Brushless DC-Servomotors

4 Pole Technology

96 mNm

62 W

Series 3268 ... BX4

Values at 22°C and nominal voltage		3268 G	018 BX4	024 BX4	030 BX4	036 BX4	042 BX4	048 BX4	
1	Nominal voltage	U_N	18	24	30	36	42	48	V
2	Terminal resistance, phase-phase	R	0,92	1,47	2,08	3,23	4,83	6,06	Ω
3	Efficiency, max.	$\eta_{max.}$	80	81	80	80	80	79	%
4	No-load speed	n_0	5 100	5 500	5 700	5 500	5 300	5 500	min⁻¹
5	No-load current, typ. (with shaft ø 5 mm)	I_0	0,22	0,183	0,162	0,124	0,101	0,093	A
6	Stall torque	M_H	670	705	742	716	670	678	mNm
7	Friction torque, static	C_0	1,6	1,6	1,6	1,6	1,6	1,6	mNm
8	Friction torque, dynamic	C_V	$1{,}1 \cdot 10^{-3}$	$1{,}1 \cdot 10^{-3}$	$1{,}1 \cdot 10^{-3}$	$1{,}1 \cdot 10^{-3}$	$1{,}1 \cdot 10^{-3}$	$1{,}1 \cdot 10^{-3}$	mNm/min⁻¹
9	Speed constant	k_n	278	220	185	148	124	111	min⁻¹/V
10	Back-EMF constant	k_E	3,595	4,534	5,392	6,741	8,088	8,987	mV/min⁻¹
11	Torque constant	k_M	34,3	43,3	51,5	64,4	77,2	85,8	mNm/A
12	Current constant	k_I	0,029	0,023	0,019	0,015	0,013	0,012	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	7,45	7,5	7,48	7,44	7,73	7,85	min⁻¹/mNm
14	Terminal inductance, phase-phase	L	67,6	110	152	238	342	423	µH
15	Mechanical time constant	τ_m	4,9	4,9	4,9	4,9	5,1	5,2	ms
16	Rotor inertia	J	63	63	63	63	63	63	gcm²
17	Angular acceleration	$\alpha_{max.}$	106	112	118	114	106	108	$\cdot 10^3$rad/s²
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 / pull)		5						N
	– axial at standstill (push / pull)		50						N
23	Shaft play:								
	– radial	≤	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	74,5	72	69,8	71,9	71,7	70	mNm
32	Rated current (thermal limit)	I_N	2,63	2	1,66	1,36	1,13	1	A
33	Rated speed	n_N	4 550	4 890	5 210	4 950	4 750	4 920	min⁻¹

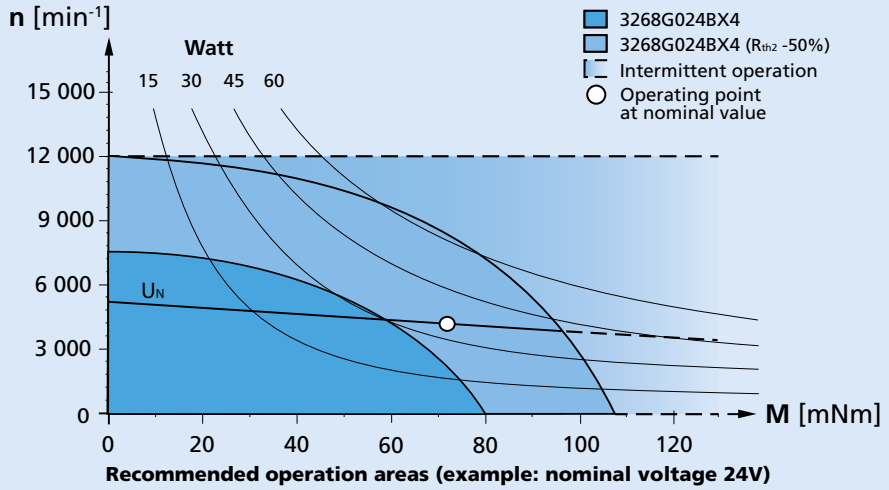
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

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).

