

Configured drive

Motor - DCX19S GB KL 24V

Gearhead - GPX22 A 138:1

Part number: B8459F109C14 Revision number 1

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

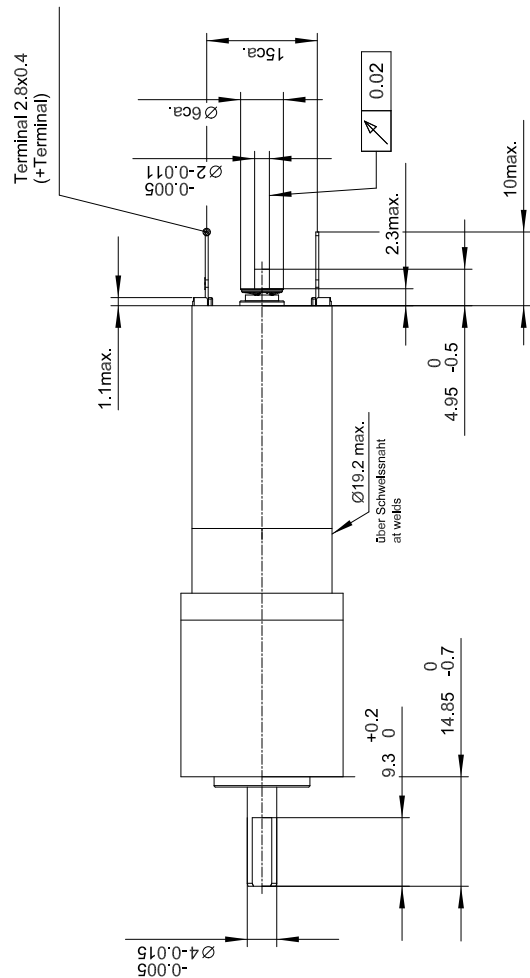
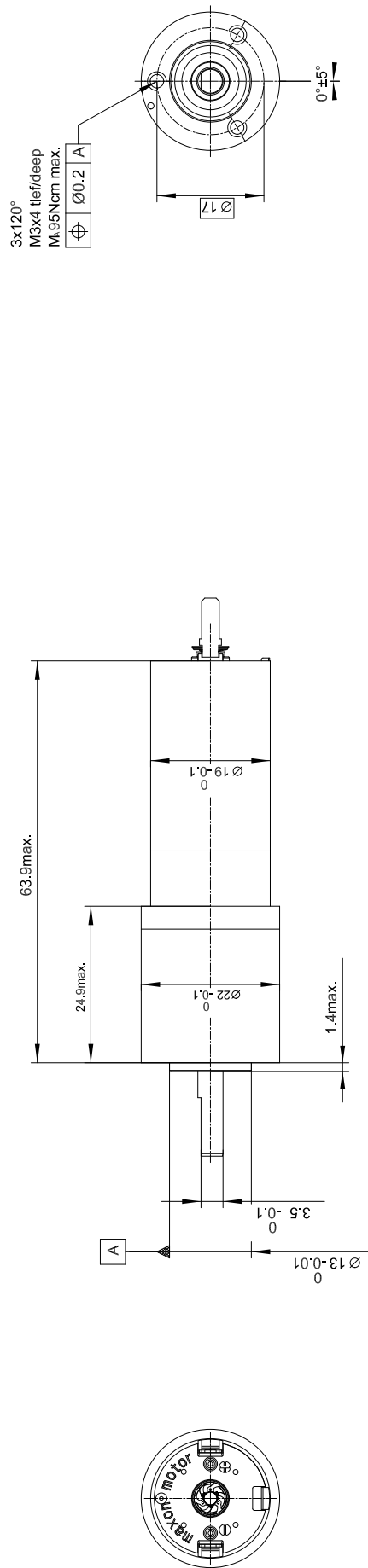


To open the integrated CAD file, please save this document and open it in Acrobat Reader. The STEP file is available after a double-click on the pin icon.

B8459F109C14.stp (STP AP 214)

Open configuration:

<https://www.maxongroup.ch/maxon/view/configurator/?ConfigID=B8459F109C14>



Unit of measure: mm



ISO 5456-1

ISO 1101

ISO 965-1

ISO 2768-m

ISO 8015

Summary of your selected configuration

Total weight of the drive: 112 g

DCX19S GB KL 24V	
Product detail	
Commutation	Graphite brushes
Nominal voltage	24
Motor bearings	Preloaded ball bearing
Elec. connection, motor	
Electrical connection, motor	Terminal
GPX22 A 138:1	
Product detail	
Gearhead type	AA
Reduction	138
Number of stages	3

Legend for part designation

EC-Motor:

