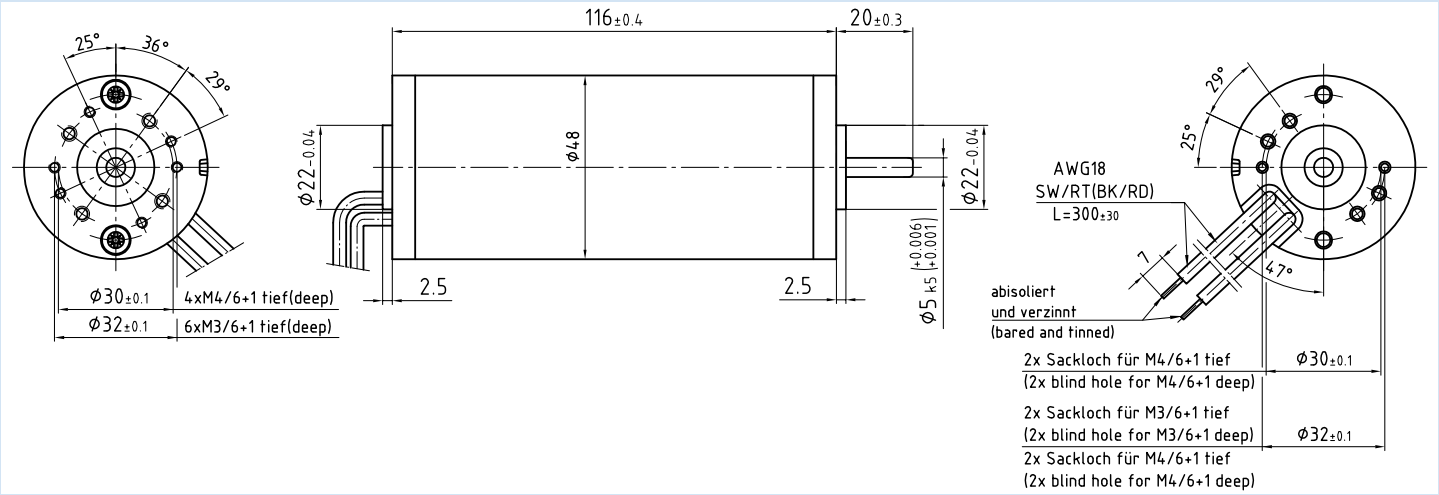
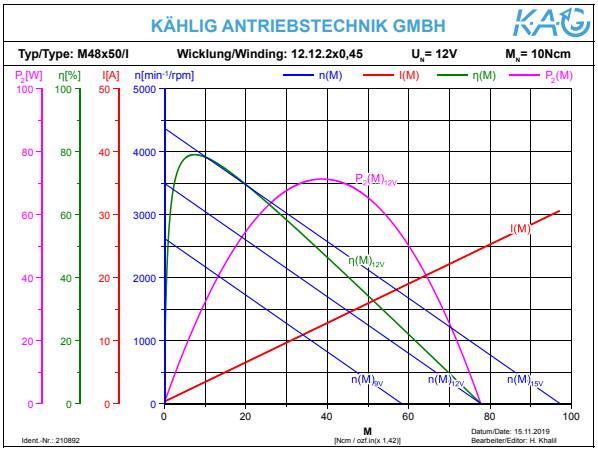
DC-Motor M48x50/I
Id.-Nr. 210892 (12V) 210893 (24V)

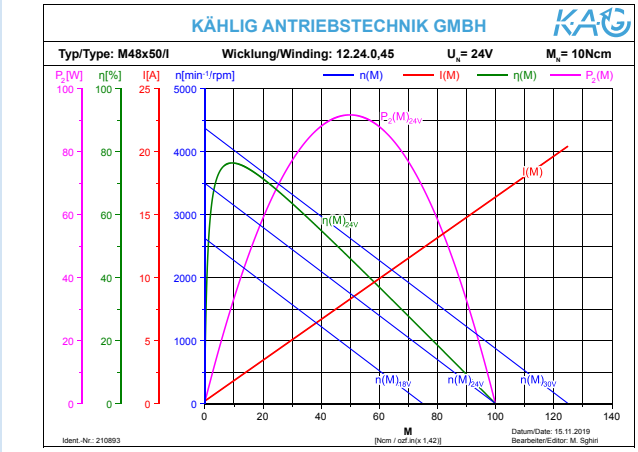
excellent drives

- Brushed DC motor with permanent magnets
- Ball earings
- Lead wires
- Chromatised housing with zinc-die-cast bearing flanges
- Direction of rotation CW / CCW
- Multiple combination possibilities with gears, encoders, brakes and control electronics



Application on request





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Performance

	Sign	Unit	Value 12V	Value 24V	Tolerances
Rated Voltage	U_N	V	12	24	
Rated torque [1]	M_N	Ncm	10	10	
Rated speed [1]	n_N	min^{-1}	3050	3150	±10%
Rated current [1]	I_N	A	3,4	1,8	±20%
No load speed [1]	n_0	min^{-1}	3500	3500	±15%
No load current [1]	I_0	A	0,28	0,18	±50%
Rated power output [1]	P_{2N}	W	31,9	33	
Rated power input [1]	P_{1N}	W	40,8	43,2	
Rated efficiency [1]	η_N	%	78,3	76,4	
Maximum power output [2)3)]	P_{2max}	W	71,3	91,6	
Maximum continous torque [2)3)]	M_{max}	Ncm	10	10	
Maximum continous current [2)3)]	I_{max}	A	3,4	1,8	
Maximum speed [1)3)]	n_{max}	min^{-1}	10000	10000	
Anhaltemoment [1]	M_H	Ncm	77,8	100	
Stall torque [1]	I_H	A	24,5	16,4	
Demagnetization current	I_E	A	25,5	12,7	
Connecting resistance	R	Ω	0,49	1,47	
Armature resistance [1]	R_A	Ω	0,33	1,34	±5%
Armature inductance [1 kHz] [1]	L_A	mH	0,42	1,7	
Rise of speed-characteristic [1]	k_D	Ncm/min	- 45	- 35	
Torque constant [1]	k_M	Ncm/A	3,2	6,2	
Voltage constant [1]	k_E	$V/10^3 min^{-1}$	3,4	6,8	
Friction torque [1]	M_R	Ncm	- 0,9	- 1,1	
Mechanical time constant [1]	T_M	ms	9,9	10,1	
Electrical time constant [1]	T_e	ms	0,9	1,2	
Rotor inertia	J_R	gcm^2	323	323	
Maximum case temperature[2]	ϑ_G	°C	80	80	
Starting voltage [1]	U_A	V	2	2	
Permissible axial shaft loads [3]	F_{axial}	N	40	40	
Permissible radial shaft loads [3]	F_{radial}	N	100	100	
Protection class DIN VDE 0530			IP40		
Duty cycle DIN VDE 0530			S1		
Insulation class DIN VDE 0530			E		
Lifetime at rated $torque_N$			≥ 3000 h		
Ambient temperature			-30°C to +40°C		
Bearing			2 ball bearings		
Interference suppression			feasible		

1) ϑ_w Winding temperature ≈ 20°C 2) $\Delta\vartheta_w$ allowable = 100K
3) The operating at maximum levels reduces the lifespan

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