

Your configuration

Part number*: B7735A160872 Revision 3
Consists of:

Motor - ECXSP16L BL KL A HP 36V
Planetary gearhead - GPX19 C 62:1
Sensor - ENX16 EASY INT COMM 1024IMP

maxon motor

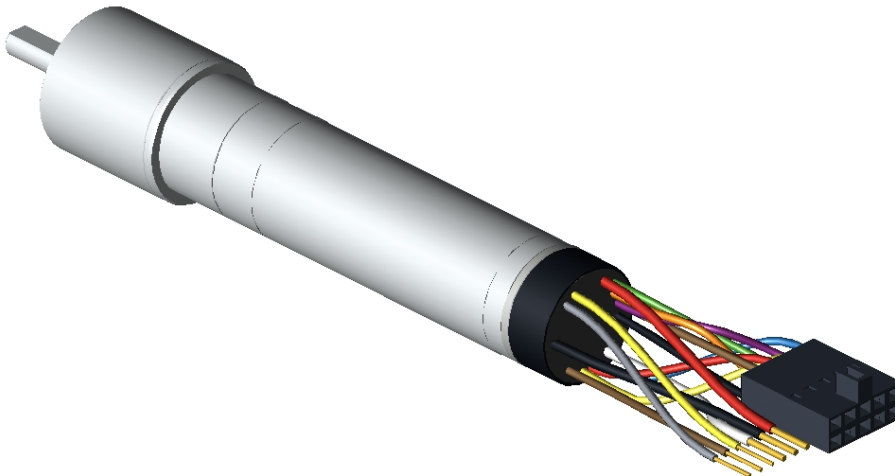
driven by precision

maxon motor worldwide
http://www.maxonmotor.com/maxon/view/content/contact_page
E-Mail: e-shop@maxonmotor.com
Internet: www.maxonmotor.com

After an order is placed at the e-shop, the product is manufactured in Switzerland and delivered after 11 working days.
General Terms and Conditions: http://www.maxonmotor.com/maxon/view/content/terms_and_conditions_page

Interactive 3D model

Click on the icon to activate your 3D model



Your configuration can be viewed here:

<http://www.maxonmotor.com/maxon/view/configurator/?ConfigID=B7735A160872>

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

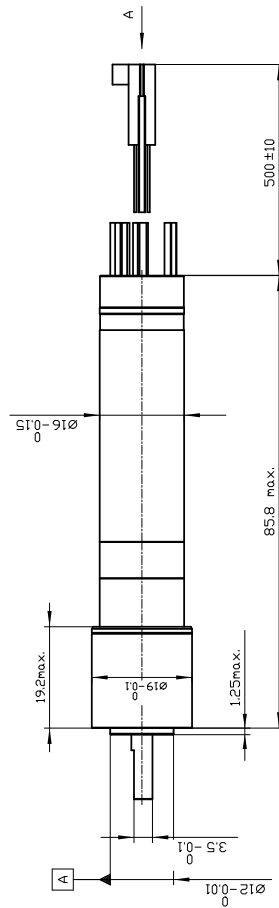
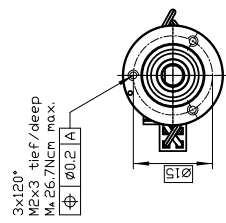
Attachments / CAD files

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.

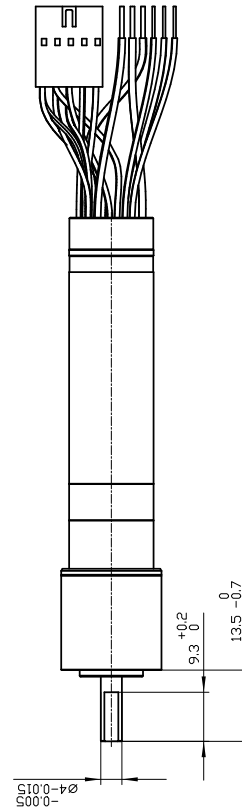
B7735A160872.stp (STP AP 214)

Motor - ECXSP16L BL KL A HP 36V
Planetary gearhead - GPX19 C 62:1
Sensor - ENX16 EASY INT COMM 1024IMP

Drawings are not to scale!



Lage des Kabelabgangs
zum Befestigungsbild unbestimmt
alignment of cables relative
to mounting holes not specified



Motor - ECXSP16L BL KL A HP 36V
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Connection information

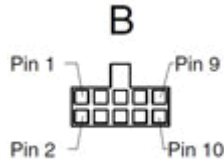
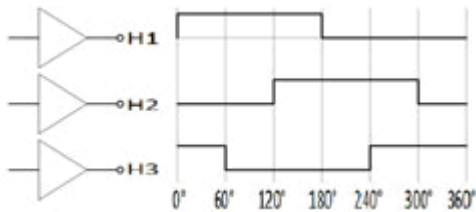
Motor (Cable AWG 22)

Red Motor 1
Black Motor 2
White Motor 3

Sensor (Cable AWG 26)

Yellow Hall-Sensor 1
Brown Hall-Sensor 2
Gray Hall-Sensor 3

Output signals: CMOS compatible push-pull stage
No pull-up resistor required
Hall signals are generated by EASY INT sensor



Connector type, encoder		
Molex 22-55-2102		
Connection information (Cable AWG 28)		
PIN	Signal	Colour
Pin1	NC	
Pin2	Vcc	Black
Pin3	GND	Brown
Pin4	NC	
Pin5	A\	Red
Pin6	A	Orange
Pin7	B\	Yellow
Pin8	B	Green
Pin9	Channel I\ (Index)	Blue
Pin10	Channel I (Index)	Purple

