



Your maxon drive

consists of:

Planetary Gearhead GP 32 HP Ø32 mm, 4.0 - 8.0 Nm, Metal Version, High Power

Part number 326669

EC-4pole 30 Ø30 mm, brushless, 200 Watt

Part number 305013

Encoder ENC 16 EASY, 1000 pulses

Part number 499360

ESCON 50/5, 4-Q Servocontroller for DC/EC motors, 5/15 A, 10 - 50 VDC

Part number 409510

Your Contact

maxon motor worldwide

http://www.maxongroup.us:80/maxon/view/content/contact_page

E-Mail: info@maxongroup.com

Internet: <http://www.maxongroup.us:80>

retail price:

0-4 Pieces	\$1,630.01
5-19 Pieces	\$1,373.51
20-49 Pieces	\$1,169.52
from 50 Pieces	On Request

Terms and conditions

Planetary Gearhead GP 32 HP Ø32 mm, 4.0 - 8.0 Nm, Metal Version, High Power

Part number 326669



General information

Gearhead type	GP
Outer diameter	32 mm
Version	High Power

Gearhead Data

Reduction	123 : 1
Absolute reduction	6877/56
Max. motor shaft diameter	3 mm
Number of stages	3
Max. continuous torque	8 Nm
Max. intermittent torque	12 Nm
Direction of rotation, drive to output	=
Max. efficiency	70 %
Average backlash no load	1 °
Mass inertia	0.7 gcm ²
Gearhead length (L1)	54.8 mm
Max. transmittable power (continuous)	54 W
Max. transmittable power (intermittent)	82 W

Technical Data

Radial play	max. 0.14 mm, 10 mm from flange
Axial play	max. 0.4 mm
Max. radial load	200 N, 10 mm from flange
Max. axial load (dynamic)	120 N
Max. force for press fits	120 N
Max. continuous input speed	8000 rpm
Max. intermittent input speed	8000 rpm
Recommended temperature range	-40...+100 °C
Number of autoclave cycles	0

Product

Weight	210 g
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EC-4pole 30 Ø30 mm, brushless, 200 Watt
Part number 305013



Values at nominal voltage

Nominal voltage	24 V
No load speed	16700 rpm
No load current	723 mA
Nominal speed	16100 rpm
Nominal torque (max. continuous torque)	95.6 mNm
Nominal current (max. continuous current)	7.61 A
Stall torque	3240 mNm
Stall current	236 A
Max. efficiency	90 %

Characteristics

Terminal resistance	0.102 Ω
Terminal inductance	0.0163 mH
Torque constant	13.7 mNm/A
Speed constant	697 rpm/V
Speed / torque gradient	5.17 rpm/mNm
Mechanical time constant	1.8 ms
Rotor inertia	33.3 gcm ²

Thermal data

Thermal resistance housing-ambient	7.4 K/W
Thermal resistance winding-housing	0.209 K/W
Thermal time constant winding	2.11 s
Thermal time constant motor	1180 s
Ambient temperature	-20...+100 °C
Max. winding temperature	+155 °C

Mechanical data

Bearing type	ball bearings
Max. speed	25000 rpm
Axial play	0 mm, at radial load < 4 N 0.14 mm, at radial load > 4 N
Max. axial load (dynamic)	5.5 N
Max. force for press fits (static)	73 N
(static, shaft supported)	1300 N
Max. radial load	25 N, 5 mm from flange

Other specifications

Number of pole pairs	2
Number of phases	3
Number of autoclave cycles	0

Product

Weight	300 g
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Encoder ENC 16 EASY, 1000 pulses

Part number 499360



General information

Counts per turn	1000
Number of channels	3
Line Driver	RS422
Max. length of encoder housing	8.5 mm
Max. electrical speed	90000 rpm
Max. mechanical speed	30000 rpm

