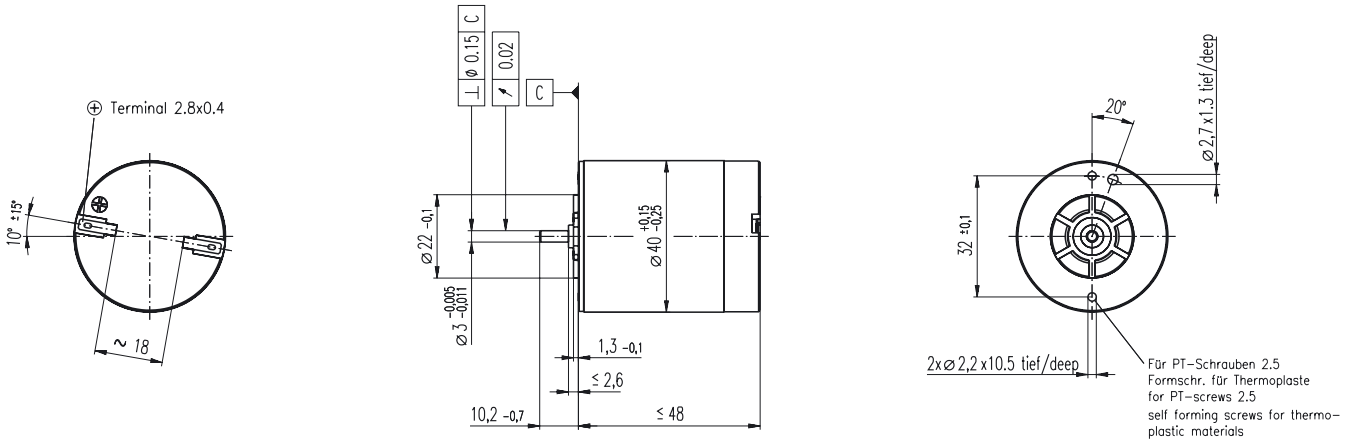
F 2140 ∅40 mm, Graphite Brushes, 6 Watt, CE approved



M 1:2

Stock program
Standard program
Special program (on request!)

Order Number

2140. ... -22.116-050 (Insert winding number)

Winding number			931	932	933	934	935	936	937	939
Motor Data										
1	Assigned power rating	W	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
2	Nominal voltage	Volt	6.0	9.0	9.0	12.0	15.0	18.0	24.0	36.0
3	No load speed	rpm	3550	4320	3500	3880	3910	3710	3990	4030
4	Stall torque	mNm	26.3	34.4	27.9	31.2	31.6	29.5	31.9	31.1
5	Speed / torque gradient	rpm / mNm	152	136	136	132	130	132	130	134
6	No load current	mA	53	46	34	29	23	18	15	10
7	Starting current	mA	1830	1870	1230	1130	909	669	578	378
8	Terminal resistance	Ohm	3.28	4.81	7.35	10.7	16.5	26.9	41.5	95.2
9	Max. permissible speed	rpm	11000	11000	11000	11000	11000	11000	11000	11000
10	Max. continuous current	mA	839	692	572	476	384	303	244	162
11	Max. continuous torque	mNm	12.1	12.7	13.0	13.2	13.4	13.4	13.5	13.3
12	Max. power output at nominal voltage	mW	2250	3670	2410	3040	3120	2780	3250	3220
13	Max. efficiency	%	62	67	66	68	69	69	70	70
14	Torque constant	mNm / A	14.4	18.4	22.7	27.8	34.8	44.1	55.2	82.3
15	Speed constant	rpm / V	664	519	420	344	275	216	173	116
16	Mechanical time constant	ms	36	33	33	32	31	31	30	30
17	Rotor inertia	gcm²	22.9	23.5	23.2	23.0	22.7	22.1	22.1	21.1
18	Terminal inductance	mH	0.34	0.56	0.85	1.27	1.99	3.21	5.02	11.20
19	Thermal resistance housing-ambient	K / W	10	10	10	10	10	10	10	10
20	Thermal resistance rotor-housing	K / W	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
21	Thermal time constant winding	s	43	44	44	43	43	42	42	40

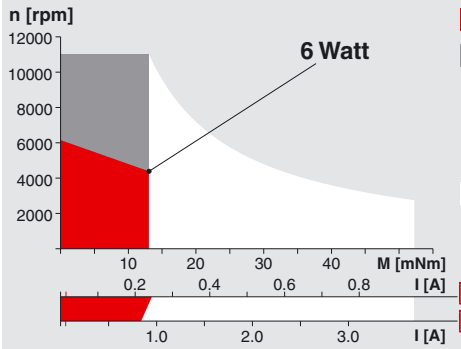
Specifications

- Axial play 0.2 - 0.3 mm
- Max. **sleeve bearing** loads
  axial (dynamic) 0.5 N
  radial (5 mm from flange) 2.5 N
  Force for press fits (static) 50 N
- Max. **ball bearing** loads
  axial (dynamic) 1.5 N
  radial (5 mm from flange) 7.5 N
  Force for press fits (static) 50 N
- Radial play **sleeve bearing** 0.014 mm
- Radial play **ball bearing** 0.025 mm
- Ambient temperature range -20 ... +65°C
- Max. rotor temperature +85°C
- Number of commutator segments 7
- Weight of motor 190 g
- 2 pole permanent magnet
- Values listed in the table are nominal.
  For applicable tolerances see page 43.
  For additional details please use the maxon selection program on the enclosed CD-ROM.

- Options: Our standard program includes ball bearings in place of sleeve bearings.

Operating Range

Comments Details on page 49



Recommended operating range

Continuous operation
In observation of above listed thermal resistances (lines 19 and 20) the maximum permissible rotor temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

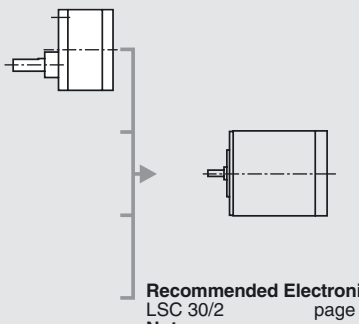
Short term operation
The motor may be briefly overloaded (recurring).

937 Motor with high resistance winding
931 Motor with low resistance winding

maxon Modular System

Overview on page 17 - 21

Spur Gearhead
∅38 mm
0.1 - 0.6 Nm
Details page 223



Recommended Electronics:
LSC 30/2 page 257
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