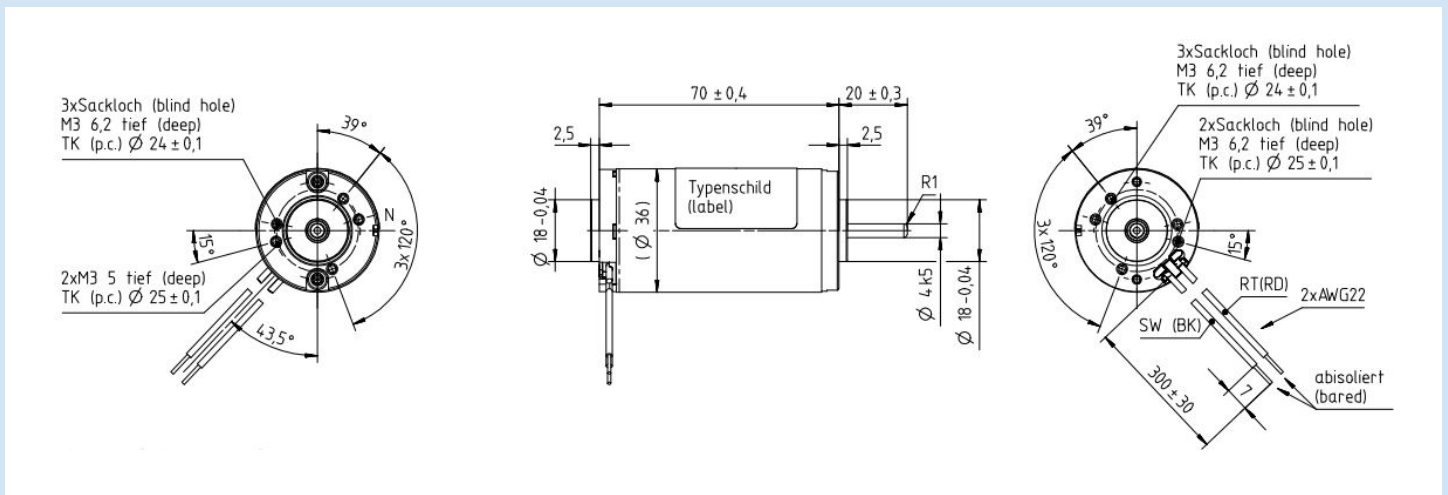


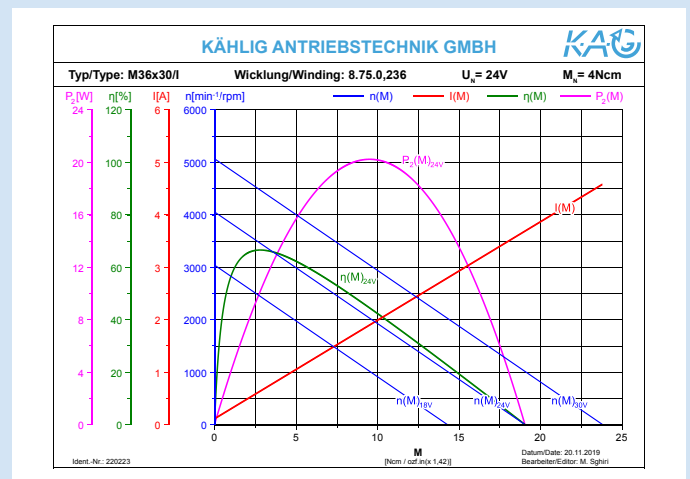
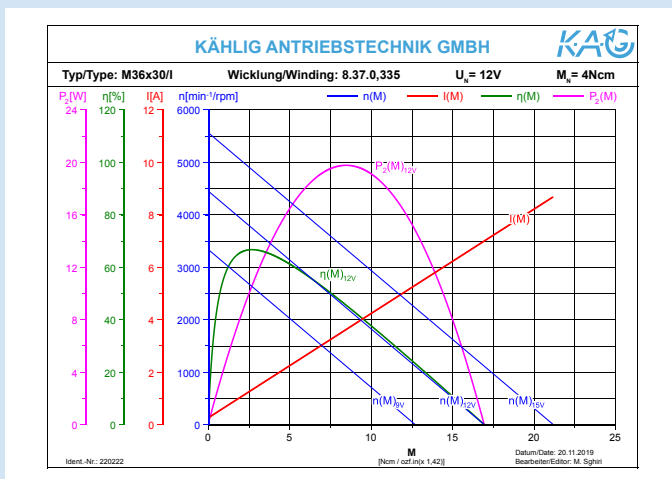
# DC-Motor M36x30/I

