

NEW

Brushless DC-Servomotors

4 Pole Technology

56 mNm

For combination with
 Gearheads:
 32A
 Encoders:
 IE3 ...
 Drive Electronics:
 SC 2804

Series 3242 ... BX4

	3242 G	012 BX4	024 BX4	
1 Nominal voltage	U_N	12	24	Volt
2 Terminal resistance, phase-phase	R	0,89	3,6	Ω
3 Output power ¹⁾	P_2 max.	21,7	21,7	W
4 Efficiency	η max.	77,4	77,3	%
5 No-load speed	n_0	5 500	5 500	rpm
6 No-load current	I_0	0,206	0,103	A
7 Stall torque	M_H	282	279	mNm
8 Friction torque, static	C_0	1,3	1,3	mNm
9 Friction torque, dynamic	C_v	$5,2 \cdot 10^{-4}$	$5,2 \cdot 10^{-4}$	mNm/rpm
10 Speed constant	k_n	455	227	rpm/V
11 Back-EMF constant	k_E	2,199	4,409	mV/rpm
12 Torque constant	k_M	21,0	42,1	mNm/A
13 Current constant	k_I	0,0476	0,0238	A/mNm
14 Slope of n-M curve	$\Delta n / \Delta M$	19,3	19,4	rpm/mNm
15 Terminal inductance, phase-phase	L	60	240	μH
16 Mechanical time constant	τ_m	6,1	6,1	ms
17 Rotor inertia	J	30	30	gcm ²
18 Angular acceleration	α max.	94	93	$\cdot 10^3 \text{ rad/s}^2$
19 Thermal resistance	R_{th1} / R_{th2}	1,6 / 11,9		K/W
20 Thermal time constant	τ_{w1} / τ_{w2}	9 / 780		s
21 Operating temperature range		- 40 ... + 100		$^{\circ}C$
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	\leq	0,015		mm
- axial	$=$	0		mm
25 Housing material		stainless steel		
26 Weight		177		g
27 Direction of rotation		electronically reversible		
28 Number of pole pairs		2		
Recommended values - mathematically independent of each other				
29 Speed up to	n_e max.	7 100	7 100	rpm
30 Torque up to ^{1) 2)}	M_e max.	33 / 56	33 / 56	mNm
31 Current up to ^{1) 2)}	I_e max.	1,95 / 3,19	0,97 / 1,59	A

¹⁾ at 5 000 rpm

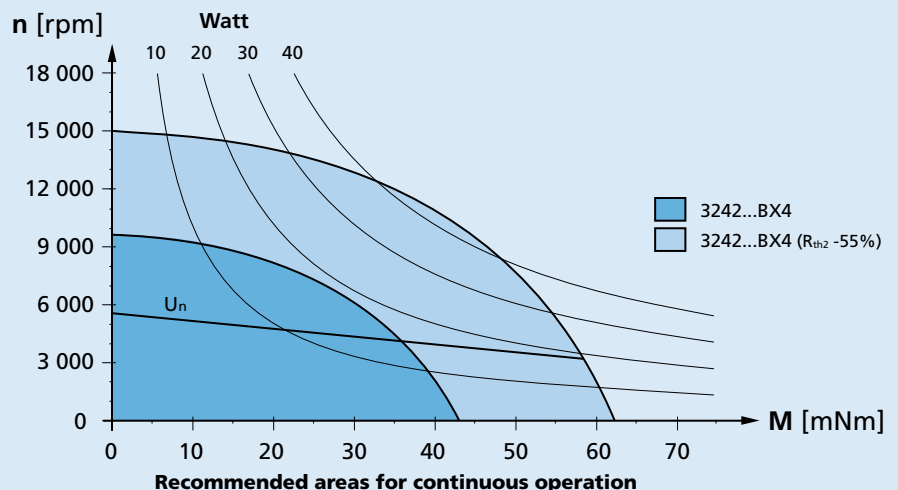
²⁾ thermal resistance R_{th2} not reduced / thermal resistance R_{th2} by 55% reduced

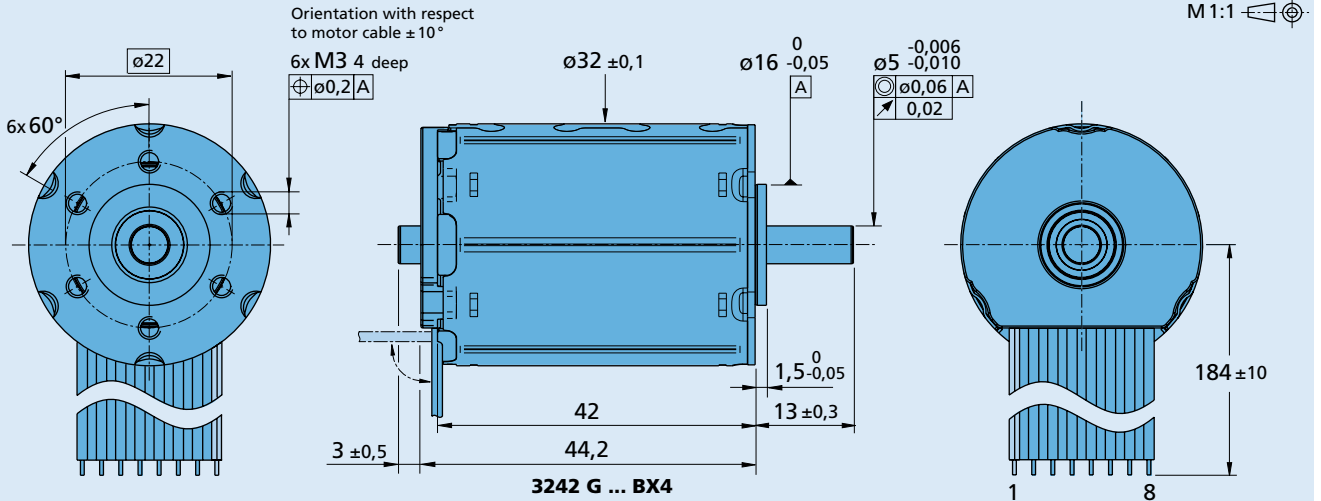
Note:

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} 55% reduced).

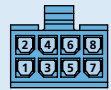
The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



3242 G ... BX4

Options

- Connectors

Motor:
 AWG 24 / PVC ribbon cable (8-conductors),
 with connector Molex MicroFit 3.0: 43025-0800


Full product description

- Examples:
 3242G012BX4
 3242G024BX4

Cable and connection information
