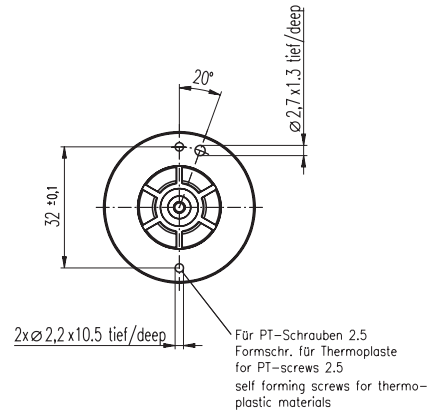
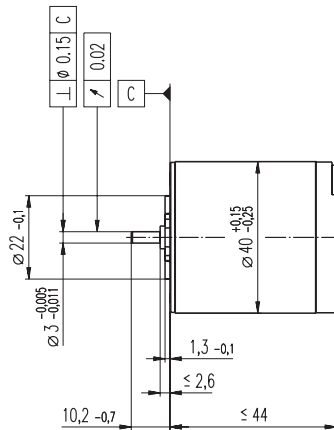
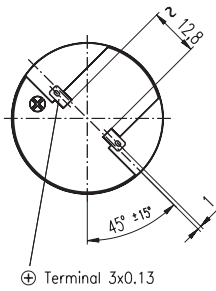


# F 2140 Ø40 mm, Precious Metal Brushes CLL, 4 Watt, CE approved



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
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### Motor Data

Values at nominal voltage		931	932	933	934	935	936	937	939	
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										
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 <sup>2</sup>	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 motor	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

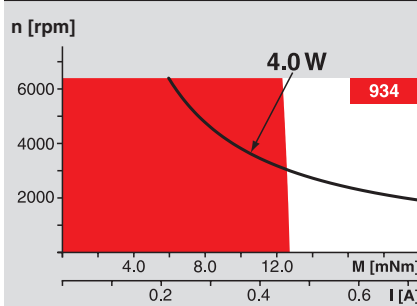
29	Number of pole pairs	1
30	Number of commutator segments	7
31	Weight of motor	190 g
CLL = Capacitor Long Life		

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.

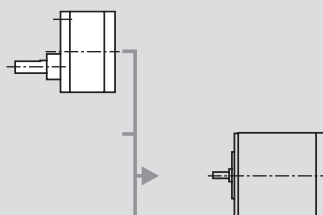
**Short term operation**  
The motor may be briefly overloaded (recurring).

— Assigned power rating

### maxon Modular System

Overview on page 17 - 21

**Spur Gearhead**  
Ø38 mm  
0.1 - 0.6 Nm  
Page 231



**Recommended Electronics:**  
LSC 30/2 Page 264  
Notes 17