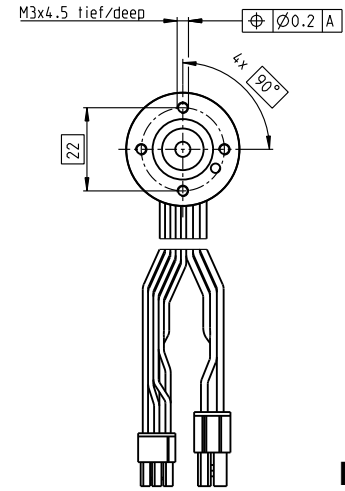
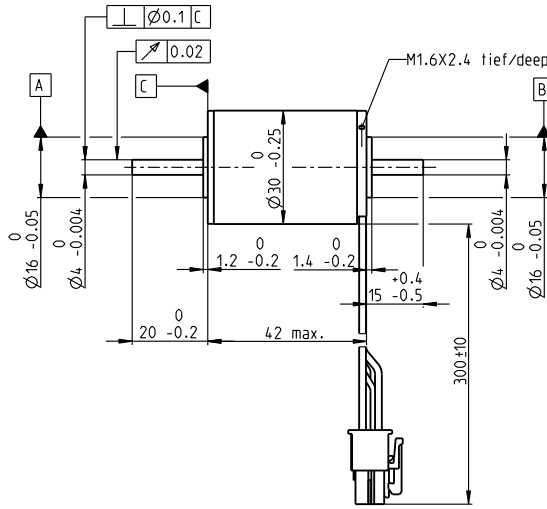
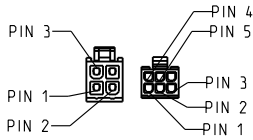
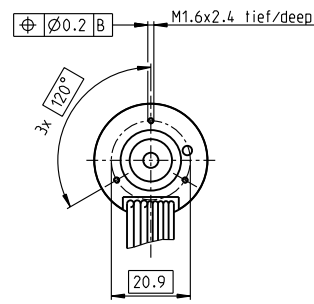


EC-max 30 $\varnothing 30$ mm, brushless, 40 watt

EC-max



M 1:2

- Stock program
- Standard program
- Special program (on request)

Part Numbers

272766	272768	272769	272770
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Motor Data

Values at nominal voltage		12	24	36	48	
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	8680	9250	9150	9250
3	No load current	mA	223	123	80.5	61.4
4	Nominal speed	rpm	6630	7220	7090	7210
5	Nominal torque (max. continuous torque)	mNm	34.9	33.8	33.3	33.4
6	Nominal current (max. continuous current)	A	2.88	1.49	0.97	0.738
7	Stall torque	mNm	153	160	154	157
8	Stall current	A	11.8	6.57	4.18	3.24
9	Max. efficiency	%	75	75	75	75
Characteristics						
10	Terminal resistance phase to phase	Ω	1.01	3.65	8.61	14.8
11	Terminal inductance phase to phase	mH	0.088	0.31	0.713	1.24
12	Torque constant	mNm/A	12.9	24.3	36.8	48.6
13	Speed constant	rpm/V	738	393	259	197
14	Speed/torque gradient	rpm/mNm	57.8	59.1	60.6	59.9
15	Mechanical time constant	ms	6.66	6.81	6.98	6.9
16	Rotor inertia	gcm ²	11	11	11	11

Specifications

Thermal data		
17	Thermal resistance housing-ambient	8.6 K/W
18	Thermal resistance winding-housing	1 K/W
19	Thermal time constant winding	3.25 s
20	Thermal time constant motor	777 s
21	Ambient temperature	-40...+100°C
22	Max. winding temperature	+155°C
Mechanical data (preloaded ball bearings)		
23	Max. speed	15 000 rpm
24	Axial play at axial load	< 6.0 N 0 mm > 6.0 N 0.14 mm
25	Radial play	preloaded 5 N
26	Max. axial load (dynamic)	98 N
27	Max. force for press fits (static) (static, shaft supported)	2000 N
28	Max. radial load, 5 mm from flange	25 N

Other specifications

- 29 Number of pole pairs
- 30 Number of phases
- 31 Weight of motor

Values listed in the table are nominal.

