

# Brushless DC-Micromotors

sensorless  
smoovy® Technology

## 0,023 mNm

For combination with  
Gearheads:  
03A  
Drive Electronics:  
BLD 05002 S, SC 1801 F

### Series 0308 ... B

	0308 H	003 B	
1 Nominal voltage	U <sub>N</sub>	3	Volt
2 Terminal resistance, phase-phase	R	33,5	Ω
3 Output power <sup>1)</sup>	P <sub>2 max.</sub>	0,04	W
4 Efficiency	η <sub>max.</sub>	16,94	%
5 No-load speed	n <sub>0</sub>	60 500	rpm
6 No-load current (with shaft ø 0,6 mm)	I <sub>0</sub>	0,029	A
7 Stall torque	M <sub>H</sub>	0,024	mNm
8 Friction torque, static	C <sub>0</sub>	1,77 · 10 <sup>-3</sup>	mNm
9 Friction torque, dynamic	C <sub>v</sub>	1,09 · 10 <sup>-7</sup>	mNm/rpm
10 Speed constant	k <sub>n</sub>	33 043	rpm/V
11 Back-EMF constant	k <sub>E</sub>	0,03	mV/rpm
12 Torque constant	k <sub>M</sub>	0,289	mNm/A
13 Current constant	k <sub>I</sub>	3,46	A/mNm
14 Slope of n-M curve	Δn/ΔM	3,8 · 10 <sup>6</sup>	rpm/mNm
15 Terminal inductance, phase-phase	L	60	μH
16 Mechanical time constant	τ <sub>m</sub>	8	ms
17 Rotor inertia	J	2 · 10 <sup>-4</sup>	gcm <sup>2</sup>
18 Angular acceleration	α <sub>max.</sub>	1 200	· 10 <sup>3</sup> rad/s <sup>2</sup>
19 Thermal resistance	R <sub>th 1</sub> / R <sub>th 2</sub>	29 / 188	K/W
20 Thermal time constant	τ <sub>w1</sub> / τ <sub>w2</sub>	0,4 / 8	s
21 Operating temperature range		- 30 ... + 60	°C
22 Shaft bearings		jewel bearings	
23 Shaft load max.:			
- radial at 3 000 (1 mm from mounting flange)		0,2	N
- axial at 3 000 rpm (push-on only)		0,2	N
- axial at standstill (push-on only)		2	N
24 Shaft play:			
- radial	≤	0,03	mm
- axial	≤	0,15	mm
25 Housing material		Nickel alloy	
26 Weight		0,31	g
27 Direction of rotation		electronically reversible	

#### Recommended values - mathematically independent of each other

28 Speed up to <sup>2)</sup>	n <sub>e max.</sub>	84 000	rpm
29 Torque up to <sup>1) 2)</sup>	M <sub>e max.</sub>	0,023	mNm
30 Current up to (thermal limits) <sup>1) 2)</sup>	I <sub>e max.</sub>	0,1	A

<sup>1)</sup> at 15 000 rpm

<sup>2)</sup> thermal resistance R<sub>th 2</sub> not reduced

