

Stepper Motors

22 mNm

Two phase, 24 steps per revolution
PRECstep® Technology

Series AM2224R3

	AM2224R3 ...	1000	0500	0250	0125			
		Current	Voltage	Current	Voltage	Current	Voltage	Drive mode
1	Nominal current per phase (both phases ON) ¹⁾	1,0	–	0,5	–	0,25	–	A
2	Nominal voltage per phase (both phases ON) ¹⁾	–	1,4	–	3	–	6	V DC
3	Phase resistance (at 20°C)	0,9		4,8		18		Ω
4	Phase inductance (1kHz)	0,9		4,3		16,3		mH
5	Back-EMF amplitude	3,8		8,3		16,3		V/k step/s
6	Holding torque (at nominal current in both phases)	22						mNm
7	Holding torque (at twice the nominal current)	37						mNm
8	Step angle (full step)	15						degree
9	Angular accuracy ¹⁾	± 10						% of full step
10	Residual torque, max.	2						mNm
11	Rotor inertia	253						·10 ⁻⁹ kgm ²
12	Resonance frequency (at no load)	100						Hz
13	Electrical time constant	0,92						ms
14	Ambient temperature range	–35 ... +70						°C
15	Winding temperature tolerated, max.	130						°C
16	Thermal resistance	<i>R_{th1} / R_{th2}</i>	4,8 / 20,4					°C/W
17	Thermal time constant	<i>τ_{w1} / τ_{w2}</i>	10 / 620					s
18	Shaft bearings	ball bearings, preloaded (standard with 3 mm shaft)						
19	Shaft load, max.:							
	– radial (3 mm from bearing)	20,0						N
	– axial	4,0						N
20	Shaft play, max.:							
	– radial (0,2N)	15						μm
	– axial (0,2N)	~0						μm
21	Mass	50,5						g

¹⁾ Relevant for 2 phases ON only. On PWM drivers or chopper (current mode), the current is set to the nominal value and the supply voltage is typically 3 to 8x higher than the nominal voltage.

²⁾ Curves measured with a load inertia of 600 · 10⁻⁹ kgm², in half-step mode for the “1 x nominal voltage” curve, in 1/4 micro-stepping mode for the other curves.

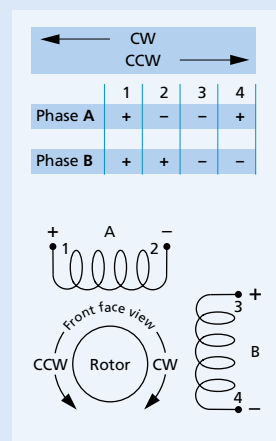
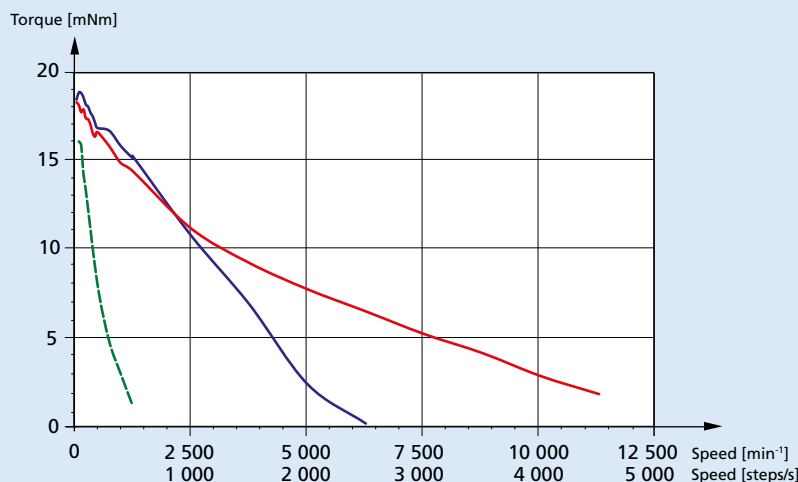
Driver settings ^{1) 2)}

8x nominal voltage *

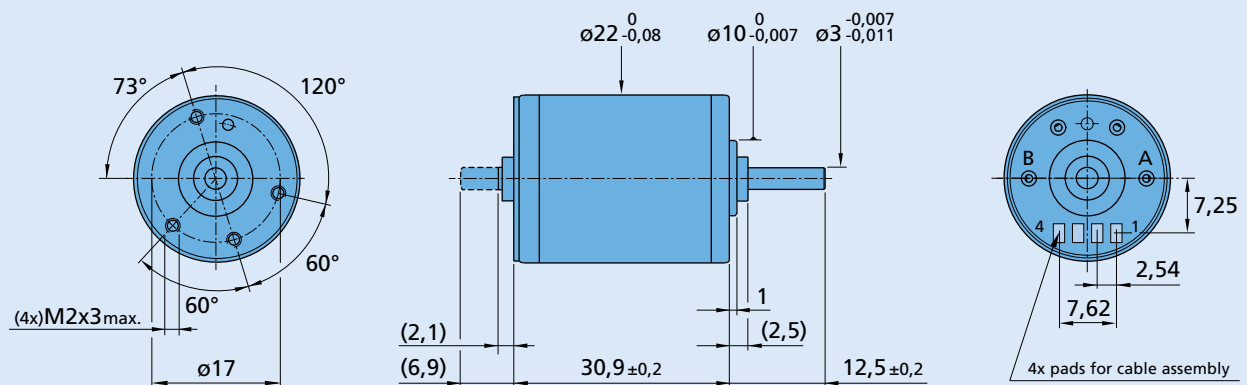
4x nominal voltage *

1 x nominal voltage

* Current limited to its nominal value

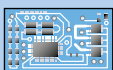
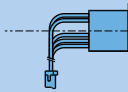
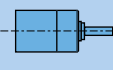


Dimensional drawing



AM2224R3

Combinations

Drive Electronics	Encoders	Cables	Gearheads / Lead screws
			
MCST3601	PE22-120	List available on request	26/1(R) Lead screws M3

Ordering information

Example: **AM2224R3025031**

Motor type	Bearings	Winding	Motor execution		
AM = Motor design 22 = Motor diameter (mm) 24 = Steps per revolution	Special lubricant options available		Only front output shaft	With double output shaft	Front output shaft
AM2224	R3 (2 ball bearings)	1000	30	31	Plain shaft for 26/1(R)
	RC (2 ball bearings, vacuum/low temp.)	0500	85	84	Plain shaft for lead screw M3
		0250		36	Plain shaft for encoder PE22-120
		0125		86	Plain shaft for lead screw M3, PE22-120