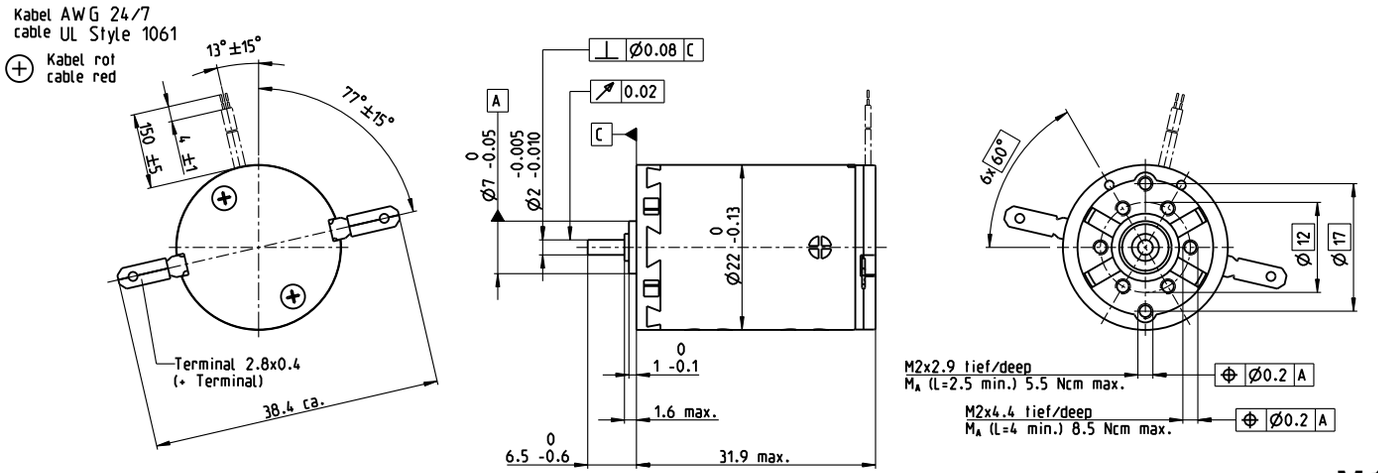
A-max 22 ∅22 mm, precious metal brushes CLL, 5 watt



M 1:1

Stock program
Standard program
Special program (on request)

Part numbers

	with terminals	110117	110119	110120	**110121**	110122	110123	110124	**110125**	110126	110127	**110128**	110129
	with cables	139838	218799	238798	202413	258367	137255	134267	134666	267423	137476	310003	342390
Motor data													
	Values at nominal voltage												
1	Nominal voltage	V	6	9	9	12	12	15	18	24	30	36	48	48
2	No load speed	rpm	9630	9970	8760	10400	9400	10300	9970	10700	10800	9800	9280	8370
3	No load current	mA	29.5	20.8	16.8	16.8	14.2	13.1	10.4	8.81	7.18	5.06	3.47	2.93
4	Nominal speed	rpm	7390	7300	6100	7770	6700	7530	7220	7970	8070	7000	6420	5520
5	Nominal torque	mNm	4.81	6.22	6.3	6.24	6.18	6.1	6.05	6.02	5.98	5.94	5.83	5.9
6	Nominal current (max. continuous current)	A	0.84	0.745	0.661	0.586	0.523	0.451	0.362	0.291	0.234	0.175	0.122	0.111
7	Stall torque	mNm	20.1	22.9	20.5	24.3	21.4	22.9	22	23.5	23.5	20.8	19	17.4
8	Stall current	A	3.42	2.68	2.11	2.23	1.77	1.65	1.28	1.11	0.894	0.599	0.387	0.32
9	Max. efficiency	%	83	84	83	84	83	83	83	83	83	83	82	82
	Characteristics													
10	Terminal resistance	Ω	1.76	3.36	4.27	5.39	6.78	9.07	14	21.6	33.5	60.1	124	150
11	Terminal inductance	mH	0.106	0.222	0.288	0.362	0.445	0.584	0.89	1.37	2.1	3.68	7.29	8.95
12	Torque constant	mNm/A	5.9	8.55	9.73	10.9	12.1	13.9	17.1	21.2	26.2	34.8	48.9	54.3
13	Speed constant	rpm/V	1620	1120	981	875	790	689	558	450	364	274	195	176
14	Speed/torque gradient	rpm/mNm	482	438	430	432	443	451	458	459	465	474	494	486
15	Mechanical time constant	ms	20.5	19.8	19.7	19.7	19.8	20.2	20.1	20.2	20.3	20.3	20.5	20.4
16	Rotor inertia	gcm²	4.07	4.32	4.37	4.36	4.26	4.27	4.2	4.2	4.16	4.09	3.97	4.01

Specifications

Thermal data

17	Thermal resistance housing-ambient	20 K/W
18	Thermal resistance winding-housing	6.0 K/W
19	Thermal time constant winding	10.2 s
20	Thermal time constant motor	313 s
21	Ambient temperatureC	-30...+65°C
22	Max. winding temperature	+85°C

Mechanical data (sleeve bearings)

23	Max. speed	16 000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.012 mm
26	Max. axial load (dynamic)	1 N
27	Max. force for press fits (static)	80 N
28	Max. radial load, 5 mm from flange	2.8 N

Mechanical data (ball bearings)

23	Max. speed	16 000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	3.3 N
27	Max. force for press fits (static)	45 N
28	Max. radial load, 5 mm from flange	12.3 N

Other specifications

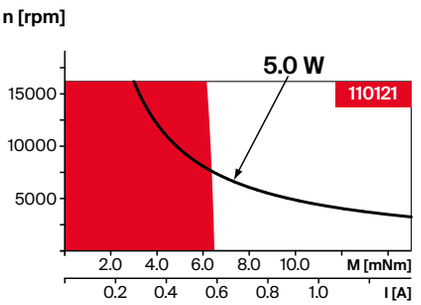
29	Number of pole pairs	1
30	Number of commutator segments	9
31	Weight of motor	54 g

CLL = Capacitor Long Life

Values listed in the table are nominal.
Explanation of the figures on page 94.

Option
Ball bearings in place of sleeve bearings
Without CLL

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

Modular system

Details on catalog page 48

Gear
419_GP 22 B
420_GP 22 A
421_GP 22 C
452_GS 24 A
472_GP 22 S
473_GP 22 S

Motor Control
550_ESCON Module 24/2
550_ESCON 36/2 DC
551_ESCON Module 50/5
553_ESCON 50/5
557_ESCON2 Nano 24/2
557_ESCON2 Micro 60/5