

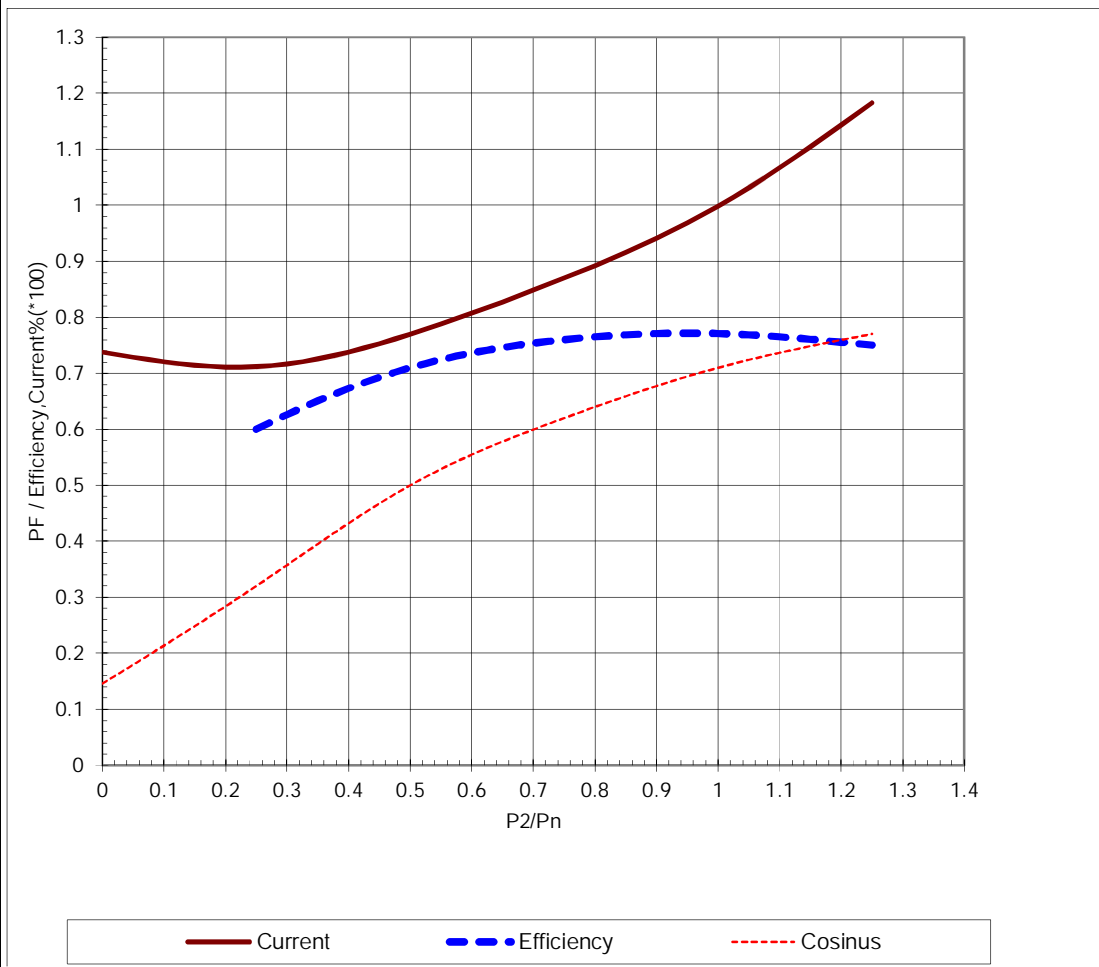


ABB Motors and Generators		Technical Data Sheet				
Project		Location				
Department/Author		Customer name		Customer ref.		
Our ref.		Rev/Changed by <b>A</b>		Date of issue <b>1/18/2019</b>		
		Saving ident <b>untitled.xls</b>		Item name <b>1.00001</b>		
				Pages <b>1(3)</b>		
No.	Definition	Data	Unit	Remarks		
1	Product	<b>TEFC, 3-phase, squirrel cage induction motor</b>				
2	Product code	<b>3GBA 082 310-BSCIN</b>				
3	Type/Frame	<b>M2BAX 80MA 4</b>				
4	Mounting	<b>IM3001, B5(flange)</b>				
5	Rated output P <sub>N</sub>	<b>0.55</b>	kW			
6	Service factor	<b>1</b>				
7	Type of duty	<b>S1 100%</b>				
8	Rated voltage U <sub>N</sub>	<b>415</b>	VY	+10, -10 %		
9	Rated frequency f <sub>N</sub>	<b>50</b>	Hz	+5, -5 %		
10	Rated speed n <sub>N</sub>	<b>1415</b>	r/min			
11	Rated current I <sub>N</sub>	<b>1.4</b>	A			
12						
13	Starting current I <sub>s</sub> /I <sub>N</sub>	<b>5</b>				
14	Nominal torque T <sub>N</sub>	<b>3.7</b>	Nm			
15	Locked rotor torque T <sub>S</sub> /T <sub>N</sub>	<b>2.2</b>				
16	Maximum torque T <sub>max</sub> /T <sub>N</sub>	<b>2.7</b>				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	<b>100</b>	<b>1.4</b>	<b>77.1 / IE2</b>	<b>0.71</b>	
20		<b>75</b>	<b>1.22</b>	<b>76</b>	<b>0.62</b>	
21		<b>50</b>	<b>1.08</b>	<b>71</b>	<b>0.5</b>	
22						
23	Thermal withstand time hot	<b>6</b>	s			
24	Thermal withstand time cold	<b>12</b>	s			
25	Insulation class / Temperature class	<b>F / B</b>				
