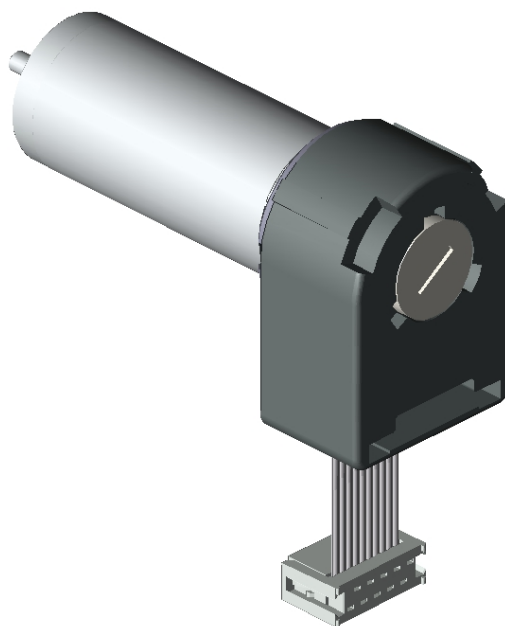


Configured drive

Motor - DCX22L EB KL 18V
Sensor - ENC 30 AEDL 5810 1024IMP

Part number: B7E71D7E66F8 Revision number 1

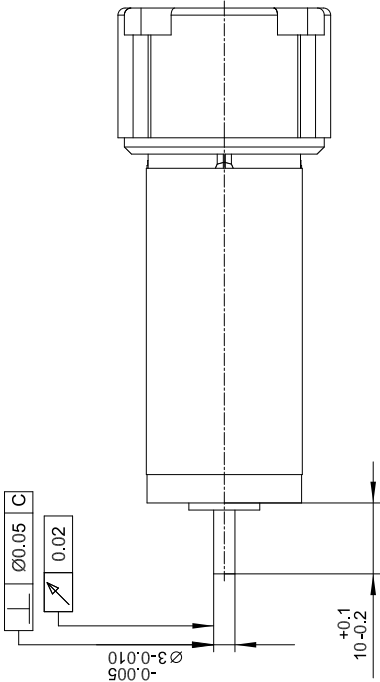
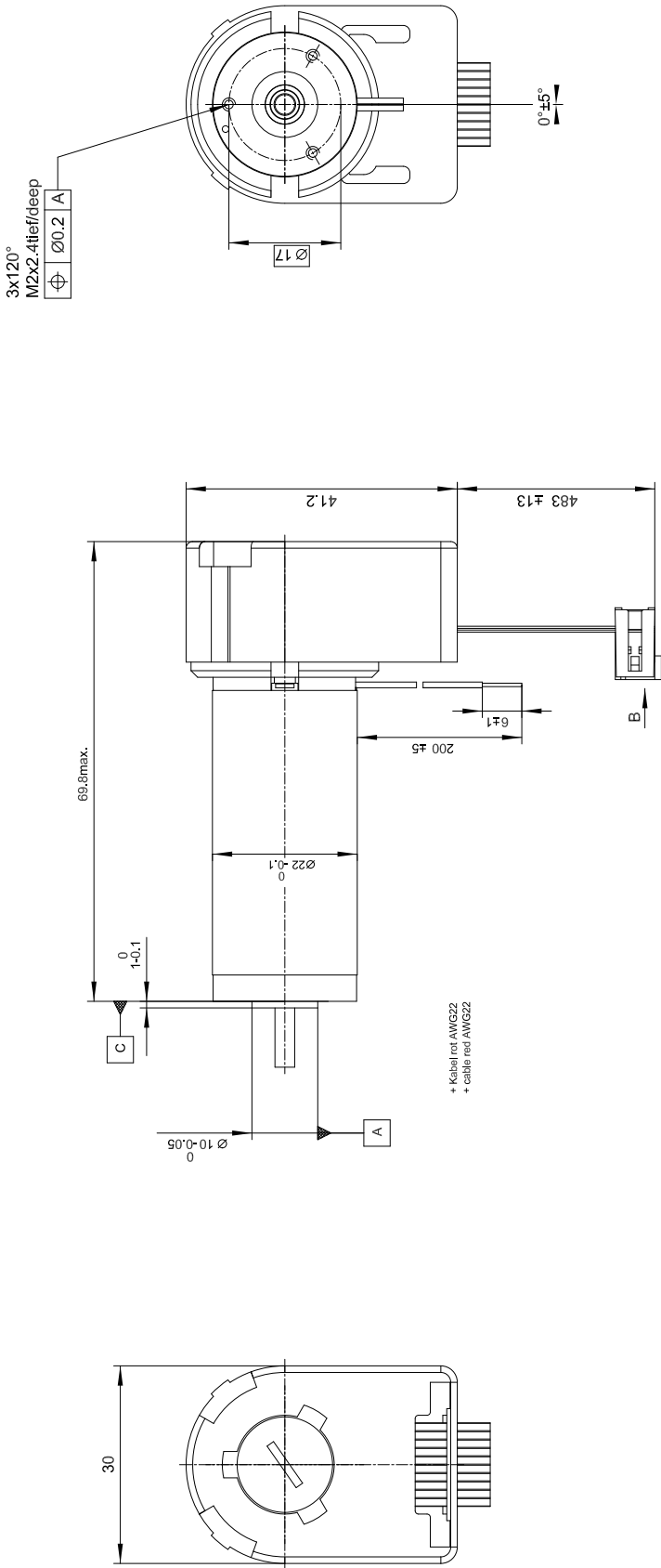
General Terms and Conditions https://www.maxongroup.ch/maxon/view/content/terms_and_conditions_page



