

Configured drive

Motor - DCX16L GB KL 12V
Planetary gearhead - GPX16 A 35:1

Part number: B78B264112F1 Revision number 3

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

General Terms and Conditions: https://www.maxonmotor.ch/maxon/view/content/terms_and_conditions_page




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.

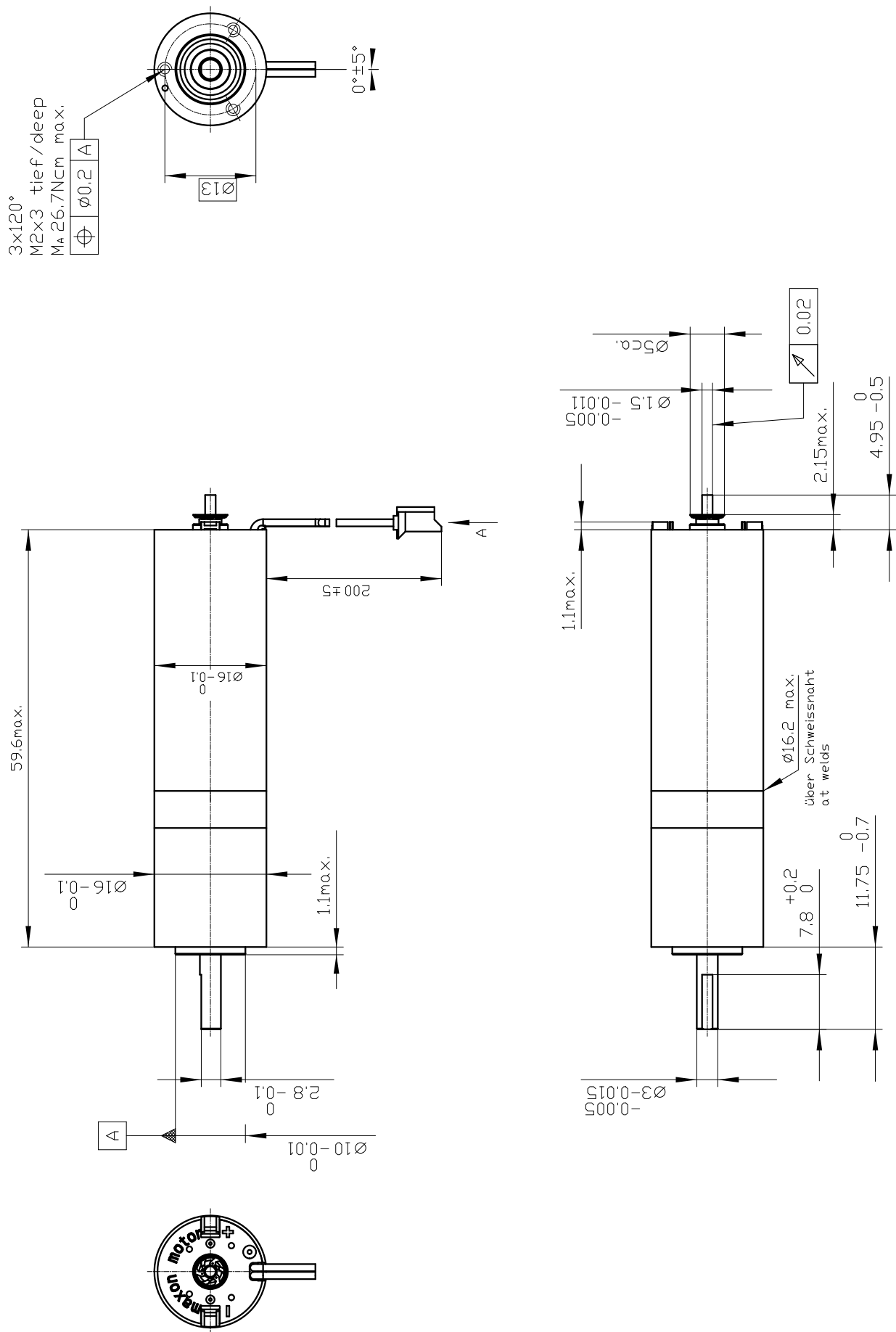
B78B264112F1.stp (STP AP 214)

Open configuration: [?ConfigID=B78B264112F1](https://www.maxonmotor.ch/maxon/view/content/terms_and_conditions_page?ConfigID=B78B264112F1)

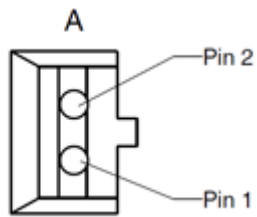
Motor - DCX16L GB KL 12V
Planetary gearhead - GPX16 A 35:1
Drawing not to scale!

