


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(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	3GBA 132 210-BDDIN		Calc. ref.	3GZH021013-3	
3	Type/Frame	M2BAX 132SMA 4				
4	Mounting	IM3001, B5(flange)				
5	Rated output P _N	5.5	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	1460	r/min			
11	Rated current I _N	10.8	A			
12						
13	Starting current I _s /I _N	7				
14	Nominal torque T _N	36	Nm			
15	Locked rotor torque T _S /T _N	2				
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	10.8	89.6 / IE3	0.79	
20		75	8.6	90.6	0.74	
21		50	6.7	90.2	0.63	
22						
23	Thermal withstand time hot	12	s			
24	Thermal withstand time cold	19	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	6208-2Z/C3 - 6208-2Z/C3				
31	Sound pressure level (LP dB(A) 1m)	68	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD ²	0.03505	kg·m ²			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Weight of rotor	18	kg			
36	Total weight of motor	72	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 12/23/2015						

All performance values are subject to IS/IEC tolerances


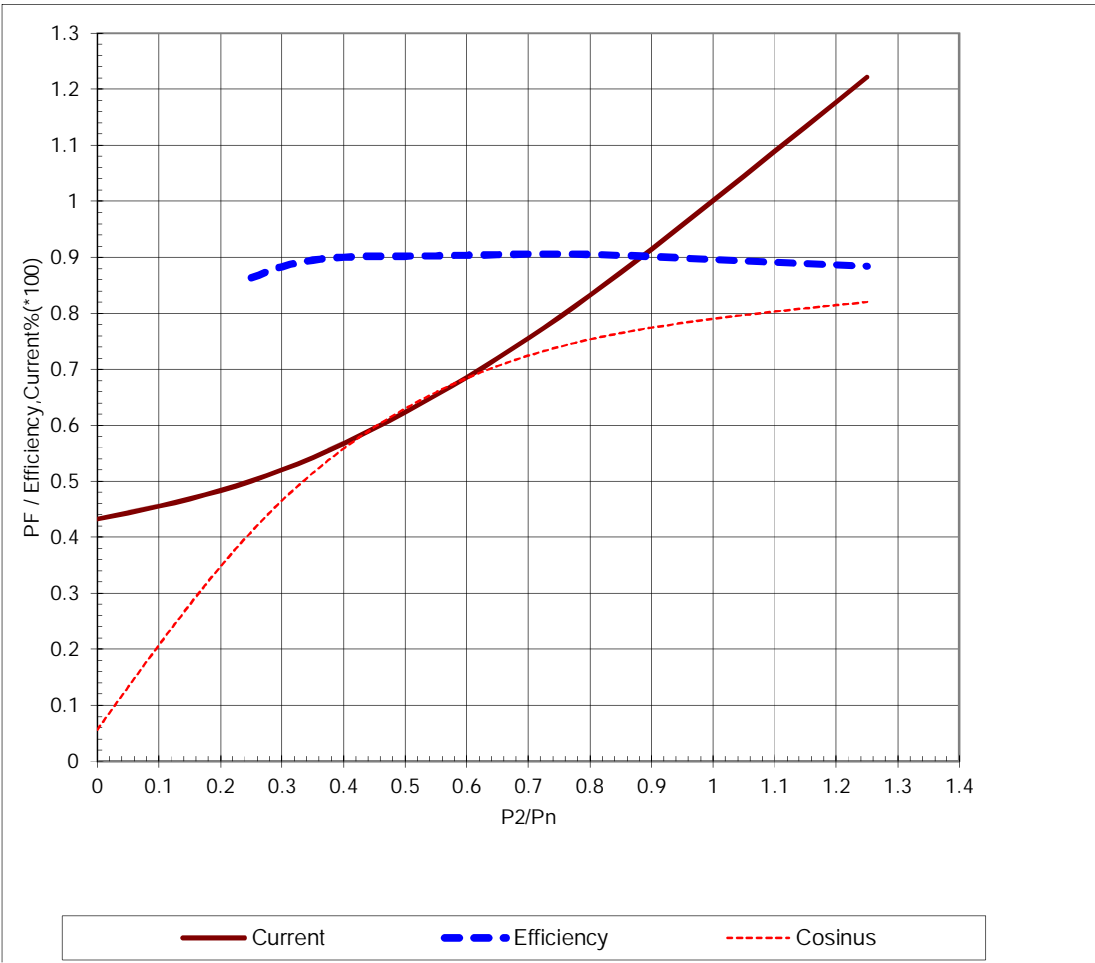

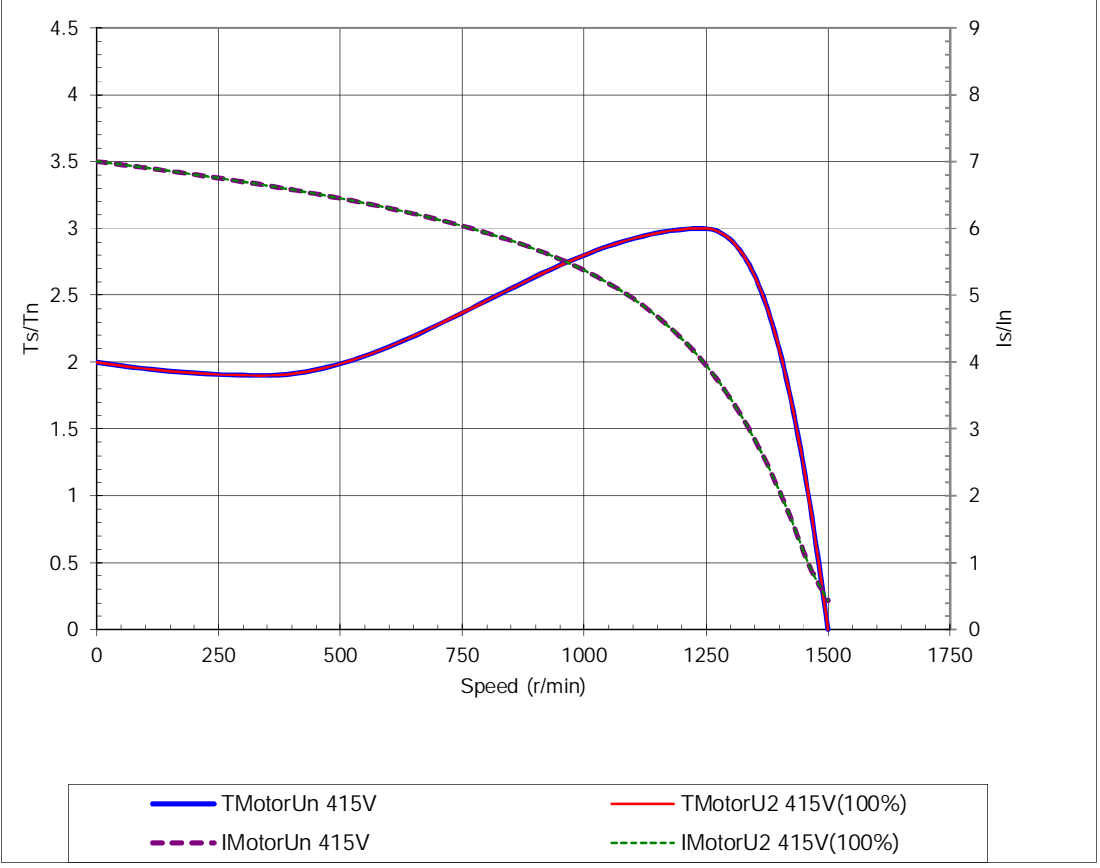
ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/18/2019	Saving ident untitled.xls
Pages 2(3)	Product TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 132SMA 4	Calc. ref.	3GZH021013-3