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.

B7E71D7E66F8.stp (STP AP 214)

Open configuration: <https://www.maxongroup.com/maxon/view/configurator/?ConfigID=B7E71D7E66F8>



Anschluss nicht dargestellt/ terminal not shown

Unit of measure: mm



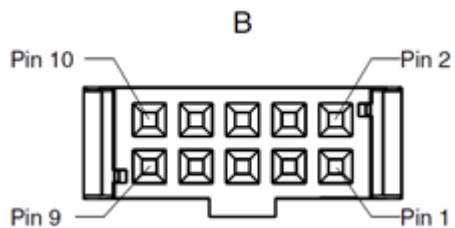
ISO 5456-1

ISO 1101

ISO 965-1

ISO 2768-m

ISO 8015



Connector type, encoder

2.54mm 10-pol

Pin 1	No connection
Pin 2	VCC
Pin 3	GND
Pin 4	No connection
Pin 5	Channel A \
Pin 6	Channel A
Pin 7	Channel B \
Pin 8	Channel B
Pin 9	Channel I \ (Index)
Pin 10	Channel I (Index)

Summary of your selected configuration

Total weight of the drive: 138 g

DCX22L EB KL 18V		
Product detail		
Commutation		Precious metal brushes
Nominal voltage		18 V
Motor bearings		Preloaded ball bearing
Spark suppression (CLL)		without CLL
Elec. connection, motor		
Elec. connection, motor		Cable
Cable length		200 mm
ENC 30 AEDL 5810 1024IMP		
Product detail		
Counts per turn		1024
Cable type		Flachband TPE

Legend for part designation

EC-Motor:

A	Hall sensor version
B	Sensorless version
BL	Brushless
ECX	EC-motor (brushless)
FL	FLAT (type series name)
HP	High Power
HTQ	High Torque
HTQF	High Torque, fan-ventilated
KL	Ball bearings
PR	PRIME (type series name)
SP	SPEED (type series name)
SQ	SQUARE (type series name)
STD	Standard
STE	Sterilizable
STEC	Sterilizable, ceramic bearing
TQ	TORQUE (type series name)
M/L/XL	Medium / Long / Extra long

DC-Motor:

CLL	Capacitor long life (spark suppression)
DC-max	DC motors (brushed)
DCX	DC motors (brushed)
EB	Precious metal brushes
GB	Graphite brushes
KL	Ball bearings
S/M/L	Short / Medium / Long
SL	Sintered sleeve bearings

IDX Drive/Motor:

AB	Integrated brake
CO	CANopen interface
ENC	Encoder
ET	EtherCAT interface
IDX	Drive System
IO	I/O interface
P	Positioning-control
S	Speed-control
S/M/L	Short / Medium / Long

