DC-Micromotors

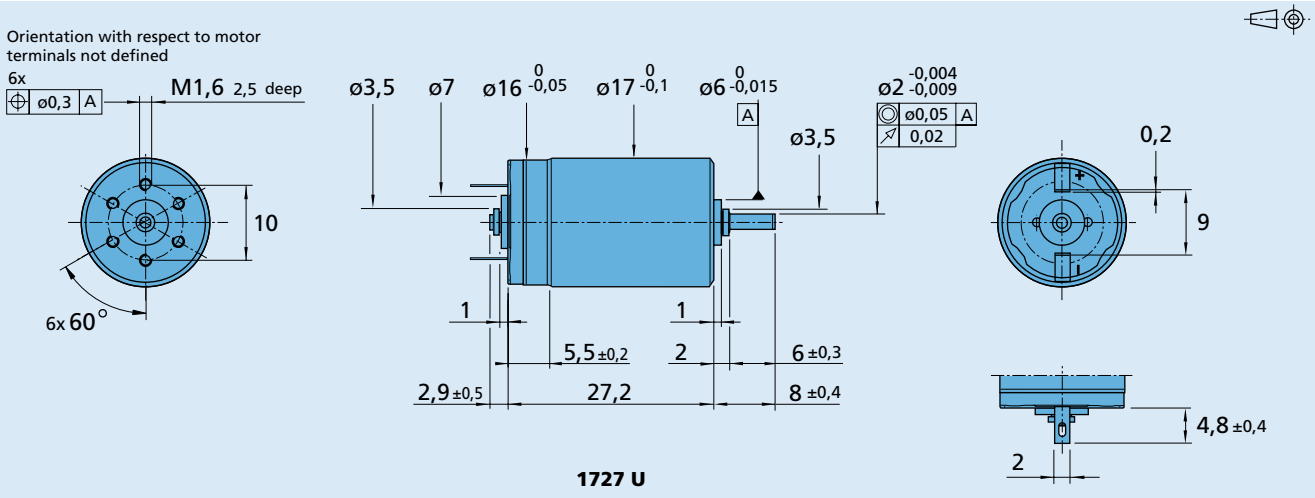
Graphite Commutation

5 mNm

For combination with
Gearheads:
16/7, 20/1
Encoders:
IE2 – 16 ... 512

Series 1727 ... C

		1727 U		006 C	012 C	024 C	
1	Nominal voltage	U_N		6	12	24	Volt
2	Terminal resistance	R		3,0	13,8	57,6	Ω
3	Output power	$P_{2\ max.}$		2,37	2,25	2,25	W
4	Efficiency	$\eta_{max.}$		70	70	70	%
5	No-load speed	n_o		7 800	7 800	7 800	rpm
6	No-load current (with shaft ø 2,0 mm)	I_o		0,055	0,026	0,013	A
7	Stall torque	M_H		11,6	11,0	11,0	mNm
8	Friction torque	M_R		0,36	0,35	0,36	mNm
9	Speed constant	k_n		1 460	700	343	rpm/V
10	Back-EMF constant	k_E		0,684	1,430	2,920	mV/rpm
11	Torque constant	k_M		6,53	13,60	27,90	mNm/A
12	Current constant	k_I		0,153	0,073	0,036	A/mNm
13	Slope of n-M curve	Δn/ΔM		672	709	709	rpm/mNm
14	Rotor inductance	L		80	320	1 440	µH
15	Mechanical time constant	τ_{m}		9	9	9	ms
16	Rotor inertia	J		1,3	1,2	1,2	gcm²
17	Angular acceleration	$\alpha_{max.}$		91	91	91	$\cdot 10^3$rad/s²
18	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$	5 / 24				K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	4,2 / 254				s
20	Operating temperature range:						
	– motor		– 30 ... +100				°C
	– rotor, max. permissible		+125				°C
21	Shaft bearings		ball bearings, preloaded				
22	Shaft load max.:						
	– with shaft diameter		2,0				mm
	– radial at 3 000 rpm (3 mm from bearing)		8				N
	– axial at 3 000 rpm		0,8				N
	– axial at standstill		10				N
23	Shaft play:						
	– radial	≤	0,015				mm
	– axial	=	0				mm
24	Housing material		steel, black coated				
25	Weight		28				g
26	Direction of rotation		clockwise, viewed from the front face				
Recommended values - mathematically independent of each other							
27	Speed up to	$n_{e\ max.}$		7 000	7 000	7 000	rpm
28	Torque up to	$M_{e\ max.}$		5	5	5	mNm
29	Current up to (thermal limits)	$I_{e\ max.}$		0,900	0,420	0,200	A



1727 U

For notes on technical data and lifetime performance refer to "Technical Information".