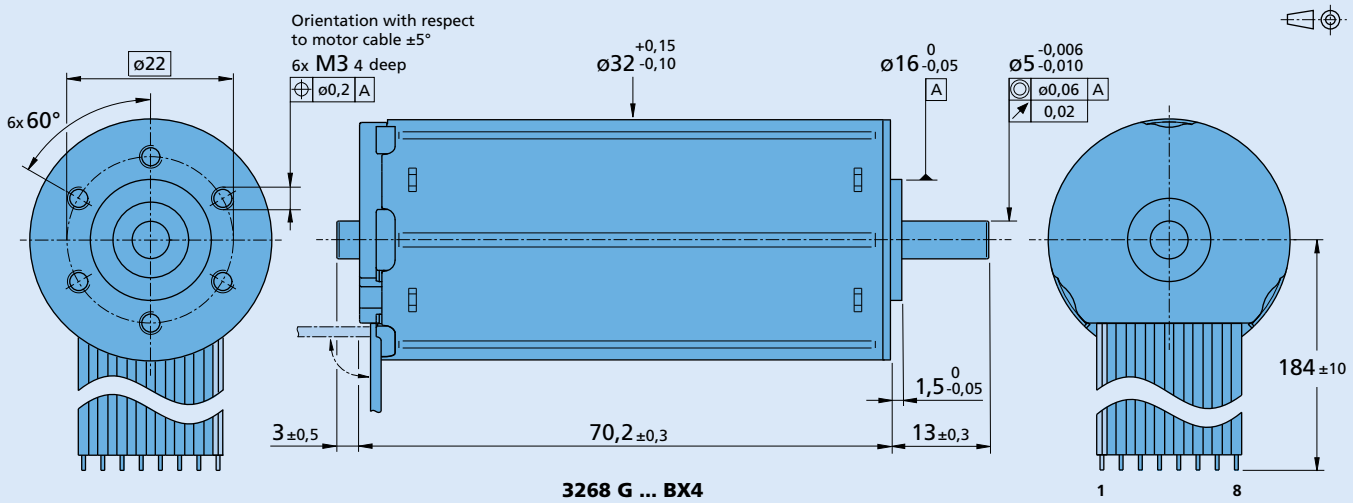
The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Recommended operation areas (example: nominal voltage 24V)

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

Dimensional drawing



3268 G ... BX4

Option, cable and connection information

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

Option	Type	Description
3830	Connector 	AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800
4935	Single wires	Motor with single wires (PTFE), length 184 mm, AWG22
X4935	Single wires	Motor with single wires (PTFE), length 300 mm, AWG22
Y4935	Single wires	Motor with single wires (PTFE), length 600 mm, AWG22
4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 184 mm, AWG22
X4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 300 mm, AWG22
Y4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 600 mm, AWG22
Y158	Shaft end	Motor without second shaft end
3692	Controller combination	Analog Hall sensors for combination with Speed Controller SC or Motion Controller MC V3.0
5327	Controller combination	For SIN-COS sensor model with integrated temperature sensor

Connection standard

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	Hall sensor C
7	Hall sensor B
8	Hall sensor A

Standard cable

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

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

Option: 5327

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	NTC
7	SIN
8	COS

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
32GPT	IE3-1024	SC 2804 S	PMB32
32GPT LN	IE3-1024 L	SC 5004 P	
32GPT HT	IER3-10000	SC 5008 S	To view our large range of accessory parts, please refer to the “Accessories” chapter.
32/3R	IER3-10000 L	MC 3602 B	
38/1	AEMT-12/16 L	MC 3603 S	
38/1 S	AES-4096 L	MC 3606 B	
38/2		MC 5004 P	
38/2 S		MC 5005 S	
42GPT		MC 5010 S	
32L ... TL			
32L ... ML			
32L ... SB			
32L ... PB			