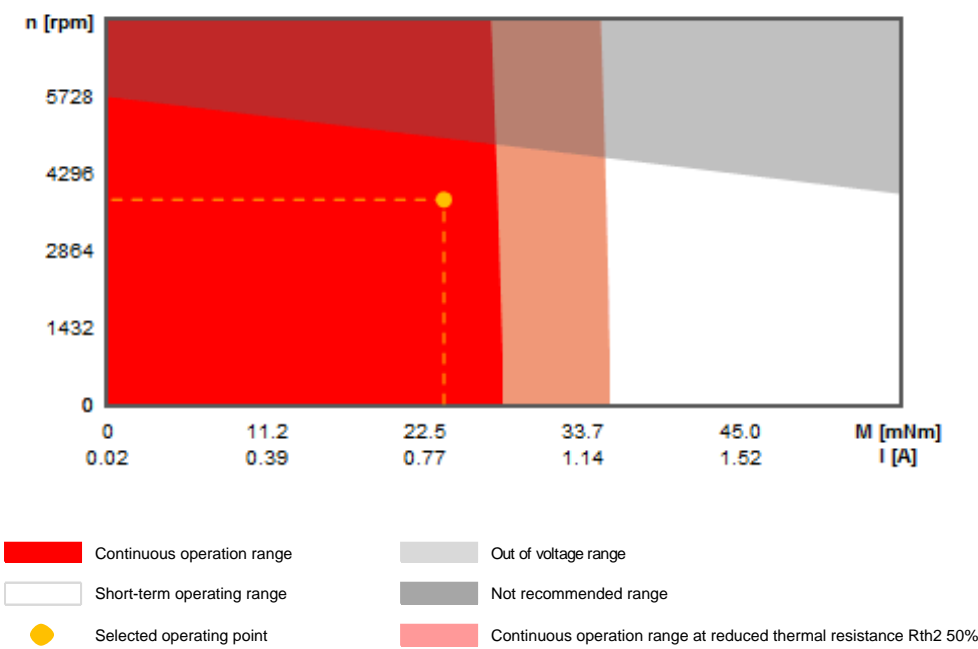
Gearhead

A	Standard version
C	Ceramic version
GPX	Planetary gearhead
HP	High Power
LN	Reduced noise level
LZ	Reduced backlash
SP	SPEED (type series name)
ST	Number of stages
STE	Sterilizable
STES	Sterilizable, with sealing
UP	Ultra Performance

Encoder/Sensor:

ABS	Absolute
BISSC	Bidirectional serial synchronous (protocol)
COMM	Commutation signals
EASY	(type series name)
EMT	(type series name)
ENX	Encoder
FFC	Flexible flat cable
GAMA	(type series name)
IMP	Pulses
INT	integrated
MAG	(type series name)
QUAD	(type series name)
RIO	(type series name)
SSI	Synchronous serial Interface (protocol)
XT	Extended version

Drive disposition



Combination details

Your entries

Available voltage	18 V
Speed	3824 min ¹
Torque	23.84 mNm

Values of the drive at available voltage

Available voltage	18 V
Max. speed at given load	4972 min ¹
Max. continuous torque	29.80 mNm
Max. continuous current	1.01 A

Required electrical data for your operating point

Speed	3824 min ¹
Torque	23.84 mNm
Required voltage	14.40 V
Required current	0.81 A

DCX22L EB KL 18V

Product specification

Values at nominal voltage

Nominal voltage	18 V
No load speed	5740 min ⁻¹
No load current	16.4mA
Nominal speed	4780 min ⁻¹
Nominal torque (max. continuous torque)	29.8 mNm
Nominal current (max. continuous current)	1.01 A
Stall torque	178 mNm
Stall current	5.97 A
Max. efficiency	89.9 %

Characteristics

Max. output power continuous	20.4 W
Terminal resistance	3.01 Ω
Terminal inductance	0.326 mH
Torque constant	29.9 mNm A ⁻¹
Speed constant	320 min ⁻¹ V ⁻¹
Speed/torque gradient	32.2 min ⁻¹ mNm ⁻¹
Mechanical time constant	3.13ms
Rotor inertia	9.26 gcm ²

Thermal data

Thermal resistance housing-ambient	13.6 KW ⁻¹
Thermal resistance winding-housing	4.57 KW ⁻¹
Thermal time constant of the winding	22 s
Thermal time constant of the motor	646 s
Ambient temperature	-40...85 °C
Max. winding temperature	100 °C

Mechanical data

Max. permissible speed	7160 min ⁻¹
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	103.4 g
Motor length	49.2 mm
Typical noise level	52 dBA (6000 min ¹)

More information on the motor: <https://www.maxongroup.com/maxon/view/product/DCX22L01EBKL596?download=show>

ENC 30 AEDL 5810 1024IMP

Product specification		
Sensor data		
	Counts per turn	1024
	Number of channels	3
	Line Driver	AM26C31QD
	Max. electrical speed	14000 min ¹
	Max. mechanical speed	30000 min ¹
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	65...115 °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	60 mA
	Max. moment of inertia of code wheel	0.6 gcm ²
	Operating temperature range	-40...85 C°
	Number of autoclave cycles	0

More information on the encoder: <https://www.maxongroup.com/maxon/view/product/ENC30AEDL581001?download=show>