

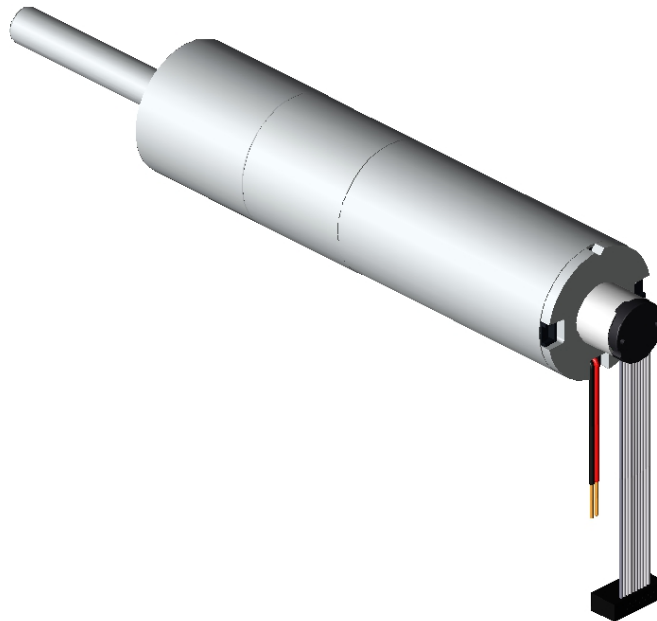
## Configured drive

Motor - DCX22L GB KL 18V  
Gearhead - GPX22UP 103:1  
Sensor - ENX10 EASY 512IMP

**Part number: B7D007CC392E** Revision number 1

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

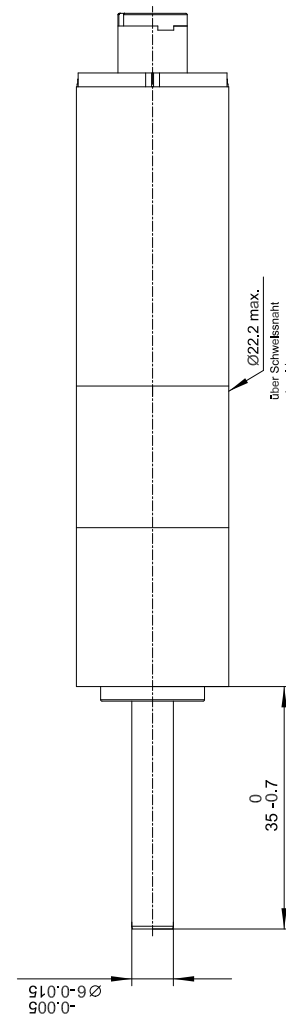
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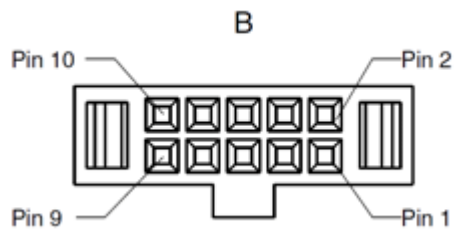
To open the integrated CAD file, please save this document and open it in Acrobat Reader. The STEP file is available after a double-click on the pin icon.

B7D007CC392E.stp (STP AP 214)

Open configuration: <https://www.maxongroup.com/maxon/view/configurator/?ConfigID=B7D007CC392E>



Anschluss nicht dargestellt/ terminal not shown



## Connector type, encoder

1.27mm 10-pol

Pin 1	Do not connect
Pin 2	VCC
Pin 3	GND
Pin 4	Do not connect
Pin 5	Channel A \
Pin 6	Channel A
Pin 7	Channel B \
Pin 8	Channel B
Pin 9	Channel I \
Pin 10	Channel I

## Summary of your selected configuration

Total weight of the drive: 193 g

### DCX22L GB KL 18V

#### Product detail

Commutation	Graphite brushes
Nominal voltage	18 V
Motor bearings	Preloaded ball bearing

#### Elec. connection, motor

Elec. connection, motor	Cable
Cable length	500 mm

### GPX22UP 103:1

#### Product detail

Gearhead type	Ultra Performance
Reduction	103
Number of stages	3

#### Gear shaft

Gear shaft	Configurable shaft
Shaft shape	straight
Shaft length	35 mm

### ENX10 EASY 512IMP

#### Product detail

Counts per turn	512
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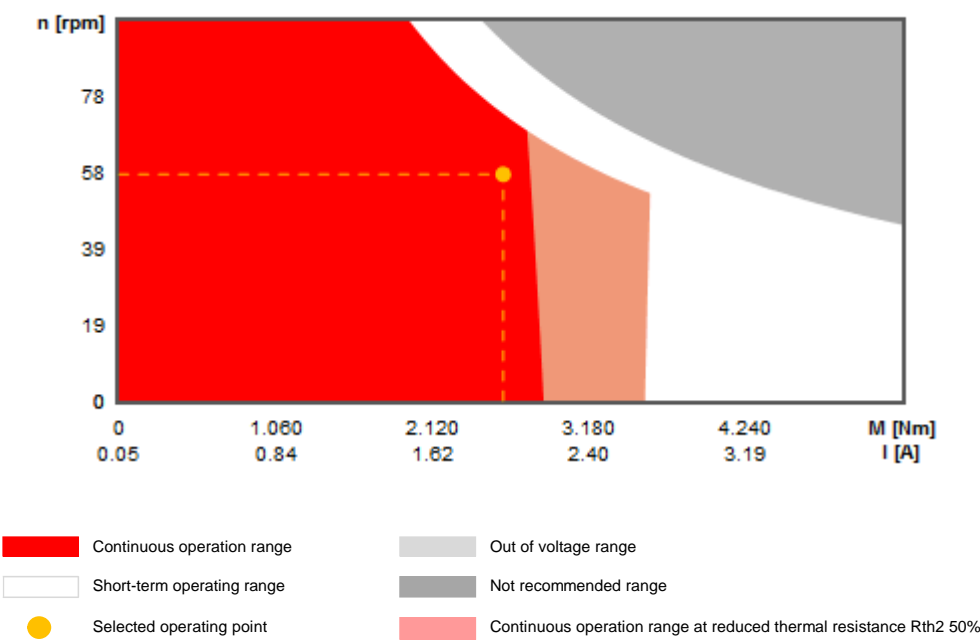
#### Elec. connection, sensor

