

# Motion Control Systems

V3.0, 4-Quadrant PWM  
with EtherCAT interface

160 mNm  
140 W

## MCS 3274 ... BP4 ET

Values at 22°C and nominal voltage	MCS 3274G	024BP4 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 $U_N$ )	$n_0$	7 400	min <sup>-1</sup>
Peak torque (S2 operation for max. 1s)	$M_{max}$	320	mNm
Torque constant	$k_M$	28,4	mNm/A
PWM switching frequency	$f_{PWM}$	100	kHz
Efficiency electronic	$\eta$	95	%
Standby current for electronic (at $U_P=24V$ )	$I_{el}$	0,06	A
Speed range (up to 36V)		1 ... 11 600	min <sup>-1</sup>
Shaft bearings	ball bearings, preloaded		
Shaft load max.:			
– with shaft diameter	5		mm
– radial at 3 000 min <sup>-1</sup> (5 mm from mounting flange)	50		N
– axial at 3 000 min <sup>-1</sup> (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	540		g

### Rated values for continuous operation

Rated torque	$M_N$	160	mNm
Rated current (thermal limit)	$I_N$	5,6	A
Rated speed	$n_N$	6 350	min <sup>-1</sup>

### 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

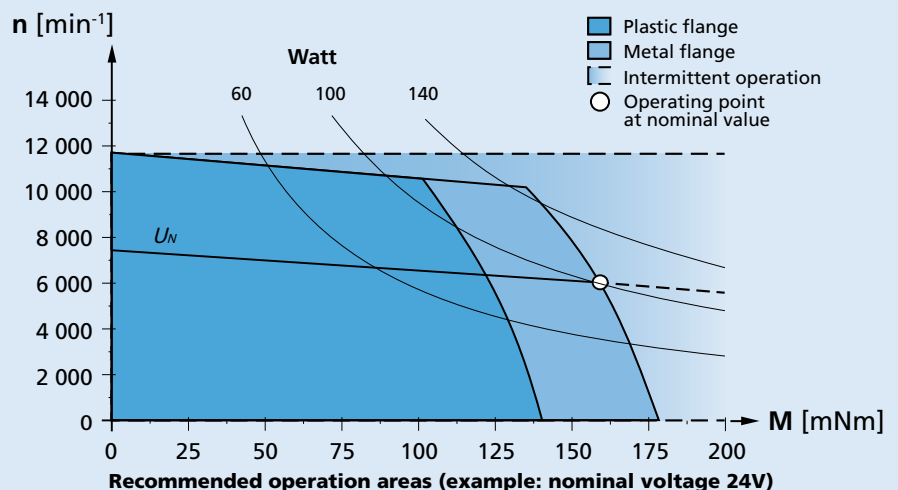
#### Note:

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

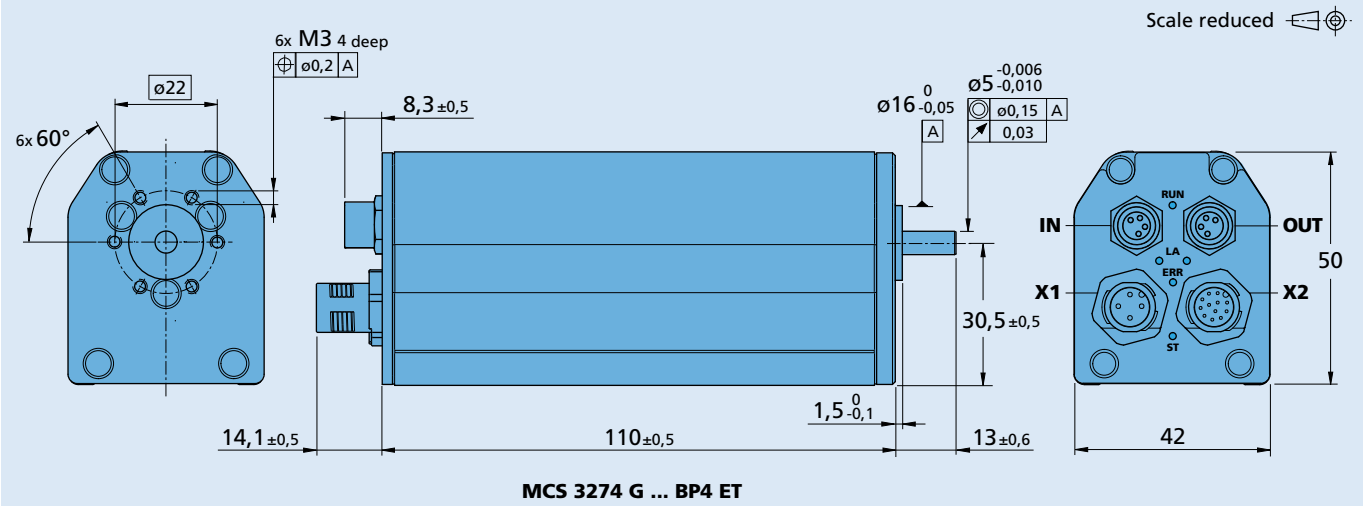
The diagram indicates the recommended speed in relation to the available torque at the output shaft.

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  $U_{mot} > U_N$ .



**Dimensional drawing**



**Option, cable and connection information**

Example product designation: MCS3274G024BP4ET-5453

Option	Type	Description	Connection			
			Name	Function	Inputs-outputs	Description
5452	Shaft seal	For use with oil emulsive substances	X1	Motor and electronic power supply		
5453	Shaft seal	IP54 according to IEC 60529	X2	Inputs-outputs	DigIn1, DigIn2, DigIn3 DigOut1, DigOut2 AnIn1, AnIn2 U <sub>out</sub> / GND	TTL or. PLC level max. 0,7A continuous current ± 10V against AGND 5V
5657	Motor flange seal	IP54 according to IEC 60529	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.