Brushless DC-Servomotors 53 mNm

4 Pole Technology 45 W

Series 3242 ... BX4

Values at 22°C and nominal voltage		3242 G	012 BX4	018 BX4	024 BX4	036 BX4	042 BX4	048 BX4	
1	Nominal voltage	U_N	12	18	24	36	42	48	V
2	Terminal resistance, phase-phase	R	0,92	2,01	3,67	8,96	11,7	15,1	Ω
3	Efficiency, max.	$\eta_{max.}$	78	78	78	77	78	78	%
4	No-load speed	n_0	5 600	5 500	5 600	5 500	5 500	5 500	min⁻¹
5	No-load current, typ. (with shaft ø 5 mm)	I_0	0,179	0,117	0,089	0,059	0,05	0,044	A
6	Stall torque	M_H	268,7	280	269,4	251	262	265	mNm
7	Friction torque, static	C_0	1,3	1,3	1,3	1,3	1,3	1,3	mNm
8	Friction torque, dynamic	C_V	$4{,}1\cdot10^{-4}$	$4{,}1\cdot10^{-4}$	$4{,}1\cdot10^{-4}$	$4{,}1\cdot10^{-4}$	$4{,}1\cdot10^{-4}$	$4{,}1\cdot10^{-4}$	mNm/min⁻¹
9	Speed constant	k_n	461	304	231	152	130	114	min⁻¹/V
10	Back-EMF constant	k_E	2,168	3,285	4,335	6,571	7,666	8,762	mV/min⁻¹
11	Torque constant	k_M	20,7	31,4	41,4	62,8	73,1	83,7	mNm/A
12	Current constant	k_I	0,048	0,032	0,024	0,016	0,014	0,012	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	20,5	19,5	20,4	21,7	20,8	20,6	min⁻¹/mNm
14	Terminal inductance, phase-phase	L	60	132	240	529	719	940	µH
15	Mechanical time constant	τ_m	6,4	6,1	6,4	6,8	6,5	6,5	ms
16	Rotor inertia	J	30	30	30	30	30	30	gcm²
17	Angular acceleration	$\alpha_{max.}$	90	93,2	90	83,6	87,2	88,3	·10³rad/s²
18	Thermal resistance	R_{th1} / R_{th2}	2,3 / 11,6						K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	13 / 880						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 / pull)		5						N
	– axial at standstill (push / pull)		50						N
23	Shaft play:								
	– radial	≤	0,015						mm
	– axial	=	0						mm
24	Housing material		stainless steel						
25	Mass		179						g
26	Direction of rotation		electronically reversible						
27	Speed up to	$n_{max.}$	17 000						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	41,8	43	41,8	40,7	41,6	41,8	mNm
32	Rated current (thermal limit)	I_N	2,43	1,64	1,21	0,78	0,68	0,6	A
33	Rated speed	n_N	4 600	4 580	4 600	4 480	4 520	4 530	min⁻¹

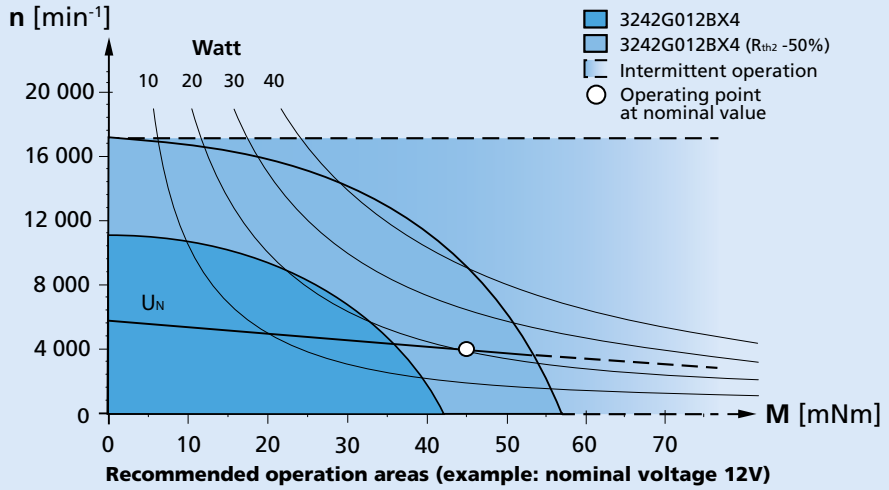
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

