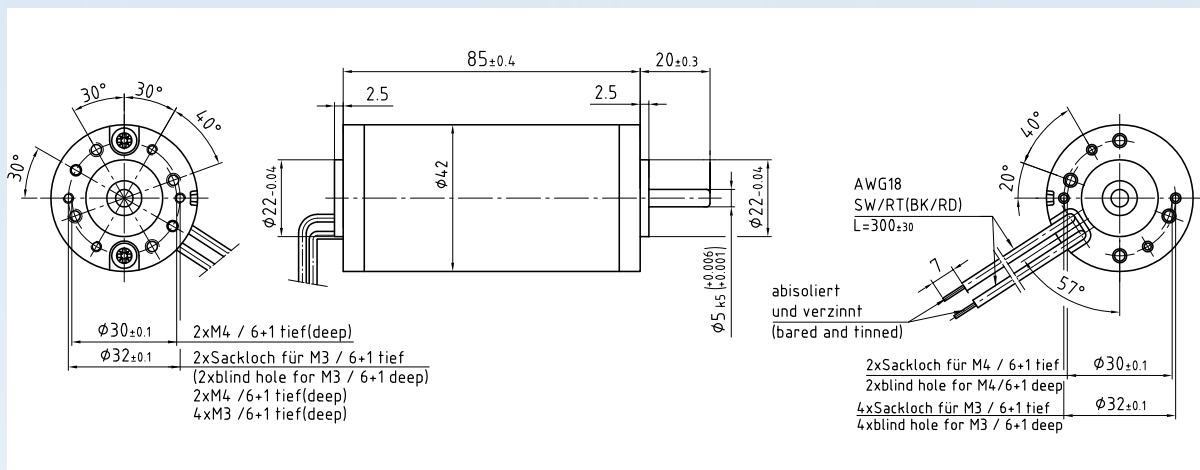


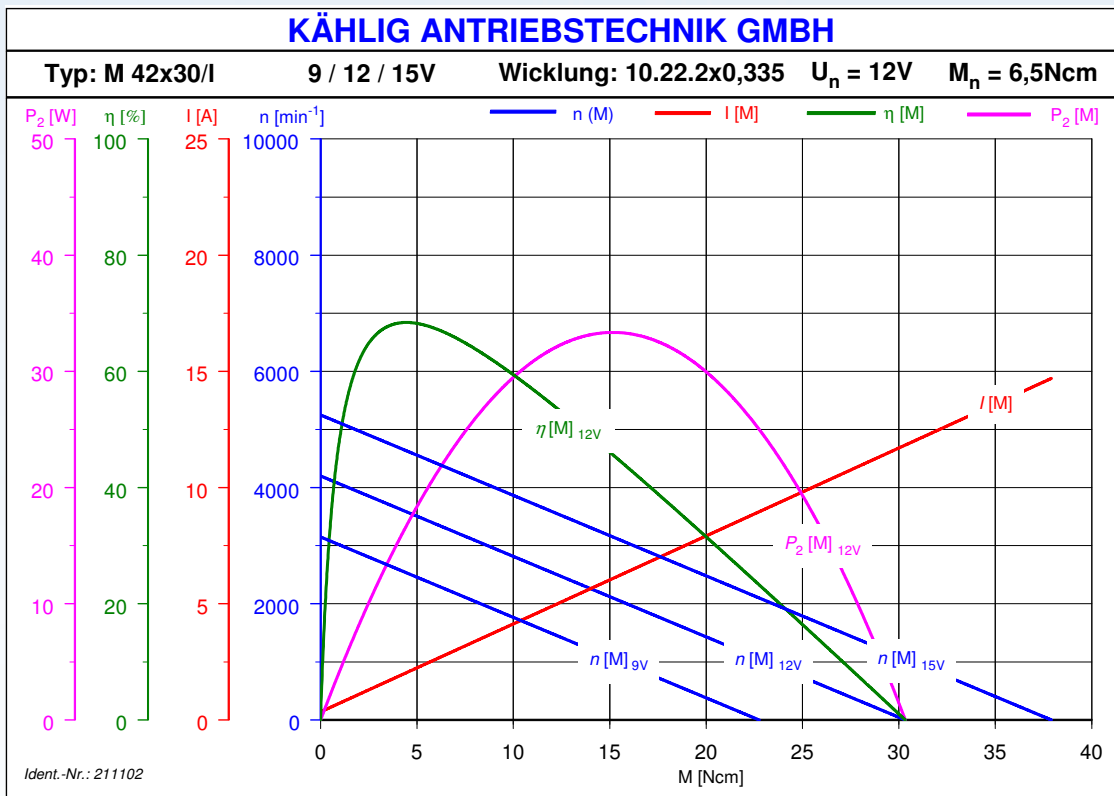
# DC-Motor M42x30/I (12V)

