Motoreducteur Courant Continu RE025G/PM32

Les avantages :
Motoréducteur d'asservissement - Idéal pour fonctionnement en start/stop et inversion de sens de rotation - Bon rendement - Faible consommation - Encombrement réduit - Fort couple

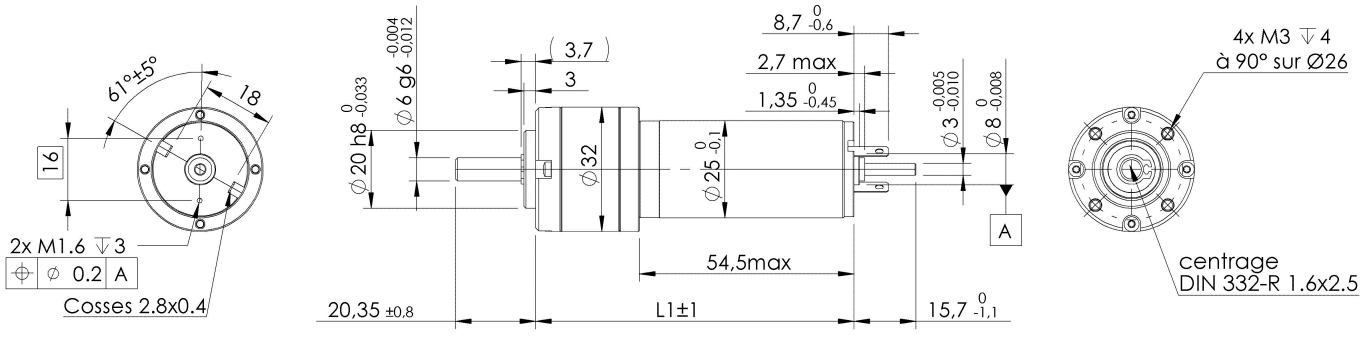
Les produits associés :

> Alimentation
DR-30-12 / 24
PS-24/2L
S-60-24
> Codeur
CM16
HEDL 5540
HEDS 5540
> Connectique
EPOS KIT POUR MOTEUR
EPOS KIT START DC
> Génératrice
2822
> Cartes électroniques
EPOS2
ESCON DC 36/2
FIRST DC 1Q 60/10
NANO DC 1Q 30/3

maxon motor — 0.068 Nm - 5 Nm

Version	Rapport de réduction	Nombre d'étages	Rendement	Vitesse à vide en tr/mn	Vitesse en charge en tr/mn	Couple nominal en Nm	Courant nominal en A
12V/0004	3.70	1	0.80	1838	1555	0.07	1.5
12V/0020	19.20	2	0.75	354	300	0.33	1.5
12V/0035	34.97	2	0.75	194	165	0.61	1.5
12V/0051	50.89	3	0.70	134	113	0.82	1.5
12V/0093	92.70	3	0.70	73	62	1.50	1.5
12V/0169	168.84	3	0.70	40	34	2.70	1.5
12V/0292	291.71	4	0.65	23	20	4.40	1.5
12V/0398	397.29	4	0.65	17	15	4.50	1.1
24V/0004	3.70	1	0.80	2581	2295	0.08	1.2
24V/0020	19.20	2	0.75	497	442	0.38	1.2
24V/0035	34.97	2	0.75	273	243	0.69	1.2
24V/0051	50.89	3	0.70	188	167	0.94	1.2
24V/0093	92.70	3	0.70	103	92	1.70	1.2
24V/0169	168.84	3	0.70	57	50	3.10	1.2
24V/0292	291.71	4	0.65	33	29	4.50	1.0
24V/0398	397.29	4	0.65	24	22	4.50	0.78

Commutation	Graphite
Nombre de lames au collecteur	11
Aimant	Néodym Fer Bore
Type de réducteur	PLANETAIRE
Paliers	Roulement à billes
Charge axiale maximum	10 N
Charge radiale maximum	100 N
Force de chassage	120 N
Jeu angulaire en charge	1.5 °
Vitesse maximum d'entrée	3000 tr/mn
Température ambiante mini de	-20 °C
Température ambiante maxi de	100 °C
étage d'entrée	Delrin
étage de sortie	Acier
Poids minimum	290 g

