

## Your configured drive

Part number\*: B7744E7131D8 Revision 2

**maxon motor**

**driven by precision**

Motor - DC-max16S GB SL 12V  
Planetary gearhead - GPX16 C 21:1

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### Interactive 3D model

Click on the icon to activate your 3D model



Your configuration can be viewed here:

<http://www.maxonmotor.co.uk/maxon/view/configurator/?ConfigID=B7744E7131D8>

\*If the link doesn't work, you can open your configuration with the part number from the catalog.

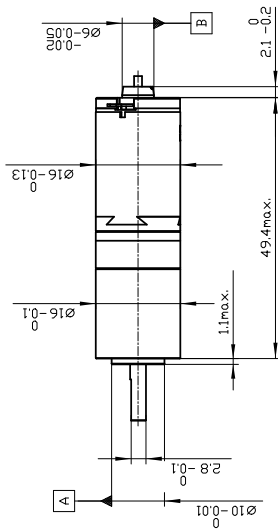
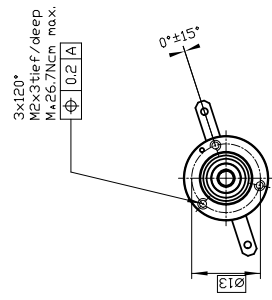
### Attachments / CAD files

Please double click with left mouse button on a pushpin symbol to open a file. You could also save a file when you click the symbol with the right mouse button.

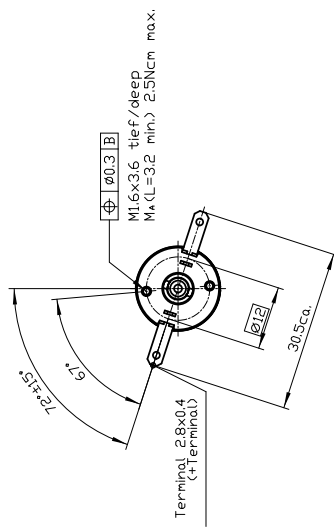
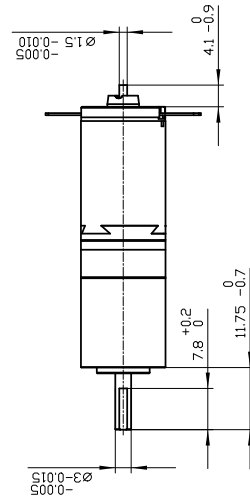
B7744E7131D8.stp (STP AP 214)

**Motor - DC-max16S GB SL 12V  
Planetary gearhead - GPX16 C 21:1**

Drawings are not to scale!



Durchmesser über Schweissstellen 16.2 max.  
Diameter at welds 16.2 max.



## Summary of your selected configuration

**Motor - DC-max16S GB SL 12V**  
**Planetary gearhead - GPX16 C 21:1**

Total weight of the drive: 45 g

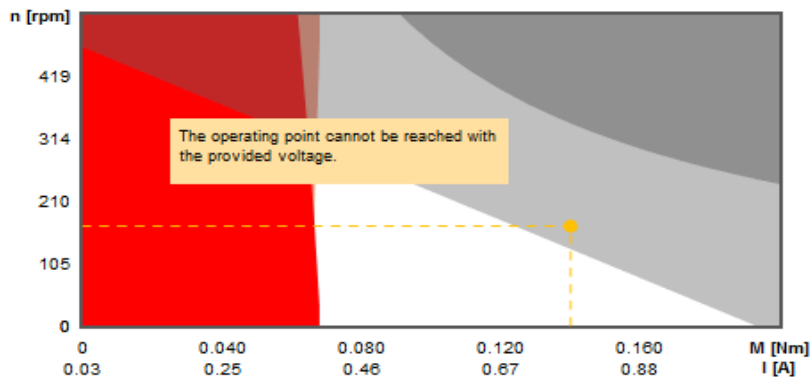
### Motor: DC-max16S GB SL 12V

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

### Gearhead GPX16 C 21:1

Gearhead type	Ceramic version
Reduction	21:1
Number of stages	2

## Operating range



- Continuous operation range
- Short-term operating range
- Continuous operation range at reduced thermal resistance  $R_{th2}$  50%
- Not recommended range

## Motor - DC-max16S GB SL 12V



### Values at nominal voltage

Nominal voltage	12 V
No load speed	9860 rpm
No load current	33.6 mA
Nominal speed	6200 rpm
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	4.22 W
Terminal resistance	11.4 Ohm
Terminal inductance	0.343 mH
Torque constant	11.2 mNm/A
Speed constant	849 rpm/V
Speed/torque gradient	858 rpm/mNm
Mechanical time constant	8.92 ms
Rotor inertia	0.993 gcm <sup>2</sup>

### Thermal data

Thermal resistance housing-ambient	29.8 K/W
Thermal resistance winding-housing	5.5 K/W
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

16.10.2017 / **Subject to change without notice** / Your configuration: B7744E7131D8 / Revision number: 2

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**Mechanical data**

Max. permissible speed	11000 rpm
Min. axial play	0.05 mm
Max. axial play	0.15 mm
Radial backlash	0.012
Max. axial load (dynamic)	0.8 N
Max. force for press fits (static)	35 N
Max. radial load 5 mm from flange	1.4 N

**Further specifications**

Number of pole pairs	1
Number of commutator segments	7
Weight	19.6 g
Number of autoclave cycles	0
Typical noise level	55 dBA

Information about motor data: [http://www.maxonmotor.com/medias/CMS\\_Downloads/DIVERSES/12\\_137\\_EN.pdf](http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_137_EN.pdf)

## Planetary gearhead - GPX16 C 21:1



### Gearhead data

Reduction	21:1
Absolute reduction	5175/247
Max. transmittable power (continuous)	3.8 W
Max. transmittable power (intermittent)	5 W
Number of stages	2
Max. continuous torque	0.33 Nm
Max. intermittent torque	0.42 Nm
Direction of rotation, drive to output	=
Max. efficiency	80 %
Weight	25 g
Average backlash no-load	1.2 degree
Mass inertia	0.11 gcm <sup>2</sup>
Gearhead length	20.8 mm

### Technical data

Output shaft bearing	KL
Gearhead type	GPX
Max. radial play	0.1 mm
mm from flange	5 mm
Min. axial play	0 mm
Max. axial play	0.1 mm
Max. permissible radial load	45 N
mm from flange	5 mm
Max. axial load (dynamic)	20 N
Max. force for press fits	60 N
Max. continuous input speed	14000 rpm
Max. intermittent input speed	17500 rpm
Min. recommended temperature range	-40..100 °C
Number of autoclave cycles	0

Information about gearhead data: [http://www.maxonmotor.com/medias/CMS\\_Downloads/DIVERSES/12\\_203\\_EN.pdf](http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_203_EN.pdf)