



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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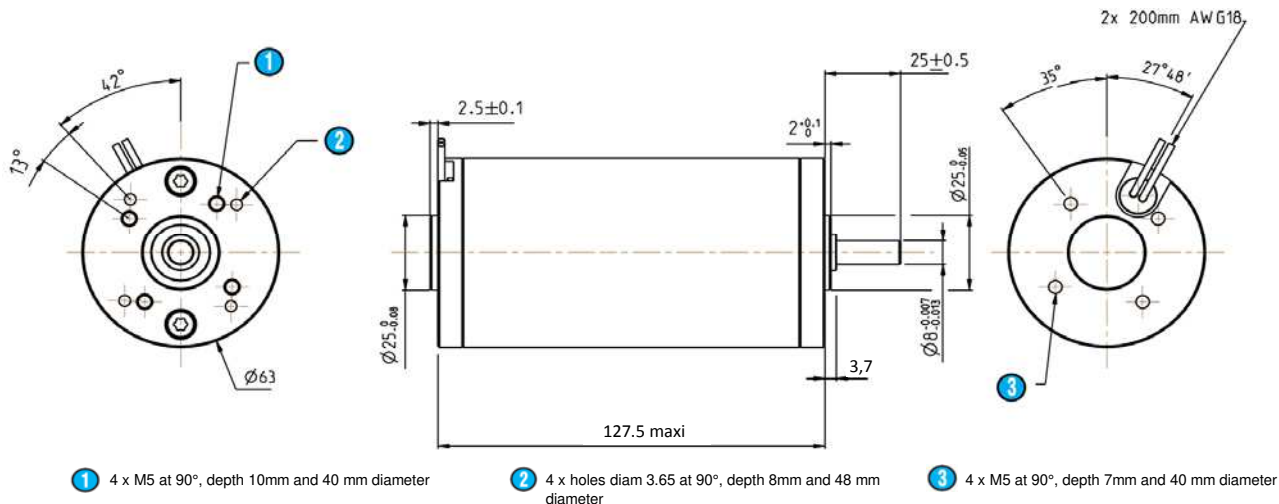
# Dc mind Brush motor

## Data sheet

89 890 011

Series

89 890



## General characteristics

Motor characteristics at (1)		24 Vdc	
<b>At no load - A</b>			
Speed	rpm	4 000	+/-10%
Current	A	0,34	
EMC (55022)	class	B	
Life (2)	h	20 000	
<b>At max efficiency - B</b>			
Speed	rpm	3 660	+/-10%
Torque (4)	mNm	179	
Power output	W	69	
Current	A	3,5	
Efficiency	%	82	
EMC (55022)	class	B	
Life (2)	h	10 000	
<b>At nominal load - C</b>			
Speed	rpm	3 430	+/-10%
Torque (4)	mNm	290	
Power output	W	104	
Current	A	5,4	
Efficiency	%	80	
EMC (55022)	class	B	
Life (2)	h	5 000	
<b>Others</b>			
Starting torque	mNm	2 000	
Starting current	A	35,3	
Max. output power	W	209	
<b>Motor parameters (1)</b>			
Allowed speed	rpm	10 000	max
Rated torque	mNm	290	
Electrical time constant	ms	1,1	
Mechanical time constant	ms	13	
Factor torque / speed	mNm/rpm	0,50877	
Dry friction	mNm	10	
Viscous friction	mNm/krpm	2,4	
Rotor inertia	gcm <sup>2</sup>	650	
Thermal Resistance	°/W	4	
Stator poles		2	
Collector blades		12	
Cogging torque	mNm	9	
Weight (g)	g	1 600	
Noise level	dBA	35	

Winding parameters (1)			
Torque constant	mNm/A	57,3	+/-10%
Constant electromotive force	Volts/(rad/s)	0,057	+/-10%
	V / Krpm	6,00	+/-10%
Resistance	Ohms	0,7	+/-10%
Inductance	mH	0,73	
Start voltage	Volts	0,6	
Current demagnetization	(magnets at 150 ° C)	A	120

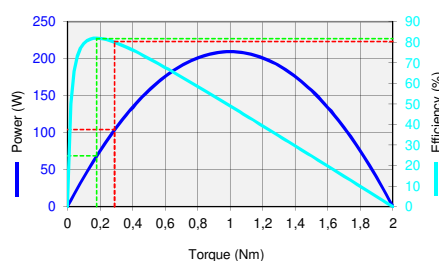
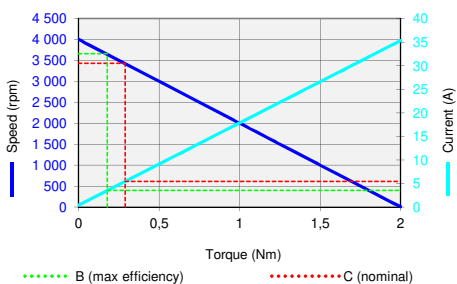
Generic parameters			
Motor for direct current supply			✓
Output shaft with ball bearings			✓
Max. Radial force (20mm from front face)	N		150
Max. axial force(5)	N		100
Temperature range	CEI60068-2-1/2	°C	-30 / 70
Storage temperature		°C	-40 / 100
Dielectric (1min 2mA 50Hz)	CEI60335	Vdc	500
Motor insulation	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
Radiated emission		class	B

Approvals		
Designed in accordance with UL		1004
ROHS	2002/95/CE	✓
EC		✓
Designed for medical machines using the standard		EN60601-1

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	24		
Output data					
Speed	rpm	A	B	C	D
Speed	rpm	4 000	3 660	3 430	0
Torque (4)	mNm	0	179	290	2 000
Current	A	0,3	3,5	5,4	35,3
Power output	W	-	69	104	-
Efficiency	%	-	82	80	-

Specifications subject to change without notice. Updated february 29, 2012.