

Configured drive

Motor - DC-max22S GB SL 12V

Part number: B7744E742B5F Revision number 1

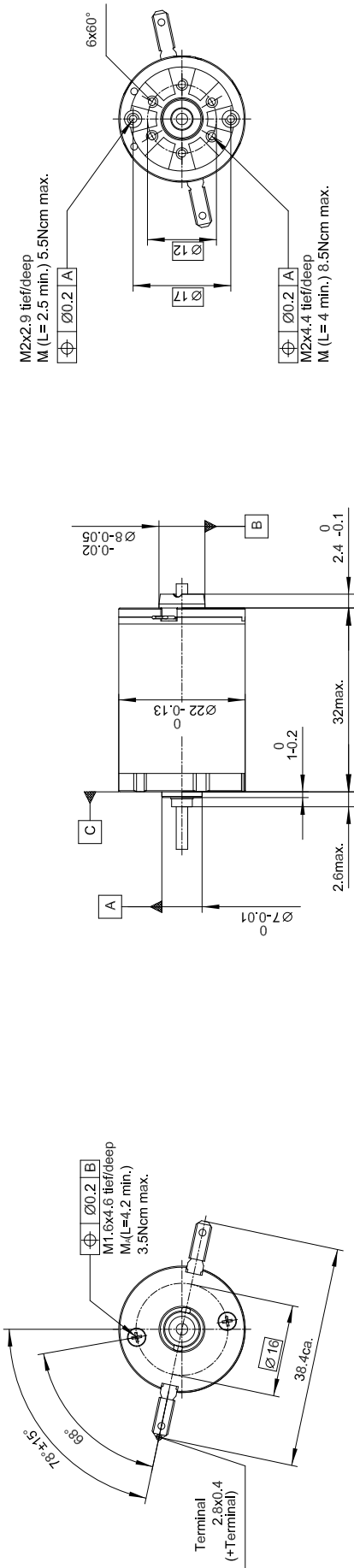
General Terms and Conditions:

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.

B7744E742B5F.stp (STP AP 214)

Open configuration:

[?ConfigID=B7744E742B5F](#)



Unit of measure: mm



ISO 5456-1

ISO 1101

ISO 965-1

ISO 2768-m

ISO 8015

Summary of your selected configuration

Total weight of the drive: 47 g

DC-max22S GB SL 12V	
Product detail	
Commutation	Graphite brushes
Nominal voltage	12
Motor bearings	Sleeve bearing
Elec. connection, motor	
Electrical connection, motor	Terminal

Legend for part designation

EC-Motor:

A	Hall sensor version
B	Sensorless version
BL	Brushless
C	Integrated electronics
ECX	EC-motor (brushless)
FL	FLAT (type series name)
HP	High Power
HTQ	High Torque
HTQF	High Torque, fan-ventilated
KL	Ball bearings
M/L/X	Medium / Long / Extra long
PR	PRIME (type series name)
SP	SPEED (type series name)
STD	Standard
STE	Sterilizable
STEC	Sterilizable, ceramic bearing
TQ	TORQUE (type series name)

Gearhead

A	Standard version
C	Ceramic version
GPX	Planetary gearhead
HP	High Power
LN	Reduced noise level
LZ	Reduced backlash
SP	SPEED (type series name)
ST	Number of stages
STE	Sterilizable
STES	Sterilizable, with sealing
UP	Ultra Performance

DC-Motor:

CLL	Capacitor long life (spark suppression)
DC-max	DC motors (brushed)
DCX	DC motors (brushed)
EB	Precious metal brushes
GB	Graphite brushes
KL	Ball bearings
S/M/L	Short / Medium / Long
SL	Sintered sleeve bearings

