

Brushless DC-Servomotors

with integrated Speed Controller
4 Pole Technology

13,3 mNm
14,5 W

2250 ... BX4 S SC

Values at 22°C and nominal voltage	2250 S	012BX4 S SC	024BX4 S SC	
Power supply electronic	U_P	5 ... 28	5 ... 28	V DC
Power supply motor	U_{mot}	6 ... 28	6 ... 28	V DC
Nominal voltage for motor	U_N	12	24	V
No-load speed (at U_N)	n_0	10 600	11 200	min ⁻¹
Peak torque (S2 operation for max. 1s/2s)	$M_{max.}$	26,5	26,5	mNm
Torque constant	K_M	10,7	21,1	mNm/A
PWM switching frequency	f_{PWM}	96	96	kHz
Efficiency electronic	η	95	95	%
Standby current for electronic (at U_N)	I_{el}	0,02	0,02	A
Speed range (up to 24V / 28V)		400 ... 21 000	400 ... 13 500	min ⁻¹
Shaft bearings	ball bearings, preloaded			
Shaft load max.:				
– with shaft diameter	3			mm
– radial at 3 000 min ⁻¹ (4 mm from mounting flange)	20			N
– axial at 3 000 min ⁻¹ (push / pull)	2			N
– axial at standstill (push / pull)	20			N
Shaft play:				
– radial	≤ 0,015			mm
– axial	= 0			mm
Operating temperature range	-40 ... +85			°C
Housing material	stainless steel			
Mass	97			g

Rated values for continuous operation				
Rated torque	M_N	13,2	13,3	mNm
Rated current (thermal limit)	I_N	1,4	0,86	A
Rated speed	n_N	7 600	8 900	min ⁻¹

Interface / range of functions	... SC
Configuration from Motion Manager 5.0	via USB Programming Adapter
Operating modes	Integrated speed control via PI controller and external set value specification; commutation via digital Hall sensors. Can optionally be operated in voltage controller mode or fixed speed mode.
Speed range	Digital Hall = from 400 min ⁻¹
Additional functions	Integrated current limiting to protect against thermal overload. Intermittent operation (S2) with up to double the continuous current. Separate voltage supply for motor and electronics. Direction of rotation changeover through separate switching input; reading of speed signal via frequency output.

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 $U_{mot} > U_N$.



