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Configured drive

Motor - DCX08M EB KL 2.4V
Sensor - ENX 8 MAG 128IMP

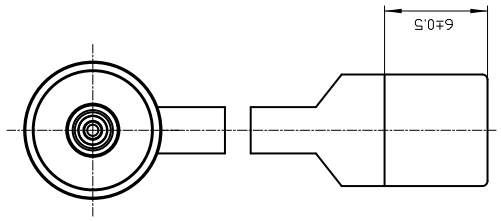
Part number: B7CFC6D16B4E Revision number 3

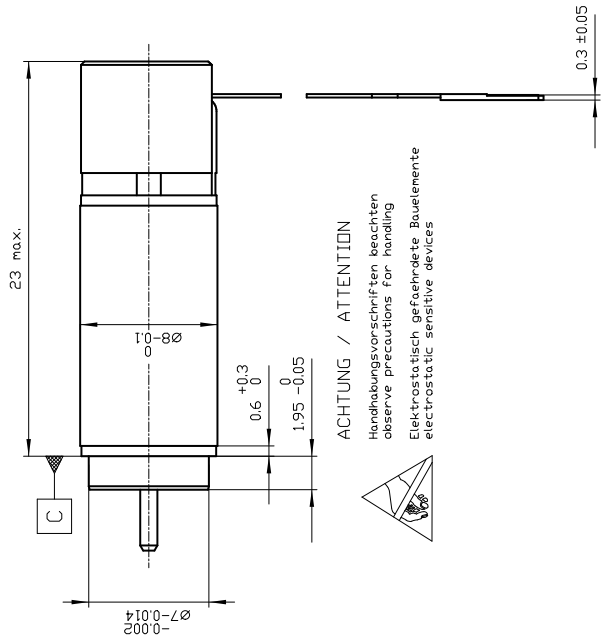
Orders are processed and shipped from Switzerland within 11 working days.
General Terms and Conditions: https://www.maxongroup.ch/maxon/view/content/terms_and_conditions_page

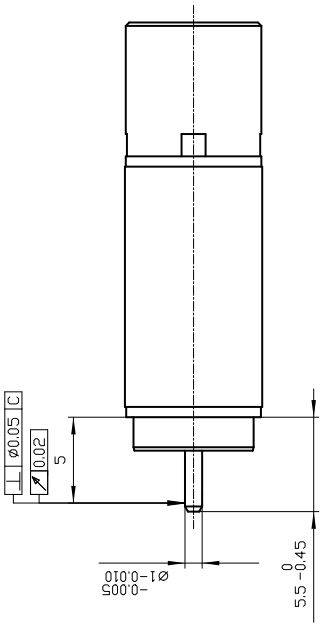
To open the integrated CAD file, please save this document and open it in Acrobat Reader. The STEP file is available after a double-click on the pin icon.

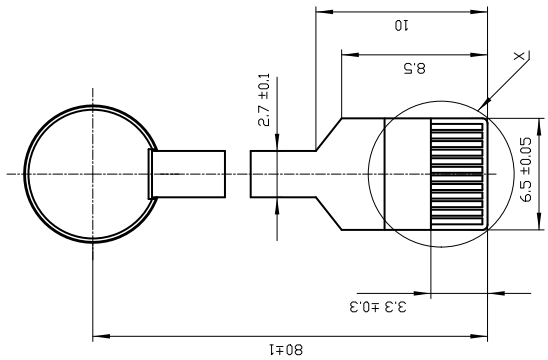
B7CFC6D16B4E.stp (STP AP 214)

Open configuration: https://www.maxongroup.com/maxon/view/configurator/?ConfigID=B7CFC6D16B4E









Unit of measure: mm

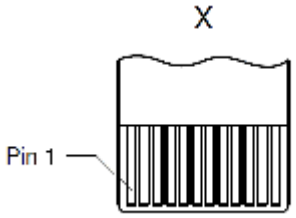
ISO 5456-1

ISO 1101

ISO 965-1

ISO 2768-m

ISO 8015



Motor

Pin 1	Motor +
Pin 2	Motor –

Encoder

Pin 3	NC
Pin 4	GND
Pin 5	Vcc
Pin 6	A
Pin 7	B
Pin 8	I
Pin 9	NC
Pin 10	NC
Pin 11	NC
Pin 12	NC

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Summary of your selected configuration

Total weight of the drive: 5 g

	DCX08M EB KL 2.4V	
Product detail		
	Commutation	Precious metal brushes
	Nominal voltage	2.4 V
	Motor bearings	Preloaded ball bearing
	Spark suppression (CLL)	with CLL

	ENX 8 MAG 128IMP	
Product detail		
	Counts per turn	128
	Cable type	Flachband TPE

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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		

