

Brushless DC-Servomotors

0,37 mNm

Electronic Commutation

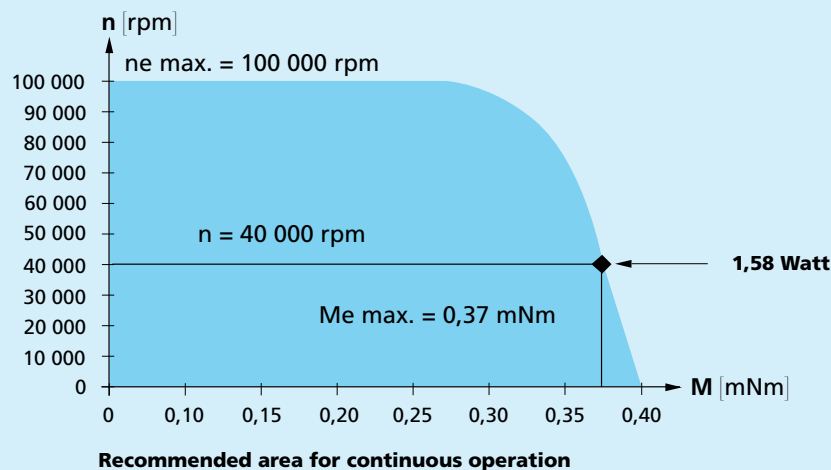
For combination with (overview on page 14-15)
 Gearheads:
 06/1
 Drive Electronics:
 BLD 2401

Series 0620 ... B

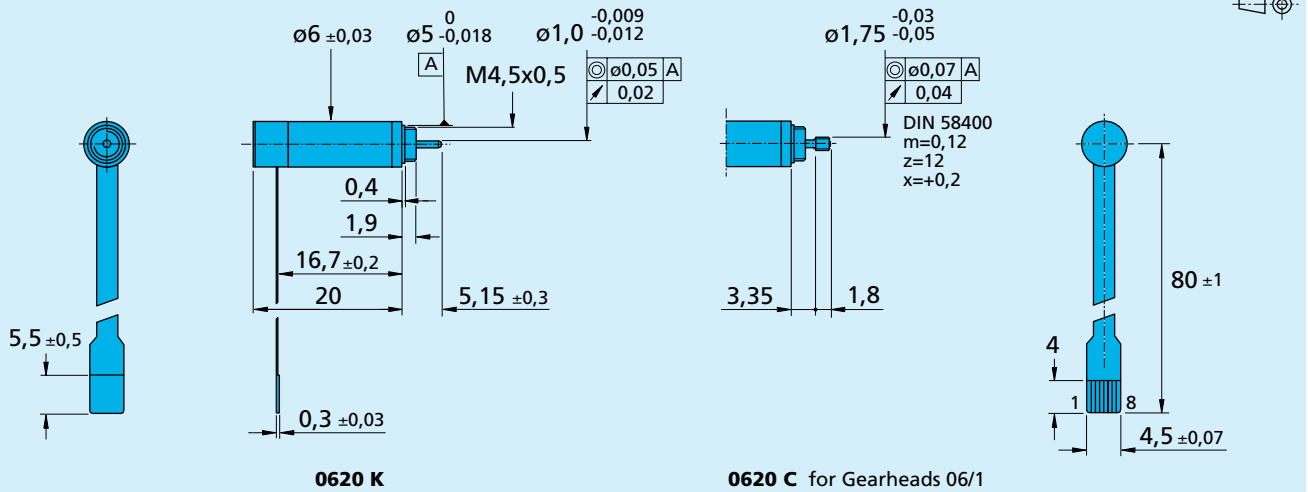
	0620 K	006 B	012 B	
1 Nominal voltage	U_N	6	12	Volt
2 Terminal resistance, phase-phase	R	9,1	59,0	Ω
3 Output power ¹⁾	$P_{2 \text{ max.}}$	1,56	1,58	W
4 Efficiency	$\eta_{\text{ max.}}$	57	55	%
5 No-load speed	n_0	47 000	36 400	rpm
6 No-load current (with shaft \varnothing 1,0 mm)	I_0	0,047	0,016	A
7 Stall torque	M_H	0,73	0,58	mNm
8 Friction torque, static	C_0	0,016	0,016	mNm
9 Friction torque, dynamic	C_v	$8,0 \cdot 10^{-7}$	$8,0 \cdot 10^{-7}$	mNm/rpm
10 Speed constant	k_n	8 421	3 282	rpm/V
11 Back-EMF constant	k_E	0,119	0,305	mV/rpm
12 Torque constant	k_M	1,13	2,91	mNm/A
13 Current constant	k_I	0,882	0,344	A/mNm
14 Slope of n-M curve	$\Delta n / \Delta M$	67 575	66 533	rpm/mNm
15 Terminal inductance, phase-phase	L	26	187	μH
16 Mechanical time constant	τ_m	6	6	ms
17 Rotor inertia	J	0,0095	0,0095	gcm^2
18 Angular acceleration	$\alpha_{\text{ max.}}$	772	607	$\cdot 10^3 \text{ rad/s}^2$
19 Thermal resistance	$R_{th 1} / R_{th 2}$	14 / 88,0		K/W
20 Thermal time constant	τ_{w1} / τ_{w2}	1 / 149		s
21 Operating temperature range:				
– motor		– 20 ... +100		$^{\circ}\text{C}$
– coil, max. permissible		+125		$^{\circ}\text{C}$
22 Shaft bearings		ball bearings, preloaded		
23 Shaft load max.:				
– radial at 10 000/50 000 rpm (3,7 mm from mounting flange)		2,0 / 1,5		N
– axial at 10 000/50 000 rpm (push-on only)		0,6 / 0,2		N
– axial at standstill (push-on only)		10		N
24 Shaft play:				
– radial	\leq	0,012		mm
– axial	$=$	0		mm
25 Housing material		aluminium, black anodized		
26 Weight		2,5		g
27 Direction of rotation		electronically reversible		
Recommended values - mathematically independent of each other				
28 Speed up to ²⁾	$n_{e \text{ max.}}$	100 000	100 000	rpm
29 Torque up to ^{1) 2)}	$M_{e \text{ max.}}$	0,373	0,377	mNm
30 Current up to ^{1) 2)}	$I_{e \text{ max.}}$	0,371	0,146	A

