

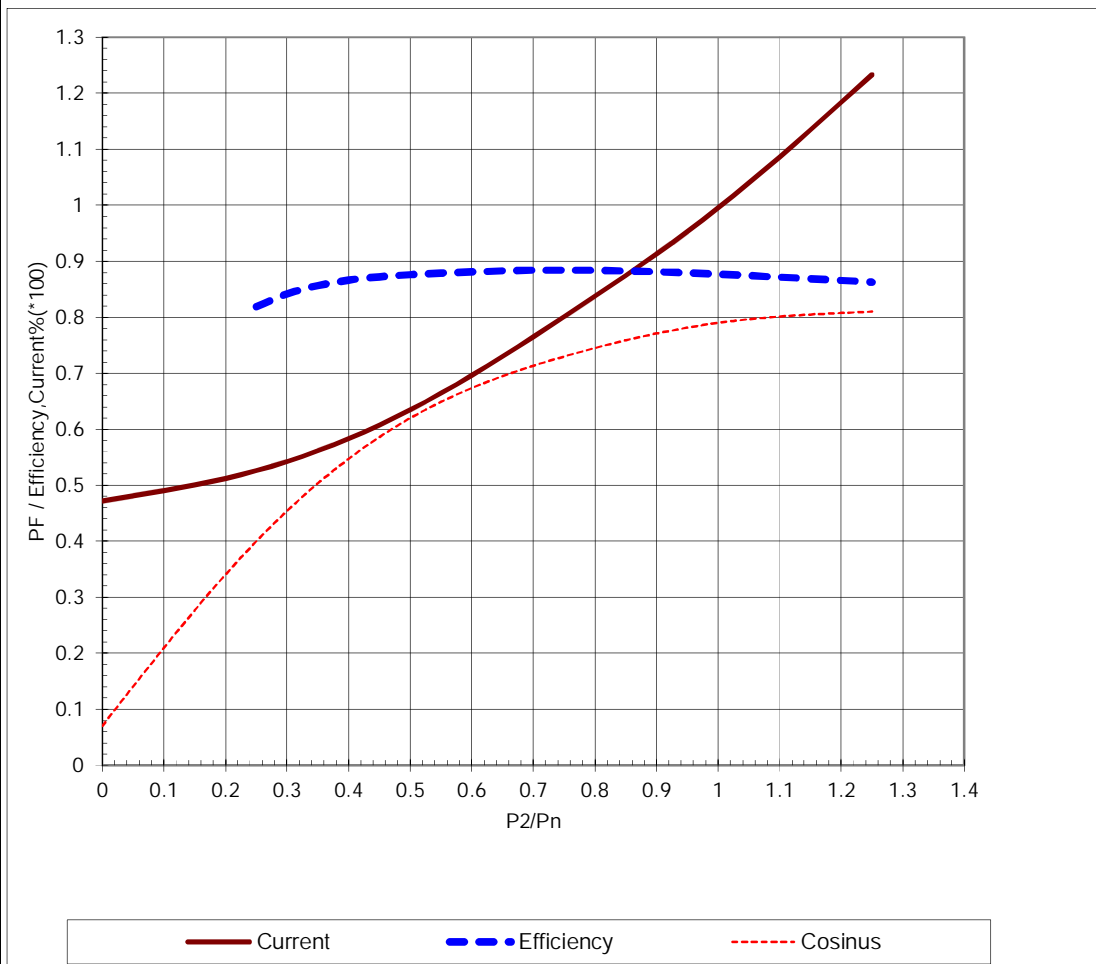


ABB Motors and Generators		Technical Data Sheet				
Department/Author		Project	Location		Item name	
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages	
		A	1/16/2019	untitled.xls	1.00001 1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	3GBA 132 110-ADCIN			Calc. ref.	3GZH021013-17
3	Type/Frame	M2BAX 132SA 4				
4	Mounting	IM1001, B3(foot)				
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	1450	r/min			
11	Rated current I _N	11.1	A			
12						
13	Starting current I _s /I _N	6				
14	Nominal torque T _N	36	Nm			
15	Locked rotor torque T _S /T _N	1.7				
16	Maximum torque T _{max} /T _N	2.8				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	11.1	87.7 / IE2	0.79	
20		75	8.9	88.4	0.73	
21		50	7	87.6	0.62	
22						
23	Thermal withstand time hot	9	s			
24	Thermal withstand time cold	17	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)	71	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD ²	0.0257	kg·m ²			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Weight of rotor	14	kg			
36	Total weight of motor	57	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 8/8/2016						

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 1/16/2019	Saving ident untitled.xls
Pages 2(3)	Product TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 132SA 4	Calc. ref.	3GZH021013-17
Product code	3GBA 132 110-ADCIN		
Rated output P _N	5.5 kW		
Type of duty	S1 100%		

Voltage (V)	415	Current I _N (A)	11.1	Power factor at P _N	0.79
Frequency (Hz)	50	Speed (r/min)	1450	Efficiency (%) at P _N	87.7



