

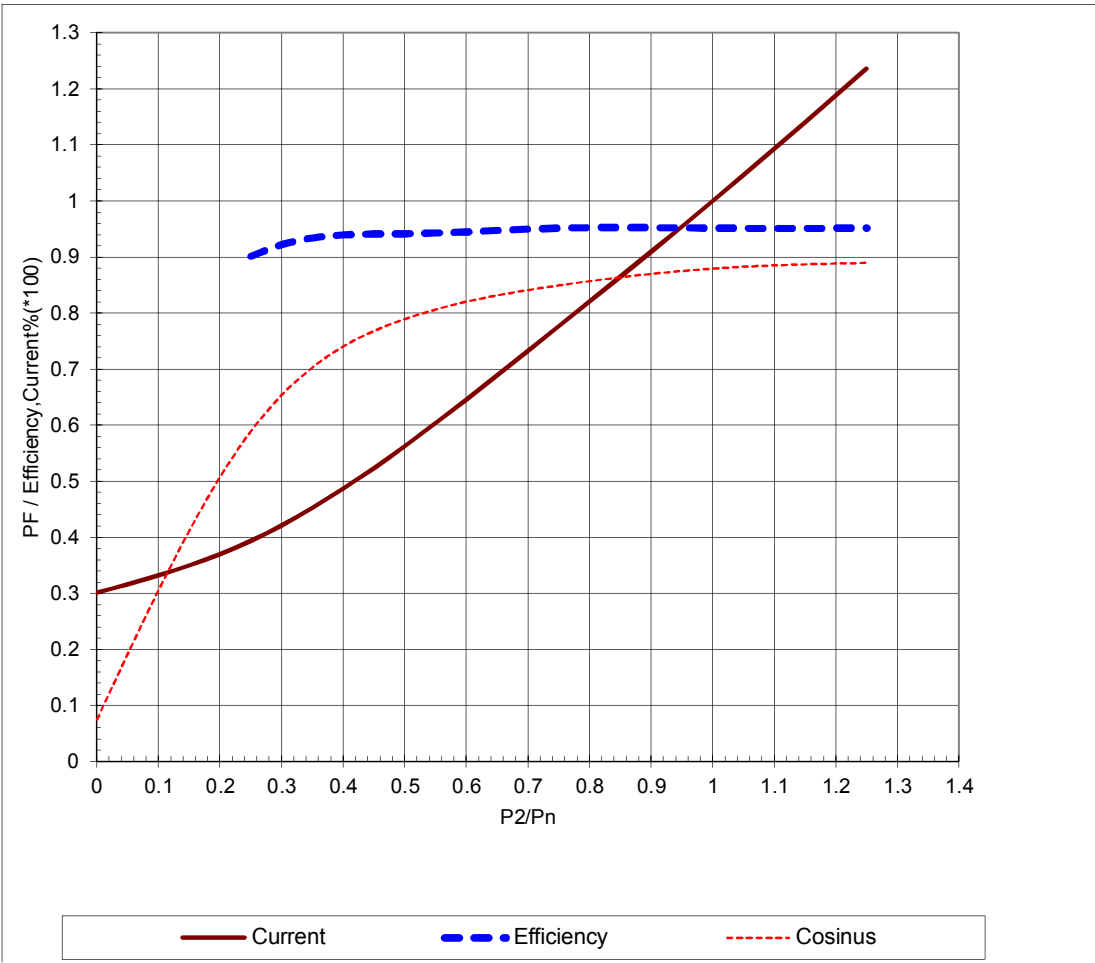



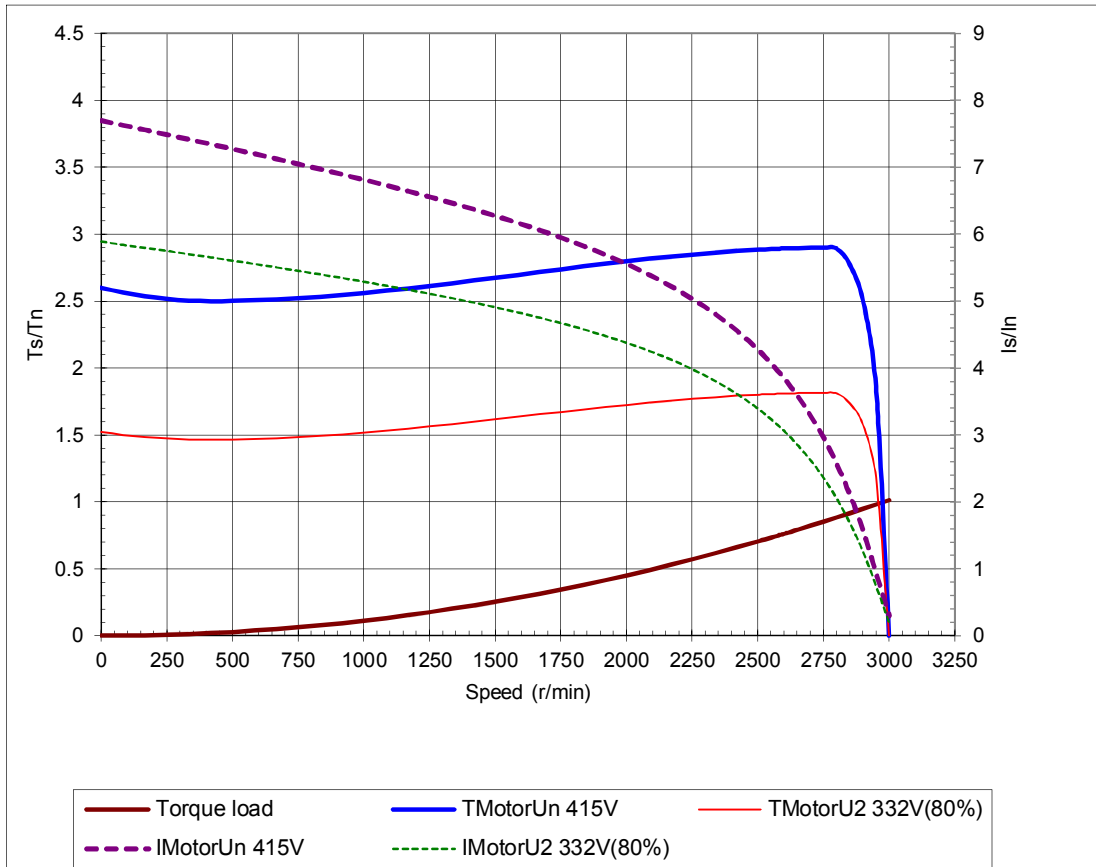
ABB Motors and Generators		Technical Data Sheet				
Department/Author		Project	Location		Item name <b>1.00003</b>	
Our ref.		Rev/Changed by <b>A</b>	Date of issue <b>12/21/2017</b>	Saving ident <b>untitled.xls</b>	Pages <b>1(3)</b>	
No.	Definition	Data	Unit	Remarks		
1	Product	<b>TEFC, 3-phase, squirrel cage induction motor</b>				
2	Product code	<b>E3BA 315 SMA2-ADCIN</b>				
3	Type/Frame	<b>E3BA315SMA2</b>				
4	Mounting	<b>IM1001, B3(foot)</b>				
5	Rated output P <sub>N</sub>	<b>110</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>	VD	+10, -10 %		
9	Rated frequency f <sub>N</sub>	<b>50</b>	Hz	+5, -5 %		
10	Rated speed n <sub>N</sub>	<b>2980</b>	r/min			
11	Rated current I <sub>N</sub>	<b>183</b>	A			
12	Method of starting	<b>DOL</b>				
13	Starting current I <sub>s</sub> /I <sub>N</sub>	<b>7.7</b>				
14	Nominal torque T <sub>N</sub>	<b>352</b>	Nm			
15	Locked rotor torque T <sub>S</sub> /T <sub>N</sub>	<b>2.6</b>				
16	Maximum torque T <sub>max</sub> /T <sub>N</sub>	<b>2.9</b>				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	<b>100</b>	<b>183</b>	<b>95.2 / IE3</b>	<b>0.88</b>	
20		<b>75</b>	<b>142</b>	<b>95.2</b>	<b>0.85</b>	
21		<b>50</b>	<b>103</b>	<b>94.2</b>	<b>0.79</b>	
22						
23	Thermal withstand time hot	<b>37</b>	s			
