Stepper Motors 6,0 mNm

Two phase, 24 steps per revolution
PRECIstep® Technology

Series AM1524

	AM1524 ...	0450		0250		0150		0075		
		Current	Voltage	Current	Voltage	Current	Voltage	Current	Voltage	Drive mode
1	Nominal current per phase (both phases ON) [1]	0,45	–	0,25	–	0,15	–	0,075	–	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								$\cdot 10^{-9}$ 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 R_{th1} / R_{th2}	12,9 / 31,6								°C/W
17	Thermal time constant τ_{w1} / τ_{w2}	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 $\cdot 10^{-9}$ kgm^2, in half-step mode for the "1 x nominal voltage" curve, in 1/4 micro-stepping mode for the other curves.

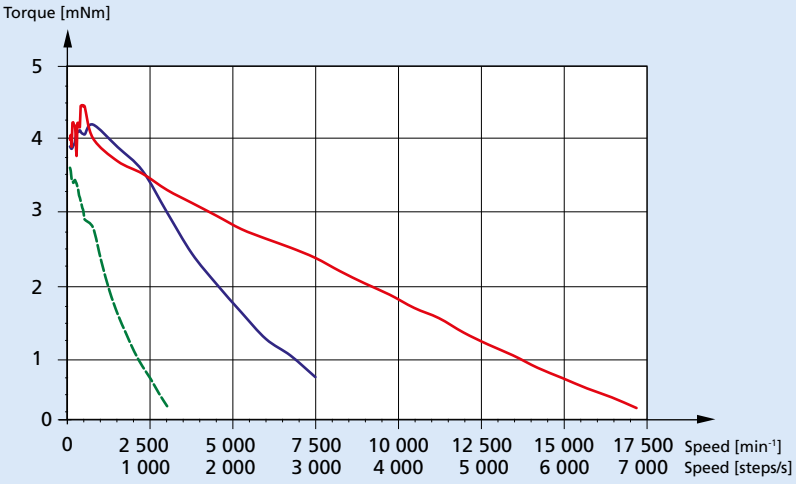
Driver settings [1] [2]

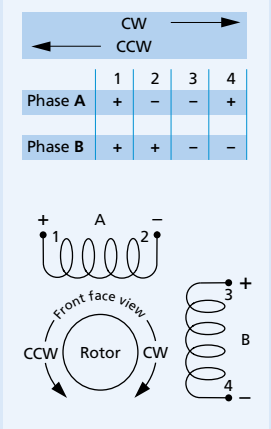
5x nominal voltage *

2.5x nominal voltage *

1 x nominal voltage

* **Current limited to its nominal value**





For notes on technical data and lifetime performance refer to "Technical Information".
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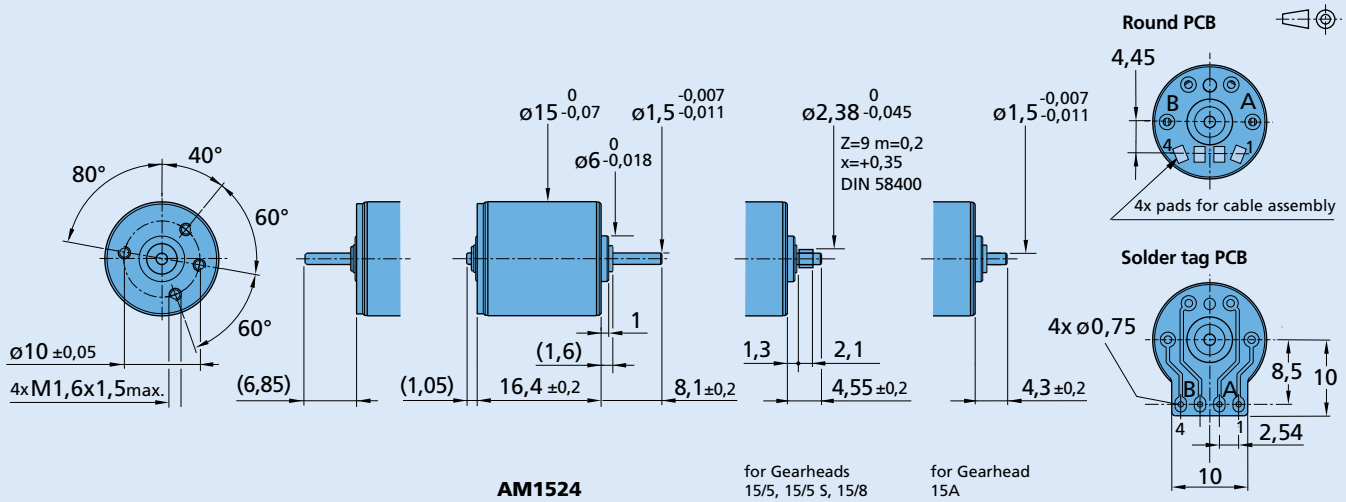
Dimensional drawing



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: **AM15242R015057**

Motor type AM = Motor design 15 = Motor diameter (mm) 24 = Steps per revolution	Bearings Special lubricant options available	Winding	Motor execution Only front output shaft		With double output shaft		Front output shaft
AM1524	**SB** (sleeve bearings)	**0150**	**55**	(Round PCB)	**54**	(Round PCB)	Plain shaft, L=8,1 mm for 15/10,16/7, 17/1, M3
	2R (2 ball bearings)	**0075**	**57**	(Round PCB)	**56**	(Round PCB)	Pinion 15/5(S), 15/8
	RC (2 ball bearings,	**0250**	**70**	(Round PCB)	**71**	(Round PCB)	Plain shaft, L=4,3 mm for gearhead 15A
	vacuum/low temp.)	**0450**	**83**	(Round PCB)	**82**	(Round PCB)	Plain shaft for lead screw M2
			05	(Solder tag PCB)	**04**	(Solder tag PCB)	Plain shaft, L=8,1 mm for 15/10,16/7, 17/1, M3
			07	(Solder tag PCB)	**06**	(Solder tag PCB)	Pinion 15/5(S), 15/8
			72	(Solder tag PCB)	**73**	(Solder tag PCB)	Plain shaft, L=4,3 mm for gearhead 15A
			23	(Solder tag PCB)	**22**	(Solder tag PCB)	Plain shaft for lead screw M2
					94		Idem -04 & for encoder
					96		Idem -06 & for encoder
					97		Idem -73 & for encoder