

Stepper Motors

62 mNm

Two phase with Disc Magnet,
100 steps per revolution, microstepping motor

Series DM40100R

Values at 20°C	DM40100R	2630	1550	0940	
Connection	Parallel	Serial	Parallel	Serial	
Nominal current per phase (1 phases ON)	2,63	1,32	1,55	0,78	A
Boosted current per phase (1 phases ON)	5,09	2,55	4,6	2,3	A
Phase resistance	0,9	3,8	2,9	11,8	Ω
Phase inductance (1 kHz)	1,15	4,6	3,3	13,2	mH
Holding torque at nominal current (1 phases ON)	62	62	62	62	mNm
Holding torque at boosted current	120	120	120	120	mNm
Residual torque, typ.	3	3	3	3	mNm
Back-EMF amplitude	1,47	2,95	2,5	5	V/k step/s
Electrical time constant	1,2				ms
Rotor inertia	$2,7 \cdot 10^{-7}$				kgm ²
Step angle (full step)	3,6				°
Angular accuracy	±6				%
Angular acceleration, max.	$444 \cdot 10^3$				rad/s ²
Speed up to	10 000				min ⁻¹
Resonance frequency (at no load)	75				Hz
Thermal resistance	14				K/W
Thermal time constant	12				min
Operating temperature range	-20 ... +50				°C
Winding temperature, max.	+130				°C
Shaft bearings	ball bearings (Bearing code: 2R)				
Shaft load max.:					
– with shaft diameter	5				mm
– radial at 5 000 min ⁻¹ (5 mm from bearing)	29				N
– axial at 5 000 min ⁻¹	8				N
– axial at standstill	100				N
Shaft play:					
– radial	0,015				mm
– axial	0				mm
Housing material	Polyphenylensulfid (PPS)				
Mass	125				g
Magnet material	NdFeB				

Driver settings

Curve measured with a load inertia of $1,49 \cdot 10^{-5}$ kgm² on the DM40100R2R263000 motor using a Technosoft IDS640 controller in sin/cos control mode, 256 micro-steps per full step and a peak phase current of 2,63A.