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

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

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

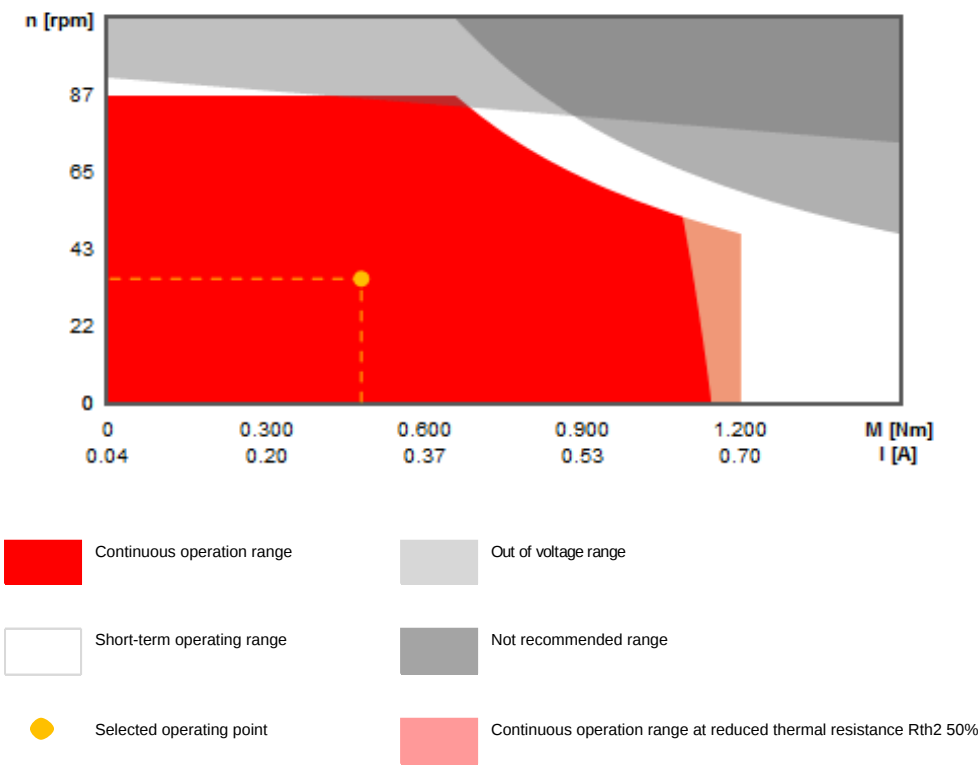
Encoder/Sensor:

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

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

Drive disposition



Combination details

Your entries

Available voltage	24 V
Speed	35 min ⁻¹
Torque	0.48 Nm

Values of the drive at available voltage

Available voltage	24 V
Max. speed at given load	86 min ⁻¹
Max. continuous torque	0.67 Nm
Max. continuous current	0.40 A

Required electrical data for your operating point

Speed	35 min ⁻¹
Torque	0.48 Nm
Required voltage	10.77 V
Required current	0.30 A

DCX19S GB KL 24V

Product specification

Values at nominal voltage

Nominal voltage	24 V
No load speed	12700 min ⁻¹
No load current	37.5mA
Nominal speed	10700 min ⁻¹
Nominal torque (max. continuous torque)	11.4 mNm
Nominal current (max. continuous current)	0.675 A
Stall torque	74.6 mNm
Stall current	4.18 A
Max. efficiency	82.1 %

Characteristics

Max. output power continuous	16 W
Terminal resistance	5.73 Ω
Terminal inductance	0.329 mH
Torque constant	17.8 mNm A ⁻¹
Speed constant	536 min ⁻¹ V ⁻¹
Speed/torque gradient	173 min ⁻¹ mNm ⁻¹
Mechanical time constant	4.97ms
Rotor inertia	2.75 gcm ²

Thermal data

Thermal resistance housing-ambient	17.6 KW ⁻¹
Thermal resistance winding-housing	6.5 KW ⁻¹
Thermal time constant of the winding	11.6 s
Thermal time constant of the motor	312 s
Ambient temperature	-40...100 °C
Max. winding temperature	125 °C

Mechanical data

Max. permissible speed	16000 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	45.2 g
Motor length	31.7 mm
Typical noise level	40 dBA (6000 min ⁻¹)

More information on the motor: <https://www.maxongroup.ch/maxon/view/product/DCX19S01GBKL603?download=show>

GPX22 A 138:1

Product specification

Gearhead data

Reduction	138:1
Absolute reduction	341550/2470
Number of stages	3
Max. continuous torque	1.20 Nm
Max. intermittent torque	1.5 Nm
Direction of rotation, drive to output	=
Max. efficiency	74 %
Average backlash no-load	1.2 °
Mass inertia	0.43 gcm ²
Max. transmittable power (continuous)	6 W
Max. short-time transferable output	7.5 W

Technical data

Output shaft bearing	
Max. radial play, 5 mm from flange	max. 0.2 mm
Axial play	0...0.2 mm
Max. permissible radial load, 10 mm mm from flange	120 N
Max. permissible axial load	40 N
Max. permissible force for press fits	100 N
Max. continuous input speed	12000 min ⁻¹
Max. intermittent input speed	15000 min ⁻¹
Recommended temperature range	-40..100 °C

More information on the gearhead: <https://www.maxongroup.ch/maxon/view/product/GPX22AAKLSL0138CPLW?download=show>