

Brushless DC-Servomotors

with integrated Speed Controller
4 Pole Technology

45 mNm
24 W

3242 ... BX4 SCDC

Values at 22°C and nominal voltage	3242 G	012 BX4 SCDC	024 BX4 SCDC	
Supply voltage (CW)	U_{mot+}	6,5 ... 30	6,5 ... 30	V DC
Supply voltage (CCW)	U_{mot-}	6,5 ... 30	6,5 ... 30	V DC
Nominal voltage for motor	U_N	12	24	V
No-load speed (at U_N)	n_0	5 300	5 500	min ⁻¹
Peak torque (S2 operation for max. 5s/14s)	M_{max}	78	90	mNm
Torque constant	k_M	21	42,1	mNm/A
PWM switching frequency	f_{PWM}	96	96	kHz
Efficiency electronic	η	95	95	%
Standby current for electronic (at U_N)	I_{el}	0,017	0,01	A
Speed range (up to 24V / 30V)		400 ... 11 200	400 ... 7 000	min ⁻¹
Shaft bearings		ball bearings, preloaded		
Shaft load max.:				
– with shaft diameter	5			mm
– radial at 3 000 min ⁻¹ (3 mm from mounting flange)	50			N
– axial at 3 000 min ⁻¹ (push / pull)	5			N
– axial at standstill (push / pull)	50			N
Shaft play:				
– radial	≤ 0,015			mm
– axial	= 0			mm
Operating temperature range		-40 ... +85		°C
Housing material		stainless steel		
Mass		189		g

Rated values for continuous operation

Rated torque	M_N	39	45	mNm
Rated current (thermal limit)	I_N	2,1	1,22	A
Rated speed	n_N	4 050	4 300	min ⁻¹

Interface / range of functions

	... SCDC
Operating modes	Motor variant with integrated speed controller with two-wire interface without communication possibility; commutation via digital Hall sensors. Fixed speed control using integrated PI controller. Direction of rotation changeover through reversing the supply voltage polarity.
Speed range	Digital Hall = from 400 min ⁻¹
Additional functions	Integrated current limitation to protect against thermal overload. Short-time operation (S2) with up to double the continuous current. Voltage controller substituting DC motors in certain applications. Customer-specific firmware available on request.

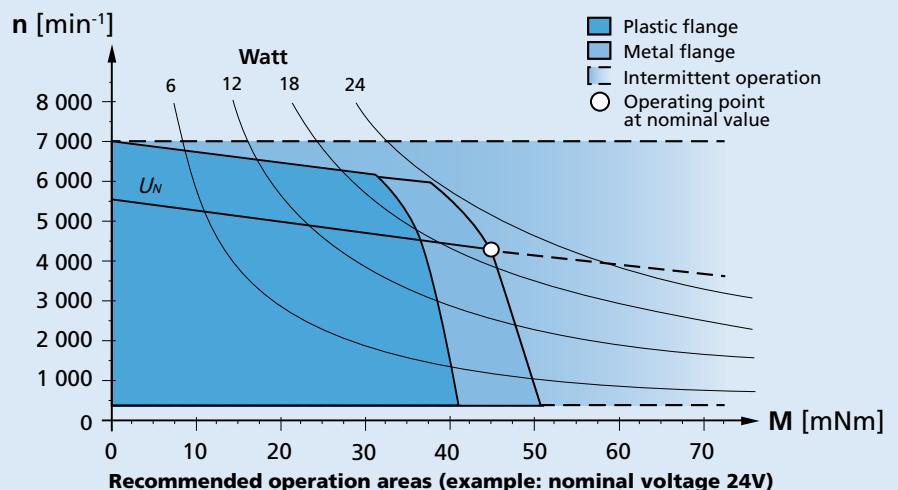
Note:

The display shows the range of possible operation points of the drives at a given ambient temperature of 22°C.

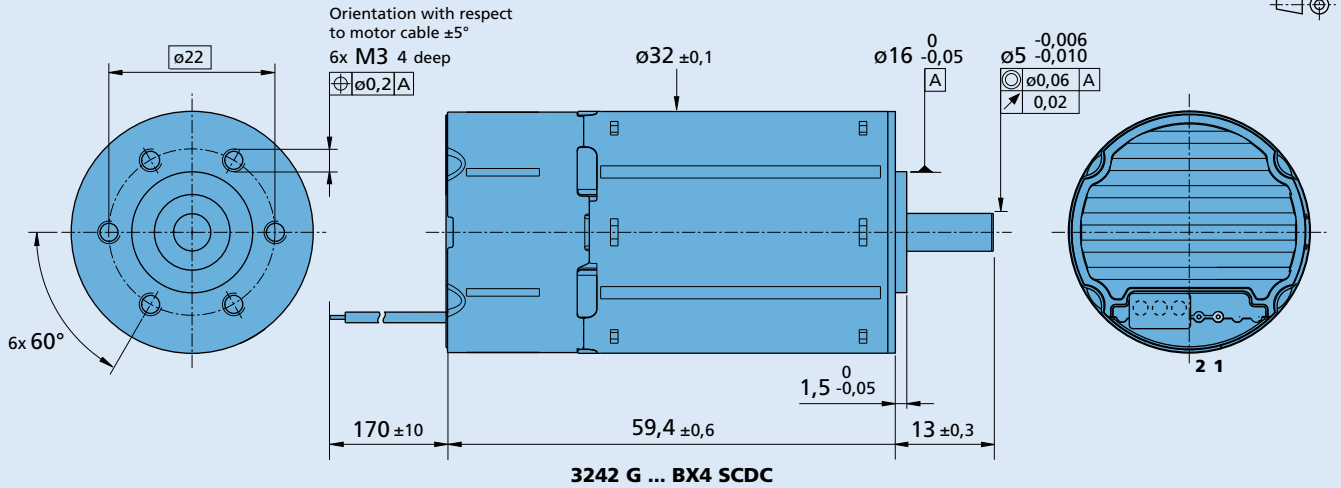
The diagram indicates the recommended speed in relation to the available torque at the output shaft.

It includes the assembly on a plastic- as well as on a metal flange (assembly method: IM B 5).

The nominal voltage linear slope describes the maximal achievable operating points at nominal voltage. Any points of operation above this linear slope will require a supply voltage $U_{mot} > U_N$.




Dimensional drawing



Option, cable and connection information

Example product designation: **3242G024BX4SCDC-4140**

Option	Type	Description	Connection		
			No.	Function	Description
4140	Connector 	AWG 24 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0200, recommended mating connector 43020-0200	1	Mot +	positive power supply
			2	Mot -	negative power supply
			Standard cable PVC ribbon cable 2 x AWG 24, 2,54 mm		
			Note: For details on the connection assignment, see device manual for the SCS.		

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
32A 32ALN 32/3 32/3 R 38A 38/1 38/1 S 38/2 38/2 S BS32-2.0		Integrated	To view our large range of accessory parts, please refer to the "Accessories" chapter.