

Your configuration

Part number*: B773D015E5FD Revision 1
Consists of:

Motor - ECXSP16M BL KL A HP 48V
Planetary gearhead - GPX16 C 35:1
Sensor - ENX16 EASY INT COMM 256IMP

maxon motor

driven by precision

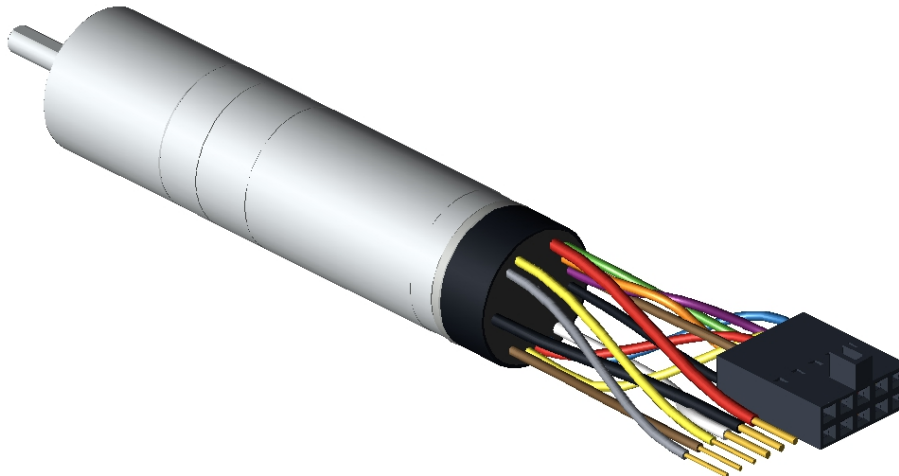
maxon motor worldwide
http://www.maxonmotor.com/maxon/view/content/contact_page

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=B773D015E5FD>

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

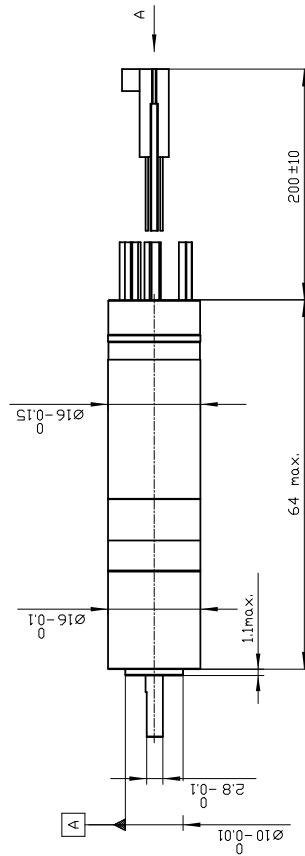
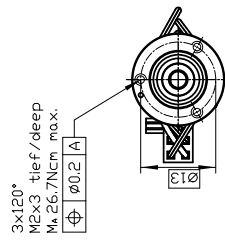
Attachments / CAD files

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.

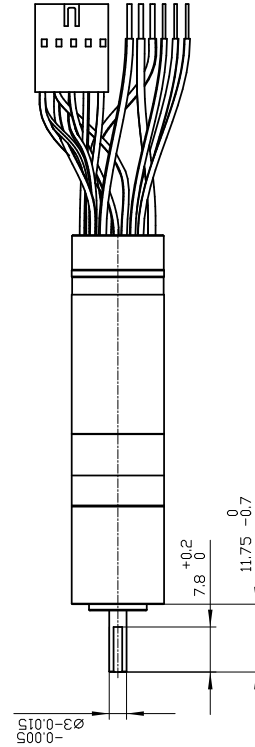
B773D015E5FD.stp (STP AP 214)

Motor - ECXSP16M BL KL A HP 48V
Planetary gearhead - GPX16 C 35:1
Sensor - ENX16 EASY INT COMM 256IMP

Drawings are not to scale!