## Id.-Nr. 220344 (12V) 220623 (24V)

- Brushed DC motor with permanent magnets
- Ball bearings
- Lead wires
- Chromatised housing
- Direction of rotation CW / CCW



Application on request



Stand: 4. September 2020 – changes reserved

# DC-Motor M36x30/I

## Id.-Nr. 220344 (12V) 220623 (24V)

### Performance

	Sign	Unit	Value 12V	Value 24V	Tolerances
Rated Voltage	$U_N$	V	12	24	
Rated torque <sup>1)</sup>	$M_N$	Ncm	4	4	
Rated speed <sup>1)</sup>	$n_N$	min <sup>-1</sup>	3400	3200	±10%
Rated current <sup>1)</sup>	$I_N$	A	1,84	0,86	±20%
No load speed <sup>1)</sup>	$n_0$	min <sup>-1</sup>	4450	4050	±15%
No load current <sup>1)</sup>	$I_0$	A	0,25	0,11	±50%
Rated power output <sup>1)</sup>	$P_{2N}$	W	14,2	13,4	
Rated power input <sup>1)</sup>	$P_{IN}$	W	22,1	20,6	
Rated efficiency <sup>1)</sup>	$\eta_N$	%	64,5	64,9	
Maximum power output <sup>2)3)</sup>	$P_{2max}$	W	19,7	20,2	
Maximum continuous torque <sup>2)3)</sup>	$M_{max}$	Ncm	4	4	
Maximum continuous current <sup>2)3)</sup>	$I_{max}$	A	1,84	0,86	
Maximum speed <sup>1)3)</sup>	$n_{max}$	min <sup>-1</sup>	10000	10000	
Stall torque <sup>1)</sup>	$M_H$	Ncm	17	19,1	
Stall current <sup>1)</sup>	$I_H$	A	7	3,7	
Demagnetization current <sup>1)</sup>	$I_E$	A	10,3	5,1	
Connecting resistance	R	Ω	1,72	6,52	
Armature resistance <sup>1)</sup>	$R_A$	Ω	1,4	5,8	±5%
Armature inductance [1 kHz] <sup>1)</sup>	$L_A$	mH	1,1	4,5	
Rise of speed-characteristic <sup>1)</sup>	$k_D$	Ncm/min	- 262,5	- 212,5	
Torque constant <sup>1)</sup>	$k_M$	Ncm/A	2,5	5,3	
Voltage constant <sup>1)</sup>	$k_E$	V/10 <sup>3</sup> min <sup>-1</sup>	2,6	5,7	
Friction torque <sup>1)</sup>	$M_R$	Ncm	- 0,6	- 0,6	
Mechanical time constant <sup>1)</sup>	$T_M$	ms	11,2	9,6	
Electrical time constant <sup>1)</sup>	$T_e$	ms	0,6	0,7	
Rotor inertia	$J_R$	gcm <sup>2</sup>	53	53	
Maximum case temperature <sup>2)</sup>	$\vartheta_G$	°C	80	80	
Starting voltage <sup>1)</sup>	$U_A$	V	2	2	
Permissible axial shaft loads <sup>3)</sup>	$F_{axial}$	N	30	30	
Permissible radial shaft loads <sup>3)</sup>	$F_{radial}$	N	80	80	
Protection class DIN VDE 0530			IP40		
Duty cycle DIN VDE 0530			S1		
Insulation class DIN VDE 0530			E		
Lifetime at rated torque <sub>N</sub>			≥ 3000 h		
Ambient temperature			-30°C to +40°C		
Bearing			2 ball bearings		
Interference suppression			2 x L(3,9μH)		

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

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