DC-Micromotors

Graphite Commutation

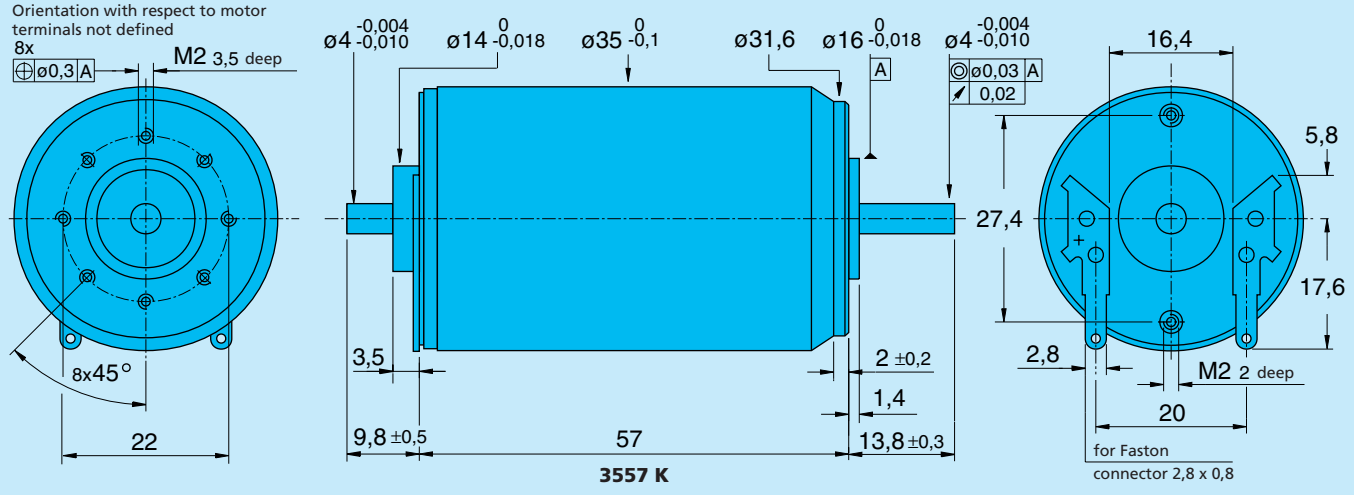
26 Watt

For combination with:
Gearheads: 30/1, 38/1, 38/2
Encoders: 20/21B, 03B, 10/09B, 10/09BP, 5500, 5540
DC-Motor-Tacho Combinations: 3557 ... CS

Series 3557 ... CS

		3557 K		009 CS	012 CS	020 CS	024 CS	048 CS	
1	Nominal voltage	U_N		9	12	20	24	48	Volt
2	Terminal resistance	R		0,70	1,34	4,0	5,5	23,0	Ω
3	Output power	$P_{2\ max.}$		28,1	26,1	24,3	25,4	24,1	W
4	Efficiency	$\eta_{max.}$		78	79	79	78	76	%
5	No-load speed	n_o		5 700	5 400	5 500	5 500	5 200	rpm
6	No-load current (with shaft ø 4,0 mm)	I_o		0,190	0,125	0,070	0,065	0,040	A
7	Stall torque	M_H		188	185	169	176	177	mNm
8	Friction torque	M_R		2,80	2,60	2,40	2,70	3,50	mNm
9	Speed constant	k_n		643	456	279	233	110	rpm/V
10	Back-EMF constant	k_E		1,560	2,190	3,590	4,300	9,050	mV/rpm
11	Torque constant	k_M		14,90	20,90	34,20	41,00	86,50	mNm/A
12	Current constant	k_I		0,067	0,048	0,029	0,024	0,012	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$		30,3	29,2	32,5	31,3	29,4	rpm/mNm
14	Rotor inductance	L		100	220	630	850	3 400	µH
15	Mechanical time constant	τ_m		16	16	16	16	16	ms
16	Rotor inertia	J		50	52	47	49	52	gcm²
17	Angular acceleration	$\alpha_{max.}$		37	35	36	36	34	$\cdot 10^3$rad/s²
18	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$		1,5 / 9					K/W
19	Thermal time constant	τ_{w1} / τ_{w2}		15 / 900					s
20	Operating temperature range:								
	– motor			– 30 ... + 125					°C
	– rotor, max. permissible			+ 125					°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)			30					N
	– axial at 3000 rpm			5					N
	– axial at standstill			50					N
23	Shaft play:								
	– radial	≤		0,015					mm
	– axial	=		0					mm
24	Housing material			steel, zinc galvanized and passivated					
25	Weight			275					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]	$M_{e\ max.}$		50	50	50	50	50	mNm
29	Current up to (thermal limits)	$I_{e\ max.}$		3,150	2,260	1,300	1,100	0,540	A

[1] thermal resistance $R_{th\,2}$ by 40% reduced



3557 K