Data based on situation 8/8/2016

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


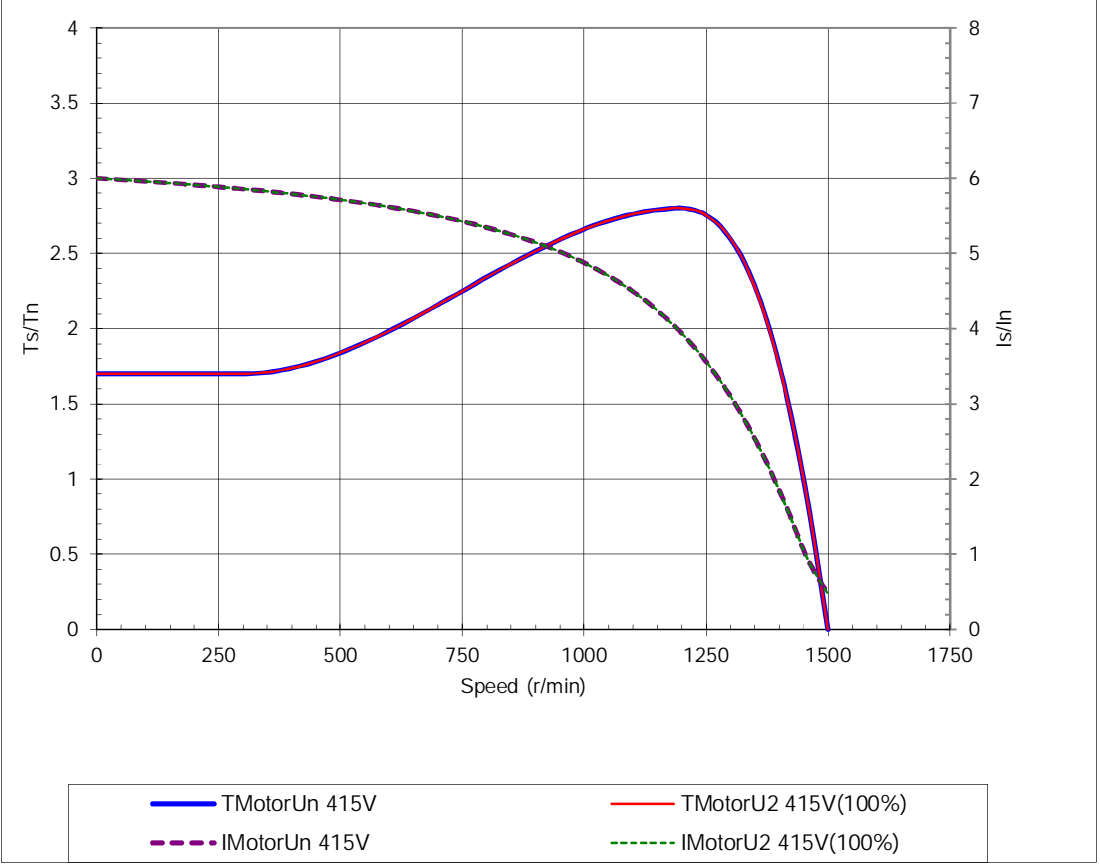

ABB Motors and Generators	Starting Curves			
	Project	Location		
Department/Author	Customer name	Customer ref.	Item name 1.00001	
Our ref.	Rev/Changed b Date of issue A 1/16/2019	Saving ident untitled.xls	Pages 3(3)	
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M2BAX 132SA 4	Calc. ref.	3GZH021013-17	
Product code	3GBA 132 110-ADCIN	Frequency (Hz)	50	
Rated output P _N	5.5 kW	Rated current I _N	11.1	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.0257	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	1.7	T _{start} /T _N 1.7
Speed (r/min)	1450	Starting time (s)	0.1	Starting time (s)
T _N (Nm)	36	Speed (r/min)		Speed (r/min)
T _{load} (Nm)		I _s /I _n	6	I _s /I _n 6
		T _{max} /T _n	2.8	T _{max} /T _n 2.8
 <p>The graph plots torque ratios (Ts/Tn) and current ratios (Is/In) against speed (r/min). The x-axis ranges from 0 to 1750 r/min. The left y-axis (Ts/Tn) ranges from 0 to 4, and the right y-axis (Is/In) ranges from 0 to 8. Two torque curves are shown: a solid blue line for TMotorUn 415V and a solid red line for TMotorU2 415V(100%). Two current curves are shown: a dashed purple line for IMotorUn 415V and a dashed green line for IMotorU2 415V(100%). The torque curves start at approximately 1.7 at 0 r/min, rise to a peak of about 2.8 at 1250 r/min, and then drop to 0 at 1500 r/min. The current curves start at approximately 6 at 0 r/min, decrease to about 4.5 at 1250 r/min, and then drop to 0 at 1500 r/min.</p>				
Data based on situation 8/8/2016				
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004				


