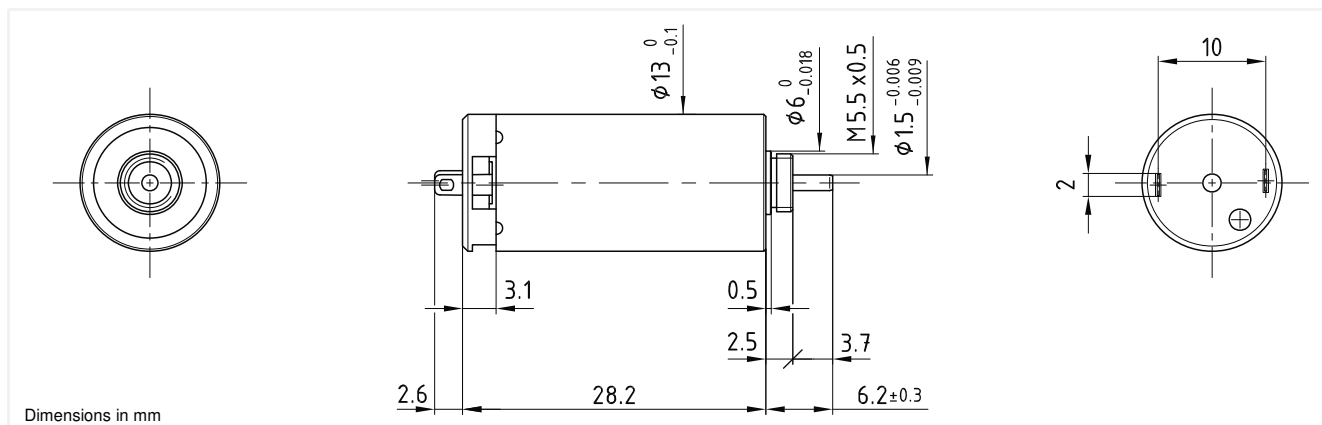


13N88

Precious metal commutation

Ø13mm

3.3 mNm

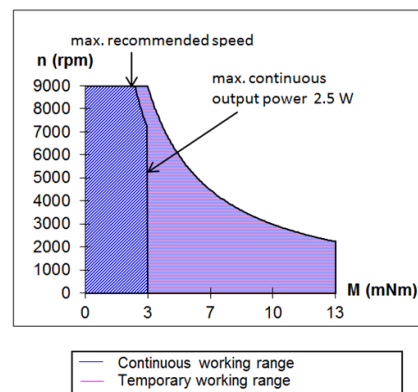


Dimensions in mm

13N88 \*\*\*\* .1

Electrical Data	****	213E	110	107	
1 Nominal Voltage	V	6	12	24	Volt
2 No-Load Speed	$n_0$	12,290	12,400	14,150	rpm
3 No-Load Current	$I_0$	25.6	13.6	8.8	mA
4 Terminal Resistance	R	4.2	13.7	47.4	$\Omega$
5 Output Power	$P_{2max}$	2.4	2.6	2.5	W
6 Stall Torque	mNm	6.5 (0.93)	8 (1.14)	8.2 (1.17)	mNm (oz-in)
7 Efficiency	$\eta_{max}$	75	77	75	%
8 Max Continuous Speed	$n_{e max}$	9,000	9,000	9,000	rpm
9 Max Continuous Torque	$M_{e max}$	3 (0.47)	3.3 (0.47)	3.2 (0.46)	mNm (oz-in)
10 Max Continuous Current	$I_{e max}$	0.69	0.38	0.21	A
11 Back-EMF Constant	$k_E$	0.48	0.95	1.67	mV/rpm
12 Torque Constant	$k_M$	4.58	9.10	15.90	mNm/A
13 Motor Regulation	$R/k^2$	200.0	165.0	185.0	$10^3/Nms$
14 Friction Torque	$T_F$	0.12 (0.02)	0.12 (0.02)	0.14 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.07	0.25	0.80	mH
16 Mechanical Time Constant	$t_m$	5.6	5.5	5.3	ms
17 Rotor Inertia	J	0.28	0.33	0.29	$g.cm^2$
<b>General Data</b>					
18 Thermal Resistance (rotor/body)	$R_{th1} / R_{th2}$		10/40		$^{\circ}C/W$
19 Thermal Time Constant (rotor/stator)	$t_{w1}/t_{w2}$		6/300		S
20 Operating Temperature Range:	motor		-30 $^{\circ}C$ to 85 $^{\circ}C$ (-22 $^{\circ}F$ to 185 $^{\circ}F$ )		$^{\circ}C$ ( $^{\circ}F$ )
	rotor		100 $^{\circ}C$ (212 $^{\circ}F$ )		$^{\circ}C$ ( $^{\circ}F$ )
21 Shaft Load Max.:			With sleeve bearings		
(5mm from bearing)	-radial		1.5 (5.4)		N (oz)
	-axial		150 (539.5)		N (oz)
22 Shaft Play:	-radial		<0.03 (0.0012)		mm (inch)
	-axial		0.15 (0.0059)		mm (inch)
23 Weight	g		18 (0.64)		g (oz)

Execution Table			
Gearbox	13N88	13N88D12	MR2
R13	1	3	Upon Request
R16	Upon Request	Upon Request	Upon Request



V121616