

Brushless Flat DC-Micromotors

penny-motor® Technology

0,16 mNm

For combination with
Drive Electronics:
BLD 1501 H, BLD 05002 S, SC 1801
each with adapter board

Series 1202 ... BH

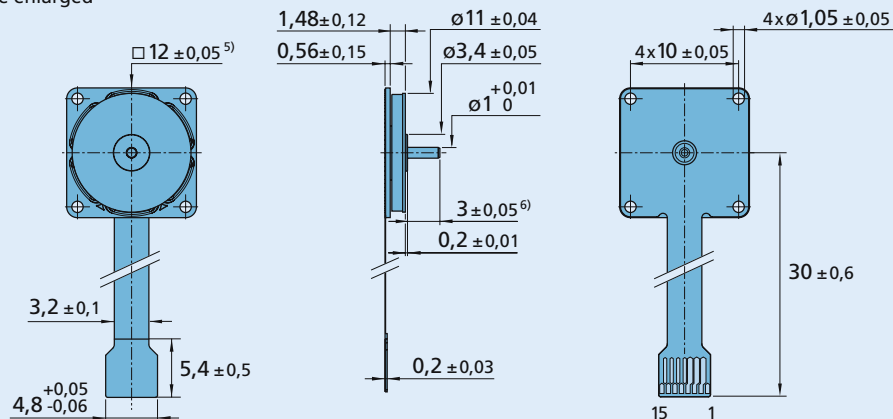
	1202 H	004 BH	006 BH	
Nominal voltage	U _N	4	6	V
Terminal resistance, phase-phase	R	16	70	Ω
Output power ¹⁾	P _{2 max.}	0,652	0,492	W
Efficiency	η _{max.}	51	42	%
No-load speed	n ₀	41 740	37 600	rpm
No-load current	I ₀	0,028	0,015	A
Stall torque	M _H	0,222	0,124	mNm
Friction torque, static	C ₀	0,003	0,003	mNm
Friction torque, dynamic	C _v	0,52 · 10 ⁻⁶	0,52 · 10 ⁻⁶	mNm/rpm
Speed constant	k _n	10 587	6 431	rpm/V
Back-EMF constant	k _E	0,094	0,156	mV/rpm
Torque constant	k _M	0,902	1,485	mNm/A
Current constant	k _I	1,109	0,673	A/mNm
Slope of n-M curve	Δn/ΔM	187 793	303 121	rpm/mNm
Terminal inductance, phase-phase	L	26	58	μH
Mechanical time constant	τ _m	246	397	ms
Rotor inertia	J	0,125	0,125	gcm ²
Angular acceleration	α _{max.}	18 · 10 ³	10 · 10 ³	rad/s ²
Thermal resistance	R _{th 1} / R _{th 2}	0 / 94		K/W
Operating temperature range		-30 ... +85		°C
Shaft bearing		ball bearing		
Shaft load max.:				
– radial at 10 000 rpm (at shaft step ø3,4 mm)		0,6		N
– axial at 10 000 rpm (axial push-on only)		1		N
– axial at standstill (axial push-on only)		1		N
Shaft play:				
– radial	≤	0,011		mm
– axial	≤	0,060		mm
Number of pole pairs		4		
Weight		1,1		g
Direction of rotation		electronically reversible		

Recommended values - mathematically independent of each other

	n _{max.}	M _{max.}	I _{max.}	
Speed up to	40 000	40 000	40 000	rpm
Torque up to ^{2) 3)}	0,16	0,12	0,16	mNm
Thermal current up to ^{3) 4)}	0,199	0,095	0,199	A

¹⁾ at 40 000 rpm ²⁾ at 10 000 rpm ³⁾ thermal resistance R_{th 2} not reduced ⁴⁾ at standstill

Scale enlarged



⁵⁾ also available with round stator ø12 ± 0,05
⁶⁾ also available with 1 mm output shaft length

1202 H

Connection

No.	Function
1	Star point
2	Phase A
3	Phase A
4	Phase B
5	Phase B
6	Phase C
7	Phase C
8	Hall sensor In +
9	Hall sensor In -
10	analog Hall A Out +
11	analog Hall A Out -
12	analog Hall B Out +
13	analog Hall B Out -
14	analog Hall C Out +
15	analog Hall C Out -

Connectors

15-pole; 0,3 mm pitch; e.g.:
Hirose: FH23-15S-0.3SHAW (05)