



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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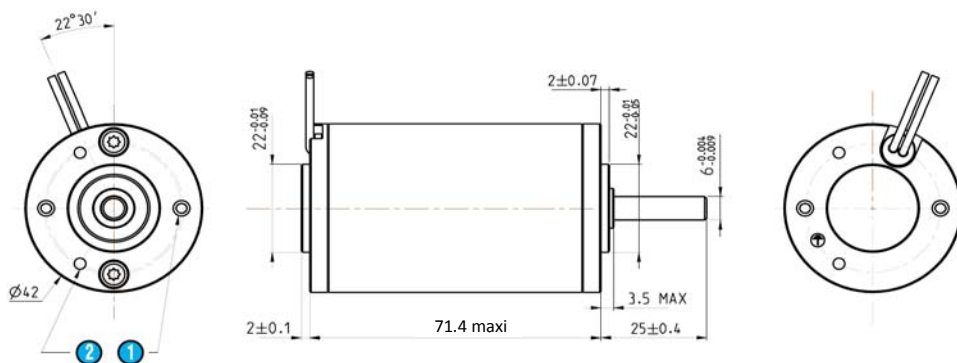
# Dc mind Brush motor

## Data sheet

89 810 003

Series

89 810



① 2 x M3 at 180°, depth 5 mm and 32mm diameter

② 2 x holes of 2,75 mm diameter, at 120°, depth 5 mm and 32mm diameter

## General characteristics

Motor characteristics at (1) 48 Vdc		
<b>At no load - A</b>		
Speed	rpm	4 100 +-10%
Current	A	0,07
Life (2)	h	10 000
<b>At max efficiency - B</b>		
Speed	rpm	3 400 +-10%
Torque (4)	mNm	31
Power output	W	11
Current	A	0,35
Efficiency	%	65
Life (2)	h	5 000
<b>At nominal load - C</b>		
Speed	rpm	2 980 +-10%
Torque (4)	mNm	50
Power output	W	16
Current	A	0,53
Efficiency	%	61
Life (2)	h	4 000
<b>Others</b>		
Starting torque	mNm	180
Starting current	A	1,7
Max. output power	W	19

Motor parameters (1)		
Allowed speed	rpm	10 000 max
Rated torque	mNm	50
Electrical time constant	ms	0,8
Mechanical time constant	ms	18
Factor torque / speed	mNm/rpm	0,04464
Dry friction	mNm	3
Viscous friction	mNm/krpm	1
Rotor inertia	gcm²	75
Thermal Resistance	°W	10
Stator poles		2
Collector blades		8
Cogging torque	mNm	3
Weight (g)	g	340
Noise level	dBA	35

Winding parameters (1)			
Torque constant	mNm/A	109	+-10%
Constant electromotive force	Volts/(rad/s)	0,109	+-10%
	V / Krpm	11,38	+-10%
Resistance	Ohms	28	+-10%
Inductance	mH	22	
Start voltage	Volts	1,4	
Current demagnetization	(magnets at 150 ° C)	A	7

Generic parameters			
Motor for direct current supply			✓
Output shaft with ball bearings			✓
Max. Radial force (20mm from front face)	N	100	
Max. axial force(5)	N	70	
Temperature range	CEI60068-2-1/2	°C	-30 / 70
Storage temperature		°C	-40 / 100
Dielectric (1min 2mA 50Hz)	CEI60335	Vdc	500
Motor insulation	CEI60085	class	E (120°C)
Enameled wire insulation		class	F (155°C)
Salt spray	CEI60068-2-58	severity	2
Degree of protection	CEI60529	IP	65
<b>EMC</b>			
Electrostatic Discharge	CEI61000-4-2	level	3
Electrical fast transient / burst test	CEI61000-4-4	level	3
Surge test	CEI61000-4-5	level	2
Without EMC filter			✓
<b>Approvals</b>			
Designed in accordance with UL			1004
ROHS	2002/95/CE		✓
EC			✓

Values without tolerances, are average production values.

(1) Cold motor, 20 ° C ambient temperature

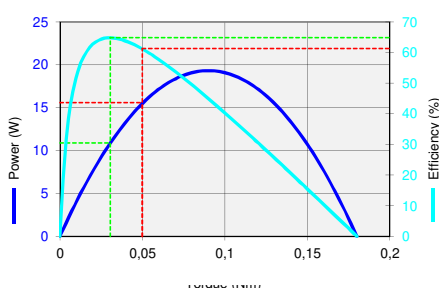
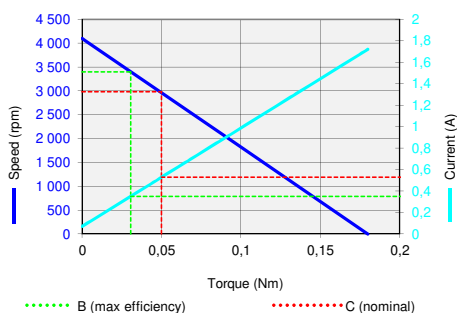
(2) Continuous cycle, one direction

(3) Continuously rated torque, zero radial and axial loads

(4) Max torque for continuous operation at 20 ° C, decrease this value for higher ambient temperature

(5) Pinion or pulley fitting are done at the Crouzet factory, before final assembly.

## Curves



Performance / Motor curves (1)					
Voltage supply		Vdc			48
		Output data			
		A	B	C	D
Speed	rpm	4 100	3 400	2 980	0
Torque (4)	mNm	0	31	50	180
Current	A	0,1	0,4	0,5	1,7
Power output	W	-	11	16	-
Efficiency	%	-	65	61	-