

Thin Profile Brushless Motors

Electronic Commutation

0,12 mNm

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

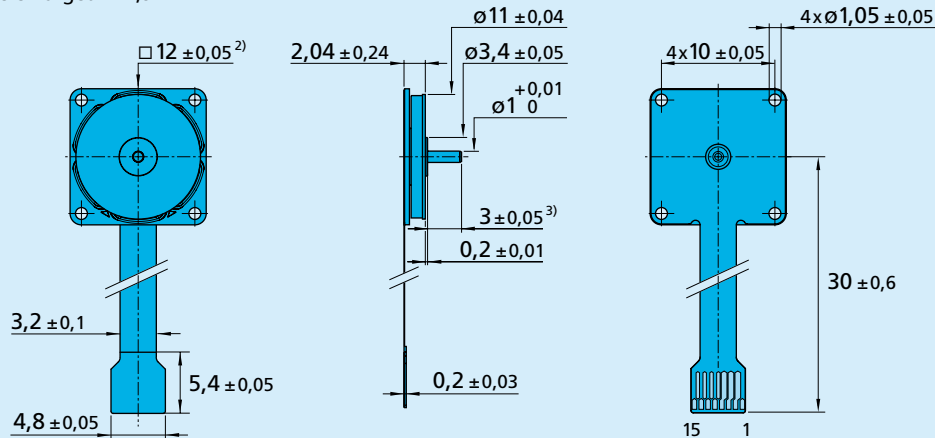
Series 1202 ... BH

	1202 H	7,5 BH	012 BH	
Nominal voltage	U _N	7,5	12	V
Terminal resistance, phase-phase	R	16	70	Ω
Output power ¹⁾	P _{2 max.}	0,170	0,254	W
Efficiency	η _{max.}	32	37	%
No-load speed	n ₀	61 000	64 000	rpm
No-load current	I ₀	0,089	0,026	A
Stall torque	M _H	0,444	0,260	mNm
Friction torque, static	C ₀	0,001	0,001	mNm
Friction torque, dynamic	C _v	1,5 · 10 ⁻⁶	1,5 · 10 ⁻⁶	mNm/rpm
Speed constant	k _n	10 052	6 282	rpm/V
Back-EMF constant	k _E	0,099	0,159	mV/rpm
Torque constant	k _M	0,95	1,52	mNm/A
Current constant	k _I	1,053	0,658	A/mNm
Slope of n-M curve	Δn/ΔM	169 295	289 323	rpm/mNm
Terminal inductance, phase-phase	L	26	58	μH
Mechanical time constant	τ _m	222	379	ms
Rotor inertia	J	0,125	0,125	gcm ²
Angular acceleration	α _{max.}	36 · 10 ³	21 · 10 ³	rad/s ²
Operating temperature range		0 ... +70		°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		
Hall sensor current with BLD 1501 H	I _s	2,5		mA
Hall sensor current, max.	I _{smax}	18		mA
Weight		1,1		g
Direction of rotation		electronically reversible		
Recommended values - mathematically independent of each other				
Speed up to	n _{e max.}	60 000	60 000	rpm
Torque up to	M _{e max.}	0,114	0,122	mNm
Thermal current up to	I _{e max.}	0,120	0,080	A

¹⁾ for 7,5 BH at 56 000 rpm; for 012 BH at 40 000 rpm

Notes: Thin Profile Brushless Motors are also available without Hall sensors: Series 1202 ... BS

Scale enlarged M 1,5:1



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

²⁾ also available with round stator ø 12 ± 0,05
³⁾ also available with 1 mm output shaft length

1202 H

For notes on technical data and lifetime performance refer to "Technical Information".
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Specifications subject to change without notice.