ISO 5456-1 
Axial play motor: 0...0.1mm
Axial play gearhead: 0...0.1mm

maxon motor
driven by precision



Kabel nicht dargestellt/ no cable visualisation



Connector type, motor

JST_PHR-2

Pin 1 Red (+)

Pin 2 Black (-)

Summary of your selected configuration

Total weight of the drive: 66 g

DCX16L GB KL 12V

Product detail

Commutation	Graphite brushes
Nominal voltage	12 V
Motor bearings	Preloaded ball bearing

Electrical connection, motor

Electrical connection, motor	Cable
Connector type, motor	JST PHR-2
Cable length	200 mm

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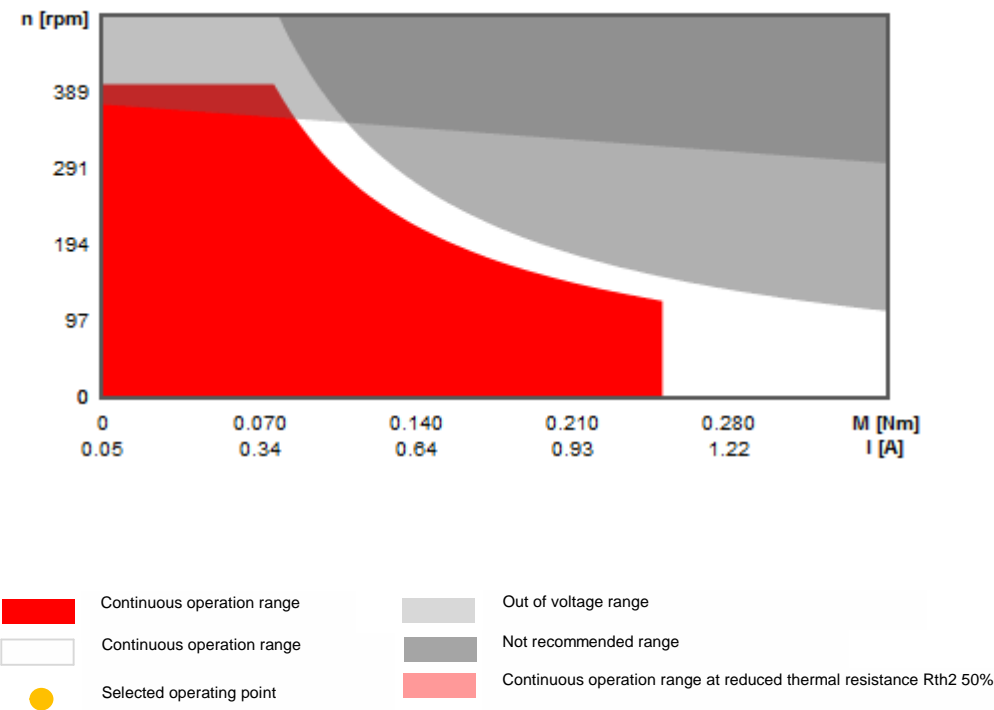
Product detail

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

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

Selected operating point



DCX16L GB KL 12V



Product specification

Values at nominal voltage

Nominal voltage	12 V
No load speed	13100 min ⁻¹
No load current	53.8mA
Nominal speed	10600 min ⁻¹
Nominal torque (max. continuous torque)	10.6 mNm
Nominal current (max. continuous current)	1.28 A
Stall torque	63.3 mNm
Stall current	7.37 A
Max. efficiency	81.9 %

Characteristics

Max. output power continuous	15.8 W
Terminal resistance	1.63 Ω
Terminal inductance	0.096 mH
Torque constant	8.59 mNm A ⁻¹
Speed constant	1110 min ⁻¹ V ⁻¹
Speed/torque gradient	211 min ⁻¹ mNm ⁻¹
Mechanical time constant	5.21ms
Rotor inertia	2.36 gcm ²

Thermal data

Thermal resistance housing-ambient	17.9 KW ⁻¹
Thermal resistance winding-housing	7.21 KW ⁻¹
Thermal time constant of the winding	17.9 s
Thermal time constant of the motor	294 s
Ambient temperature	-40...100 °C
Max. winding temperature	125 °C

Mechanical data

Max. permissible speed	17000 min ⁻¹
Axial play	0...0.1 mm
Preload	0.8 N
Radial backlash	0.015 mm
Max. axial load (dynamic)	0.8 N
Max. force for press fits (static)	18 N

Static, supported shaft	300 N
Max. radial load 5 mm from flange	10 N
Measurement from the flange	5 mm

Further specifications

Number of pole pairs	1
Number of commutator segments	7
Motor weight	40.6 g
Motor length	38.8 mm
Typical noise level	40 dBA (6000 min ⁻¹)

Information about motor data: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_049_EN.pdf

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Product specification

Gearhead data

Reduction	35:1
Absolute reduction	4554/130
Number of stages	2
Max. continuous torque	0.25 Nm
Max. intermittent torque	0.35 Nm
Direction of rotation, drive to output	=
Max. efficiency	80 %
Average backlash no-load	1.2 °
Mass inertia	0.11 gmc ²
Max. transmittable power (continuous)	3.2 W
Max. short-time transferable output	4 W

Technical data

Output shaft bearing	KL
Max. radial play, 5 mm from flange	max. 0.1 mm
Axial play	0...0.1 mm
Max. permissible radial load, 5 mm from flange	45 N
Max. permissible axial load	20N
Max. permissible force for press fits	60 N
Max. continuous input speed	14000 min ⁻¹
Max. intermittent input speed	17500 min ⁻¹
Recommended temperature range	-40..100 °C

Information about gearhead data: http://www.maxonmotor.com/medias/CMS_Downloads/DIVERSES/12_203_EN.pdf