DC-Gearmotors

Precious Metal Commutation

Series 1512 ... SR

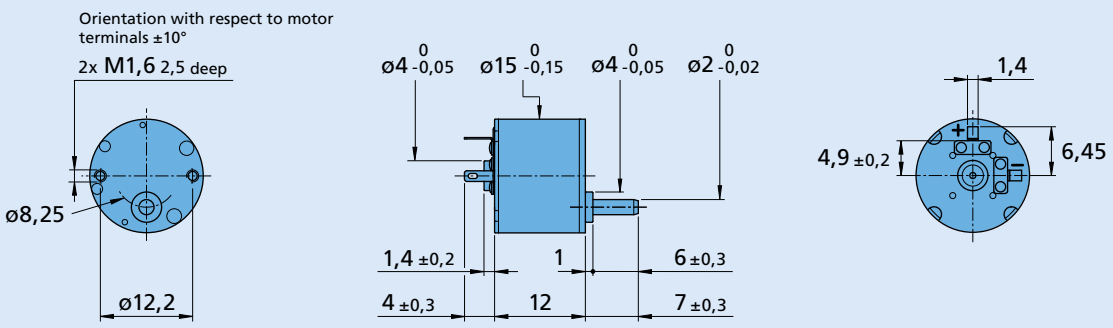
Values at 22°C and nominal voltage	1512 U		003 SR	006 SR	012 SR	
Nominal voltage	U_N		3	6	12	Volt
Terminal resistance	R		13,6	60,5	156	Ω
No-load speed (motor)	n_o		11 200	11 800	12 900	min^{-1}
Speed constant	k_n		3 880	2 050	1 110	min^{-1}/V
Back-EMF constant	k_E		0,258	0,487	0,904	mV/min^{-1}
Torque constant	k_M		2,46	4,65	8,63	mNm/A
Current constant	k_I		0,406	0,215	0,116	A/mNm
Slope of n-M curve	$\Delta n/\Delta M$		21 500	26 700	20 000	min^{-1}/mNm
Rotor inductance	L		275	1 160	3 550	µH
Rotor inertia	J		0,08	0,08	0,08	gcm^2

Housing material		plastic	
Geartrain material		metal	
Backlash, at no-load	≤	4	°
Bearings on output shaft		plastic / brass bearing	
Shaft load max.:			
– radial (5 mm from mounting face)	≤	1,4	N
– axial	≤	1	N
Shaft press fit force, max.	≤	15	N
Shaft play:			
– radial (5 mm from mounting face)	≤	0,08	mm
– axial	≤	0,25	mm
Operating temperature range		– 25 ... + 80	°C

Specifications

reduction ratio (rounded)	output speed up to n_{max} min^{-1}	weight with motor g	output torque continuous operation M_{max} mNm	output torque intermittent operation M_{max} mNm	direction of rotation (reversible)	efficiency %
6 : 1	779	6,9	1,4	3	=	81
13 : 1	372	7,0	2,8	5	≠	73
39 : 1	129	7,2	7,0	10	=	60
112 : 1	45	7,4	19,8	30	≠	59
324 : 1	15	7,7	30,0	50	=	53

Note: output speed at 5000 min^{-1} input speed. Based on motor 1506 ... SR.



1512 U ... SR

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