Summary of your selected configuration

Motor - ECXSP16L BL KL A HP 36V

Planetary gearhead - GPX19 C 62:1

Sensor - ENX16 EASY INT COMM 1024IMP

Total weight of the drive: 143.3 g

Motor: ECXSP16L BL KL A HP 36V

Commutation	With Hall sensors
Nominal voltage	36 V
Motor bearings	Preloaded ball bearing
Version	High Power
Cable length	500 mm

Gearhead GPX19 C 62:1

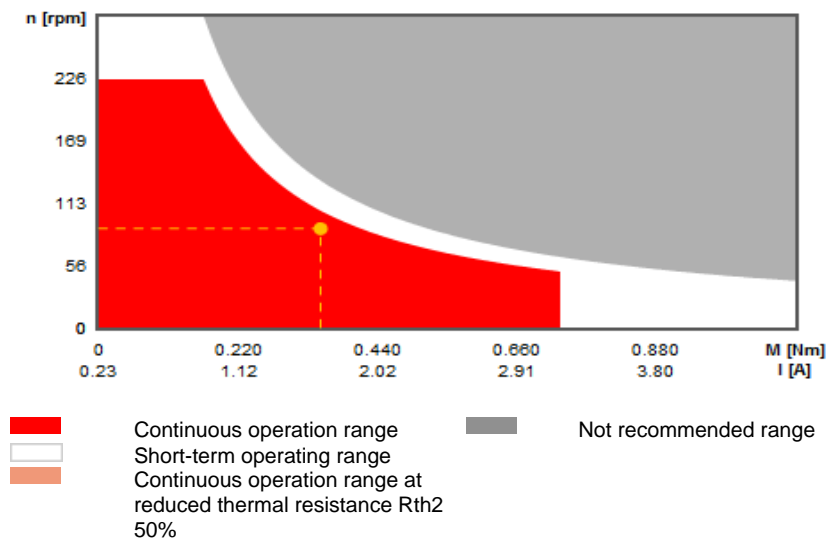
Gearhead type	Ceramic version
Reduction	62:1
Number of stages	3

Sensor ENX16 EASY INT COMM 1024IMP

Counts per turn

Counts per turn	1024
Electrical connection, sensor	Standard
Cable type	AWG28
Cable length	500 mm
Connector type	Molex 22-55-2102

Operating range



Motor - ECXSP16L BL KL A HP 36V



Values at nominal voltage

Nominal voltage	36 V
No load speed	64600 rpm
No load current	230 mA
Nominal speed	61800 rpm
Nominal torque (max. continuous torque)	15.4 mNm
Nominal current (max. continuous current)	3.1 A
Stall torque	414 mNm
Stall current	78.1 A
Max. efficiency	89.6 %

Characteristics

Terminal resistance phase-to-phase	0.461 Ohm
Terminal inductance phase-to-phase	0.0318 mH
Torque constant	5.3 mNm/A
Speed constant	1800 rpm/V
Speed/torque gradient	157 rpm/mNm
Mechanical time constant	1.97 ms
Rotor inertia	1.2 gcm ²

Thermal data

Thermal resistance housing-ambient	16.2 K/W
Thermal resistance winding-housing	0.58 K/W
Thermal time constant of the winding	1.28 s
Thermal time constant of the motor	588 s
Ambient temperature	-20..100 °C
Max. winding temperature	155 °C

Mechanical data

Max. permissible speed	70000 rpm
Min. axial play	0 mm
Max. axial play	0.29 mm
Direction of force	Zug
Preload	1.5 N
Radial backlash	0
Max. axial load (dynamic)	1.5 N
Max. force for press fits (static)	60 N
Static, supported shaft	2500 N
max. radiale Last 5 mm from flange	10 Nm

Further specifications

Number of pole pairs	1
Number of phases	3
Weight	98.3 g
Typical noise level at reference speed	50000 rpm
Number of autoclave cycles	0
Typical noise level	52 dBA

Information about motor data: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_137_EN.pdf

Planetary gearhead - GPX19 C 62:1



Gearhead data

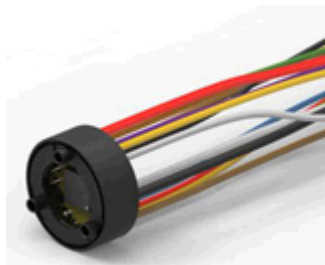
Reduction	62:1
Absolute reduction	421875/6859
Max. transmittable power (continuous)	3.9 W
Max. transmittable power (intermittent)	4.9 W
Number of stages	3
Max. continuous torque	0.86 Nm
Max. intermittent torque	1.1 Nm
Direction of rotation, drive to output	=
Max. efficiency	75 %
Weight	45 g
Average backlash no-load	1.3 degree
Mass inertia	0.161 gcm ²
Gearhead length	27 mm

Technical data

Output shaft bearing	Ball bearings
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	90 N
mm from flange	5 mm
Max. axial load (dynamic)	40 N
Max. force for press fits	100 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

Sensor - ENX16 EASY INT COMM 1024IMP



Type

Counts per turn	1024
Number of channels	3
Line Driver	RS422
Max. outer diameter	16 mm
Max. housing length	-1 mm
Max. electrical speed	200000 rpm
Max. speed	200000 rpm

Technical data

Supply voltage	.. V
Output signal driver	Differential, EIA RS 422
Current per cable	-20...20 mA
Min. state length	20 °el
Max. state length	160 °el
Signal rise time/Signal fall time	60/60 ns
Min. state duration	62.5 ns
Direction of rotation	A for B, CW
Index position	A low & B low
Index synchronously to AB	yes
Index pulse width	90 °el
Typical current draw at standstill	23 mA
Max. moment of inertia of code wheel	0.005 gcm ²
Weight	0 g
Operating temperature range	-40..125 °C
Number of autoclave cycles	1000

Datasheet: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/ENXEASY_en.pdf