	1.23	1.13	0.909	0.669	0.578	0.378									
9	Max. efficiency	%	61	66	65	67	68	68	69	70									
Characteristics																			
10	Terminal resistance	Ω	3.28	4.81	7.35	10.7	16.5	26.9	41.5	95.2									
11	Terminal inductance	mH	0.341	0.558	0.853	1.27	1.99	3.21	5.02	11.2									
12	Torque constant	mNm / A	14.4	18.4	22.7	27.8	34.8	44.1	55.2	82.3									
13	Speed constant	rpm / V	664	519	420	344	275	216	173	116									
14	Speed / torque gradient	rpm / mNm	152	136	136	132	130	132	130	134									
15	Mechanical time constant	ms	37.9	34.9	34.4	33.3	32.6	32.2	31.7	31.5									
16	Rotor inertia	gcm ²	23.9	24.5	24.2	24.0	23.9	23.3	23.2	22.4									

Specifications

Thermal data		
17	Thermal resistance housing-ambient	10.4 K / W
18	Thermal resistance winding-housing	8.8 K / W
19	Thermal time constant winding	45.5 s
20	Thermal time constant winding	988 s
21	Ambient temperature	-20 ... +65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (ball bearings)		
23	Max. permissible speed	11000 rpm
24	Axial play	0.2 - 0.3 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	1.5 N
27	Max. force for press fits (static)	50 N
	(static, shaft supported)	700 N
28	Max. radial loading, 5 mm from flange	7.5 N

Other specifications

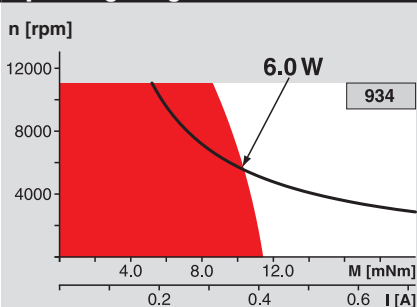
29	Number of pole pairs	1
30	Number of commutator segments	7
31	Weight of motor	190 g

Values listed in the table are nominal.
Explanation of the figures on page 49.

Option

Preloaded ball bearings

Operating Range



Comments

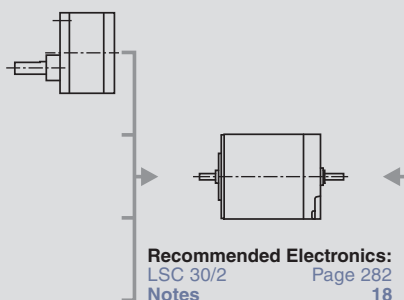
- **Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- **Assigned power rating**

maxon Modular System

Spur Gearhead
Ø38 mm
0.1 - 0.6 Nm
Page 237

Overview on page 16 - 21

Encoder Enc
22 mm
100 CPT, 2 channels
Page 265



Recommended Electronics:
LSC 30/2 Page 282
Notes 18

maxon gear



Spur Gearhead	straight teeth
Output shaft	stainless steel
Bearing at output	sleeve bearing
Radial play, 12 mm from flange	max. 0.1 mm
Axial play	0.03 - 0.2 mm
Max. radial load, 12 mm from flange	50 N
Max. permissible axial load	30 N
Max. permissible force for press fits	500 N
Recommended input speed	< 5000 rpm
Recommended temperature range	-5 ... +80°C

* for EC 32 flat L1 is + 2.0 mm



+ Motor	Page	+ Sensor / Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor / brake) + assembly parts									
A-max 26	101-108			65.4	65.4	67.9	67.9	70.4	70.4	72.9	75.4	75.4	
A-max 26	102-108	MEnc 13	274	72.5	72.5	75.0	75.0	77.5	77.5	80.0	82.5	82.5	
A-max 26	102-108	MR	262	74.2	74.2	76.7	76.7	79.2	79.2	81.7	84.2	84.2	
A-max 26	102-108	Enc 22	265	79.8	79.8	82.3	82.3	84.8	84.8	87.3	89.8	89.8	
A-max 26	102-108	HED_ 5540	267/269	84.2	84.2	86.7	86.7	89.2	89.2	91.7	94.2	94.2	
A-max 32	109/111			83.6	83.6	86.1	86.1	88.6	88.6	91.1	93.6	93.6	
A-max 32	110/112			82.2	82.2	84.7	84.7	87.2	87.2	89.7	92.2	92.2	
A-max 32	110/112	MR	263	93.4	93.4	95.9	95.9	98.4	98.4	100.9	103.4	103.4	
A-max 32	110/112	HED_ 5540	267/269	103.0	103.0	105.5	105.5	108.0	108.0	110.5	113.0	113.0	
RE-max 21	123/124			49.6	49.6	52.1	52.1	54.6	54.6	57.1	59.6	59.6	
RE-max 21, 3.5 W	124	MR	259/261	54.7	54.7	57.2	57.2	59.7	59.7	62.2	64.7	64.7	
RE-max 21	125/126			52.2	52.2	54.7	54.7	57.2	57.2	59.7	62.2	62.2	
RE-max 21, 6 W	126	MR	259/261	56.5	56.5	59.0	59.0	61.5	61.5	64.0	66.5	66.5	
RE-max 24	127-130			52.6	52.6	55.1	55.1	57.6	57.6	60.1	62.6	62.6	
RE-max 24	128/130	MR	259/261	57.6	57.6	60.1	60.1	62.6	62.6	65.1	67.6	67.6	
EC 32 flat, 15 W	188			38.6	38.6	41.1	41.1	43.6	43.6	46.1	48.6	48.6	
EC 32 flat, IE, IP 00	189			48.7	48.7	51.2	51.2	53.7	53.7	56.2	58.7	58.7	
EC 32 flat, IE, IP 40	189			50.4	50.4	52.9	52.9	55.4	55.4	57.9	60.4	60.4	