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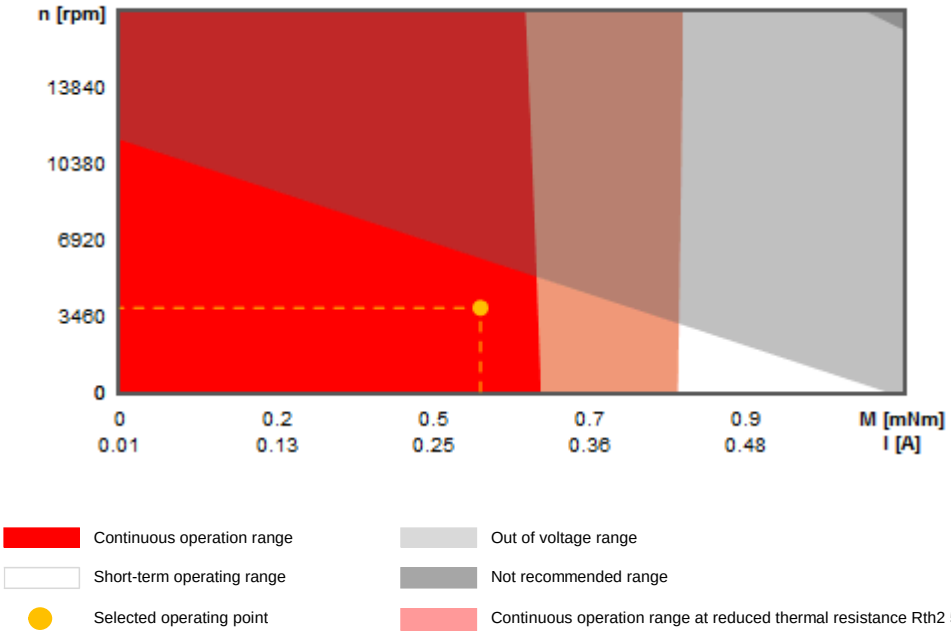
Drive disposition



Combination details	
Your entries	
Available voltage	2.4 V
Speed	3832 min^{-1}
Torque	0.52 mNm
Values of the drive at available voltage	
Available voltage	2.4 V
Max. speed at given load	6124 min^{-1}
Max. continuous torque	0.65 mNm
Max. continuous current	0.34 A
Required electrical data for your operating point	
Speed	3832 min^{-1}
Torque	0.52 mNm
Required voltage	1.94 V
Required current	0.28 A

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DCX08M EB KL 2.4V

	Product specification	
Values at nominal voltage		
	Nominal voltage	2.4 V
	No load speed	11500 min^{-1}
	No load current	13.6mA
	Nominal speed	4790 min^{-1}
	Nominal torque (max. continuous torque)	0.649 mNm
	Nominal current (max. continuous current)	0.344 A
	Stall torque	1.13 mNm
	Stall current	0.581 A
	Max. efficiency	72.2 %
Characteristics		
	Max. output power continuous	1.06 W
	Terminal resistance	4.13 Ω
	Terminal inductance	0.0139 mH
	Torque constant	1.95 mNm A^{-1}
	Speed constant	4900 min^{-1} V^{-1}
	Speed/torque gradient	10400 min^{-1} mNm^{-1}
	Mechanical time constant	4.17ms
	Rotor inertia	0.0384 gcm^2
Thermal data		
	Thermal resistance housing-ambient	101 KW^{-1}
	Thermal resistance winding-housing	16.9 KW^{-1}
	Thermal time constant of the winding	2.31 s
	Thermal time constant of the motor	162 s
	Ambient temperature	-30…85 °C
	Max. winding temperature	100 °C
Mechanical data		
	Max. permissible speed	17300 min^{-1}
	Axial play	0…0.1 mm
	Preload	0.5 N
	Radial backlash	0.012 mm
	Max. axial load (dynamic)	0.1 N
	Max. force for press fits (static)	8.8 N

	Static, supported shaft	100 N
	Max. radial load 5 mm from flange	0.6 N
	Measurement from the flange	5 mm

Further specifications		
	Number of pole pairs	1
	Number of commutator segments	5
	Motor weight	4.4 g
	Motor length	23 mm
	Typical noise level	dBA (min^{-1})

Information about motor data: https://www.maxongroup.com/medias/CMS_Downloads/DIVERSES/12_049_EN.pdf

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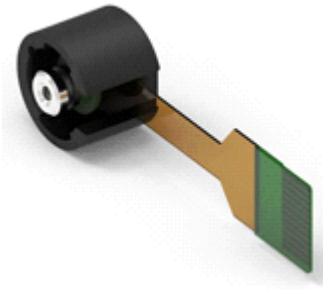
ENX 8 MAG 128IMP



	Product specification	
Sensor data		
	Counts per turn	128
	Number of channels	3
	Line Driver	No
	Max. electrical speed	100000 min^{-1}
	Max. mechanical speed	100000 min^{-1}
Technical data		
	Supply voltage Vcc	3.3 V ±10 %
	Output signal	INC
	Output signal driver	Single Ended / CMOS
	Output current per channel	-4...4 mA
	State length	45…135 °el
	Signal rise time/Signal fall time	10/10 ns
	Min. state duration	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	13 mA
	Max. moment of inertia of code wheel	gcm^2
	Operating temperature range	-40…100 C°
	Number of autoclave cycles	0

Datasheet: https://www.maxongroup.com/medias/CMS_Downloads/DIVERSES/ENXMAG_en.pdf