

Stepper Motors

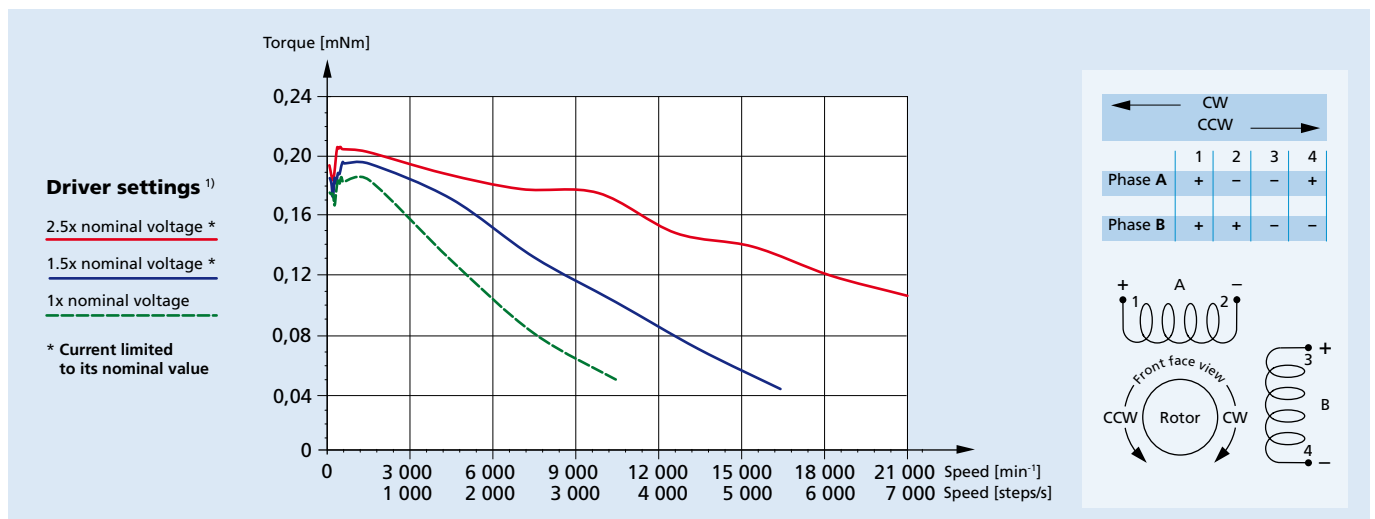
0,25 mNm

Two phase, 20 steps per revolution
PREClstep® Technology

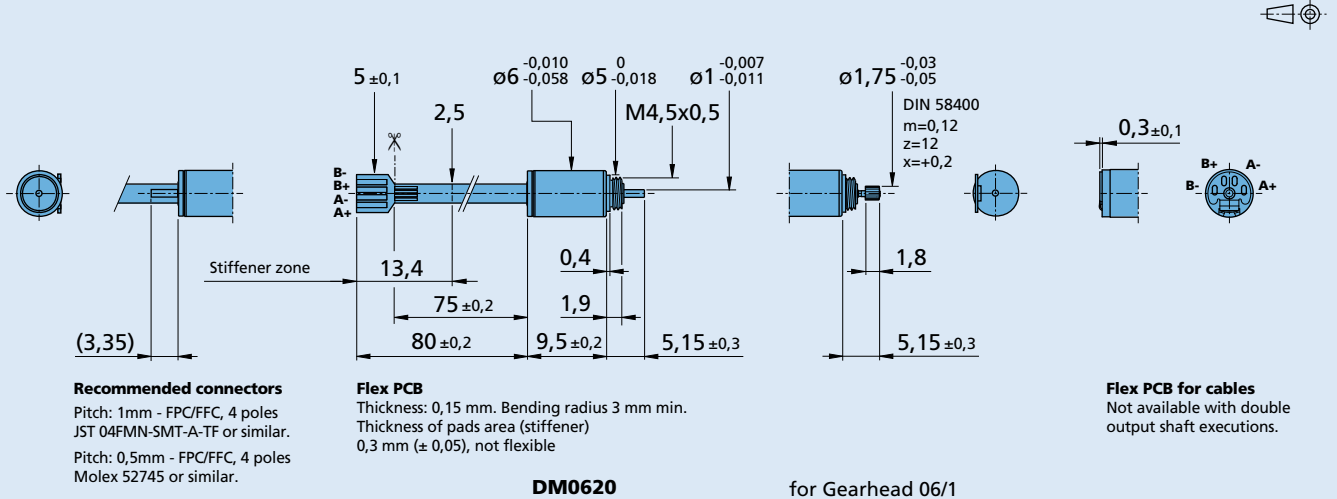
Series DM0620

DM0620 ...		0130		0080		0040		Drive mode	
		Current	Voltage	Current	Voltage	Current	Voltage		
1	Nominal current per phase (both phases ON)	0,13	–	0,08	–	0,04	–	A	
2	Nominal voltage per phase (both phases ON)	–	2	–	3	–	6	V DC	
3	Phase resistance (at 20°C)	13,6		30		120		Ω	
4	Phase inductance (1kHz)	2		4,5		18,5		mH	
5	Back-EMF amplitude	0,53		0,83		1,6		V/k step/s	
6	Holding torque (at nominal current in both phases)	0,25							mNm
7	Holding torque (at twice the nominal current)	0,39							mNm
8	Step angle (full step)	18							degree
9	Angular accuracy	± 5							% of full step
10	Residual torque, max.	0,06							mNm
11	Rotor inertia	0,5							·10 ⁻⁹ kgm ²
12	Resonance frequency (at no load)	60							Hz
13	Electrical time constant	0,15							ms
14	Ambient temperature range	–35 ... +70							°C
15	Winding temperature tolerated, max.	130							°C
16	Thermal resistance	<i>R_{th1} / R_{th2}</i>		15 / 96,6				°C/W	
17	Thermal time constant	<i>τ_{w1} / τ_{w2}</i>		3,2 / 120				s	
18	Shaft bearings	Sintered sleeve bearing (standard)			ball bearings, preloaded (optional)				
19	Shaft load, max.:								
	– radial (3 mm from bearing)	0,3			3,0				N
	– axial	0,5			0,5				N
20	Shaft play, max.:								
	– radial (0,2N)	20			12				μm
	– axial (0,2N)	~0			~0				μm
21	Mass	1,1							g