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



Motor - ECXSP16M BL KL A HP 48V
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Connection information

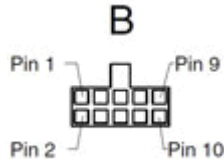
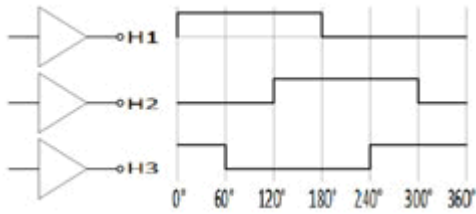
Motor (Cable AWG 22)

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 - ECXSP16M BL KL A HP 48V

Planetary gearhead - GPX16 C 35:1

Sensor - ENX16 EASY INT COMM 256IMP

Total weight of the drive: 90.6 g

Motor: ECXSP16M BL KL A HP 48V

Commutation	With Hall sensors
Nominal voltage	48 V
Motor bearings	Preloaded ball bearing
Version	High Power

Gearhead GPX16 C 35:1

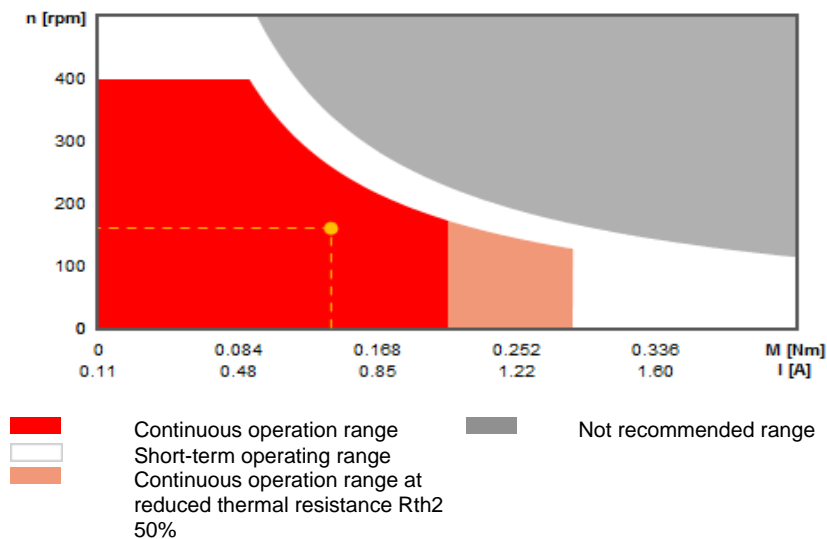
Gearhead type	Ceramic version
Reduction	35:1
Number of stages	2

Sensor ENX16 EASY INT COMM 256IMP

Counts per turn

Counts per turn	256
Electrical connection, sensor	Standard
Cable type	AWG28
Connector type	Molex 22-55-2102

Operating range



Motor - ECXSP16M BL KL A HP 48V



Values at nominal voltage

Nominal voltage	48 V
No load speed	56400 rpm
No load current	107 mA
Nominal speed	52200 rpm
Nominal torque (max. continuous torque)	7.44 mNm
Nominal current (max. continuous current)	1.01 A
Stall torque	115 mNm
Stall current	14.3 A
Max. efficiency	83.8 %

Characteristics

Terminal resistance phase-to-phase	3.35 Ohm
Terminal inductance phase-to-phase	0.201 mH
Torque constant	8.06 mNm/A
Speed constant	1180 rpm/V
Speed/torque gradient	493 rpm/mNm
Mechanical time constant	4.19 ms
Rotor inertia	0.812 gcm ²

Thermal data

Thermal resistance housing-ambient	20.3 K/W
Thermal resistance winding-housing	1.8 K/W
Thermal time constant of the winding	2.13 s
Thermal time constant of the motor	508 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. radial load 5 mm from flange	10 N

Further specifications

Number of pole pairs	1
Number of phases	3
Weight	65.6 g
Typical noise level at reference speed	50000 rpm
Number of autoclave cycles	0
Typical noise level	50 dBA

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

Planetary gearhead - GPX16 C 35:1



Gearhead data

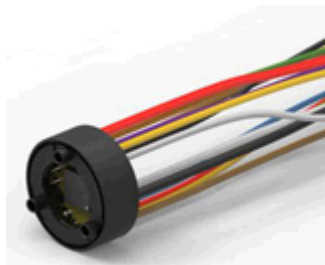
Reduction	35:1
Absolute reduction	4554/130
Max. transmittable power (continuous)	3.8 W
Max. transmittable power (intermittent)	5 W
Number of stages	2
Max. continuous torque	0.33 Nm
Max. intermittent torque	0.42 Nm
Direction of rotation, drive to output	=
Max. efficiency	80 %
Weight	25 g
Average backlash no-load	1.2 degree
Mass inertia	0.11 gcm ²
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

Sensor - ENX16 EASY INT COMM 256IMP



Type

Counts per turn	256
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	45 °el
Max. state length	135 °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