Elec. connection, sensor	Configurable
Cable length	500 mm

## 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	integ.	STD	Standard	SP	Speed
ABS	Absolute	LN	Reduced noise level	A	Standard	LZ	Reduced backlash
C	Ceramic bearing			STEC	Sterilizable, Ceramic bearing		

Drive disposition



Combination details

Your entries

Available voltage	18 V
Speed	58 min <sup>-1</sup>
Torque	2.6 Nm

Values of the drive at available voltage

Available voltage	18 V
Max. speed at given load	73 min <sup>-1</sup>
Max. continuous torque	2.60 Nm
Max. continuous current	1.98 A

Required electrical data for your operating point

Speed	58 min <sup>-1</sup>
Torque	2.6 Nm
Required voltage	10.50 V
Required current	1.98 A

## DCX22L GB KL 18V



### Product specification

#### Values at nominal voltage

Nominal voltage	18 V
No load speed	11800 min <sup>-1</sup>
No load current	54.6mA
Nominal speed	10800 min <sup>-1</sup>
Nominal torque (max. continuous torque)	32.2 mNm
Nominal current (max. continuous current)	2.26 A
Stall torque	386 mNm
Stall current	26.5 A
Max. efficiency	91.1 %

#### Characteristics

Max. output power continuous	49.6 W
Terminal resistance	0.68 Ω
Terminal inductance	0.0779 mH
Torque constant	14.6 mNm A <sup>-1</sup>
Speed constant	654 min <sup>-1</sup> V <sup>-1</sup>
Speed/torque gradient	30.5 min <sup>-1</sup> mNm <sup>-1</sup>
Mechanical time constant	3.13ms
Rotor inertia	9.82 gcm <sup>2</sup>

#### Thermal data

Thermal resistance housing-ambient	13.6 KW <sup>-1</sup>
Thermal resistance winding-housing	4.57 KW <sup>-1</sup>
Thermal time constant of the winding	23.4 s
Thermal time constant of the motor	646 s
Ambient temperature	-40...100 °C
Max. winding temperature	125 °C

#### Mechanical data

Max. permissible speed	18000 min <sup>-1</sup>
Axial play	0...0.1 mm
Preload	2.5 N
Radial backlash	0.02 mm
Max. axial load (dynamic)	2.5 N
Max. force for press fits (static)	30 N

Static, supported shaft	440 N
Max. radial load 5 mm from flange	16 N
Measurement from the flange	5 mm

## Further specifications

Number of pole pairs	1
Number of commutator segments	9
Motor weight	97.5 g
Motor length	46.7 mm
Typical noise level	44 dBA (6000 min <sup>-1</sup> )

Information about motor data: [https://www.maxongroup.com/medias/CMS\\_Downloads/DIVERSES/12\\_049\\_EN.pdf](https://www.maxongroup.com/medias/CMS_Downloads/DIVERSES/12_049_EN.pdf)



## GPX22UP 103:1



### Product specification

#### Gearhead data

Reduction	103:1
Absolute reduction	371250/3610
Number of stages	3
Max. continuous torque	4.30 Nm
Max. intermittent torque	5.3 Nm
Direction of rotation, drive to output	=
Max. efficiency	90 %
Average backlash no-load	0.8 °
Mass inertia	0.6 gcm <sup>2</sup>
Max. transmittable power (continuous)	20 W
Max. short-time transferable output	25 W

#### Technical data

Output shaft bearing	Wälzlager
Max. radial play, 5 mm from flange	max. 0.1 mm
Axial play	0...0.2 mm
Max. permissible radial load, 5 mm from flange	150 N
Max. permissible axial load	80 N
Max. permissible force for press fits	120 N
Max. continuous input speed	10000 min <sup>-1</sup>
Max. intermittent input speed	10000 min <sup>-1</sup>
Recommended temperature range	-40..100 °C

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

## ENX10 EASY 512IMP



### Product specification

#### Sensor data

Counts per turn	512
Number of channels	3
Line Driver	RS422
Max. electrical speed	90000 min <sup>-1</sup>
Max. mechanical speed	30000 min <sup>-1</sup>

#### Technical data

Supply voltage Vcc	5 V ±10 %
Output signal	INC
Output signal driver	Differential / EIA RS 422
Output current per channel	-20...20 mA
State length	45...135 °el
Signal rise time/Signal fall time	20/20 ns
Min. state duration	125 ns
Direction of rotation	A before B CW
Index position	A low & B low
Index synchronously to AB	Yes
Index pulse width	90 °el
Typical current draw at standstill	22 mA
Max. moment of inertia of code wheel	0.05 gcm <sup>2</sup>
Operating temperature range	-40...100 C°
Number of autoclave cycles	0