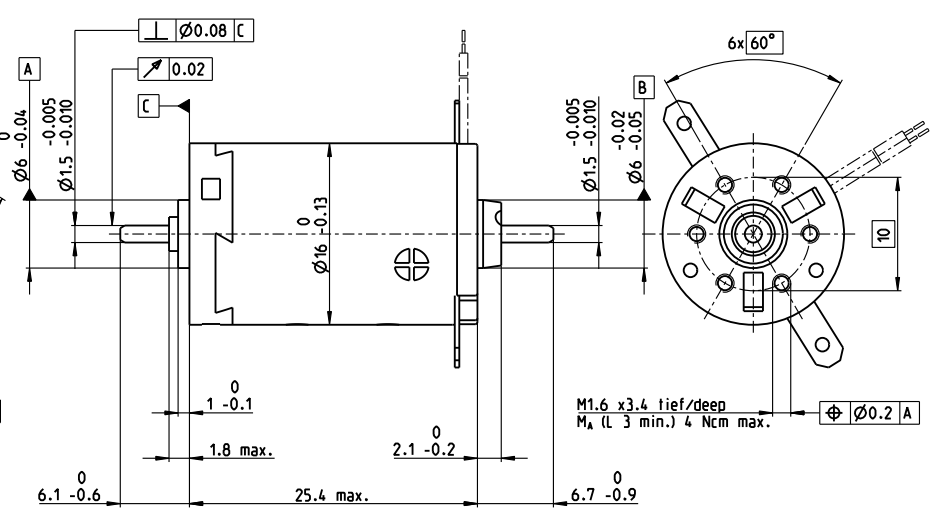
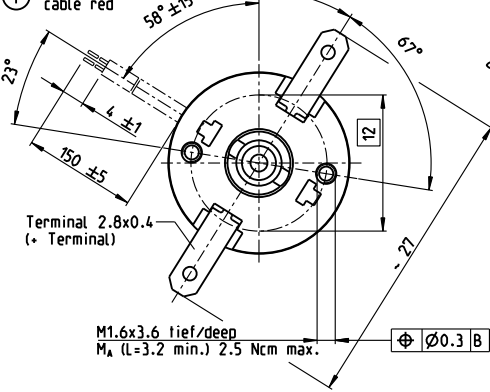


# A-max 16 $\varnothing$ 16 mm, precious metal brushes CLL, 1.2 watt

A-max

Kabel AWG 26/7  
cable UL Style 1061

Kabel rot  
cable red



## 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	$\Omega$	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 <sup>2</sup>	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

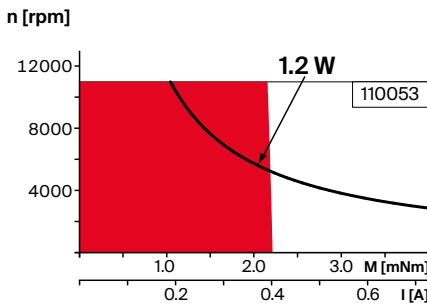
- Mechanical data (sleeve bearings)**
- 23 Max. speed 11 000 rpm
  - 24 Axial play 0.05 - 0.15 mm
  - 25 Radial play 0.012 mm
  - 26 Max. axial load (dynamic) 0.8 N
  - 27 Max. force for press fits (static) 35 N
  - (static, shaft supported) 280 N
  - 28 Max. radial load, 5 mm from flange 1.4 N

- Mechanical data (ball bearings)**
- 23 Max. speed 11 000 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) 30 N
  - (static, shaft supported) 280 N
  - 28 Max. radial load, 5 mm from flange 7.8 N

- 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 90.

**Option**  
Ball bearings in place of sleeve bearings  
Without CLL



- 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 44

Gear	Sensor	Motor Control
401_GS 16 K	472_ENX 13 GAMA	532_ESCON Module 24/2
402_GS 16 A	507_Encoder MR 32 CPT	532_ESCON 36/2 DC
403_GS 16 V	508_Encoder MR 128-512 CPT	541_EPOS4 Micro 24/5
404_GS 16 VZ		542_EPOS4 Module 24/1.5
405_GP 16 A		543_EPOS4 Compact 24/5 3-axes
406_GP 16 C		544_EPOS4 Compact 24/1.5
447-449_GP 16 S		