

Motion Control Systems

V2.5, 4-Quadrant PWM with RS232 or CANopen interface

25 mNm
13 W

2250 ... BX4 CxD

| Values at 22°C and nominal voltage | 2250 S | 012 BX4 CxD | 024 BX4 CxD | |
|---|-----------------|--------------------------|-------------|-------------------|
| Power supply electronic | U_B/U_{EL} | 8 ... 30 | 8 ... 30 | V DC |
| Power supply motor ¹⁾ | $-/U_B$ | 0 ... 30 | 0 ... 30 | V DC |
| Nominal voltage for motor | U_N | 12 | 24 | V |
| No-load speed (at U_N) | n_0 | 5 500 | 5 700 | min ⁻¹ |
| Peak torque (S2 operation for max. 1s/2s) | $M_{max.}$ | 44 | 50 | mNm |
| Torque constant | k_M | 19 | 36,9 | mNm/A |
| PWM switching frequency | f_{PWM} | 78 | 78 | kHz |
| Efficiency electronic | η | 95 | 95 | % |
| Standby current for electronic (at U_N) | I_{el} | 0,04 | 0,04 | A |
| Speed range (up to 24V / 30V) | | 1 ... 8 500 | 1 ... 7 500 | min ⁻¹ |
| Shaft bearings | | ball bearings, preloaded | | |
| 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 |
| Shaft play: | | | | |
| – radial | ≤ 0,015 | | | mm |
| – axial | = 0 | | | mm |
| Operating temperature range | -25 ... +85 | | | °C |
| Housing material | stainless steel | | | |
| Mass | 117 | | | g |

¹⁾ Only available for option 2993 (separate power supply)

Rated values for continuous operation

| | | | | |
|-------------------------------|-------|-------|-------|-------------------|
| Rated torque | M_N | 22 | 25 | mNm |
| Rated current (thermal limit) | I_N | 1,38 | 0,77 | A |
| Rated speed | n_N | 3 900 | 4 500 | min ⁻¹ |

Interface / range of functions

| | ... CSD | ... CCD/COD |
|---------------------------------------|---|-------------|
| Configuration from Motion Manager 5.0 | RS232 | CANopen |
| Fieldbus | RS232 | CANopen |
| Operating modes (CSD/CCD) | Position/speed/torque control via interface or analogue set value specification. Operation as servo amplifier in voltage controller mode. | |
| Operating modes (CCD/COD) | Profile Position Mode (PP), Profile Velocity Mode (PV), Homing Mode, Cyclic Synchronous Position Mode (CSP) | |
| Speed range | see motor diagram | |
| Application programs, (CSD) | Command sequences from movement and control commands can be placed directly into the controller as user programs. | |
| Additional functions | Enables stand-alone operation without a connected communication interface. Overload protection for electronics and motor, self-protection from overheating, over-voltage protection in generator mode. | |

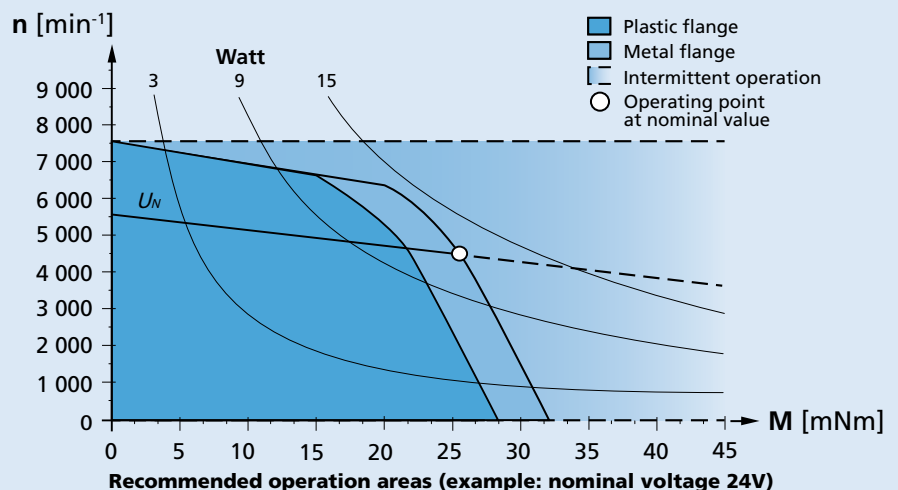
Note:

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

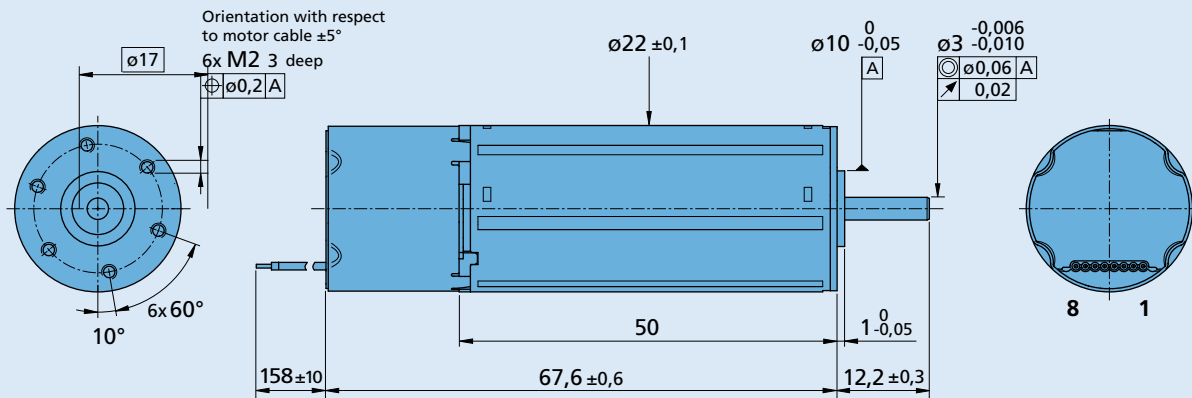
The diagram indicates the recommended speed in relation to the available torque at the output shaft.

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



2250 ... BX4 CSD/CCD/COD

Option, cable and connection information

Example product designation: 2250S024BX4CSD-2993

| Option | Type | Description | Connection | |
|--------|--|--|---|-------------------|
| | | | No. | Function |
| 3830 | Connector  | AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800 | 1 | Connection No. 3 |
| 2993 | Supply | Separate voltage supply for motor and electronics | 2 | U_B |
| | | | 3 | GND |
| | | | 4 | Analog input |
| | | | 5 | Analog GND |
| | | | 6 | Fault output |
| | | | 7 | RS232 RXD / CAN_L |
| | | | 8 | RS232 TXD / CAN_H |
| | | | Standard cable PVC ribbon cable 8 x AWG 26, 1,27 mm | |
| | | | Note: For details on the connection assignment, see device manual MCS. | |

Product combination

| Precision Gearheads / Lead Screws | Encoders | Drive Electronics | Cables / Accessories |
|-----------------------------------|----------|-------------------|--|
| 22F 22/7 26A BS22-1.5 | | Integrated | To view our large range of accessory parts, please refer to the "Accessories" chapter. |