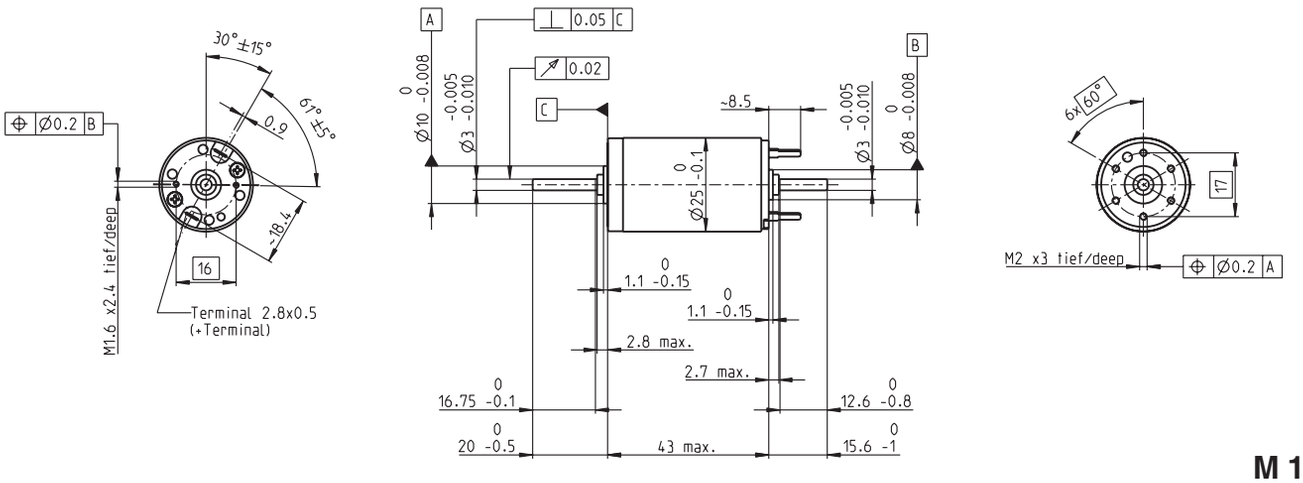


nombre d'étages	1	2	3	4
L1	80.9	90.4	99.9	109.4

Edition février 2014 / sous réserve de modifications

Version du 06/02/2014

RE 25 ∅25 mm, Graphite Brushes, 20 Watt



M 1:2

Stock program
Standard program
Special program (on request)

Part Numbers

	302534	339149	339150	339151	339152	339153	339154	339155	339156	339157	339158
Motor Data											
Values at nominal voltage											
1 Nominal voltage V	7.2	9	12	18	24	30	36	48	48	48	48
2 No load speed rpm	10500	9710	9620	10400	10900	9210	10100	9540	8450	6720	4650
3 No load current mA	133	93.2	68.1	50.6	40.2	25	23.7	16.4	13.7	9.89	6
4 Nominal speed rpm	8970	8260	8310	9190	9690	8010	8860	8360	7270	5530	3430
5 Nominal torque (max. continuous torque) mNm	21.9	24.4	27.5	29.1	30.4	31.4	30.7	31.7	32.3	32.9	32.8
6 Nominal current (max. continuous current) A	3.68	2.97	2.45	1.85	1.5	1.04	0.931	0.68	0.614	0.495	0.341
7 Stall torque mNm	259	238	268	297	325	265	279	270	243	192	127
8 Stall current A	42.1	28.1	23.2	18.4	15.6	8.61	8.24	5.67	4.51	2.84	1.3
9 Max. efficiency %	79	81	84	86	88	88	88	89	89	88	86
Characteristics											
10 Terminal resistance Ω	0.171	0.32	0.517	0.98	1.53	3.49	4.37	8.47	10.6	16.9	36.8
11 Terminal inductance mH	0.0163	0.0308	0.0573	0.112	0.186	0.407	0.493	0.979	1.25	1.97	4.11
12 Torque constant mNm/A	6.15	8.46	11.5	16.1	20.8	30.8	33.8	47.7	53.8	67.7	97.6
13 Speed constant rpm/V	1550	1130	828	591	460	311	282	200	177	141	97.8
14 Speed / torque gradient rpm/mNm	43.2	42.8	37.1	35.9	34	35.2	36.5	35.6	35.1	35.2	36.9
15 Mechanical time constant ms	6.52	6.06	5.62	5.36	5.24	5.17	5.16	5.13	5.12	5.12	5.14
16 Rotor inertia gcm²	14.4	13.5	14.5	14.3	14.7	14	13.5	13.8	13.9	13.9	13.3

