

# Stepper Motors

0,2 mNm

Two phase, 20 steps per revolution  
PRECstep® Technology

## ADM0620-2R-ww-ee

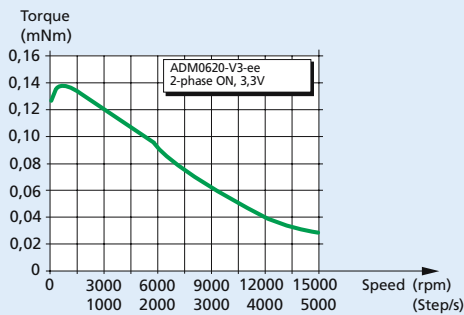
	ww =	V3		V6		Drive mode
		Voltage	Current	Voltage	Current	
1 Nominal voltage		3	–	6	–	V DC
2 Nominal current per phase (both phases ON)		–	0,075	–	0,04	A
3 Phase resistance (at 20°C)			30		120	Ω
4 Phase inductance (1kHz)			3,5		9,9	mH
5 Back-EMF amplitude			0,5		0,9	V/k step/s
6 Holding torque <sup>1)</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

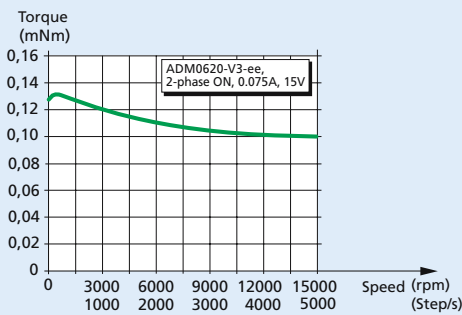
<sup>2)</sup> 2 phases ON, balanced phase currents

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

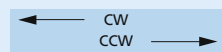
<sup>4)</sup> Testing the motor at lower supply voltages in current mode will result in a decrease in torque at higher speed, even with the same current setting



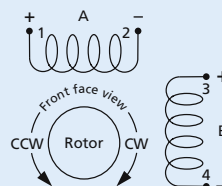
Voltage mode (V) <sup>3)</sup>  
Driver AD VL M1S



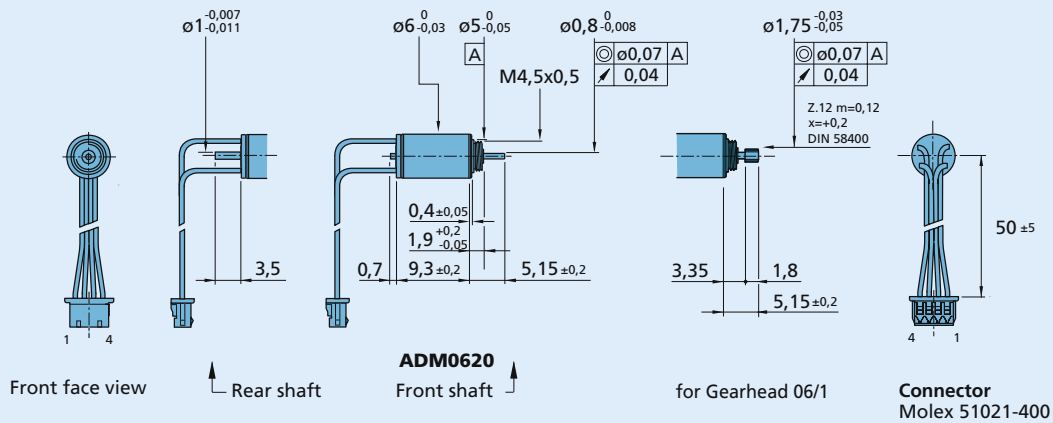
Current mode (A) <sup>3) 4)</sup>  
Driver AD CM M1S



	1	2	3	4
Phase A	+	–	–	+
Phase B	+	+	–	–



### Dimensional drawing



### Combinations

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

### Ordering information

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

Motor type ADM = Motor design 06 = Motor diameter (mm) 20 = Steps per revolution	Bearings (rr) Special lubricant options available	Winding (www)	Motor execution (ee)		
			Only front output shaft	With double output shaft	Front output shaft
<b>ADM0620</b>	<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