24	Thermal withstand time cold	<b>89</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>6316/C3 - 6316/C3</b>				
31	Sound pressure level (LP dB(A) 1m)	<b>90</b>	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD2	<b>1.65</b>	kg-m2			
33	Position of terminal box	<b>Top</b>				
34	Direction of rotation	<b>Bi-directional</b>				
35	Total weight of motor	<b>935</b>	kg			
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
Ex-motors						
46						
47						
48						
<b>Option Variant Codes / Definition</b>						
49	Application check not made in absence of load details.					
50	Efficiency level : IE3 as per IS12615 2018.					
51						
52						
Remarks:						
Data based on situation 10/2/2014						

All performance values are subject to IS/IEC tolerances

<b>ABB Motors and Generators</b>	<b>Load Curves</b>		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name <b>1.00003</b>
Our ref.	Rev/Changed by <b>A</b>	Date of issue <b>12/21/2017</b>	Saving ident <b>untitled.xls</b>
			Pages <b>2(3)</b>
Product	<b>TEFC, 3-phase, squirrel cage induction motor</b>		
Type/Frame	<b>E3BA315SMA2</b>		
Product code	<b>E3BA 315 SMA2-ADCIN</b>		
Rated output P <sub>N</sub>	<b>110</b>	<b>kW</b>	
Type of duty	<b>S1 100%</b>		
Voltage (V)	<b>415</b>	Current I <sub>N</sub> (A)	<b>183</b>
Frequency (Hz)	<b>50</b>	Speed (r/min)	<b>2980</b>
		Power factor at P <sub>N</sub>	<b>0.88</b>
		Efficiency (%) at P <sub>N</sub>	<b>95.2</b>
			
