Brushless DC-Servomotors

with integrated Motion Controller
and RS232 or CAN interface

96 mNm

For combination with
Gearheads:
32A, 32ALN, 32/3 (S), 38/1 (S), 38/2 (S)

3268 ... BX4 Cx

			3268 G		024 BX4 CS/CC/CO	
1	Nominal voltage	U_N			24	Volt
2	Terminal resistance, phase-phase	R			1,45	Ω
3	Output power [1]	$P_{2\ max.}$			29,8	W
4	Efficiency	$\eta_{max.}$			77,3	%
5	No-load speed	n_o			5 200	rpm
6	No-load current [3]	I_o			0,203	A
7	Stall torque at 8A	M_H			346	mNm
8	Friction torque, static	C_o			1,7	mNm
9	Friction torque, dynamic	C_v			$1{,}3 \cdot 10^{-3}$	mNm/rpm
10	Speed constant	k_n			220	rpm/V
11	Back-EMF constant	k_E			4,555	mV/rpm
12	Torque constant	k_M			43,5	mNm/A
13	Current constant	k_I			0,0230	A/mNm
14	Slope of n-M curve	$\Delta n/\Delta M$			7,3	rpm/mNm
15	Terminal inductance, phase-phase	L			110	µH
16	Mechanical time constant	τ_m			4,6	ms
17	Rotor inertia	J			60	gcm^2
18	Angular acceleration	$\alpha_{max.}$			58	$\cdot 10^3 rad/s^2$
19	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$	1,9 / 9,6			K/W
20	Thermal time constant	τ_{w1} / τ_{w2}	17 / 1 060			s
21	Operating temperature range		– 40 ... +85			°C
22	Shaft bearings		ball bearings, preloaded			
23	Shaft load max.:					
	– radial at 3 000 rpm (4,5 mm from mounting flange)		50			N
	– axial at 3 000 rpm		5			N
	– axial at standstill		50			N
24	Shaft play:					
	– radial	≤	0,015			mm
	– axial	=	0			mm
25	Housing material		motor: stainless steel; controller housing: zinc, black anodized			
26	Weight		460			g
27	Direction of rotation		electronically reversible			
Recommended values - mathematically independent of each other						
28	Speed up to	$n_{e\ max.}$			5 - 6 500	rpm
29	Torque up to [1] [2]	$M_{e\ max.}$			58 / 96	mNm
30	Current up to [1] [2] [3]	$I_{e\ max.}$			1,60 / 2,65	A

[1] at 4 000 rpm [2] thermal resistance $R_{th\,2}$ not reduced / thermal resistance $R_{th\,2}$ by 55% reduced
[3] total standby current 0,055 A at U_B = 24V

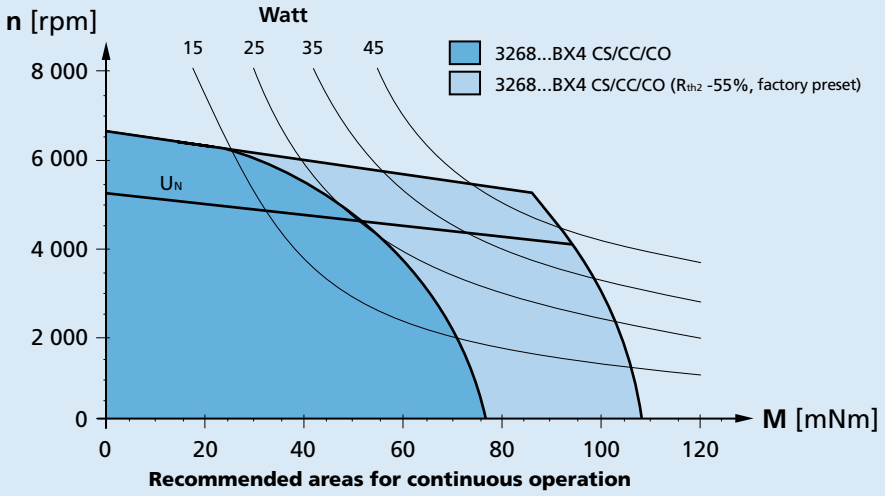
Note:

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

The motor can provide more power with adequate cooling (for ex. R_{th2} reduction of –55%).