Connection motor (Cable AWG 20)

red	Motor winding 1	Pin 1
black	Motor winding 2	Pin 2
white	Motor winding 3	Pin 3
N.C.	N.C.	Pin 4

Connector Part number

Molex 39-01-2040

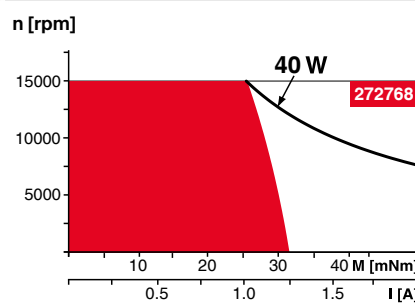
Connection sensors (Cable AWG 26)

yellow	Hall sensor 1	Pin 1
brown	Hall sensor 2	Pin 2
grey	Hall sensor 3	Pin 3
blue	GND	Pin 4
green	V _{Hall} 3...24 VDC	Pin 5
N.C.	N.C.	Pin 6

Connector Part number

Molex 430-25-0600
Wiring diagram for Hall sensors see p. 57

Operating Range



Comments

- Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- Assigned power rating**

maxon Modular System

Details on catalog page 42

1 Planetary Gearhead

$\varnothing 32$ mm
0.75-4.5 Nm
Page 393/394

3 Planetary Gearhead

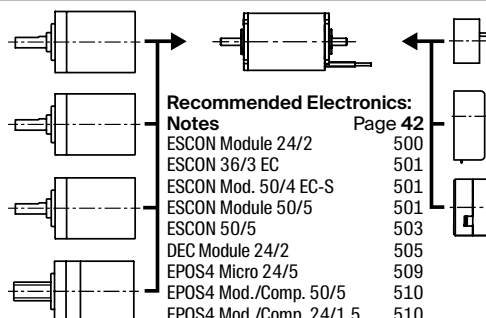
$\varnothing 32$ mm
1.0-8.0 Nm
Page 398/400

195 g Koaxdrive

$\varnothing 32$ mm
1.0-4.5 Nm
Page 403

Screw Drive

$\varnothing 32$ mm
Page 426-433



Recommended Electronics:

Notes

ESCON Module 24/2	500
ESCON 36/3 EC	501
ESCON Mod./50/4 EC-S	501
ESCON Module 50/5	501
ESCON 50/5	503
DEC Module 24/2	505
EPOS4 Micro 24/5	509
EPOS4 Mod./Comp. 50/5	510
EPOS4 Mod./Comp. 24/1.5	510
EPOS4 Comp. 24/5 3-axes	511
EPOS4 50/5	515
EPOS4 Disk 60/8	516
EPOS4 Disk 60/12	517
EPOS2 P 24/5	520

Encoder MR

500/1000 CPT,
3 channels
Page 478

Encoder HEDL 5540

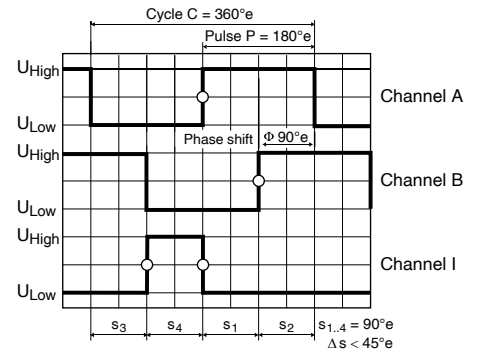
500 CPT,
3 channels
Page 490

Brake AB 20

24 VDC
0.1 Nm
Page 532

Encoder MR Type ML, 128–1000 CPT, 3 channels, with line driver

sensor



Direction of rotation cw (definition cw p. 78)

- Stock program
- Standard program
- Special program (on request)

