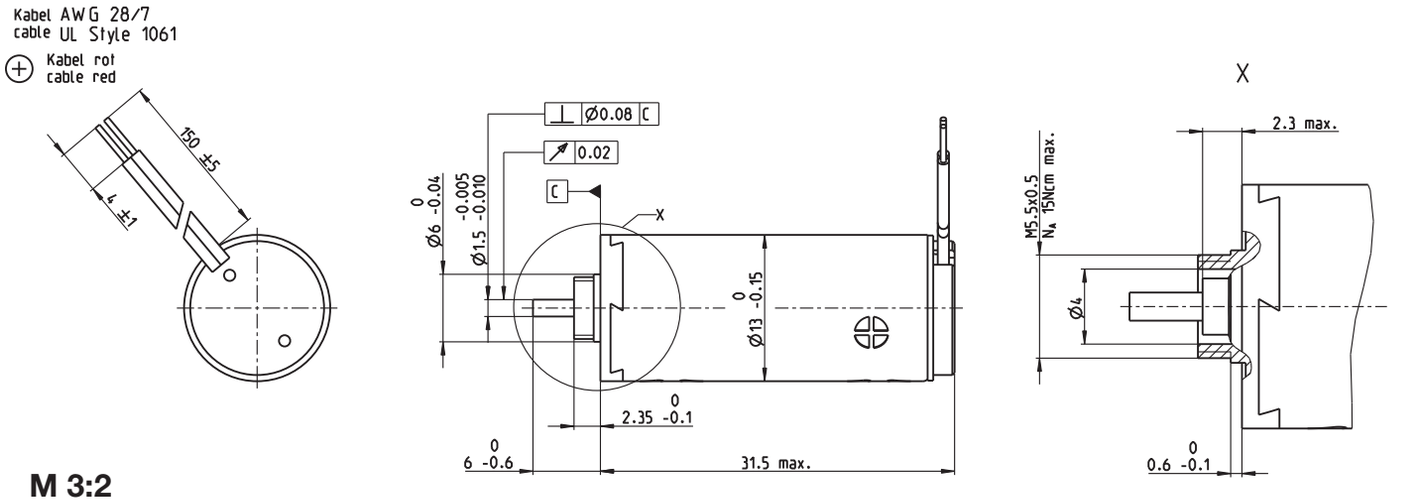
RE-max 13 ∅13 mm, Precious Metal Brushes CLL, 2.5 Watt



M 3:2

Stock program
Standard program
Special program (on request)

Part Numbers

		201353	203937	203938	203939	203940	203941	203942	203943	203944	203945	203946	203947	203948	203949	203950
Motor Data																
	Values at nominal voltage															
1	Nominal voltage	V	2.4	3	3	3.6	4.8	4.8	6	7.2	8	10	12	15	15	18	24
2	No load speed	rpm	10600	12300	10800	10900	11500	10200	11500	11500	10900	11500	11100	11200	10400	10600	11600
3	No load current	mA	30.6	31.5	25.1	21.3	17.5	14.3	14	11.7	9.67	8.4	6.62	5.35	4.72	4.11	3.55
4	Nominal speed	rpm	9550	11000	9180	8940	9050	7440	8320	7990	7580	8060	7670	7750	6910	7210	8080
5	Nominal torque (max. continuous torque)	mNm	0.969	1.04	1.21	1.45	1.84	2.09	2.32	2.67	2.78	2.72	2.71	2.72	2.7	2.72	2.66
6	Nominal current (max. continuous current)	A	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.458	0.408	0.336	0.27	0.218	0.201	0.173	0.138
7	Stall torque	mNm	8.91	9.4	7.84	7.9	8.56	7.61	8.35	8.72	9	9.08	8.73	8.86	8.1	8.42	8.85
8	Stall current	A	4.15	4.06	2.97	2.52	2.16	1.71	1.69	1.47	1.3	1.1	0.852	0.697	0.591	0.526	0.45
9	Max. efficiency	%	84	84	83	83	83	83	83	83	84	84	84	84	83	84	84
	Characteristics																
10	Terminal resistance	Ω	0.578	0.738	1.01	1.43	2.22	2.81	3.56	4.91	6.16	9.09	14.1	21.5	25.4	34.3	53.3
11	Terminal inductance	mH	0.016	0.018	0.024	0.033	0.053	0.068	0.083	0.12	0.163	0.232	0.356	0.549	0.638	0.872	1.31
12	Torque constant	mNm/A	2.15	2.31	2.64	3.14	3.96	4.46	4.95	5.94	6.94	8.26	10.2	12.7	13.7	16	19.6
13	Speed constant	rpm/V	4450	4130	3610	3040	2410	2140	1930	1610	1380	1160	933	751	697	596	486
14	Speed / torque gradient	rpm/mNm	1200	1320	1380	1390	1350	1350	1380	1330	1220	1270	1280	1270	1290	1270	1320
15	Mechanical time constant	ms	8.55	8.23	7.94	7.71	7.5	7.44	7.42	7.33	7.25	7.26	7.26	7.24	7.25	7.25	7.3
16	Rotor inertia	gcm²	0.681	0.596	0.548	0.53	0.53	0.526	0.512	0.528	0.565	0.545	0.541	0.544	0.536	0.543	0.529

Specifications

Thermal data

17	Thermal resistance housing-ambient	37 K/W
18	Thermal resistance winding-housing	10 K/W
19	Thermal time constant winding	6.97 s
20	Thermal time constant motor	277 s
21	Ambient temperature	-20…+65°C
22	Max. winding temperature	+85°C

Mechanical data (sleeve bearings)

23	Max. speed	19000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	35 N
28	Max. radial load, 5 mm from flange	1.4 N

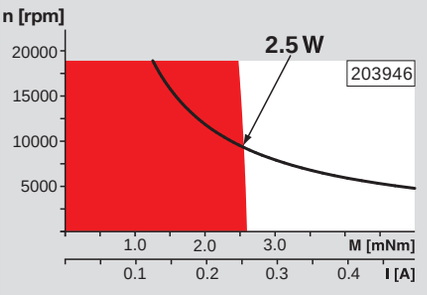
Other specifications

29	Number of pole pairs	1
30	Number of commutator segments	7
31	Weight of motor	24 g

CLL = Capacitor Long Life
Alignment of the electronic connections not specified

Values listed in the table are nominal.
Explanation of the figures on page 151.

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).

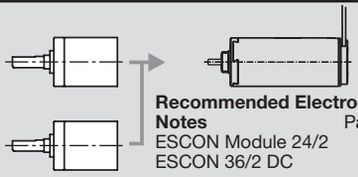
Assigned power rating

maxon Modular System

Overview on page 20–27

Planetary Gearhead
∅13 mm
0.05 - 0.15 Nm
Page 316

Planetary Gearhead
∅13 mm
0.2 - 0.35 Nm
Page 317



Recommended Electronics:

Notes	Page **24**
ESCON Module 24/2	416
ESCON 36/2 DC	416