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).

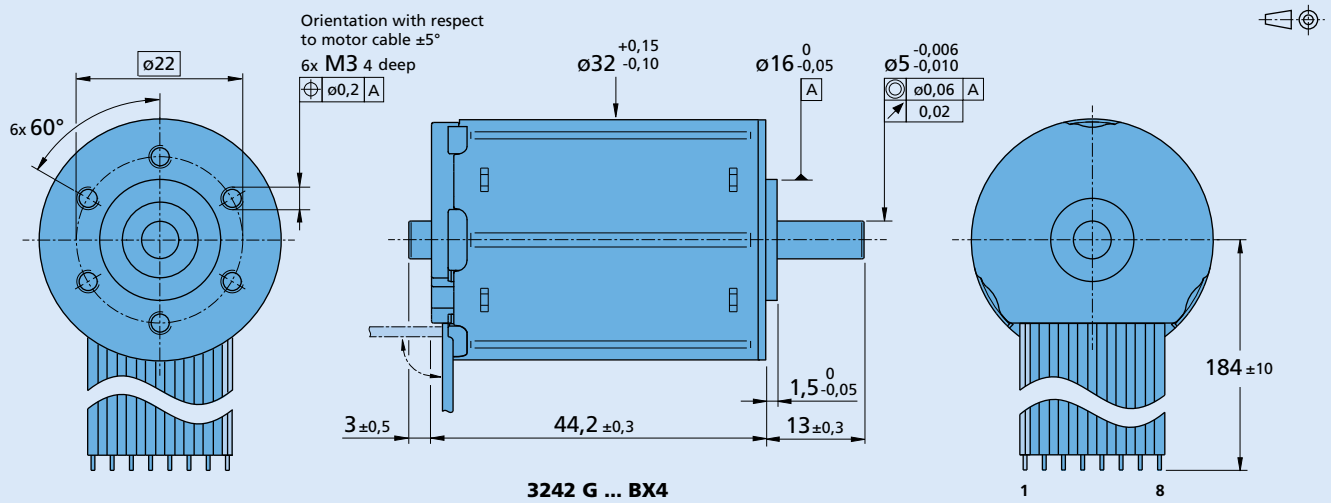
The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Recommended operation areas (example: nominal voltage 12V)

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

Dimensional drawing



3242 G ... BX4

Option, cable and connection information

Example product designation: **3242G012BX4-3692**

Option	Type	Description
3830	Connector 	AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800
4935	Single wires	Motor with single wires (PTFE), length 184 mm, AWG22
X4935	Single wires	Motor with single wires (PTFE), length 300 mm, AWG22
Y4935	Single wires	Motor with single wires (PTFE), length 600 mm, AWG22
4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 184 mm, AWG22
X4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 300 mm, AWG22
Y4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 600 mm, AWG22
Y158	Shaft end	Motor without second shaft end
3692	Controller combination	Analog Hall sensors for combination with Speed Controller SC or Motion Controller MC V3.0
5327	Controller combination	For SIN-COS sensor model with integrated temperature sensor

Connection standard

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	Hall sensor C
7	Hall sensor B
8	Hall sensor A

