

Brushless DC-Servomotors

4 Pole Technology

96 mNm
62 W

Series 3268 ... BX4

Values at 22°C and nominal voltage	3268 G	024 BX4	
1 Nominal voltage	U_N	24	V
2 Terminal resistance, phase-phase	R	1,47	Ω
3 Efficiency, max.	η_{max}	81	%
4 No-load speed	n_0	5 500	min ⁻¹
5 No-load current, typ. (with shaft ø 5 mm)	I_0	0,183	A
6 Stall torque	M_H	705	mNm
7 Friction torque, static	C_0	1,6	mNm
8 Friction torque, dynamic	C_V	1,1 · 10 ⁻³	mNm/min ⁻¹
9 Speed constant	k_n	220	min ⁻¹ /V
10 Back-EMF constant	k_E	4,534	mV/min ⁻¹
11 Torque constant	k_M	43,5	mNm/A
12 Current constant	k_I	0,023	A/mNm
13 Slope of n-M curve	$\Delta n / \Delta M$	7,5	min ⁻¹ /mNm
14 Terminal inductance, phase-phase	L	110	μ H
15 Mechanical time constant	τ_m	4,9	ms
16 Rotor inertia	J	63	gcm ²
17 Angular acceleration	α_{max}	112	· 10 ³ rad/s ²
18 Thermal resistance	R_{th1} / R_{th2}	1,7 / 8,8	K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	16 / 1 080	s
20 Operating temperature range:			
– motor		-40 ... +100	°C
– winding, max. permissible		+125	°C
21 Shaft bearings		ball bearings, preloaded	
22 Shaft load max.:			
– with shaft diameter		5	mm
– radial at 3 000 min ⁻¹ (5 mm from mounting flange)		50	N
– axial at 3 000 min ⁻¹ (push only)		5	N
– axial at standstill (push only)		50	N
23 Shaft play:			
– radial	\leq	0,015	mm
– axial	$=$	0	mm
24 Housing material		stainless steel	
25 Mass		290	g
26 Direction of rotation		electronically reversible	
27 Speed up to	n_{max}	12 000	min ⁻¹
28 Number of pole pairs		2	
29 Hall sensors		digital	
30 Magnet material		NdFeB	
Rated values for continuous operation			
31 Rated torque	M_N	72	mNm
32 Rated current (thermal limit)	I_N	2	A
33 Rated speed	n_N	4 890	min ⁻¹

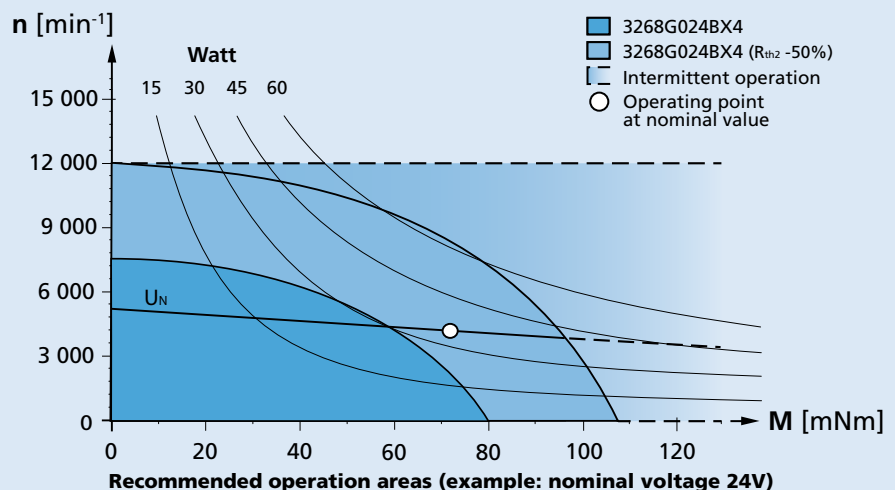
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

