

Configured drive

Motor - DC-max16S GB SL 12V

Part number: B78B8F38E83C Revision number 5

Orders are processed and shipped from Switzerland within 11 working days.

General Terms and Conditions: https://www.maxonmotor.ch/maxon/view/content/terms_and_conditions_page



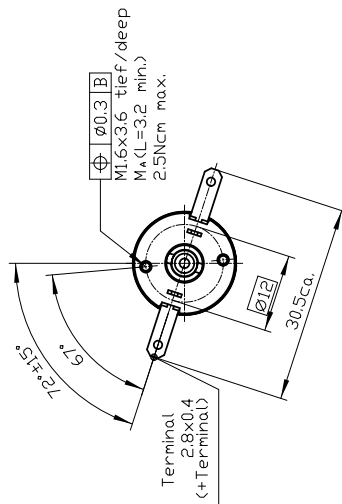
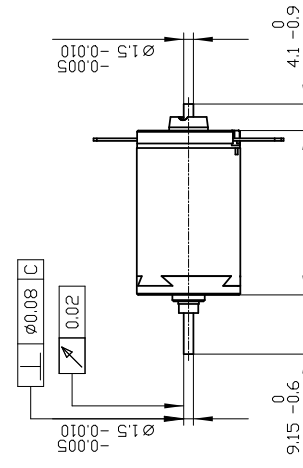
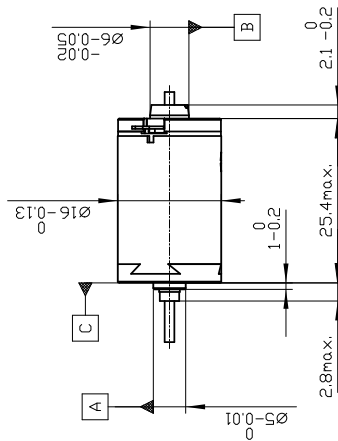
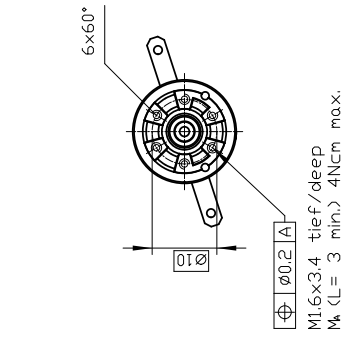
To open the integrated CAD file, please save this document and open it in Acrobat Reader. The STEP file is available after a double-click on the pin icon.

B78B8F38E83C.stp (STP AP 214)

Open configuration: <http://www.maxonmotor.co.uk/maxon/view/configurator/?ConfigID=B78B8F38E83C>



Drawing not to scale!



Axialspiel Motor: 0.05...0.15
axial play motor: 0.05...0.15

Summary of your selected configuration

Total weight of the drive: 20 g

DC-max16S GB SL 12V

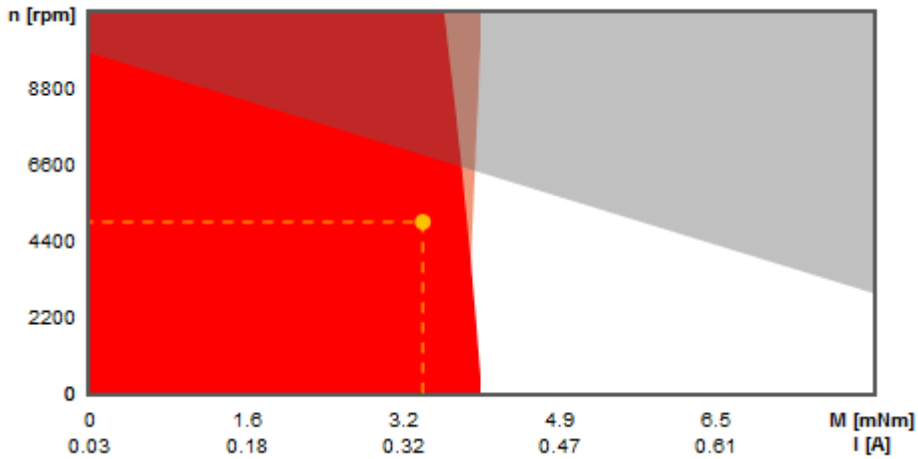
Power

Commutation	Graphite brushes
Nominal voltage	12 V
Motor bearings	Sintered sleeve bearings

Legend for part designation

EB	Precious metal brushes	GB	Graphite brushes	CLL	Spark suppression	BL	Brushless
A	Hall sensors	B	Sensorless	KL	Ball bearings	SL	Sintered bearings
GPX	Planetary gearhead	ENX	Encoder	ENC	Encoder	IMP	Pulses
ST	Number of stages	HP	High Power	S/M/L	Short/medium/long	HS	High Speed
STE	Sterilizable	INT	Integrated	STD	Standard	SP	Speed
ABS	Absolute	LN	Reduced noise level	A	Standard	LZ	Reduced backlash
C	Ceramic bearing			STEC	Sterilizable, Ceramic bearing		

Drive disposition



- Continuous operation range
- Out of voltage range
- Short-term operating range
- Not recommended range
- Selected operating point
- Continuous operation range at reduced thermal resistance R_{th2} 50%

Combination details

Your entries

Available voltage	12 V
Speed	4960 min ⁻¹
Torque	3.45 mNm

Values of the drive at available voltage

Available voltage	12 V
Max. speed at given load	6930 min ⁻¹
Max. continuous torque	4.313.45 mNm
Max. continuous current	0.41 A

Required electrical data for your operating point

Speed	4960 min ⁻¹
Torque	3.45 mNm
Required voltage	9.67 V
Required current	0.34 A

DC-max16S GB SL 12V



Product specification

Values at nominal voltage

Nominal voltage	12 V
No load speed	9860 min ⁻¹
No load current	33.6mA
Nominal speed	6200 min ⁻¹
Nominal torque (max. continuous torque)	4.31 mNm
Nominal current (max. continuous current)	0.413 A
Stall torque	11.9 mNm
Stall current	1.05 A
Max. efficiency	68.2 %

Characteristics

Max. output power continuous	4.22 W
Terminal resistance	11.4 Ω
Terminal inductance	0.343 mH
Torque constant	11.2 mNm A ⁻¹
Speed constant	849 min ⁻¹ V ⁻¹
Speed/torque gradient	858 min ⁻¹ mNm ⁻¹
Mechanical time constant	8.92ms
Rotor inertia	0.993 gcm ²

Thermal data

Thermal resistance housing-ambient	29.8 KW ⁻¹
Thermal resistance winding-housing	5.5 KW ⁻¹
Thermal time constant of the winding	4.8 s
Thermal time constant of the motor	288 s
Ambient temperature	-30...85 °C
Max. winding temperature	125 °C

Mechanical data

Max. permissible speed	11000 min ⁻¹
Axial play	0.05...0.15 mm
Preload	N
Radial backlash	0.012 mm
Max. axial load (dynamic)	0.8 N
Max. force for press fits (static)	35 N

Static, supported shaft	200 N
Max. radial load 5 mm from flange	1.4 N
Measurement from the flange	5 mm

Further specifications

Number of pole pairs	1
Number of commutator segments	7
Motor weight	19.6 g
Motor length	25.4 mm
Typical noise level	55 dBA

Information about motor data: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_049_EN.pdf