Specifications

Thermal data

17	Thermal resistance housing-ambient	14.4 K/W
18	Thermal resistance winding-housing	5.1 K/W
19	Thermal time constant winding	27.7 s
20	Thermal time constant motor	543 s
21	Ambient temperature	-30…+100°C
22	Max. winding temperature	+155°C

Mechanical data (ball bearings)

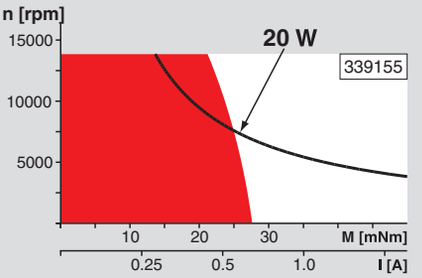
23	Max. speed	14000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	3.2 N
27	Max. force for press fits (static)	60 N
	(static, shaft supported)	1000 N
28	Max. radial load, 5 mm from flange	16 N

Other specifications

29	Number of pole pairs	1
30	Number of commutator segments	11
31	Weight of motor	115 g

Values listed in the table are nominal.
Explanation of the figures on page 79.

Operating Range



Comments

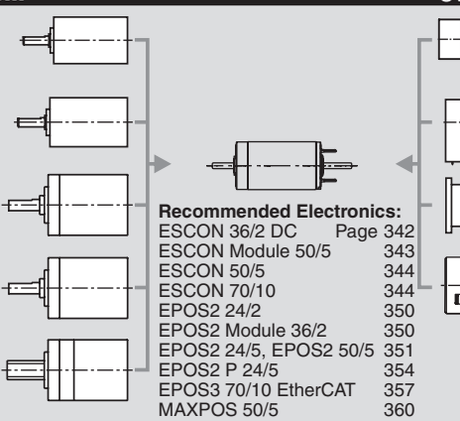
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Overview on page 20–25



Planetary Gearhead
∅22 mm
0.5 Nm
Page 263

Planetary Gearhead
∅26 mm
0.75 - 4.5 Nm
Page 270

Planetary Gearhead
∅32 mm
0.75 - 6.0 Nm
Page 272/273/276

Koaxdrive
∅32 mm
1.0 - 4.5 Nm
Page 281

Spindle Drive
∅32 mm
Page 301–303

Recommended Electronics:

ESCON 36/2 DC	Page 342
ESCON Module 50/5	343
ESCON 50/5	344
ESCON 70/10	344
EPOS2 24/2	350
EPOS2 Module 36/2	350
EPOS2 24/5, EPOS2 50/5	351
EPOS2 P 24/5	354
EPOS3 70/10 EtherCAT	357
MAXPOS 50/5	360
Notes	**22**

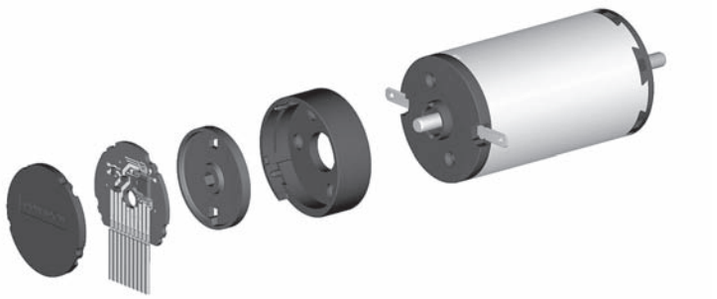
Encoder MR
128 - 1000 CPT,
3 channels
Page 319

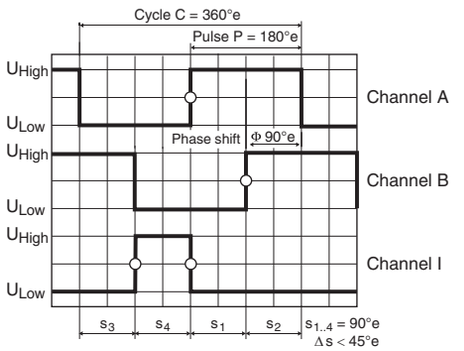
Encoder HED_ 5540
500 CPT,
3 channels
Page 326/327

DC-Tacho DCT
∅22 mm
0.52 V
Page 336

Brake AB 28
24 VDC
0.4 Nm
Page 372

Encoder MR Type ML, 128–1000 CPT, 3 Channels, with Line Driver

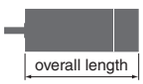


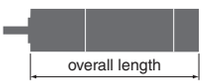


Direction of rotation cw (definition cw p. 78)

Stock program
Standard program
Special program (on request)

Part Numbers	225771	225773	225778	225805	225780
Type					
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