Standard cable

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

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

Option: 5327

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	NTC
7	SIN
8	COS

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
32GPT	IE3-1024	SC 2402 P	PMB32
32GPT LN	IE3-1024 L	SC 2804 S	
32GPT HT	IER3-10000	SC 5004 P	To view our large range of accessory parts, please refer to the “Accessories” chapter.
32/3R	IER3-10000 L	SC 5008 S	
38/1	AEMT-12/16 L	MC 3602 B	
38/1 S	AES-4096 L	MC 3603 S	
38/2		MC 3606 B	
38/2 S		MC 5004 P	
42GPT		MC 5005 S	
32L ... TL		MC 5010 S	
32L ... ML			
32L ... SB			
32L ... PB			

Brushless DC-Servomotors 32 mNm

4 Pole Technology 31 W

Series 2250 ... BX4

Values at 22°C and nominal voltage		2250 S	012 BX4	018 BX4	024 BX4	
1	Nominal voltage	U_N	12	18	24	V
2	Terminal resistance, phase-phase	R	1,55	3,17	5,9	Ω
3	Efficiency, max.	$\eta_{max.}$	76	76	77	%
4	No-load speed	n_0	6 000	6 400	6 200	min⁻¹
5	No-load current, typ. (with shaft ø 3 mm)	I_0	0,128	0,094	0,066	A
6	Stall torque	M_H	147	152	151	mNm
7	Friction torque, static	C_0	0,8	0,8	0,8	mNm
8	Friction torque, dynamic	C_V	$2{,}6 \cdot 10^{-4}$	$2{,}6 \cdot 10^{-4}$	$2{,}6 \cdot 10^{-4}$	mNm/min⁻¹
9	Speed constant	k_n	502	354	255	min⁻¹/V
10	Back-EMF constant	k_E	1,994	2,825	3,927	mV/min⁻¹
11	Torque constant	k_M	19	27	37,5	mNm/A
12	Current constant	k_I	0,053	0,037	0,027	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	40,8	41,6	40,3	min⁻¹/mNm
14	Terminal inductance, phase-phase	L	62,8	126	250	µH
15	Mechanical time constant	τ_m	4,3	4,3	4,2	ms
16	Rotor inertia	J	10	10	10	gcm²
17	Angular acceleration	$\alpha_{max.}$	147	152	151	·10³rad/s²
18	Thermal resistance	R_{th1} / R_{th2}	3,5 / 15			K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	12 / 660			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		3			mm
	– radial at 3 000 min⁻¹ (5 mm from mounting flange)		20			N
	– axial at 3 000 min⁻¹ (push / pull)		2			N
	– axial at standstill (push / pull)		20			N
23	Shaft play:					
	– radial	≤	0,015			mm
	– axial	=	0			mm
24	Housing material		stainless steel			
25	Mass		105			g
26	Direction of rotation		electronically reversible			
27	Speed up to	$n_{max.}$	20 000			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	26,2	25,5	26,2	mNm
32	Rated current (thermal limit)	I_N	1,66	1,15	0,85	A
33	Rated speed	n_N	4 740	5 140	4 870	min⁻¹

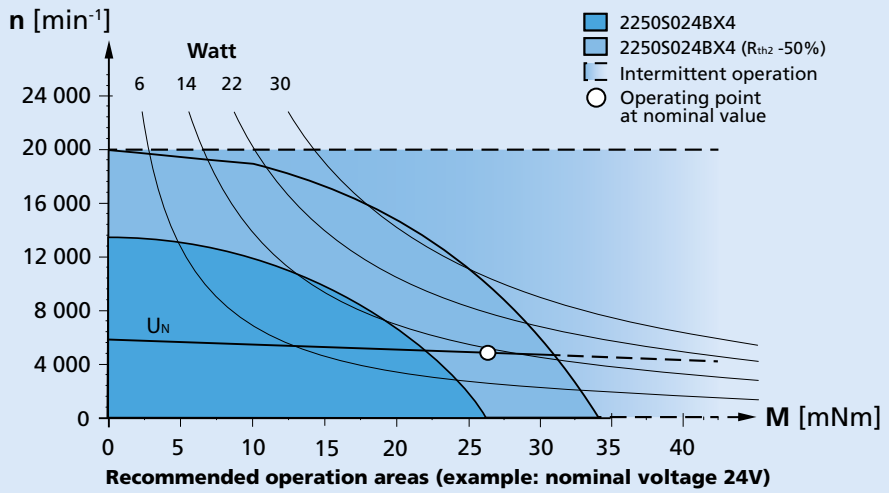
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

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).

