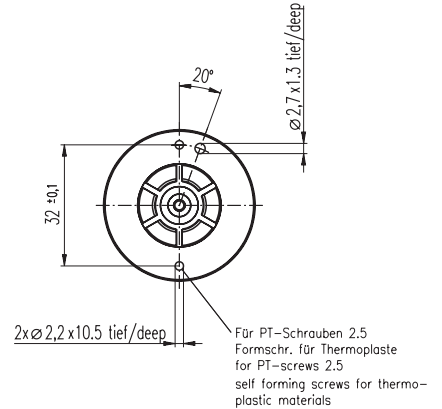
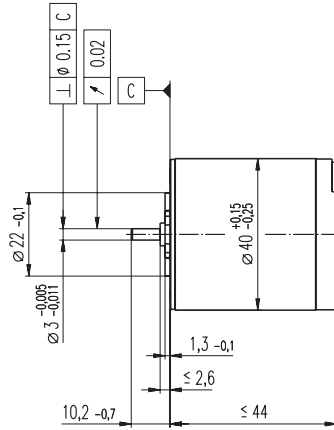
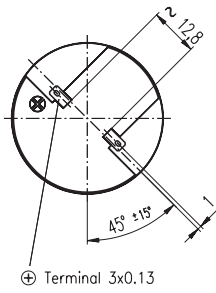


# F 2140 Ø40 mm, Precious Metal Brushes CLL, 4 Watt, CE approved



M 1:2

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

## Order Number

2140. 22.112-050 (Insert winding number)

Winding number

931 933 934 935 936 937 939

## Motor Data

Values at nominal voltage		931	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

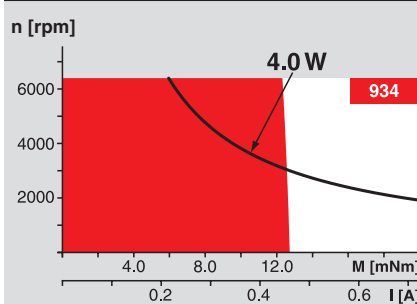
29 Number of pole pairs	1
30 Number of commutator segments	7
31 Weight of motor	190 g
CLL = Capacitor Long Life	

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.

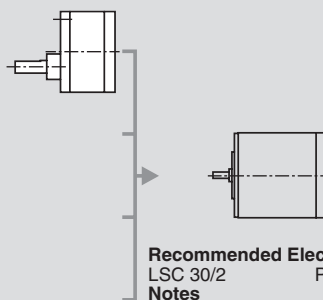
**Short term operation**  
The motor may be briefly overloaded (recurring).

— 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