¹⁾ On PWM drivers or chopper (current mode), the current is set to the nominal value and the supply voltage is typically 1 to 3x higher than the nominal voltage. Microstepping is recommended below 200 steps/s. Curves measured with a load inertia of 3.10⁻⁹ kgm².



Dimensional drawing



Combinations

Drive Electronics	Encoders	Cables	Gearheads / Lead screws
MCST3601			
		Complete list available on request	06/1 Lead screws M1,2 - M1,6

Ordering information

Example: **DM06202R008011**

Motor type	Bearings	Winding	Motor execution		
DM = Motor design 06 = Motor diameter (mm) 20 = Steps per revolution DM0620	Special lubricant options available SB (sleeve bearing) 2R (2 ball bearings) RC (2 ball bearings, vacuum/low temp.)	0130 0080 0040	Only front output shaft 31 (Flex PCB 80mm p=1mm) 35 (Flex PCB 80mm p=1mm) 76 (Flex PCB 80mm p=1mm) 78 (Flex PCB 80mm p=1mm) 11 (Flex PCB for cable) 15 (Flex PCB for cable) 26 (Flex PCB for cable) 28 (Flex PCB for cable)	With double output shaft 30 (Flex PCB 80mm p=1mm) 36 (Flex PCB 80mm p=1mm) 75 (Flex PCB 80mm p=1mm) 77 (Flex PCB 80mm p=1mm)	Front output shaft Plain shaft $\varnothing 1$ mm Pinion 06/1 for lead screw M1,2 for lead screw M1,6 Plain shaft $\varnothing 1$ mm Pinion 06/1 for lead screw M1,2 for lead screw M1,6
Note : Standard version is delivered with a flex PCB of 80mm that the user can cut himself as indicated on the drawing above. A version with pre-cut PCB is available on request.					