

# Dc mind Brush motor

## Data sheet

# 89 850 003

## Series

# 89 850



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	3 840	+10%
Current	A	0,08	
EMC (55022)	class	B	
Life (2)	h	10 000	
<b>At max efficiency - B</b>			
Speed	rpm	3 400	+10%
Torque (4)	mNm	60	
Power output	W	21	
Current	A	0,58	
Efficiency	%	77	
EMC (55022)	class	B	
Life (2)	h	5 000	
<b>At nominal load - C</b>			
Speed	rpm	3 000	+10%
Torque (4)	mNm	110	
Power output	W	35	
Current	A	1	
Efficiency	%	72	
Life (2)	h	4 000	
<b>Others</b>			
Starting torque	mNm	500	
Starting current	A	4,2	
Max. output power	W	50	
<b>Motor parameters (1)</b>			
Allowed speed	rpm	10 000	max
Rated torque	mNm	110	
Electrical time constant	ms	0,7	
Mechanical time constant	ms	13	
Factor torque / speed	mNm/rpm	0,13095	
Dry friction	mNm	4,5	
Viscous friction	mNm/krpm	1,4	
Rotor inertia	gcm <sup>2</sup>	160	
Thermal Resistance	°/W	7	
Stator poles		2	
Collector blades		8	
Cogging torque	mNm	8	
Weight (g)	g	620	
Noise level	dBA	35	

Winding parameters (1)			
Torque constant	mNm/A	120	+10%
Constant electromotive force	Volts/(rad/s)	0,120	+10%
	V / Krpm	12,52	+10%
Resistance	Ohms	11,4	+10%
Inductance	mH	8	
Start voltage	Volts	1	
Current demagnetization	(magnets at 150 ° C)	A	17

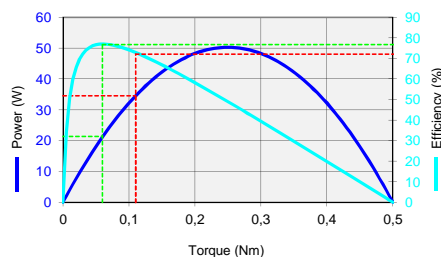
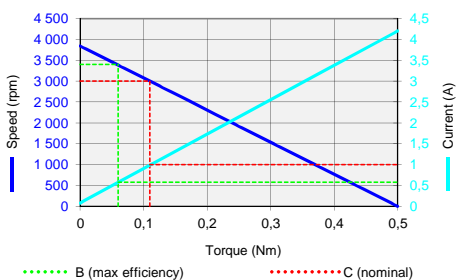
Generic parameters			
Motor for direct current supply			✓
Output shaft with ball bearings			✓
Max. Radial force (20mm from front face)	N		100
Max. axial force(5)	N		70
Temperature range	CEI60068-2-1/2	°C	-30 / 70
Storage temperature		°C	-40 / 100
Dielectric (1min 2mA 50Hz)	CEI60335	Vdc	500
Motor insulation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

Approvals			
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	3 840	3 400	3 000	0
Torque (4)	mNm	0	60	110	500
Current	A	0,1	0,6	1,0	4,2
Power output	W	-	21	35	-
Efficiency	%	-	77	72	-

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