DC-Micromotors

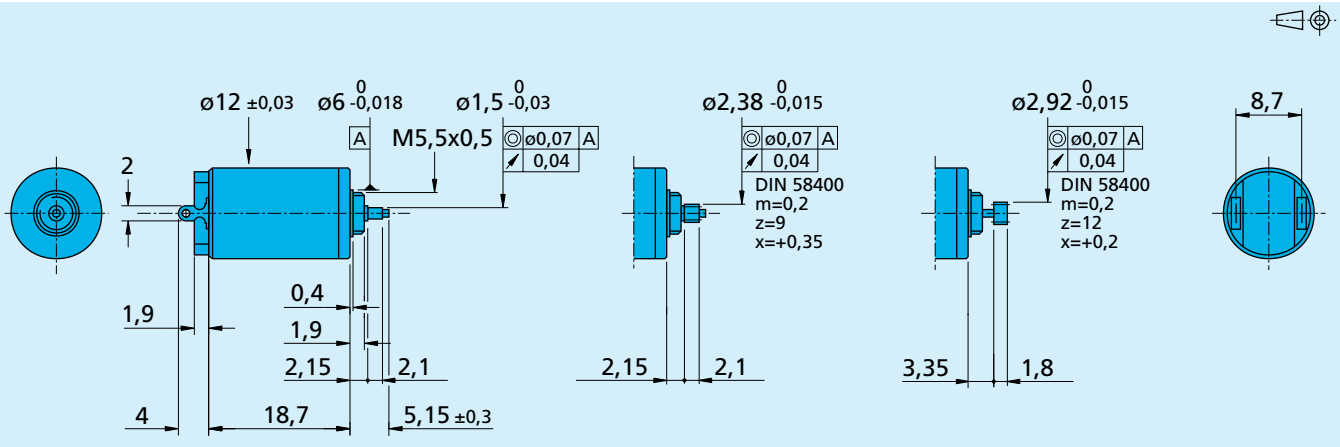
Precious Metal Commutation

0,60 mNm

For combination with (overview on page 14-15)
Gearheads:
10/1, 12/3
Encoders:
30B

Series 1219 ... G

		1219 N		4,5 G	006 G	012 G	015 G	
1	Nominal voltage	U_N		4,5	6	12	15	Volt
2	Terminal resistance	R		10,7	17,6	69,0	131	Ω
3	Output power	$P_{2\ max.}$		0,46	0,49	0,50	0,41	W
4	Efficiency	$\eta_{max.}$		74	73	72	70	%
5	No-load speed	n_o		15 300	16 000	16 000	16 200	rpm
6	No-load current (with shaft ø 0,8 mm)	I_o		0,008	0,007	0,004	0,003	A
7	Stall torque	M_H		1,14	1,17	1,19	0,96	mNm
8	Friction torque	M_R		0,02	0,02	0,03	0,03	mNm
9	Speed constant	k_n		3 460	2 721	1 364	1 109	rpm/V
10	Back-EMF constant	k_E		0,289	0,368	0,733	0,902	mV/rpm
11	Torque constant	k_M		2,76	3,51	7,00	8,61	mNm/A
12	Current constant	k_I		0,362	0,285	0,143	0,116	A/mNm
13	Slope of n-M curve	Δn/ΔM		13 413	13 642	13 447	16 875	rpm/mNm
14	Rotor inductance	L		150	300	1 200	1 600	µH
15	Mechanical time constant	τ_m		20	20	18	19	ms
16	Rotor inertia	J		0,14	0,14	0,13	0,11	gcm²
17	Angular acceleration	$\alpha_{max.}$		81	84	92	87	$\cdot 10^3$rad/s²
18	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$	17 / 48					K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	3,5 / 386					s
20	Operating temperature range:							
	– motor		– 30 ... + 85 (optional	– 30 ... + 125)				°C
	– rotor, max. permissible		+ 85 (optional	+ 125)				°C
21	Shaft bearings		sintered bronze sleeves	ball bearings				
22	Shaft load max.:		(standard)	(optional)				
	– with shaft diameter		0,8	1,0				mm
	– radial at 3 000 rpm (1,5 mm from bearing)		0,5	5				N
	– axial at 3 000 rpm		0,1	0,5				N
	– axial at standstill		20	5				N
23	Shaft play:							
	– radial	≤	0,03	0,02				mm
	– axial	≤	0,2	0,2				mm
24	Housing material		steel, nickel plated					
25	Weight		11					g
26	Direction of rotation		clockwise, viewed from the front face					
Recommended values - mathematically independent of each other								
27	Speed up to	$n_{e\ max.}$		12 000	12 000	12 000	12 000	rpm
28	Torque up to	$M_{e\ max.}$		0,60	0,60	0,60	0,60	mNm
29	Current up to (thermal limits)	$I_{e\ max.}$		0,260	0,200	0,100	0,070	A



1219 N

1219 E
for Gearheads 12/3

1219 M
for Gearheads 10/1

For details on technical information and lifetime performance refer to pages 28-34.

For options on DC-Micromotors refer to page 64.
Specifications subject to change without notice.