## Ident-Nr. 211102

- Brushed DC motor with permanent magnet
- Ball bearings
- Lead wires
- Closed zinc-plated housing with zinc-die-cast bearing flanges
- Direction of rotation CW / CCW
- Power output in rated operation: 22,5 Watt
- Multiple combination possibilities with gears, encoders and brakes



Application on request



Stand: 8. Oktober 2014 – changes reserved

# DC-Motor M42x30/I (12V)

## Ident-Nr. 211102

## Performance

	Sign	Unit	Value	Tolerances
Rated voltage	$U_N$	V	12	
Rated torque <sup>1)</sup>	$M_N$	Ncm	6,5	
Rated speed <sup>1)</sup>	$n_N$	min <sup>-1</sup>	3300	±10%
Rated current <sup>1)</sup>	$I_N$	A	2,81	±20%
No load speed <sup>1)</sup>	$n_o$	min <sup>-1</sup>	4200	±15%
No load current <sup>1)</sup>	$I_o$	A	0,35	±50%
Rated power output <sup>1)</sup>	$P_{2N}$	W	22,5	
Rated power input <sup>1)</sup>	$P_{1N}$	W	33,7	
Rated efficiency <sup>1)</sup>	$\eta_N$	%	66,6	
Maximum power output <sup>2)3)</sup>	$P_{2max}$	W	33,4	
Maximum continuous torque <sup>2)3)</sup>	$M_{max}$	Ncm	6,5	
Maximum continuous current <sup>2)3)</sup>	$I_{max}$	A	2,81	
Maximum speed <sup>1)3)</sup>	$n_{max}$	min <sup>-1</sup>	10000	
Stall torque <sup>1)</sup>	$M_H$	Ncm	30,3	
Stall current <sup>1)</sup>	$I_H$	A	11,8	
Demagnetization current	$I_E$	A	31,7	
Connecting resistance <sup>1)</sup>	R	Ω	1,01	
Armature resistance <sup>1)</sup>	$R_A$	Ω	0,61	±5%
Armature inductance [1 kHz] <sup>1)</sup>	$L_A$	mH	0,61	
Rise of speed-characteristic <sup>1)</sup>	$k_D$	min <sup>-1</sup> /Ncm	138,5	
Torque constant <sup>1)</sup>	$k_M$	Ncm/A	2,6	
Voltage constant <sup>1)</sup>	$k_E$	V/10 <sup>3</sup> min <sup>-1</sup>	2,9	
Friction torque <sup>1)</sup>	$M_R$	Ncm	-0,9	
Mechanical time constant <sup>1)</sup>	$T_M$	ms	8,7	
Electrical time constant <sup>1)</sup>	$T_e$	ms	0,6	
Rotor inertia	$J_R$	gcm <sup>2</sup>	100	
Maximum case temperature <sup>2)</sup>	$\vartheta_G$	°C	80	
Starting voltage <sup>1)</sup>	$U_A$	V	2	
Permissible axial shaft loads <sup>3)</sup>	$F_{axial}$	N	40	
Permissible radial shaft loads <sup>3)</sup>	$F_{radial}$	N	100	
Protection class DIN VDE 0530			IP 40	
Duty cycle DIN VDE 0530			S1	
Insulation class DIN VDE 0530			E	
Lifetime at rated torque [h] <sup>1)</sup>			3000	
Ambient temperature			-30°C to +40°C	
Bearing			2 ball bearings	
Interference suppression			optional	

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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