

Stepper Motors

6,0 mNm

Two phase, 24 steps per revolution
PRECiStep® Technology

AM1524-ww-ee

ww =		A-0,45-3,6		A-0,25-12,5		V-6-35		V-12-150		Drive mode									
1	Nominal current per phase (both phases ON) ¹⁾	Current	0,45	Voltage	–	Current	0,25	Voltage	–	0,15	–	Current	0,075	Voltage	–	0,075	–	12	A
2	Nominal voltage per phase (both phases ON) ¹⁾		–		2		–		3,5		–		6		–		12	V DC	
3	Phase resistance (at 20°C)		3,6				12,5				35				138			Ω	
4	Phase inductance (1kHz)		1,9				6,3				16,5				70,6			mH	
5	Back-EMF amplitude		2,4				4,4				7,2				14,7			V/k step/s	
6	Holding torque (at nominal current in both phases)		6,0															mNm	
7	Holding torque (at twice the nominal current)		10															mNm	
8	Step angle (full step)		15															degree	
9	Angular accuracy ¹⁾		± 10															% of full step	
10	Residual torque, max.		0,9															mNm	
11	Rotor inertia		45															·10 ⁻⁹ kgm ²	
12	Resonance frequency (at no load)		120															Hz	
13	Electrical time constant		0,5															ms	
14	Ambient temperature range		–35 ... +70															°C	
15	Winding temperature tolerated, max.		130															°C	
16	Thermal resistance	<i>R_{th1} / R_{th2}</i>	12,9 / 31,6															°C/W	
17	Thermal time constant	<i>τ_{w1} / τ_{w2}</i>	6 / 350															s	
18	Shaft bearings		sintered sleeve bearings (standard)					ball bearings, preloaded (optional)											
19	Shaft load, max.:																		
	– radial (3 mm from bearing)		0,5					6,0					N						
	– axial		0,5					2,0					N						
20	Shaft play, max.:																		
	– radial (0,2N)		15					12					μm						
	– axial (0,2N)		150					~0					μm						
21	Mass		12										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 5x higher than the nominal voltage.

²⁾ Curves measured with a load inertia of $50 \cdot 10^{-9} \text{ kgm}^2$, in half-step mode for the "1 x nominal voltage" curve, in 1/4 micro-stepping mode for the other curves.

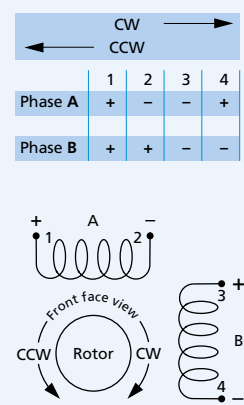
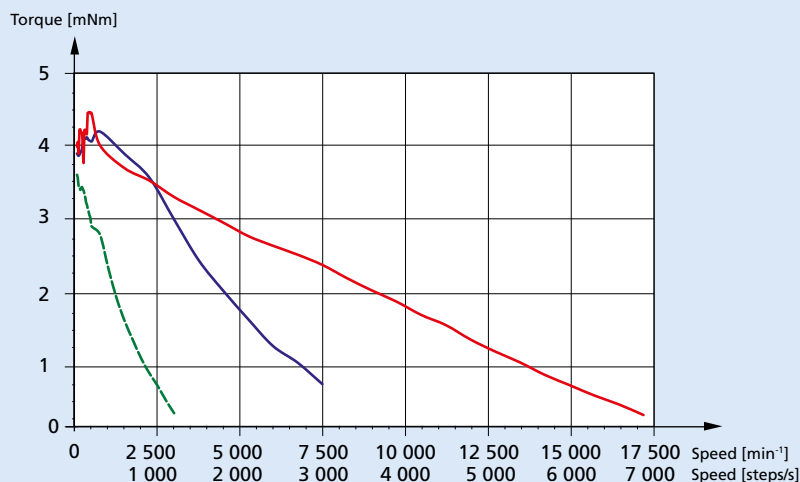
Driver settings ^{1) 2)}