Technical Data

Supply voltage Vcc	5.0V ± 10.0%
Output signal	Incremental
Driver used logic	Differential, EIA RS 422
Output current per channel	-20...20 mA
Signal rise time	20 ns
Measurement condition for signal rise time	CL=25pF, RL=1kOhm
Signal fall time	20 ns
Measurement condition for signal fall time	CL=25pF, RL=1kOhm
Min. state duration	125 ns
Direction of rotation	A before B CW
Index position	A low & B low
Index synchronized to AB	Yes
Typical current draw at standstill	22 mA
Max. moment of inertia of code wheel	0.1 gcm ²
Operating temperature	-40...+100 °C
Orientation of encoder output to motor flange	0 °

Product

Weight	9 g
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ESCON 50/5, 4-Q Servocontroller for DC/EC motors, 5/15 A, 10 - 50 VDC

Part number 409510



Product

Weight	204 g
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Motor

DC motors up to	250 W
EC motors up to	250 W

Sensor

Without sensor (DC motors)	Yes
DC tachometer	Yes
Digital incremental encoder (2-channel, single-ended)	Yes
Digital incremental encoder (2-channel, differential)	Yes
Digital incremental encoder (3-channel, differential)	Yes
Digital Hall sensors (EC Motors)	Yes

Operating modes

Current controller	Yes
Speed controller (open loop)	Yes
Speed controller (closed loop)	Yes

Electrical data

Operating voltage Vcc (min.)	10 V
Operating voltage Vcc (max.)	50 V
Max. output voltage (factor * Vcc)	0.98
Max. output current I _{max}	15 A
Max. time of peak output current I _{max}	20 s
Continuous output current I _{cont}	5 A
PWM clock frequency of power stage	53.6 kHz
Sampling rate PI current controller	53.6 kHz
Sampling rate PI speed controller	5.36 kHz
Max. efficiency	95 %
Max. speed (DC)	150000 rpm
Max. speed (EC; 1 pole pair) block commutation	150000 rpm
Built-in motor choke per phase	30 µH

Inputs

Hall sensor signals	H1, H2, H3
Encoder signals	A, A, B, B\
Max. encoder input frequency	1 MHz
Digital inputs	2
Functionality of digital inputs	Enable, enable CW, enable CCW, enable CW+CCW, enable + direction of rotation, stop, PWM set value, RC Servo set value, fixed set value
Analog inputs	2
Resolution, range, circuit	12-bit, -10...+10V, differential
Functionality of analog inputs	Set value, current limit, offset, speed ramp
Potentiometers	2
Functionality of the potentiometers	set value, current limit, offset, speed ramp, gain, IxR factor

Outputs

Digital outputs	2
Functionality of digital outputs	ready, speed comparator, current comparator, commutation frequency
Analog outputs	2
Resolution, range	12-bit, -4...+4V
Functionality of analog outputs	current monitor, speed monitor, temperature, fixed value

Voltage outputs

Hall sensor supply voltage	+5 VDC, max. 30 mA
Encoder supply voltage	+5 VDC, max. 70 mA
Auxiliary output voltage	+5 VDC, max. 10 mA

Interface

USB 2.0 (full speed)	Yes
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Display

Status indicator "Ready"	green LED
Status indicator "Error"	red LED

Protective functions

Protective functions	current limit, overcurrent, excess temperature, undervoltage, overvoltage, voltage transients, short-circuits in the motor cable
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Ambient conditions

Temperature – Operation (min.)	-30 °C
Temperature – Operation (max.)	45 °C
Temperature – Extended Range	+45...+85°C, Derating: -0.125 A/°C
Temperature – Storage (min.)	-40 °C
Temperature – Storage (max.)	85 °C
Humidity (non-condensing) (min.)	5 %
Humidity (non-condensing) (max.)	90 %

Mechanical data

Weight	204 g
Dimension (length)	115 mm
Dimension (width)	75.5 mm
Dimension (height)	24 mm
Mounting	Flange for M4 screws

Software

Installation program	ESCON Setup
Graphical User Interface	ESCON Studio
Operating system	Windows 10, 8, 7, Windows XP SP3