¹⁾ at 40 000 rpm

²⁾ thermal resistance $R_{th 2}$ by 55% reduced



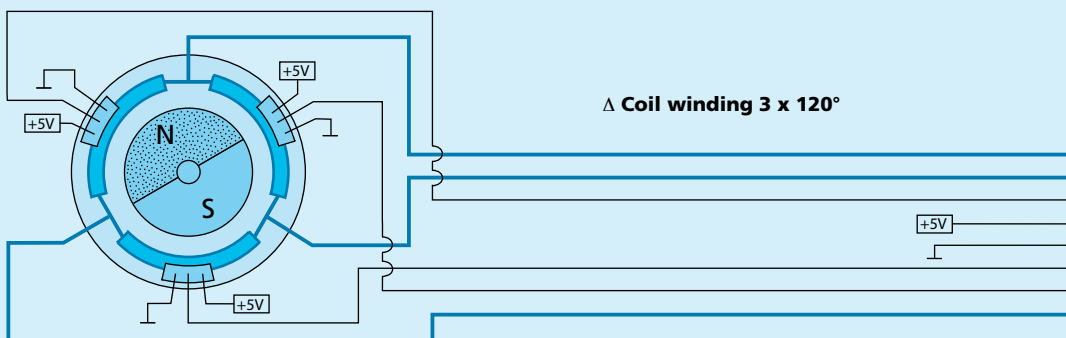
0620 ... B



Cable and connection information

Recommended connector
Molex - ZIF Connector,
No. 52745-0896.

Flexboard
8 circuits; 0,5mm pitch,
Top Contact Style.



Connection

No.	Function
1	Phase C
2	Phase B
3	Hall sensor C
4	+5V
5	GND
6	Hall sensor A
7	Hall sensor B
8	Phase A