5x nominal voltage *

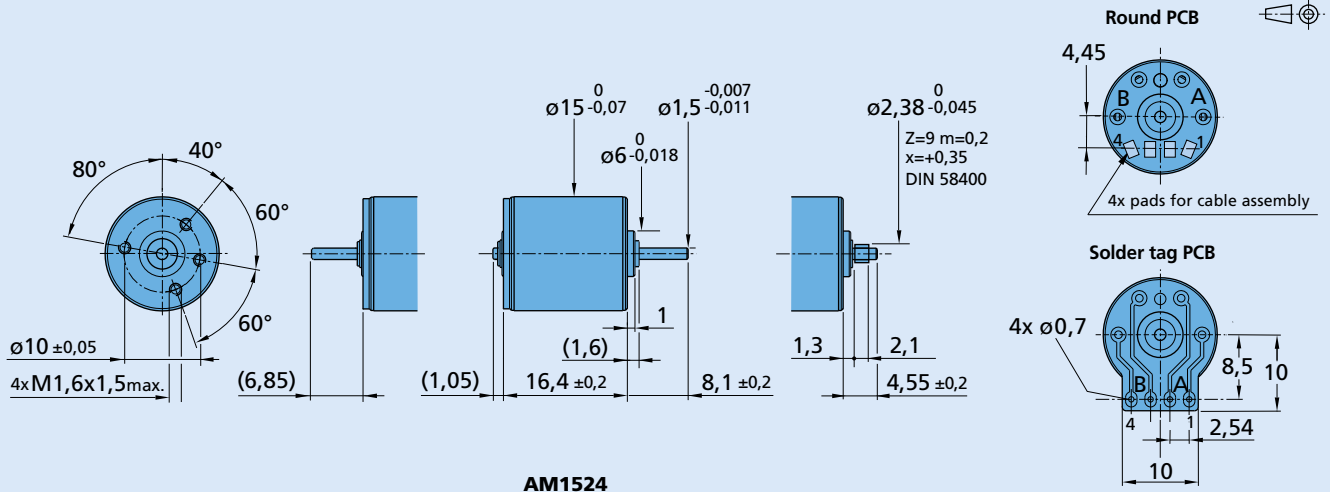
2.5x nominal voltage *

1 x nominal voltage

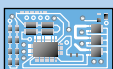
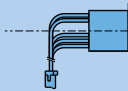

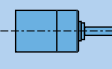
* Current limited to its nominal value



Dimensional drawing



Combinations

Drive Electronics	Encoders	Cables	Gearheads / Lead screws
			
MCST3601	Available on request	List available on request	15A 15/5(S) 15/8* 15/10 16/7 17/1 Lead screws M2 - M3

* Zero Backlash Gearheads

Ordering information

Example: **AM1524-2R-V-6-35-57**

Motor type	Bearings (rr)	Winding (vvv)	Motor execution (ee)		
AM = Motor design 15 = Motor diameter (mm) 24 = Steps per revolution AM1524	Special lubricant options available - (sleeve bearings) -2R (2 ball bearings)	-V-6-35 -V-12-150 -A-0,25-12,5 -A-0,45-3,6	Only front output shaft -55 (Round PCB) -57 (Round PCB) -70 (Round PCB) -83 (Round PCB) -05 (Solder tag PCB) -07 (Solder tag PCB) -72 (Solder tag PCB) -23 (Solder tag PCB)	With double output shaft -54 (Round PCB) -56 (Round PCB) -71 (Round PCB) -82 (Round PCB) -04 (Solder tag PCB) -06 (Solder tag PCB) -73 (Solder tag PCB) -22 (Solder tag PCB) -04-0904 -06-0904 -73-0904	Front output shaft Plain shaft, L=8,1 mm for 15/10,16/7, 17/1, M3 Pinion 15/5(S), 15/8 Plain shaft, L=4,5 mm for gearhead 15A Plain shaft for lead screw M2 Plain shaft, L=8,1 mm for 15/10,16/7, 17/1, M3 Pinion 15/5(S), 15/8 Plain shaft, L=4,5 mm for gearhead 15A Plain shaft for lead screw M2 Idem -04 & for encoder Idem -06 & for encoder Idem -73 & for encoder