The maximum available torque and speed will be reduced if the ambient temperature is higher than 22°C and/or the motor is thermally insulated to the ambient environment.

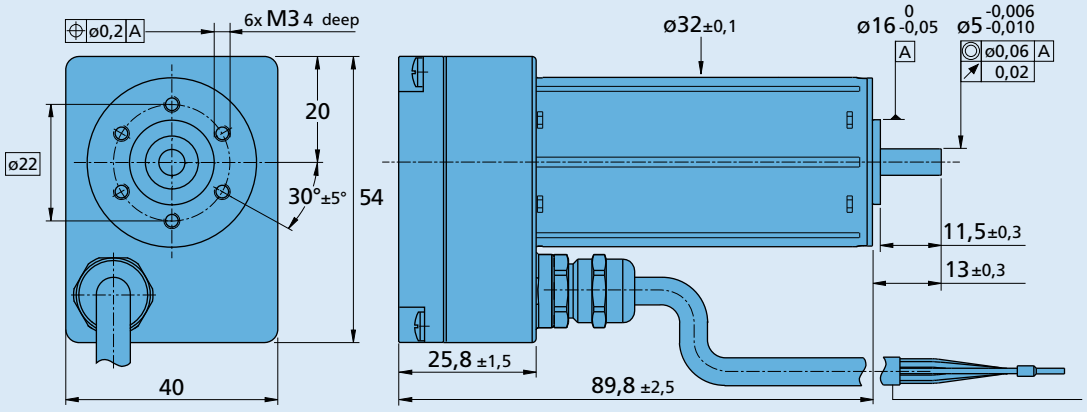
The characteristics of the curve diagram is determined by U_b and the control characteristics of the integrated Motion Controller.



For notes on technical data and lifetime performance refer to "Technical Information".

Dimensional drawing

Scale reduced



3268 ... BX4 CS/CC/CO

Connection

Wires	Function
blue	GND
pink	U_B
brown	Analog input
white	Fault output
grey	Analog GND
yellow	RS232 RXD / CAN_L
green	RS232 TXD / CAN_H
red	Connection No. 3

Caution:
Connect motor supply terminals to the correct polarity. Electronics are protected against polarity reversal by an internal fuse. In case of damage, this internal fuse can only be replaced at the factory.

Options

Accessories

- Adapter board (Part No.: 6501.00065)

Full product description

- Example:

  3268G024 BX4 CS (RS232 interface)
  3268G024 BX4 CC (CANopen with FAULHABER CAN)
  3268G024 BX4 CO (CANopen CiA)

Motion Controller

Supply voltage [1]	U_B		12 ... 30	V DC
Peak current [2]	$I_{max.}$		8	A
Input/output			3	
Connection "Analog input":				
– Speed command analog input		voltage range	±10	V
– Speed command PWM input		frequency range	100 ... 2 000	Hz
		pulse duty factor 50%	0	rpm
– Digital input		input resistance (at 24V)	5	kΩ
– External encoder	$f_{max.}$		400	kHz
– Step frequency input	$f_{max.}$		400	kHz
Connection "Fault output":				
– Fault output		no error	switched to GND	
– Digital output		open collector	max. U_B / 30 mA	
– Digital input		input resistance	100	kΩ
Connection "3.input":				
– Digital input		input resistance	22	kΩ
– Electronic supply voltage [1]	U_{EL}		12 ... 30	V DC
Encoder:				
– Scanning rate			200	µs
– Resolution internal encoder			3 000	Inc./turn

The signal level of the digital inputs can be set using the above commands:
Standard (PLC): Low 0...7,0V / High 12,5V...U_B, TTL: Low 0...0,5V / High 3,5V...U_B

[1] Separate supply of motor and control electronics for safetyrelevant applications is optionally available (Option no. 2993).
In this case the 3rd input is not available for digital signals; connection 3.
[2] Preset value. Can be changed over the interface.