

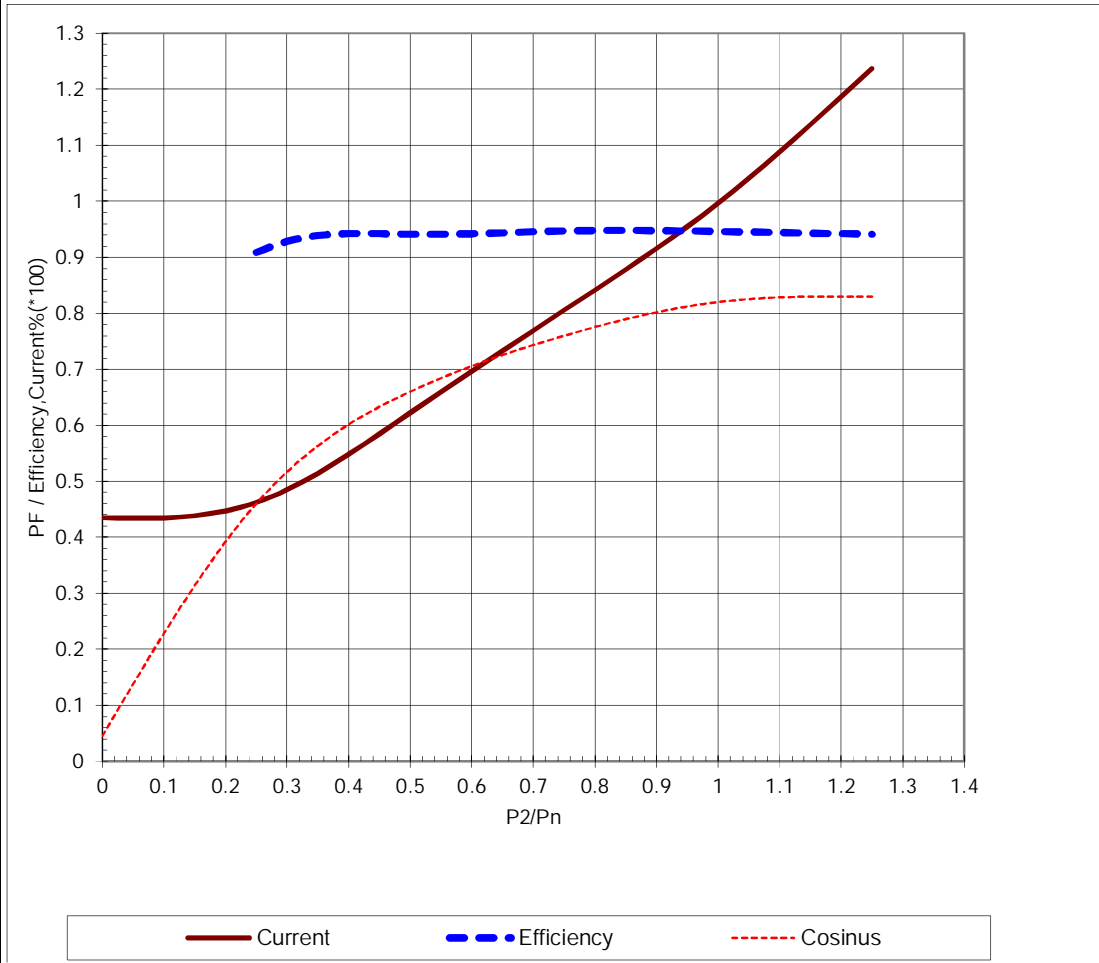


ABB Motors and Generators		Technical Data Sheet				
Department/Author		Project	Location		Item name	
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages	
		A	1/18/2019	untitled.xls	1.00001 1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	3GBA 252 210-HDDIN		Calc. ref.	3GZH021025-14	
3	Type/Frame	M2BAX 250SMA 4				
4	Mounting	IM2001, B35(foot-flange)				
5	Rated output P _N	55	kW			
6	Service factor	1				
7	Type of duty	S1 100%				
8	Rated voltage U _N	415	VD	+10, -10 %		
9	Rated frequency f _N	50	Hz	+5, -5 %		
10	Rated speed n _N	1482	r/min			
11	Rated current I _N	99	A			
12						
13	Starting current I _s /I _N	7.5				
14	Nominal torque T _N	354	Nm			
15	Locked rotor torque T _S /T _N	2.6				
16	Maximum torque T _{max} /T _N	3				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	99	94.6 / IE3	0.82	
20		75	79.7	94.7	0.76	
21		50	61.6	94.1	0.66	
22						
23	Thermal withstand time hot	17	s			
24	Thermal withstand time cold	27	s			
25	Insulation class / Temperature class	F / B				
26	Ambient temperature	50	°C			
27	Altitude	1000 m.a.s.l.				
28	Degree of protection	IP55				
29	Cooling system	IC411 self ventilated				
30	Bearing DE/NDE	6315-2Z/C3 - 6212-2Z/C3				
31	Sound pressure level (LP dB(A) 1m)	74	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD ²	0.694	kg·m ²			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Weight of rotor	105	kg			
36	Total weight of motor	358	kg			
37						
38						
39						
40						
41						
42						
43						
44						
45						
Ex-motors						
46						
47						
48						
Option Variant Codes / Definition						
49						
50						
51						
52						
Remarks:						
Data based on situation 9/18/2015						

All performance values are subject to IS/IEC tolerances


ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/18/2019	Saving ident untitled.xls
Pages	2(3)		
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 250SMA 4	Calc. ref.	3GZH021025-14
Product code	3GBA 252 210-HDDIN		
Rated output P _N	55 kW		
Type of duty	S1 100%		