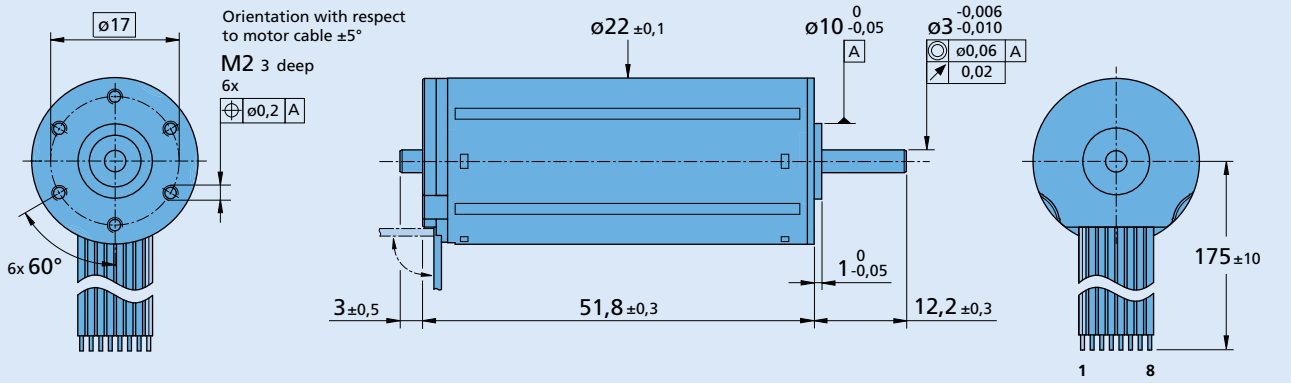
The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Recommended operation areas (example: nominal voltage 24V)

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

Dimensional drawing



2250 S ... BX4

Option, cable and connection information

Example product designation: **2250S024BX4-3692**

Option	Type	Description
3830	Connector 	AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800
4935	Single wires	Motor with single wires (PTFE), length 175 mm, AWG26
X4935	Single wires	Motor with single wires (PTFE), length 300 mm, AWG26
Y4935	Single wires	Motor with single wires (PTFE), length 600 mm, AWG26
4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 175 mm, AWG26
X4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 300 mm, AWG26
Y4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 600 mm, AWG26
Y158	Shaft end	Motor without second shaft end
3692	Controller combination	Analog Hall sensors for combination with Speed Controller SC or Motion Controller MC
5327	Controller combination	For SIN-COS sensor model with integrated temperature sensor and combination with MC V3.0

Connection standard

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	Hall sensor C
7	Hall sensor B
8	Hall sensor A

Standard cable

Insulation: PVC
8 conductors,
AWG 26,
pitch 1,27 mm ,
wires tinned.

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

Option: 5327

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	NTC
7	SIN
8	COS

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
22GPT	IE3-1024	SC 2402 P	To view our large range of accessory parts, please refer to the "Accessories" chapter.
22GPT LN	IE3-1024 L	SC 2804 S	
22GPT HT	IER3-10000	SC 5004 P	
22/7	IER3-10000 L	SC 5008 S	
26A	AEMT-12/16 L	MC 3001 B	
32GPT	AES-4096 L	MC 3001 P	
32GPT LN		MC 3602 B	
32GPT HT		MC 3603 S	
22L ... ML		MC 3606 B	
22L ... SB		MC 5004 P	
22L ... PB		MC 5005 S	
32L ... TL			
32L ... ML			
32L ... SB			
32L ... PB			

