Motion Control Systems

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

16 mNm

9,5 W

2232 ... BX4 CxD

Values at 22°C and nominal voltage		2232 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			6 300	6 900	min⁻¹
Peak torque (S2 operation for max. 1s/2s)	$M_{max.}$			32	32	mNm
Torque constant	k_M			17	31,4	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 ... 11 300	1 ... 8 600	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		77				g

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

Rated values for continuous operation						
Rated torque	M_N			16	16	mNm
Rated current (thermal limit)	I_N			1,18	0,53	A
Rated speed	n_N			3 450	4 650	min⁻¹

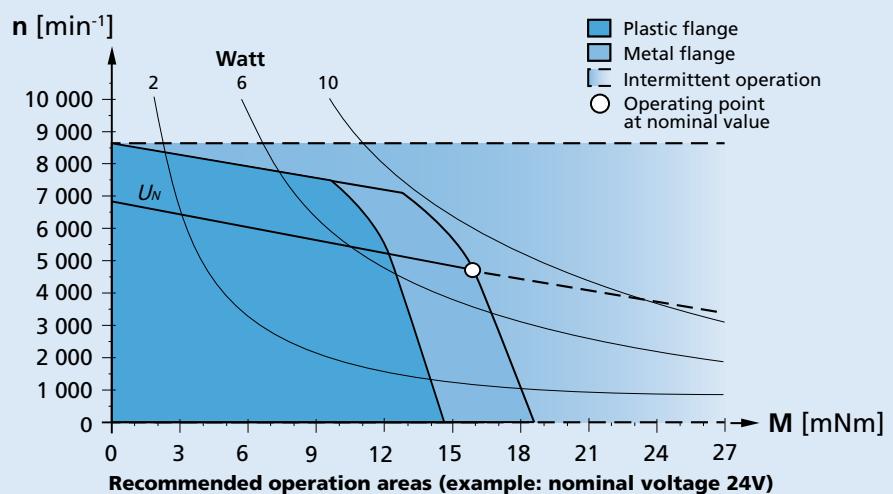| Interface / range of functions	... CSD	... COD
Configuration from Motion Manager 5.0	RS232	CANopen
Fieldbus	RS232	CANopen
Operating modes (CSD)	Position/speed/torque control via interface or analogue set value specification. Operation as servo amplifier in voltage controller mode.	
Operating modes (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.	
	Enables stand-alone operation without a connected communication interface.	
Additional functions	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.
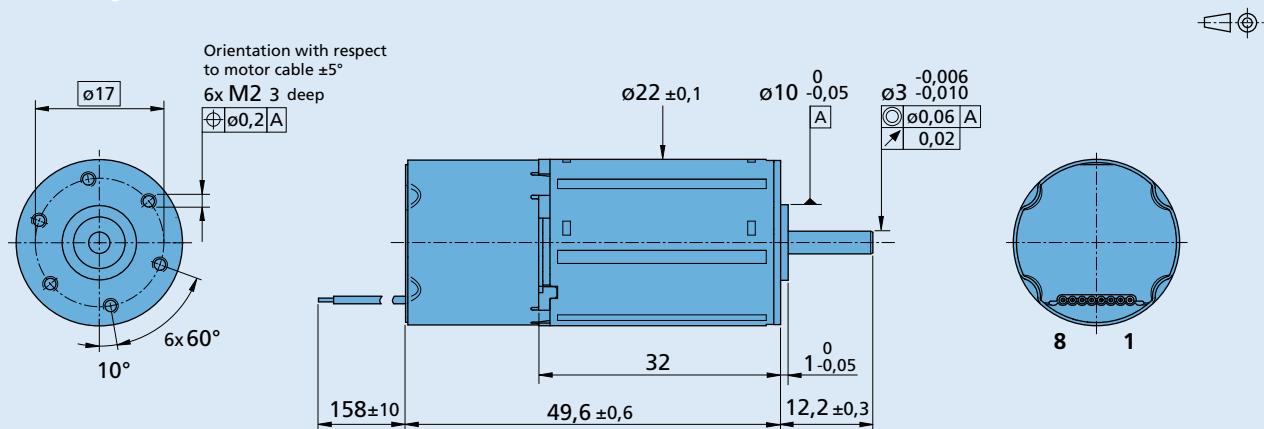
The diagram indicates the recommended speed in relation to the available torque at the output shaft.
It includes the assembly on a plastic- as well as on a metal flange (assembly method: IM B 5).

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 $U_{mot} > U_N$.

Recommended operation areas (example: nominal voltage 24V)

Dimensional drawing

Orientation with respect
to motor cable ±5°

ø17

6x M2 3 deep
⊕ ø0,2 A

ø22 ±0,1

ø10 $^{0}_{-0,05}$ A

ø3 $^{-0,006}_{-0,010}$

◎ ø0,06 A

⌀ 0,02

6x 60°

10°

158±10

32

49,6 ±0,6

$^{0}_{-1}$ $^{}_{-0,05}$

12,2 ±0,3

8 1

2232 ... BX4 CSD/COD

Option, cable and connection information

Example product designation: **2232S024BX4CSD-2993**

Option	Type	Description
3830	Connector	AWG 26 / PVC ribbon cable with connector MOLEX Microfit 3.0, 43025-0800, recommended mating connector 43020-0800
2993	Supply	Separate voltage supply for motor and electronics

Connection

No.	Function
1	Connection No. 3
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 22GPT 22/7 26A		Integrated	To view our large range of accessory parts, please refer to the "Accessories" chapter.

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

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