ABB Motors and Generators	Current & Speed Vs Time			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name 1.00001
Our ref.	Rev/Changed b	Date of issue	Saving ident	Pages 4(3)
	A	1/16/2019	untitled.xls	
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M2BAX 132SA 4	Calc. ref.	3GZH021013-17	
Product code	3GBA 132 110-ADCIN	Frequency (Hz)	50	
Rated output P _N	5.5 kW	Rated current I _N	11.1	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.0257	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	1.7	T _{start} /T _N 1.7
Speed (r/min)	1450	Starting time (s)	0.1	Starting time (s)
T _N (Nm)	36	Speed (r/min)		Speed (r/min)
T _{load} (Nm)		I _s /I _N	6	I _s /I _N 6
		T _{max} /T _N	2.8	T _{max} /T _N 2.8

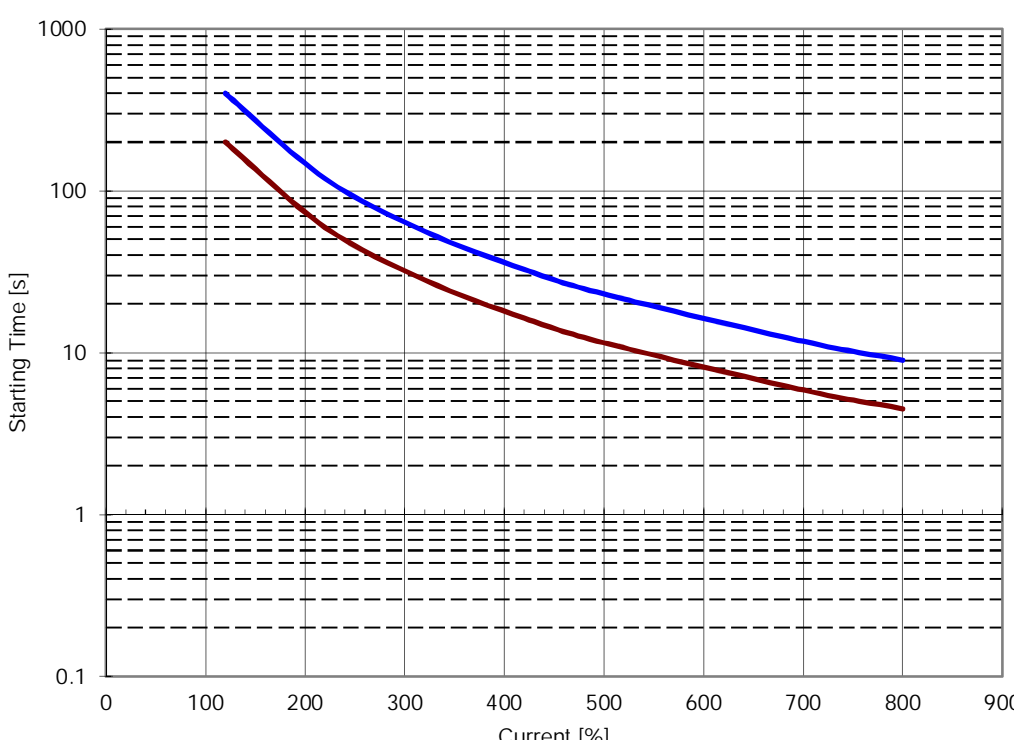
Speed [rpm] vs Starting Time [s] and Current [A]

Legend: — Speed [rpm] (red line), — Current [A] (blue line)

Data based on situation 8/8/2016

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 b Date of issue A 1/16/2019	Saving ident untitled.xls	Pages 5(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 132SA 4	Calc. ref.	3GZH021013-17
Product code	3GBA 132 110-ADCIN	Frequency (Hz)	50
Rated output P _N	5.5 kW	Rated current I _N	11.1 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	0.0257	Voltage (V) 100%	415 Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	1.7 T _{start} /T _N 1.7
Speed (r/min)	1450	Starting time (s)	0.1 Starting time (s)
T _N (Nm)	36	Speed (r/min)	6 Speed (r/min)
T _{load} (Nm)		I _s /I _N	6 I _s /I _N 6
		T _{max} /T _n	2.8 T _{max} /T _n 2.8



The graph plots Starting Time [s] on a logarithmic y-axis (0.1 to 1000) against Current [%] on a linear x-axis (0 to 900). Two curves are shown: a red line for 'Running Hot' and a blue line for 'Running Cold'. Both curves show that starting time decreases as current increases. The 'Running Cold' curve is consistently higher than the 'Running Hot' curve.

Current [%]	Starting Time [s] (Running Hot)	Starting Time [s] (Running Cold)
100	~150	~300
200	~60	~120
300	~30	~60
400	~18	~35
500	~11	~22
600	~7	~15
700	~5	~10
800	~4	~8

Data based on situation 8/8/2016
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004