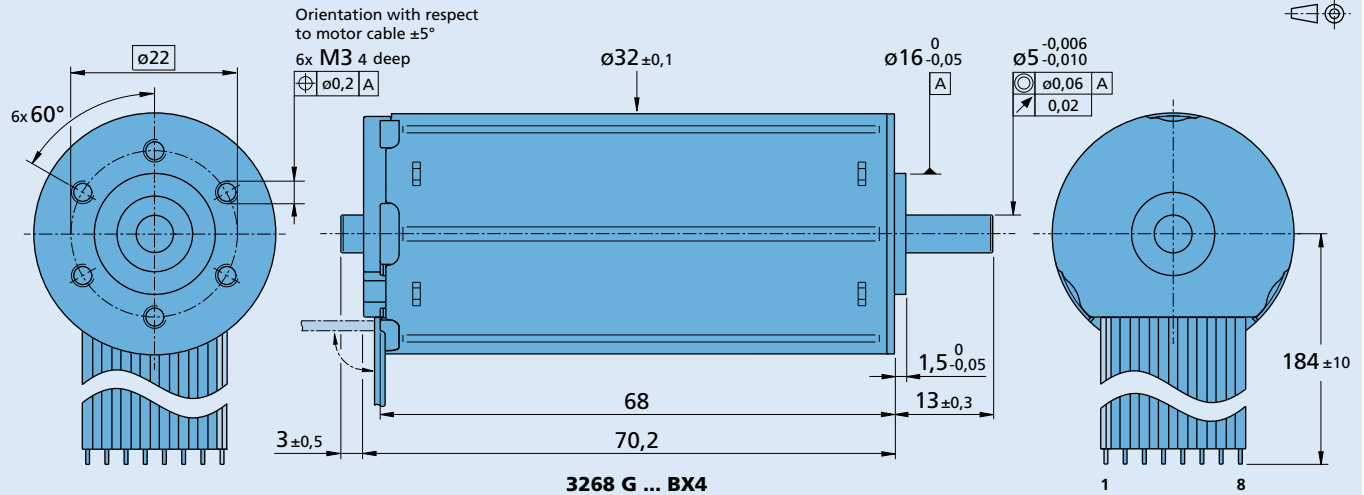
Note:

The diagram indicates the recommended speed in relation to the available torque at the output shaft for a given ambient temperature of 22°C.

The diagram shows the motor in a completely insulated as well as thermally coupled condition (R_{th2} 50% reduced).

The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Dimensional drawing

Option, cable and connection information

 Example product designation: **3268G024BX4-3692**

Option	Type	Description	Connection standard	
			No.	Function
3830	Connector	AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800	1	Phase C
4935	Single wires	Motor with single wires (PTFE), length 184 mm, AWG22	2	Phase B
X4935	Single wires	Motor with single wires (PTFE), length 300 mm, AWG22	3	Phase A
Y4935	Single wires	Motor with single wires (PTFE), length 600 mm, AWG22	4	GND
4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 184 mm, AWG22	5	U _{DD} (+5V)
X4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 300 mm, AWG22	6	Hall sensor C
Y4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 600 mm, AWG22	7	Hall sensor B
Y158	Shaft end	Motor without second shaft end	8	Hall sensor A
3692	Controller combination	Analog Hall sensors for combination with Motion Controller MCBL		

Option: 4935/4747		
Function	Colour	
Phase C	yellow	
Phase B	orange	
Phase A	brown	
GND	black	
U _{DD} (+5V)	red	
Hall sensor C	grey	
Hall sensor B	blue	
Hall sensor A	green	

Standard cable
 Insulation: PVC
 8 conductors, AWG 24
 pitch 2,54 mm, wires tinned

Product Combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
32A	IE3-1024	SC 2804	6501.00086
32ALN	IE3-1024 L	SC 5004	Motor adapter for MCBL 3006 S / SC 2804 and 5008
32/3	AES-4096	SC 5008	(motor with connector 3830)
32/3 S		MCBL 3003	6501.00134
38/1		MCBL 3006	Braking chopper BC5004
38/1 S			6501.00141
38/2			Extension cable, motor with connector 3830,
38/2 S			8 single wires, length 300 mm for combination with SC and MC
BS32-2.0			6501.00142
			Extension cable, motor with connector 3830,
			8 single wires, length 1000 mm for combination with SC and MC