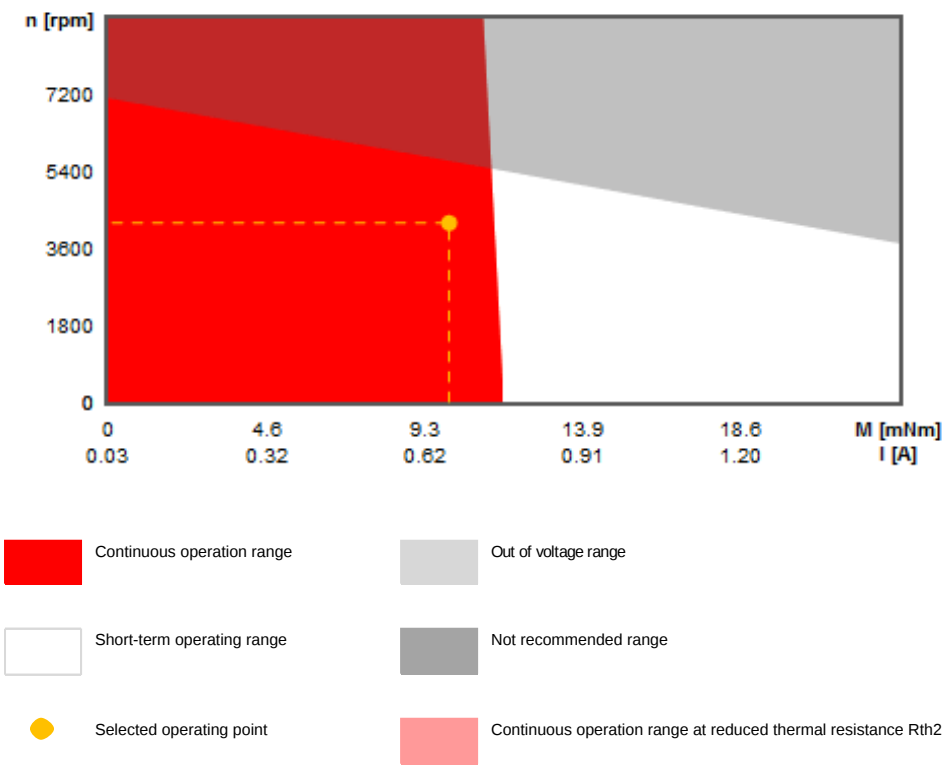
Encoder/Sensor:

ABS	Absolute
BiSSC	Bidirectional serial synchronous (protocol)
COMM	Commutation signals
EASY	(type series name)
EMT	(type series name)
ENX	Encoder
FFC	Flexible flat cable
GAMA	(type series name)
IMP	Pulses
INT	integrated
MAG	(type series name)
QUAD	(type series name)
RIO	(type series name)
SSI	Synchronous serial Interface (protocol)
XT	Extended version

IDX Drive/Motor:

AB	Integrated brake
CO	CANopen interface
ENC	Encoder
ET	EtherCAT interface
IDX	Drive System
IO	I/O interface
P	Positioning-control
S	Speed-control
S/M/L	Short / Medium / Long

Drive disposition



Combination details

Your entries

Available voltage	12 V
Speed	4208 min ⁻¹
Torque	10 mNm

Values of the drive at available voltage

Available voltage	12 V
Max. speed at given load	5636 min ⁻¹
Max. continuous torque	12.50 mNm
Max. continuous current	0.82 A

Required electrical data for your operating point

Speed	4208 min ⁻¹
Torque	10 mNm
Required voltage	9.54 V
Required current	0.66 A

DC-max22S GB SL 12V

Product specification

Values at nominal voltage

Nominal voltage	12 V
No load speed	7140 min ⁻¹
No load current	29.5mA
Nominal speed	5260 min ⁻¹
Nominal torque (max. continuous torque)	12.5 mNm
Nominal current (max. continuous current)	0.818 A
Stall torque	49.4 mNm
Stall current	3.14 A
Max. efficiency	80.3 %

Characteristics

Max. output power continuous	10.4 W
Terminal resistance	3.83 Ω
Terminal inductance	0.274 mH
Torque constant	15.8 mNm A ⁻¹
Speed constant	606 min ⁻¹ V ⁻¹
Speed/torque gradient	147 min ⁻¹ mNm ⁻¹
Mechanical time constant	8.57ms
Rotor inertia	5.57 gcm ²

Thermal data

Thermal resistance housing-ambient	20 KW ⁻¹
Thermal resistance winding-housing	6 KW ⁻¹
Thermal time constant of the winding	17.2 s
Thermal time constant of the motor	538 s
Ambient temperature	-30...85 °C
Max. winding temperature	125 °C

Mechanical data

Max. permissible speed	9000 min ⁻¹
Axial play	0.05...0.15 mm
Preload	0 N
Radial backlash	0.012 mm
Max. axial load (dynamic)	1 N
Max. force for press fits (static)	80 N
Static, supported shaft	420 N
Max. radial load 5 mm from flange	2.8 N
Measurement from the flange	5 mm

Further specifications

Number of pole pairs	1
Number of commutator segments	9

Motor weight	47 g
Motor length	32 mm
Typical noise level	55 dBA (6000 min ⁻¹)

More information on the motor: <https://www.maxongroup.com/maxon/view/product/DC-MAX22S01GBSL598?download=show>