Brushless DC-Servomotors 18 mNm

4 Pole Technology 23 W

Series 2232 ... BX4

Values at 22°C and nominal voltage		2232 S	006 BX4	012 BX4	015 BX4	018 BX4	024 BX4	
1	Nominal voltage	U_N	6	12	15	18	24	V
2	Terminal resistance, phase-phase	R	0,73	3,5	4,58	7,04	12,5	Ω
3	Efficiency, max.	$\eta_{max.}$	74	74	74	73	74	%
4	No-load speed	n_0	7 100	6 700	7 100	7 100	7 100	min⁻¹
5	No-load current, typ. (with shaft ø 3 mm)	I_0	0,16	0,072	0,06	0,053	0,039	A
6	Stall torque	M_H	64,7	58,7	64	60,7	61,7	mNm
7	Friction torque, static	C_0	0,46	0,46	0,46	0,46	0,46	mNm
8	Friction torque, dynamic	C_V	$1{,}1 \cdot 10^{-4}$	$1{,}1 \cdot 10^{-4}$	$1{,}1 \cdot 10^{-4}$	$1{,}1 \cdot 10^{-4}$	$1{,}1 \cdot 10^{-4}$	mNm/min⁻¹
9	Speed constant	k_n	1 198	562	480	399	295	min⁻¹/V
10	Back-EMF constant	k_E	0,835	1,78	2,08	2,504	3,393	mV/min⁻¹
11	Torque constant	k_M	7,97	17	19,9	23,9	32,4	mNm/A
12	Current constant	k_I	0,125	0,059	0,05	0,042	0,031	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	110	114	110	118	114	min⁻¹/mNm
14	Terminal inductance, phase-phase	L	25	115	156	225	410	µH
15	Mechanical time constant	τ_m	5,9	6,1	5,9	6,3	6,1	ms
16	Rotor inertia	J	5,1	5,1	5,1	5,1	5,1	gcm²
17	Angular acceleration	$\alpha_{max.}$	127	115	125	119	121	·10³rad/s²
18	Thermal resistance	R_{th1} / R_{th2}	3,9 / 18,8					K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	7,9 / 520					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		3					mm
	– radial at 3 000 min⁻¹ (5 mm from mounting flange)		20					N
	– axial at 3 000 min⁻¹ (push / pull)		2					N
	– axial at standstill (push / pull)		20					N
23	Shaft play:							
	– radial	≤	0,015					mm
	– axial	=	0					mm
24	Housing material		stainless steel					
25	Mass		65					g
26	Direction of rotation		electronically reversible					
27	Speed up to	$n_{max.}$	29 000					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	14,8	14,7	14,8	14,3	14,6	mNm
32	Rated current (thermal limit)	I_N	2,22	1	0,89	0,72	0,54	A
33	Rated speed	n_N	5 030	4 450	5 040	4 930	4 840	min⁻¹

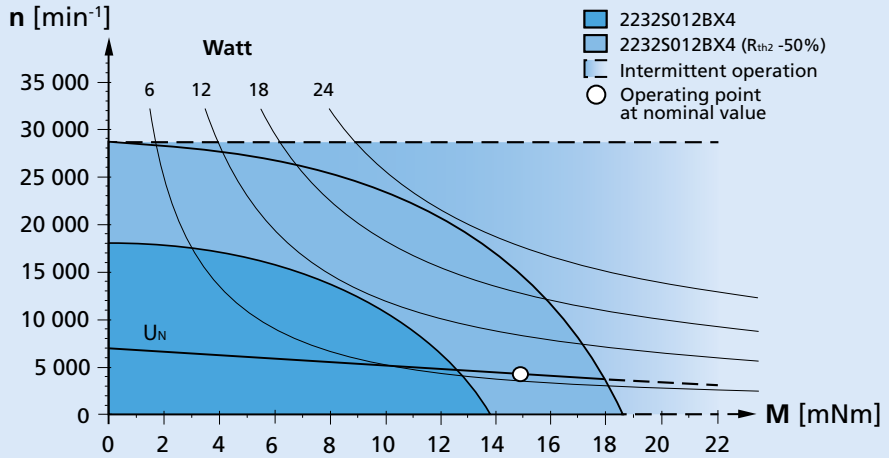
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

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).