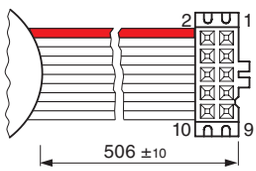
+ Motor	Page	+ Gearhead	Page	+ Brake	Page	Overall length [mm] / ● see Gearhead				
RE 25	107/109					65.5	65.5	65.5	65.5	65.5
RE 25	107/109	GP 26, 0.75 - 2.0 Nm	270			●	●	●	●	●
RE 25	107/109	GP 32, 0.75 - 6.0 Nm	272-277			●	●	●	●	●
RE 25	107/109	KD 32, 1.0 - 4.5 Nm	281			●	●	●	●	●
RE 25	107/109	GP 32 S	301-303			●	●	●	●	●
RE 25, 20 W	108					54.0	54.0	54.0	54.0	54.0
RE 25, 20 W	108	GP 22, 0.5 Nm	262			●	●	●	●	●
RE 25, 20 W	108	GP 26, 0.75 - 2.0 Nm	270			●	●	●	●	●
RE 25, 20 W	108	GP 32, 0.75 - 6.0 Nm	272-277			●	●	●	●	●
RE 25, 20 W	108	KD 32, 1.0 - 4.5 Nm	281			●	●	●	●	●
RE 25, 20 W	108	GP 32 S	301-303			●	●	●	●	●
A-max 26	134-140					53.5	53.5	53.5	53.5	53.5
A-max 26	134-140	GP 26, 0.75 - 4.5 Nm	270			●	●	●	●	●
A-max 26	134-140	GS 30, 0.07 - 0.2 Nm	271			●	●	●	●	●
A-max 26	134-140	GP 32, 0.75 - 6.0 Nm	272-277			●	●	●	●	●
A-max 26	134-140	GS 38, 0.1 - 0.6 Nm	282			●	●	●	●	●
A-max 26	134-140	GP 32 S	301-303			●	●	●	●	●
RE-max 29	163-166					53.5	53.5	53.5	53.5	53.5
RE-max 29	163-166	GP 32, 0.75 - 6.0 Nm	273-277			●	●	●	●	●
RE-max 29	163-166	GP 32 S	301-303			●	●	●	●	●
EC-max 30, 40 W	204							54.2		54.2
EC-max 30, 40 W	204	GP 32, 1 - 8.0 Nm	277/279					●		●
EC-max 30, 40 W	204	KD 32, 1.0 - 4.5 Nm	281					●		●
EC-max 30, 40 W	204	GP 32 S	301-303					●		●
EC-max 30, 60 W	205							76.2		76.2
EC-max 30, 60 W	205	GP 32, 1 - 8.0 Nm	277/279					●		●
EC-max 30, 60 W	205	KD 32, 1.0 - 4.5 Nm	281					●		●
EC-max 30, 60 W	205	GP 42, 3 - 15 Nm	284					●		●
EC-4pole 30	213							59.2		59.2
EC-4pole 30	213	GP 32, 4.0 - 8.0 Nm	279					●		●
EC-4pole 30	213	GP 42, 3 - 15 Nm	284					●		●
EC-4pole 30	214							76.2		76.2
EC-4pole 30	214	GP 32, 4.0 - 8.0 Nm	279					●		●
EC-4pole 30	214	GP 42, 3 - 15 Nm	284					●		●

Technical Data

Supply voltage V_{CC}	5 V ± 5%
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 gcm²
Output current per channel	max. 5 mA

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

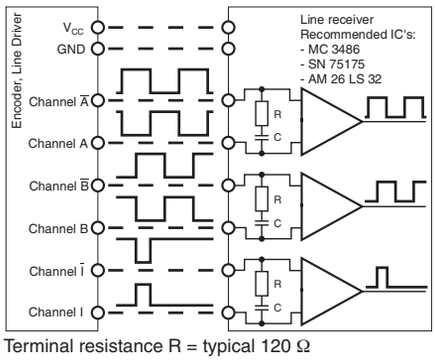
Pin Allocation



1	N.C.
2	V_{CC}
3	GND
4	N.C.
5	Channel $\overline{A}$
6	Channel A
7	Channel $\overline{B}$
8	Channel B
9	Channel $\overline{I}$ (Index)
10	Channel I (Index)

DIN Connector 41651/
EN 60603-13
flat band cable AWG 28

Connection example



Terminal resistance R = typical 120 Ω
Capacitor C ≥ 0.1 nF per m line length