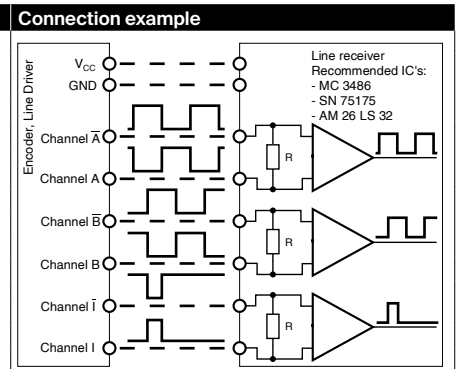
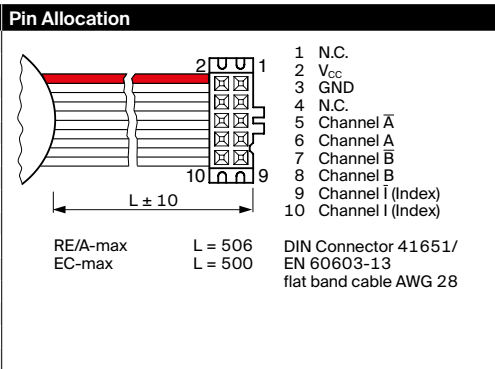
Part Numbers				
225771	225773	225778	225805	225780

Type	225771	225773	225778	225805	225780
Counts per turn	128	256	500	512	1000
Number of channels	3	3	3	3	3
Max. operating frequency (kHz)	80	160	200	320	200
Max. speed (rpm)	37500	37500	24000	37500	12000



maxon Modular System									
+ Motor	Page	+ Gearhead	Page	∅ Enc [mm]	Overall length [mm] / • see Gearhead				
RE 25	144/146			25	65.5	65.5	65.5	65.5	65.5
RE 25	144/146	GP 26, 0.75 - 4.5 Nm	390	25	•	•	•	•	•
RE 25	144/146	GP 32, 0.75 - 6.0 Nm	392-398	25	•	•	•	•	•
RE 25	144/146	KD 32, 1.0 - 4.5 Nm	403	25	•	•	•	•	•
RE 25	144/146	GP 32 S	426-433	25	•	•	•	•	•
RE 25, 20 W	145			25	54.0	54.0	54.0	54.0	54.0
RE 25, 20 W	145	GP 22, 0.5 - 1.0 Nm	383	25	•	•	•	•	•
RE 25, 20 W	145	GP 26, 0.75 - 4.5 Nm	390	25	•	•	•	•	•
RE 25, 20 W	145	GP 32, 0.75 - 6.0 Nm	392-398	25	•	•	•	•	•
RE 25, 20 W	145	KD 32, 1.0 - 4.5 Nm	403	25	•	•	•	•	•
RE 25, 20 W	145	GP 32 S	426-433	25	•	•	•	•	•
A-max 26	171-174			25	53.5	53.5	53.5	53.5	53.5
A-max 26	171-174	GP 26, 0.75 - 4.5 Nm	390	25	•	•	•	•	•
A-max 26	171-174	GS 30, 0.07 - 0.2 Nm	391	25	•	•	•	•	•
A-max 26	171-174	GP 32, 0.75 - 6.0 Nm	392-398	25	•	•	•	•	•
A-max 26	171-174	GS 38, 0.1 - 0.6 Nm	404	25	•	•	•	•	•
A-max 26	171-174	GP 32 S	426-433	25	•	•	•	•	•
EC-max 30, 40 W	250			25			54.2		54.2
EC-max 30, 40 W	250	GP 32, 0.75 - 8.0 Nm	394-400	25	•	•	•	•	•
EC-max 30, 40 W	250	KD 32, 1.0 - 4.5 Nm	403	25	•	•	•	•	•
EC-max 30, 40 W	250	GP 32 S	426-433	25	•	•	•	•	•
EC-max 30, 60 W	251			25			76.2		76.2
EC-max 30, 60 W	251	GP 32, 0.75 - 8.0 Nm	394-400	25	•	•	•	•	•
EC-max 30, 60 W	251	KD 32, 1.0 - 4.5 Nm	403	25	•	•	•	•	•
EC-max 30, 60 W	251	GP 42, 3 - 15 Nm	406	25	•	•	•	•	•
EC-max 30, 60 W	251	GP 32 S	426-433	25	•	•	•	•	•

Technical Data	
Supply voltage V_{CC}	5 V ± 5%
Typical current draw	14 mA
Output signal	TTL compatible
Phase shift ϕ	90°e ± 45°e
Index pulse width	90°e ± 45°e
Operating temperature range	-25...+85 °C
Moment of inertia of code wheel	≤ 0.7 gcm ²
Output current per channel	max. 5 mA



The index signal I is synchronized with channel A or B.

Opt. terminal resistance R > 1 kΩ