26	Ambient temperature	<b>50</b>	°C			
27	Altitude	<b>1000</b> m.a.s.l.				
28	Degree of protection	<b>IP55</b>				
29	Cooling system	<b>IC411 self ventilated</b>				
30	Bearing DE/NDE	<b>6204-2Z/C3 - 6203-2Z/C3</b>				
31	Sound pressure level (LP dB(A) 1m)	<b>61</b>	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD <sup>2</sup>	<b>0.00156</b>	kg·m <sup>2</sup>			
33	Position of terminal box	<b>Top</b>				
34	Direction of rotation	<b>Bi-directional</b>				
35	Total weight of motor	<b>15</b>	kg			
36						
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42						
43						
44						
45						
Ex-motors						
46						
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48						
Option Variant Codes / Definition						
49						
50						
51						
52						
Remarks:						
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<b>ABB Motors and Generators</b>	<b>Load Curves</b>		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name <b>1.00001</b>
Our ref.	Rev/Changed by <b>A</b>	Date of issue <b>1/18/2019</b>	Saving ident <b>untitled.xls</b>
			Pages <b>2(3)</b>


**Product** TEFC, 3-phase, squirrel cage induction motor  
**Type/Frame** M2BAX 80MA 4  
**Product code** 3GBA 082 310-BSCIN  
**Rated output P<sub>N</sub>** 0.55 kW  
**Type of duty** S1 100%

**Voltage (V)** 415      **Current I<sub>N</sub> (A)** 1.4      **Power factor at P<sub>N</sub>** 0.71  
**Frequency (Hz)** 50      **Speed (r/min)** 1415      **Efficiency (%) at P<sub>N</sub>** 77.1

