

DC-Micromotors

30 mNm

Graphite Commutation

For combination with:

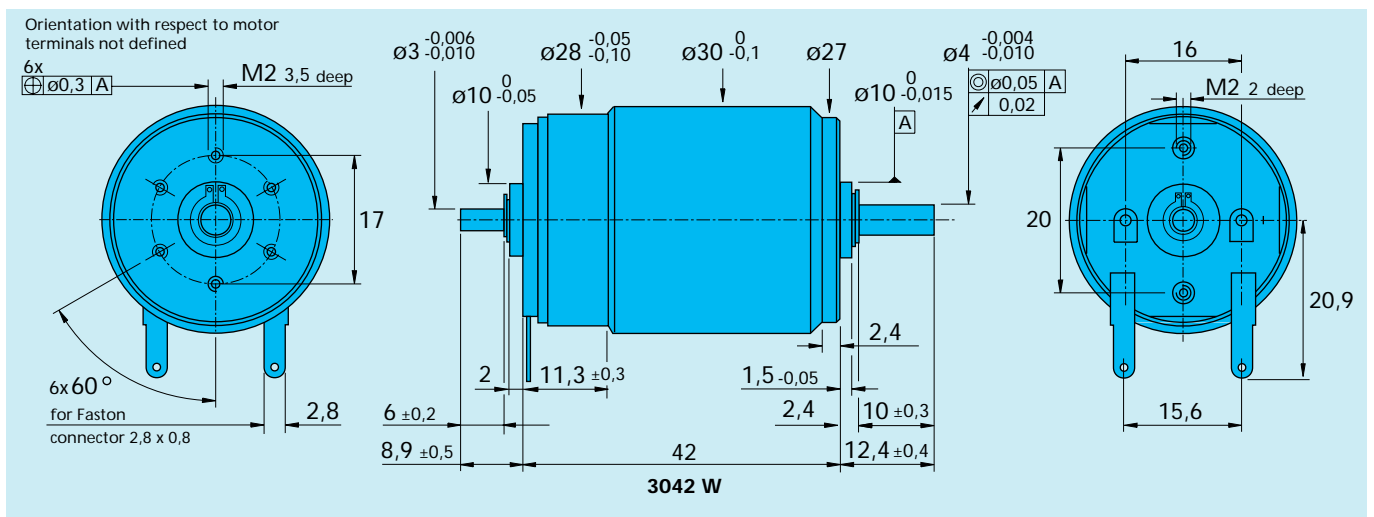
Gearheads:
30/1, 38/1, 38/2

Encoders:
IE2, 10/09B, 10/09BP, 5500, 5540

Series 3042 ... C

	3042 W	006 C	012 C	018 C	024 C	036 C	
1 Nominal voltage	U_N	6	12	18	24	36	Volt
2 Terminal resistance	R	0,6	1,7	3,8	6,8	14,0	Ω
3 Output power	$P_{2\max.}$	14,5	20,6	20,7	20,6	22,5	W
4 Efficiency	$\eta_{\max.}$	76	80	78	79	79	%
5 No-load speed	n_o	5 100	5 400	5 600	5 700	5 500	rpm
6 No-load current (with shaft \varnothing 4,0 mm)	I_o	0,180	0,093	0,070	0,050	0,035	A
7 Stall torque	M_H	108	146	141	138	156	mNm
8 Friction torque	M_R	2,0	1,9	2,1	2,0	2,2	mNm
9 Speed constant	k_n	866	456	316	241	155	rpm/V
10 Back-EMF constant	k_E	1,16	2,19	3,17	4,15	6,46	mV/rpm
11 Torque constant	k_M	11,0	20,9	30,2	39,6	61,7	mNm/A
12 Current constant	k_I	0,091	0,048	0,033	0,025	0,016	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	47,2	37,0	39,7	41,3	35,3	rpm/mNm
14 Rotor inductance	L	44	165	360	620	1 450	μH
15 Mechanical time constant	τ_m	7	7	7	7	7	ms
16 Rotor inertia	J	14	18	17	16	19	gcm ²
17 Angular acceleration	$\alpha_{\max.}$	76	81	84	85	82	$\cdot 10^3 \text{rad/s}^2$
18 Thermal resistance	R_{th1} / R_{th2}	3 / 14					K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	17,6 / 832					s
20 Operating temperature range:							
- motor		- 30 ... + 125					$^{\circ}C$
- rotor, max. permissible		+ 125					$^{\circ}C$
21 Shaft bearings		ball bearings, preloaded					
22 Shaft load max.:							
- with shaft diameter		4,0					mm
- radial at 3000 rpm (3 mm from bearing)		20					N
- axial at 3000 rpm		2					N
- axial at standstill		20					N
23 Shaft play:							
- radial	\leq	0,015					mm
- axial	$=$	0					mm
24 Housing material		steel, zinc galvanized and passivated					
25 Weight		156					g
26 Direction of rotation		clockwise, viewed from the front face					
Recommended values							
27 Speed up to	$n_e \max.$	5 000	5 000	5 000	5 000	5 000	rpm
28 Torque up to ¹⁾	$M_e \max.$	30	30	30	30	30	mNm
29 Current up to (thermal limits)	$I_e \max.$	2,650	1,550	1,050	0,790	0,550	A

¹⁾ thermal resistance R_{th2} by 40% reduced



For notes on technical data refer to "Technical Information" in the main catalogue

Specifications subject to change without notice