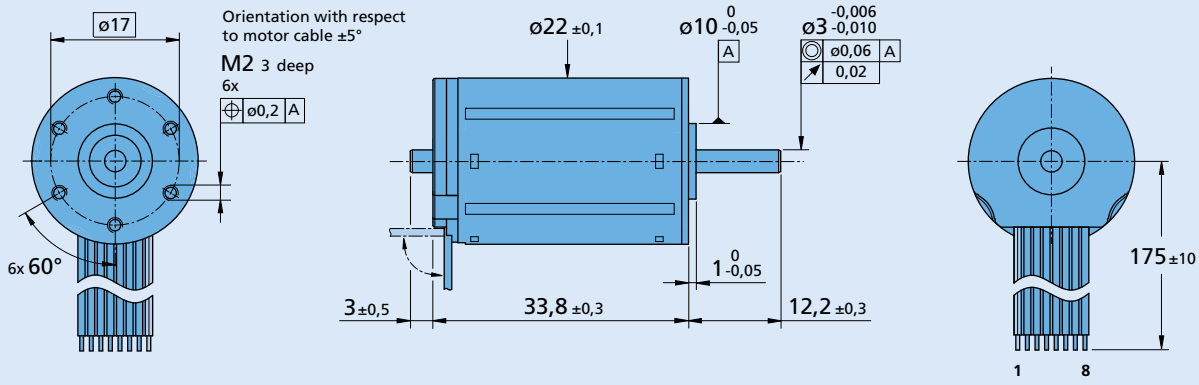
The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Recommended operation areas (example: nominal voltage 12V)

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

Dimensional drawing



2232 S ... BX4

Option, cable and connection information

Example product designation: **2232S012BX4-3692**

Option	Type	Description
3830	Connector 	AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800
4935	Single wires	Motor with single wires (PTFE), length 175 mm, AWG26
X4935	Single wires	Motor with single wires (PTFE), length 300 mm, AWG26
Y4935	Single wires	Motor with single wires (PTFE), length 600 mm, AWG26
4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 175 mm, AWG26
X4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 300 mm, AWG26
Y4747	Temperature range	Up to 150°C, winding max. 150°C, with single wires (PTFE), length 600 mm, AWG26
Y158	Shaft end	Motor without second shaft end
3692	Controller combination	Analog Hall sensors for combination with Speed Controller SC or Motion Controller MC
5327	Controller combination	For SIN-COS sensor model with integrated temperature sensor and combination with MC V3.0

Connection standard

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	Hall sensor C
7	Hall sensor B
8	Hall sensor A

Standard cable

Insulation: PVC
8 conductors,
AWG 26,
pitch 1,27 mm ,
wires tinned.

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

Option: 5327

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	NTC
7	SIN
8	COS

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
22GPT	IE3-1024	SC 1801 P	To view our large range of accessory parts, please refer to the "Accessories" chapter.
22GPT LN	IE3-1024 L	SC 1801 S	
22GPT HT	IER3-10000	SC 2402 P	
22/7	IER3-10000 L	SC 2804 S	
26A	AEMT-12/16 L	SC 5004 P	
22L ... ML	AES-4096 L	SC 5008 S	
22L ... SB		MC 3001 B	
22L ... PB		MC 3001 P	
		MC 3602 B	
		MC 3603 S	
		MC 3606 B	
		MC 5004 P	
		MC 5005 S	