Motion Control Systems

V3.0, 4-Quadrant PWM
with EtherCAT interface

76 mNm
32 W

MCS 3242 ... BX4 ET

Values at 22°C and nominal voltage	MCS 3242G		024BX4 ET	
Power supply electronic	U_P		12 ... 50	V DC
Power supply motor	U_{mot}		0 ... 50	V DC
Nominal voltage for motor	U_N		24	V
No-load speed (at U_N)	n_0		4 900	min⁻¹
Peak torque (S2 operation for max. 14s)	$M_{max.}$		150	mNm
Torque constant	k_M		41,4	mNm/A
PWM switching frequency	f_{PWM}		100	kHz
Efficiency electronic	η		95	%
Standby current for electronic (at U_P=24V)	I_{el}		0,06	A
Speed range (up to 30V)			1 ... 6 200	min⁻¹
Shaft bearings		ball bearings, preloaded		
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
Shaft play:				
– radial		≤ 0,015		mm
– axial		= 0		mm
Operating temperature range		-40 ... +85		°C
Housing material		aluminium, stainless steel		
Protection class, with option V ring		IP54		
Mass		356		g

Rated values for continuous operation				
Rated torque	M_N		76	mNm
Rated current (thermal limit)	I_N		1,82	A
Rated speed	n_N		2 800	min⁻¹

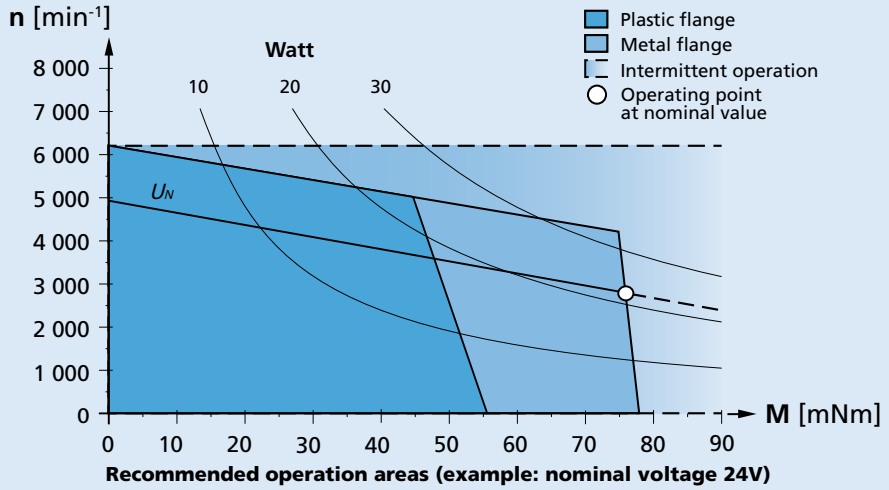
Interface / range of functions	... ET
Configuration from Motion Manager 6.0	RS232
Fieldbus	EtherCAT
Operating modes	PP, PV, PT, CSP, CSV, CST and homing acc. to IEC 61800-7-201 or IEC 61800-7-301 as well as position-, speed- and torque control via analog setpoint or voltage controller
Speed range	see motor diagram
Application programs	Max. 8 application programs (BASIC), one of which is an autostart function
Additional functions	Touch-probe input, connection of a second incremental encoder, control of a holding brake
Indicator	LEDs for displaying the operating state Trace as recorder (scope function) or logger

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).

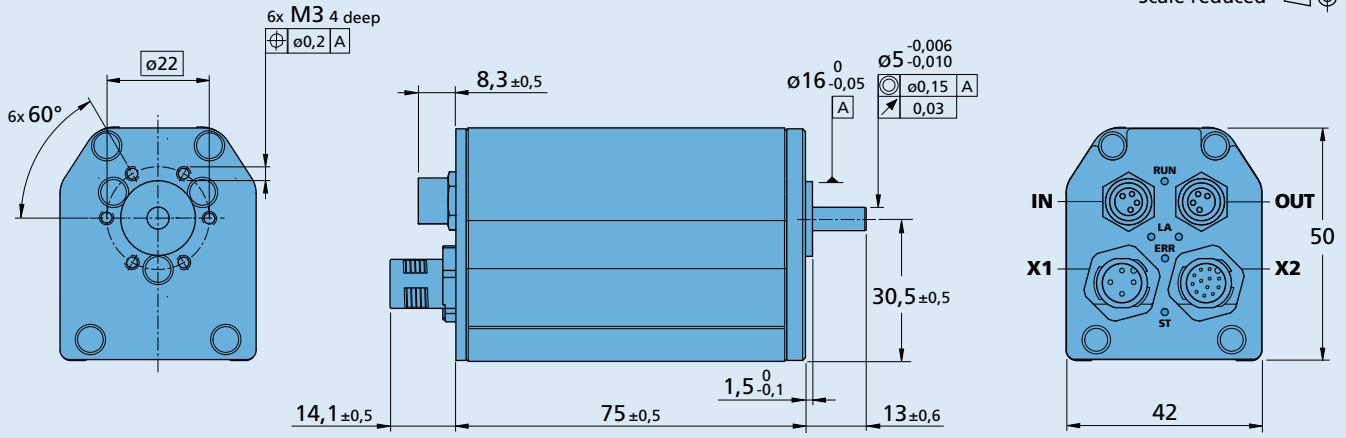
The nominal voltage linear slope describes the maximal achievable operating points at nominal voltage.
Any points of operation above this linear slope will require a supply voltage $U_{mot} > U_N$.



Recommended operation areas (example: nominal voltage 24V)

Dimensional drawing

Scale reduced



MCS 3242 G ... BX4 ET

Option, cable and connection information

Example product designation: **MCS3242G024BX4ET-5453**

Option	Type	Description
5452	Shaft seal	For use with oil emulsive substances
5453	Shaft seal	IP54 according to IEC 60529
5657	Motor flange seal	IP54 according to IEC 60529

Connection

Name	Function	Inputs-outputs	Description
X1	Motor and electronic power supply		
X2	Inputs-outputs	DigIn1, DigIn2, DigIn3 DigOut1, DigOut2 AnIn1, AnIn2 U_{out} / GND	TTL or. PLC level max. 0,7A continuous current ± 10V against AGND 5V
IN	Fieldbus		EtherCAT IN
OUT	Fieldbus		EtherCAT OUT

Note: For details on the connection assignment, see device manual for the MCS.

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
32A 32/3 32/3R 38A		Integrated	To view our large range of accessory parts, please refer to the “Accessories” chapter.