Product code	3GBA 132 210-BDDIN		
Rated output P _N	5.5 kW		
Type of duty	S1 100%		
Voltage (V)	415	Current I _N (A)	10.8
Frequency (Hz)	50	Speed (r/min)	1460
		Power factor at P _N	0.79
		Efficiency (%) at P _N	89.6
 <p>The graph plots PF / Efficiency, Current (%) on the y-axis (0 to 1.3) against P2/Pn on the x-axis (0 to 1.4). Three curves are shown: Current (solid red line), Efficiency (dashed blue line), and Cosinus (dotted red line). The Current curve starts at approximately 0.43 at P2/Pn = 0 and increases to about 1.22 at P2/Pn = 1.25. The Efficiency curve starts at approximately 0.87 at P2/Pn = 0.25 and remains relatively flat around 0.90. The Cosinus curve starts at approximately 0.05 at P2/Pn = 0 and increases to about 0.82 at P2/Pn = 1.25.</p>			
Data based on situation 12/23/2015			
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 132SMA 4	Calc. ref.	3GZH021013-3	
Product code	3GBA 132 210-BDDIN	Frequency (Hz)	50	
Rated output P _N	5.5 kW	Rated current I _N	10.8	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.0351	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2	T _{start} /T _N 2
Speed (r/min)	1460	Starting time (s)	0.1	Starting time (s)
T _N (Nm)	36	Speed (r/min)		Speed (r/min) 939
T _{load} (Nm)		I _s /I _N	7	I _s /I _N 7
		T _{max} /T _n	3	T _{max} /T _n 3