Voltage (V)	415	Current I _N (A)	99	Power factor at P _N	0.82
Frequency (Hz)	50	Speed (r/min)	1482	Efficiency (%) at P _N	94.6



Data based on situation 9/18/2015


All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004

ABB Motors and Generators	Starting Curves			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/18/2019	Saving ident untitled.xls	Pages 3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M2BAX 250SMA 4	Calc. ref.	3GZH021025-14	
Product code	3GBA 252 210-HDDIN	Frequency (Hz)	50	
Rated output P _N	55 kW	Rated current I _N	99	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.69	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.6	T _{start} /T _N 2.6
Speed (r/min)	1482	Starting time (s)	0.1	Starting time (s)
T _N (Nm)	354	Speed (r/min)		Speed (r/min) 939
T _{load} (Nm)		I _s /I _N	7.5	I _s /I _N 7.5
		T _{max} /T _n	3	T _{max} /T _n 3

The graph displays the starting characteristics of the motor. The x-axis represents Speed in r/min, ranging from 0 to 1750. The left y-axis represents the torque ratio T_s/T_n , ranging from 0 to 4.5. The right y-axis represents the current ratio I_s/I_n , ranging from 0 to 9. There are four curves: a solid blue line for $T_{MotorUn}$ at 415V, a solid red line for $T_{MotorU2}$ at 415V(100%), a dashed purple line for $I_{MotorUn}$ at 415V, and a dashed green line for $I_{MotorU2}$ at 415V(100%). The torque curves show a peak around 1300 r/min, while the current curves show a peak around 1250 r/min. The 100% voltage curves generally show higher torque and lower current compared to the 415V curves.

Data based on situation 9/18/2015

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ABB Motors and Generators	Thermal Withstand Curve		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/18/2019	Saving ident untitled.xls
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 250SMA 4	Calc. ref.	3GZH021025-14
Product code	3GBA 252 210-HDDIN	Frequency (Hz)	50
Rated output P _N	55 kW	Rated current I _N	99 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	0.69	Voltage (V) 100%	415
J _{load} (kgm ²)		Voltage (V)	415V(100%)
Speed (r/min)	1482	T _{start} /T _N	2.6
T _N (Nm)	354	Starting time (s)	0.1
T _{load} (Nm)		Speed (r/min)	939
		I _s /I _n	7.5
		T _{max} /T _n	3
		I _s /I _n	7.5
		T _{max} /T _n	3

Starting Time [s]

10000

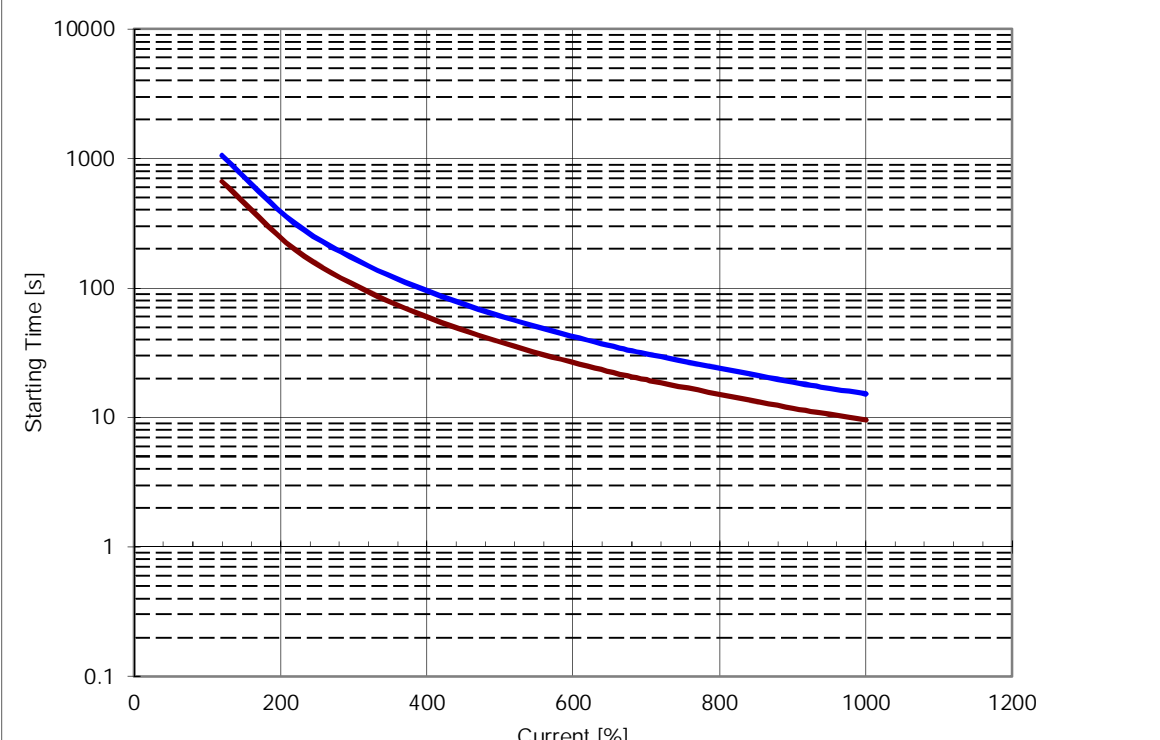
1000

100

10

1

0.1



— Running Hot — Running Cold

Data based on situation 9/18/2015

All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004