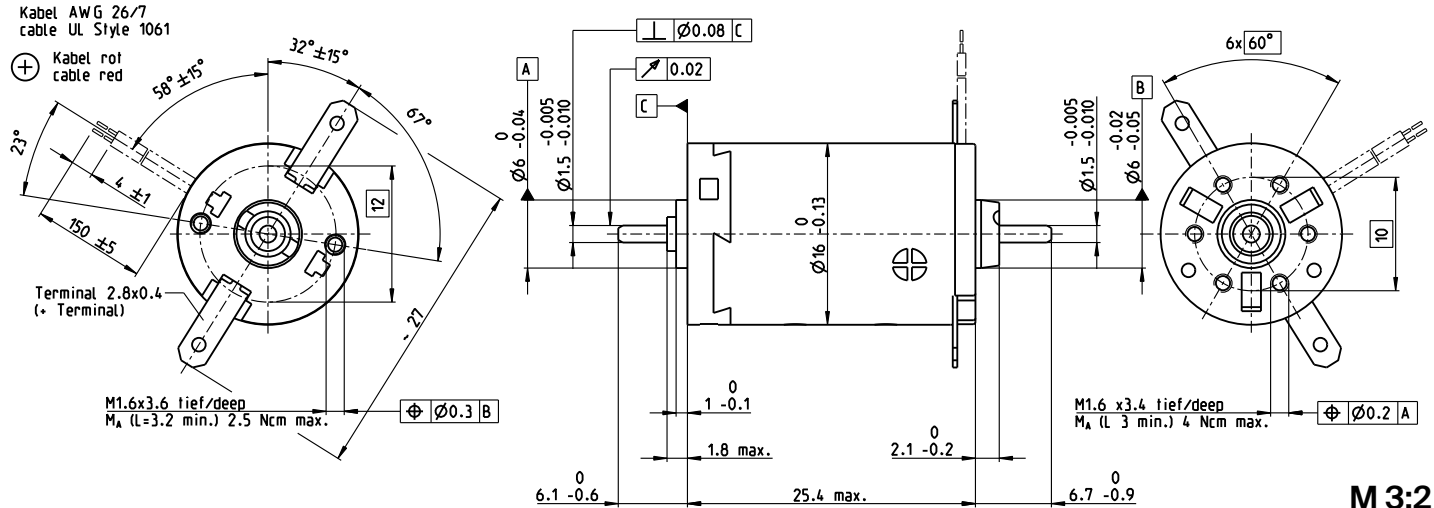


A-max 16 Ø16 mm, precious metal brushes CLL, 1.2 watt

A-max



M 3:2

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

Part numbers										
with terminals	110051	110052	110053	110054	110055	110056	110057	110058	110059	110060
with cables	139823	352825	352826	352827	352828	352829	352830	352831	352832	352833

Motor data											
Values at nominal voltage											
1 Nominal voltage	V	1.2	2.4	6	7.2	9	12	15	18	18	30
2 No load speed	rpm	8560	9730	10000	9740	9120	10400	11600	11600	10300	11300
3 No load current	mA	73.9	44.1	18.3	14.7	10.8	9.69	8.99	7.49	6.34	4.33
4 Nominal speed	rpm	7170	6310	4540	4200	3530	4900	6090	6050	4580	5500
5 Nominal torque	mNm	0.694	1.29	2.18	2.17	2.16	2.16	2.13	2.12	2.09	2.04
6 Nominal current (max. continuous current)	A	0.6	0.6	0.407	0.327	0.244	0.21	0.185	0.153	0.134	0.0862
7 Stall torque	mNm	3.83	3.61	4.03	3.86	3.57	4.13	4.54	4.48	3.84	4.04
8 Stall current	A	2.93	1.58	0.723	0.561	0.39	0.386	0.378	0.311	0.236	0.164
9 Max. efficiency	%	71	70	71	71	70	71	72	72	71	71
Characteristics											
10 Terminal resistance	Ω	0.41	1.52	8.3	12.8	23.1	31.1	39.7	57.9	76.2	183
11 Terminal inductance	mH	0.017	0.0519	0.306	0.467	0.831	1.13	1.42	2.05	2.61	6.01
12 Torque constant	mNm/A	1.31	2.29	5.57	6.88	9.17	10.7	12	14.4	16.3	24.7
13 Speed constant	rpm/V	7290	4170	1720	1390	1040	893	795	663	587	387
14 Speed / torque gradient	rpm/mNm	2280	2770	2560	2590	2620	2600	2630	2670	2750	2880
15 Mechanical time constant	ms	25.3	23.7	23.2	23.3	23.3	23.3	23.4	23.3	23.4	23.8
16 Rotor inertia	gcm ²	1.06	0.818	0.866	0.857	0.847	0.857	0.85	0.836	0.814	0.791

Specifications	Operating range	Comments
Thermal data 17 Thermal resistance housing-ambient 29.8 K/W 18 Thermal resistance winding-housing 5.5 K/W 19 Thermal time constant winding 3.55 s 20 Thermal time constant motor 165 s 21 Ambient temperature -30...+65°C 22 Max. winding temperature +85°C	The graph shows the operating range of the motor. The vertical axis represents speed n in rpm, ranging from 0 to 12000. The horizontal axis has two scales: torque M in mNm (0 to 3.0) and current I in A (0 to 0.6). A red shaded region represents the continuous operation area, bounded by a curve that starts at approximately 11000 rpm and 0.1 mNm, and ends at approximately 3000 rpm and 0.6 mNm. A black curve represents the assigned power rating of 1.2 W. The graph is labeled 110053.	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.
Mechanical data (sleeve bearings) 23 Max. speed 11000 rpm 24 Axial play 0.05 - 0.15 mm 25 Radial play 0.012 mm 26 Max. axial load (dynamic) 0.8 N 27 Max. force for press fits (static) (static, shaft supported) 280 N 28 Max. radial load, 5 mm from flange 1.4 N		Short term operation The motor may be briefly overloaded (recurring).
		Assigned power rating

Mechanical data (ball bearings)	Modular system	Details on catalog page 48
23 Max. speed 11000 rpm 24 Axial play 0.05 - 0.15 mm 25 Radial play 0.025 mm 26 Max. axial load (dynamic) 2.2 N 27 Max. force for press fits (static) (static, shaft supported) 30 N 28 Max. radial load, 5 mm from flange 280 N 29 Max. radial load, 5 mm from flange 7.8 N	Gear 416_GP 16 A 417_GP 16 C 449_GS 16 A 450_GS 16 V 451_GS 16 VZ 469-471_GP 16 S Sensor 502_ENX 16 IMR 498_ENX 13 GAMA 533_Encoder MR 32 CPT	Motor Control 550_ESCON Module 24/2 550_ESCON 36/2 DC 557_ESCON2 Nano 24/2 563_EPOS4 Micro 24/5 564_EPOS4 Module 24/1.5 565_EPOS4 Compact 24/5 3-axes 566_EPOS4 Compact 24/1.5

Other specifications

29 Number of pole pairs 1

30 Number of commutator segments 7

31 Weight of motor 22 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