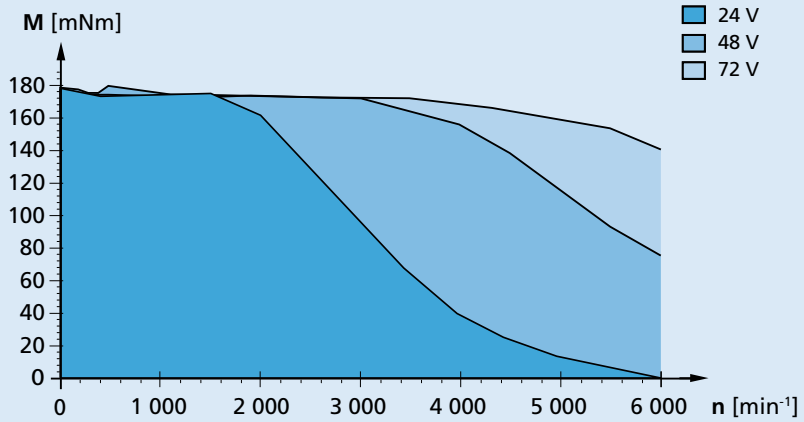
Stepper Motors 200 mNm

Two phase with Disc Magnet,
100 steps per revolution

Series DM52100N

Values at 20°C	DM52100N	5300		2000		
Connection		Parallel	Serial	Parallel	Serial	
Nominal current per phase (1 phases ON)		5,3	2,6	2	1	A
Boosted current per phase (1 phases ON)		12,2	6,1	4,6	2,3	A
Phase resistance		0,35	1,4	2,2	8,8	Ω
Phase inductance (1 kHz)		0,7	2,8	5	20	mH
Holding torque at nominal current (1 phases ON)		200	200	200	200	mNm
Holding torque at boosted current		450	450	450	450	mNm
Residual torque, typ.		20	20	20	20	mNm
Back-EMF amplitude		2,38	4,76	6,3	12,6	V/k step/s
Electrical time constant	2					ms
Rotor inertia	$9{,}4 \cdot 10^{-7}$					kgm²
Step angle (full step)	3,6					°
Angular accuracy	±6					%
Angular acceleration, max.	$478 \cdot 10^{3}$					rad/s²
Speed up to	5 000					min⁻¹
Resonance frequency (at no load)	75					Hz
Thermal resistance	7,3					K/W
Thermal time constant	18					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)	54					N
– axial at 5 000 min⁻¹	12					N
– axial at standstill	167					N
Shaft play:						
– radial	0,015					mm
– axial	0					mm
Housing material	Polyphenylensulfid (PPS)					
Mass	250					g
Magnet material	NdFeB					

Driver settings
Curve measured with a load inertia of $3{,}96 \cdot 10^{-5}$ kgm² on the DM52100N2R530000 motor using a Technosoft IDS640 controller in sin/cos control mode, 256 micro-steps per full step and a peak phase current of 5,3A.

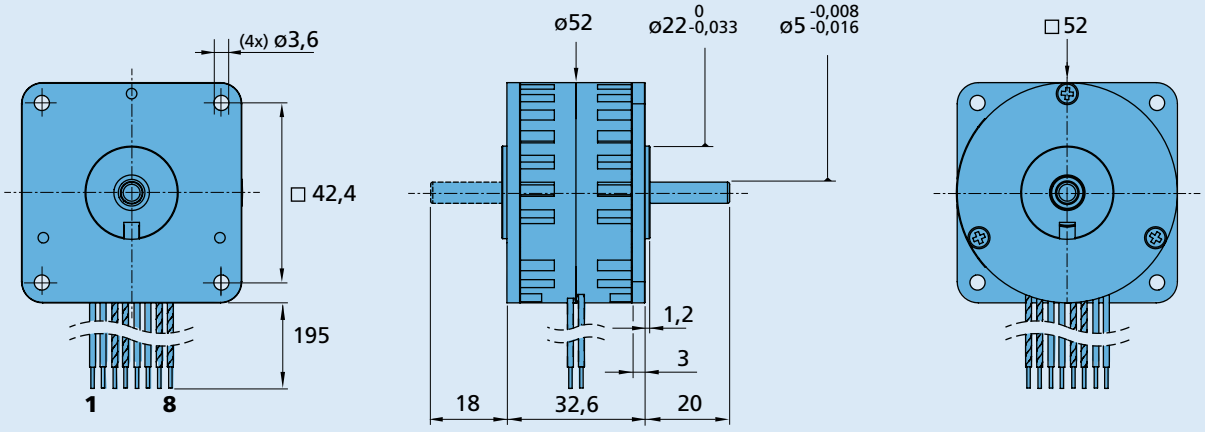


Possible operation areas

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

Dimensional drawing

Scale reduced



DM52100N

Options and connection information

Example product designation: **DM52100N2R530000**

Motor executions front shaft	Motor executions double shaft	Front shaft description
00	01	Plain shaft, L=20mm
	02	Plain shaft, L=20mm, for encoder

Parallel connection

No.	Colour	Phase
1	brown	A+
2	orange	A+
3	brown-white	A-
4	orange-white	A-
5	red	B+
6	yellow	B+
7	red-white	B-
8	yellow-white	B-

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
	IE3-1024		

For notes on technical data and lifetime performance refer to “Technical Information”.