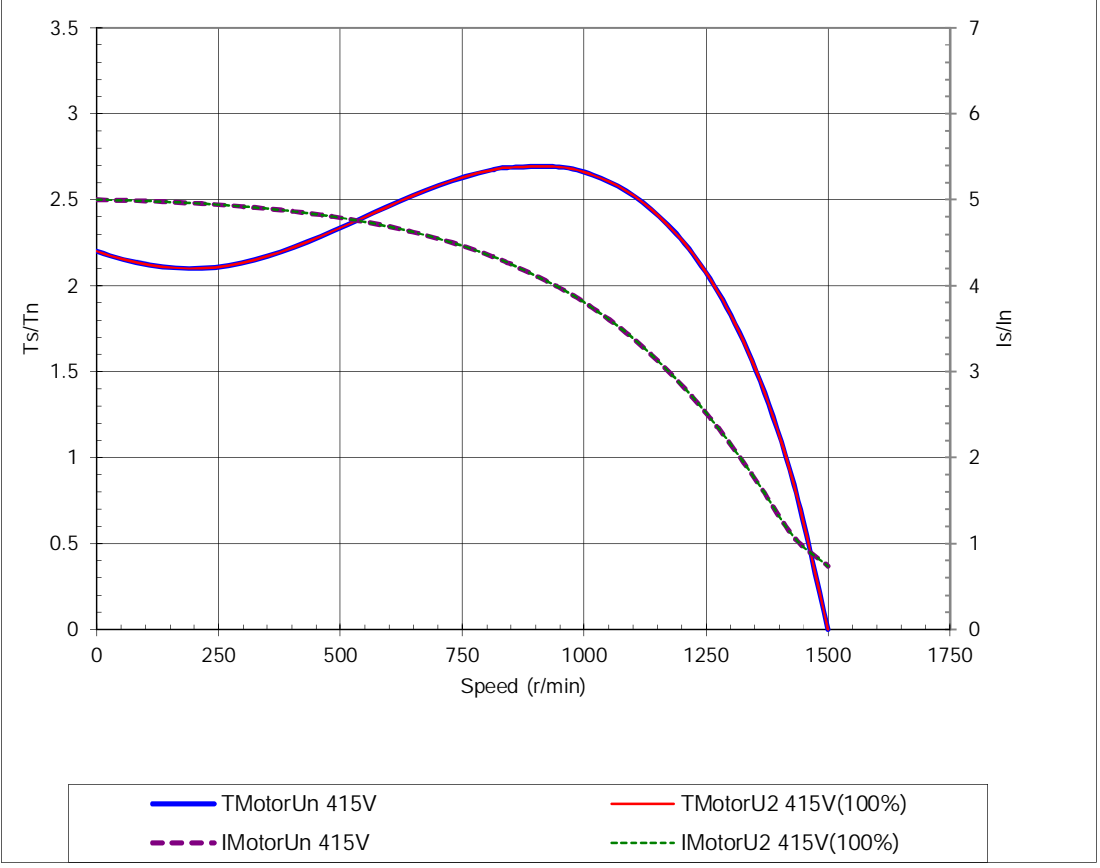


Data based on situation 8/8/2016

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


<b>ABB Motors and Generators</b>	<b>Starting Curves</b>			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name <b>1.00001</b>
Our ref.	Rev/Changed by <b>A</b>	Date of issue <b>1/18/2019</b>	Saving ident <b>untitled.xls</b>	Pages <b>3(3)</b>
Type of product	<b>TEFC, 3-phase, squirrel cage induction motor</b>			
Type/Frame	<b>M2BAX 80MA 4</b>			
Product code	<b>3GBA 082 310-BSCIN</b>	Frequency (Hz)	<b>50</b>	
Rated output P <sub>N</sub>	<b>0.55 kW</b>	Rated current I <sub>N</sub>	<b>1.4</b>	A
Type of duty	<b>S1 100%</b>			
J <sub>motor</sub> (kgm <sup>2</sup> )	<b>0.0016</b>	Voltage (V) 100%	<b>415</b>	Voltage (V) <b>415V(100%)</b>
J <sub>load</sub> (kgm <sup>2</sup> )		T <sub>start</sub> /T <sub>N</sub>	<b>2.2</b>	T <sub>start</sub> /T <sub>N</sub> <b>2.2</b>
Speed (r/min)	<b>1415</b>	Starting time (s)		Starting time (s)
T <sub>N</sub> (Nm)	<b>3.7</b>	Speed (r/min)		Speed (r/min)
T <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>N</sub>	<b>5</b>	I <sub>s</sub> /I <sub>N</sub> <b>5</b>
		T <sub>max</sub> /T <sub>N</sub>	<b>2.7</b>	T <sub>max</sub> /T <sub>N</sub> <b>2.7</b>