Speed (r/min)

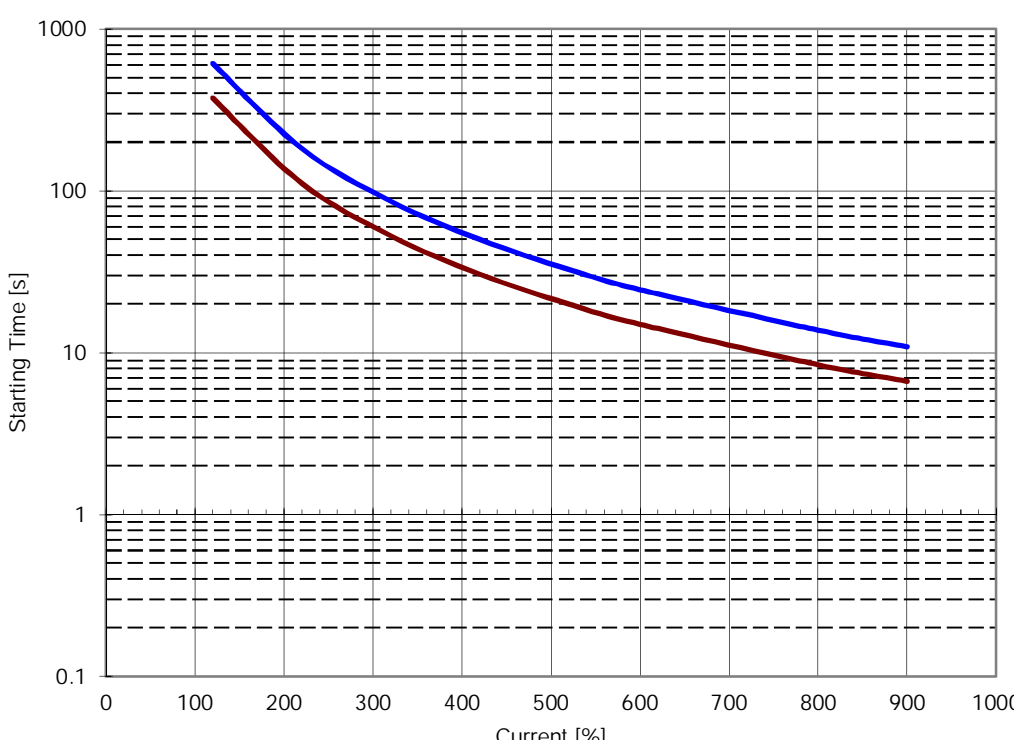
— TMotorUn 415V
— TMotorU2 415V(100%)

- - - IMotorUn 415V
- - - IMotorU2 415V(100%)

Data based on situation 12/23/2015

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

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
Pages 5(3)			
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 132SMA 4	Calc. ref.	3GZH021013-3
Product code	3GBA 132 210-BDDIN	Frequency (Hz)	50
Rated output P _N	5.5 kW	Rated current I _N	10.8 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	0.0351	Voltage (V) 100%	415
J _{load} (kgm ²)		Voltage (V)	415V(100%)
Speed (r/min)	1460	T _{start} /T _N	2
T _N (Nm)	36	Starting time (s)	0.1
T _{load} (Nm)		Speed (r/min)	939
		I _s /I _n	7
		I _s /I _n	7
		T _{max} /T _n	3
		T _{max} /T _n	3



The graph plots Starting Time [s] on a logarithmic y-axis (0.1 to 1000) against Current [%] on a linear x-axis (0 to 1000). Two curves are shown: a blue line for 'Running Cold' and a red line for 'Running Hot'. Both curves show a decrease in starting time as current increases. The 'Running Cold' curve starts at approximately 500s at 100% current and drops to about 10s at 900% current. The 'Running Hot' curve starts at approximately 300s at 100% current and drops to about 7s at 900% current.

Current [%]	Starting Time [s] (Running Cold)	Starting Time [s] (Running Hot)
100	~500	~300
200	~150	~100
300	~100	~70
400	~70	~50
500	~50	~40
600	~40	~30
700	~30	~25
800	~25	~20
900	~15	~10

Data based on situation 12/23/2015
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004