

# Stepper Motors

0,2 mNm

Two phase, 20 steps per revolution  
PRECIstep® Technology

## ADM0620-2R-ww-ee

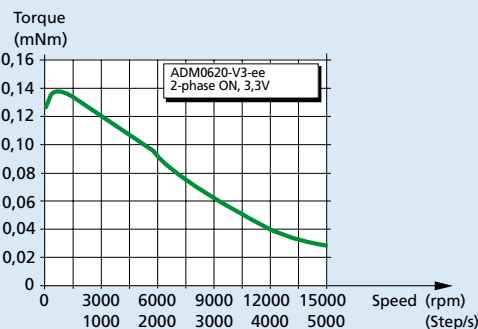
ww =		V3		V6		Drive mode
		Voltage	Current	Voltage	Current	
1	Nominal voltage	3	–	6	–	V DC
2	Nominal current per phase (both phases ON)	–	0,075	–	0,04	A
3	Phase resistance (at 20°C)	30		120		Ω
4	Phase inductance (1kHz)	3,5		9,9		mH
5	Back-EMF amplitude	0,5		0,9		V/k step/s
6	Holding torque <sup>1)</sup> (at nominal current in both phases)	0,2				mNm
7	Holding torque <sup>1)</sup> (at twice the nominal current)	0,28				mNm
8	Step angle (full step)	18				degree
9	Angular accuracy <sup>2)</sup>	± 5				% of full step
10	Residual torque	0,04				mNm
11	Rotor inertia	0,7				·10 <sup>-9</sup> kgm <sup>2</sup>
12	Resonance frequency (at no load)	170				Hz
13	Electrical time constant	0,10				ms
14	Ambient temperature range	–35 ... +70				°C
15	Winding temperature tolerated, max.	130				°C
16	Thermal resistance winding-ambient air	165				°C/W
17	Thermal time constant	120				s
18	Shaft bearings	ball bearings, preloaded (standard)				
19	Shaft load, max.:					
	– radial (3 mm from bearing)	0,3				N
	– axial	0,5				N
20	Shaft play, max.:					
	– radial (0,2N)	20				µm
	– axial (0,2N)	50				µm
21	Isolation test voltage	200				V DC
22	Motor dimensions:					
	– diameter	6				mm
	– length	9,5				mm
	– shaft diameter	0,8				mm
23	Weight	1,4				g

<sup>1)</sup> with bipolar driver

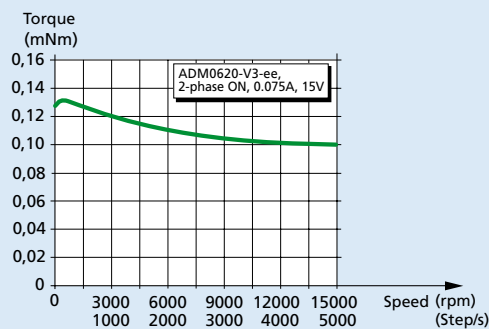
<sup>2)</sup> 2 phases ON, balanced phase currents

<sup>3)</sup> Curves measured with a load inertia of 8 · 10<sup>-9</sup> kgm<sup>2</sup>

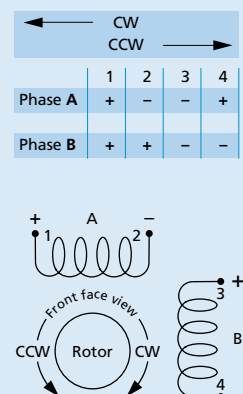
<sup>4)</sup> Testing the motor at lower supply voltages in current mode will result in a decrease in torque at higher speed, even with the same current setting



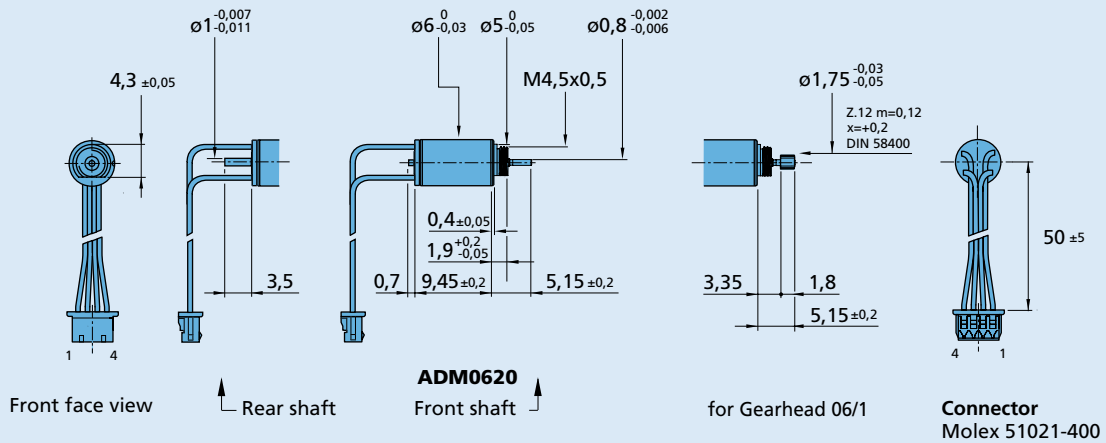
Voltage mode (V) <sup>3)</sup>  
Driver AD VL M1S



Current mode (A) <sup>3) 4)</sup>  
Driver AD CM M1S



### Dimensional drawing



### Combinations

Drive Electronics	Encoders	Stepper Motors	Gearheads / Lead screws
 <b>AD VL M_S</b> <b>AD CM M_S</b>		<b>ADM0620</b>	<b>06/1</b> <b>Lead screws M1,2</b> <b>Lead screws M1,6</b>

### Ordering information

Example: **ADM0620-2R-V3-05**

Motor type	Bearings (rr)	Winding (ww)	Motor execution (ee)		
			Only front output shaft	With double output shaft	Front output shaft
ADM = Motor design 06 = Motor diameter (mm) 20 = Steps per revolution <b>ADM0620</b>	Special lubricant options available <b>-2R</b> (2 ball bearings)	<b>-V2</b> <sup>1)</sup> <b>-V3</b> <b>-V6</b>	<b>-01</b> <b>-05</b> <b>-21</b> <b>-23</b>	<b>-00</b> <b>-06</b> <b>-20</b> <b>-22</b>	Plain shaft Pinion 06/1 Plain shaft <sup>2)</sup> Plain shaft <sup>3)</sup>

<sup>1)</sup> Non-standard windings, for data please inquire with your point of sales

<sup>2)</sup> Prepared for assembly of lead screws size M1,2

<sup>3)</sup> Idem for size M1,6