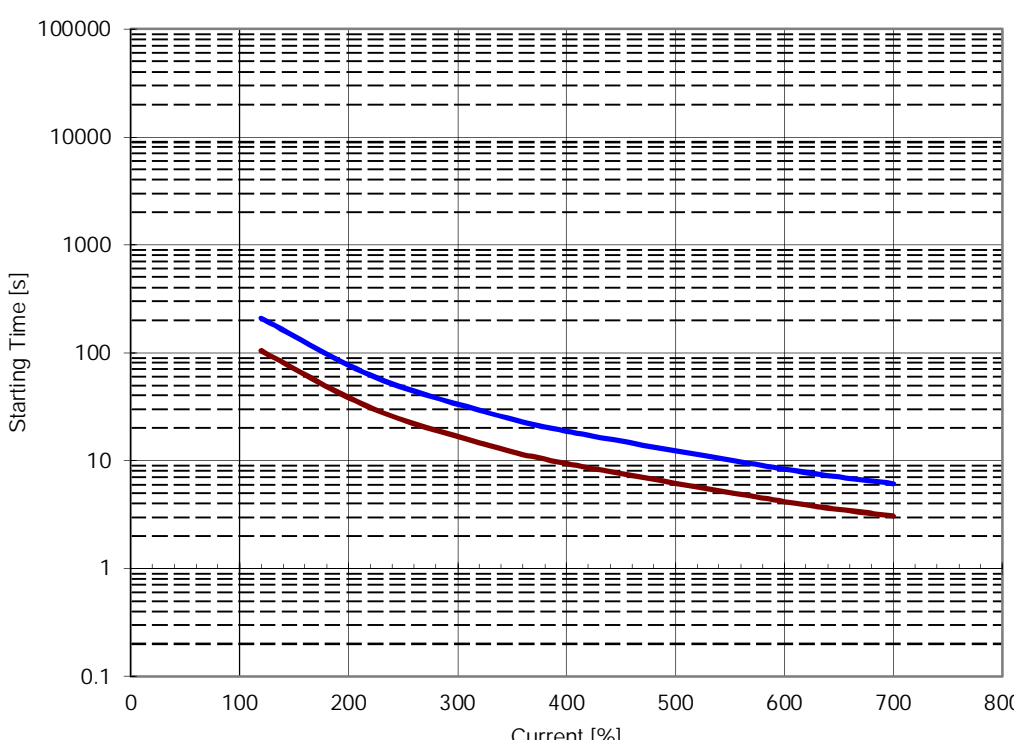


The graph displays the starting characteristics of the motor. The x-axis represents Speed in r/min, ranging from 0 to 1750. The left y-axis represents the torque ratio  $T_s/T_n$ , ranging from 0 to 3.5. The right y-axis represents the current ratio  $I_s/I_n$ , ranging from 0 to 7. Four curves are shown: 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 900 r/min, while the current curves show a peak around 750 r/min. The 100% voltage curves generally show higher torque and lower current compared to the 415V curves.

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

<b>ABB Motors and Generators</b>	<b>Thermal Withstand Curve</b>			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name <b>1.00001</b>
Our ref.	Rev/Changed by <b>A</b>	Date of issue <b>1/18/2019</b>	Saving ident <b>untitled.xls</b>	Pages <b>5(3)</b>
Type of product	<b>TEFC, 3-phase, squirrel cage induction motor</b>			
Type/Frame	<b>M2BAX 80MA 4</b>			
Product code	<b>3GBA 082 310-BSCIN</b>	Frequency (Hz)	<b>50</b>	
Rated output P <sub>N</sub>	<b>0.55 kW</b>	Rated current I <sub>N</sub>	<b>1.4</b>	<b>A</b>
Type of duty	<b>S1 100%</b>			
J <sub>motor</sub> (kgm <sup>2</sup> )	<b>0.0016</b>	Voltage (V) 100%	<b>415</b>	Voltage (V) <b>415V(100%)</b>
J <sub>load</sub> (kgm <sup>2</sup> )		T <sub>start</sub> /T <sub>N</sub>	<b>2.2</b>	T <sub>start</sub> /T <sub>N</sub> <b>2.2</b>
Speed (r/min)	<b>1415</b>	Starting time (s)		Starting time (s)
T <sub>N</sub> (Nm)	<b>3.7</b>	Speed (r/min)		Speed (r/min)
T <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>n</sub>	<b>5</b>	I <sub>s</sub> /I <sub>n</sub> <b>5</b>
		T <sub>max</sub> /T <sub>n</sub>	<b>2.7</b>	T <sub>max</sub> /T <sub>n</sub> <b>2.7</b>



Current [%]	Starting Time [s] - Running Cold	Starting Time [s] - Running Hot
100	~200	~100
200	~80	~40
300	~45	~25
400	~30	~18
500	~22	~14
600	~18	~11
700	~14	~8

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