<p>Data based on situation 10/2/2014</p> <p style="text-align: center;">All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004</p>			

<b>ABB Motors and Generators</b>	<b>Starting Curves</b>		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed b Date of issue	Saving ident	Pages
	<b>A</b> <b>12/21/2017</b>	<b>untitled.xls</b>	<b>1.00003</b> <b>3(3)</b>
Type of product	<b>TEFC, 3-phase, squirrel cage induction motor</b>		
Type/Frame	<b>E3BA315SMA2</b>		
Product code	<b>E3BA 315 SMA2-ADCIN</b>	Frequency (Hz)	<b>50</b>
Rated output P <sub>N</sub>	<b>110 kW</b>	Rated current I <sub>N</sub>	<b>183 A</b>
Type of duty	<b>S1 100%</b>		

J <sub>motor</sub> (kgm <sup>2</sup> )	<b>1.6</b>	Voltage (V) 100%	<b>415</b>	Voltage (V)	<b>332V(80%)</b>
J <sub>load</sub> (kgm <sup>2</sup> )		T <sub>start</sub> /T <sub>N</sub>	<b>2.6</b>	T <sub>start</sub> /T <sub>N</sub>	<b>1.5</b>
Speed (r/min)	<b>2980</b>	Starting time (s)	<b>0.7</b>	Starting time (s)	<b>1.2</b>
T <sub>N</sub> (Nm)	<b>352</b>	Speed (r/min)	<b>2979</b>	Speed (r/min)	<b>2963</b>
T <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>N</sub>	<b>7.7</b>	I <sub>s</sub> /I <sub>N</sub>	<b>5.9</b>
		T <sub>max</sub> /T <sub>N</sub>	<b>2.9</b>	T <sub>max</sub> /T <sub>N</sub>	<b>1.8</b>



Data based on situation 10/2/2014

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


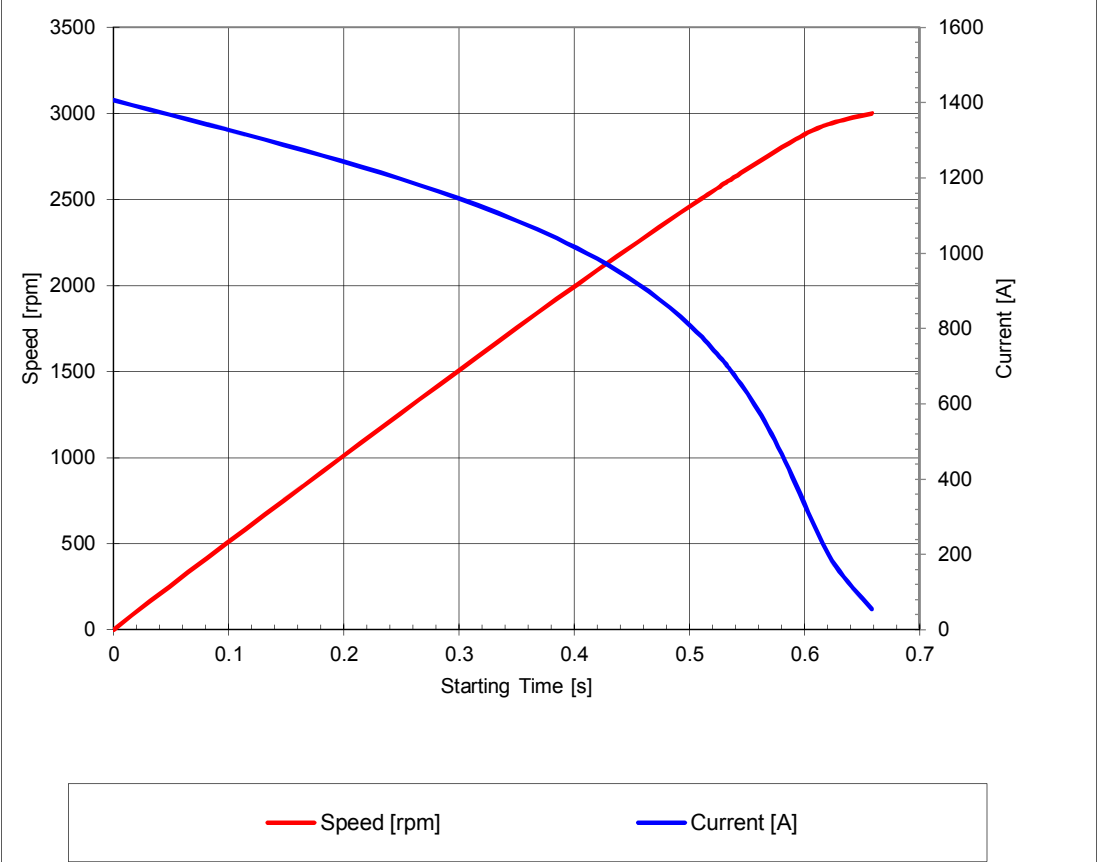

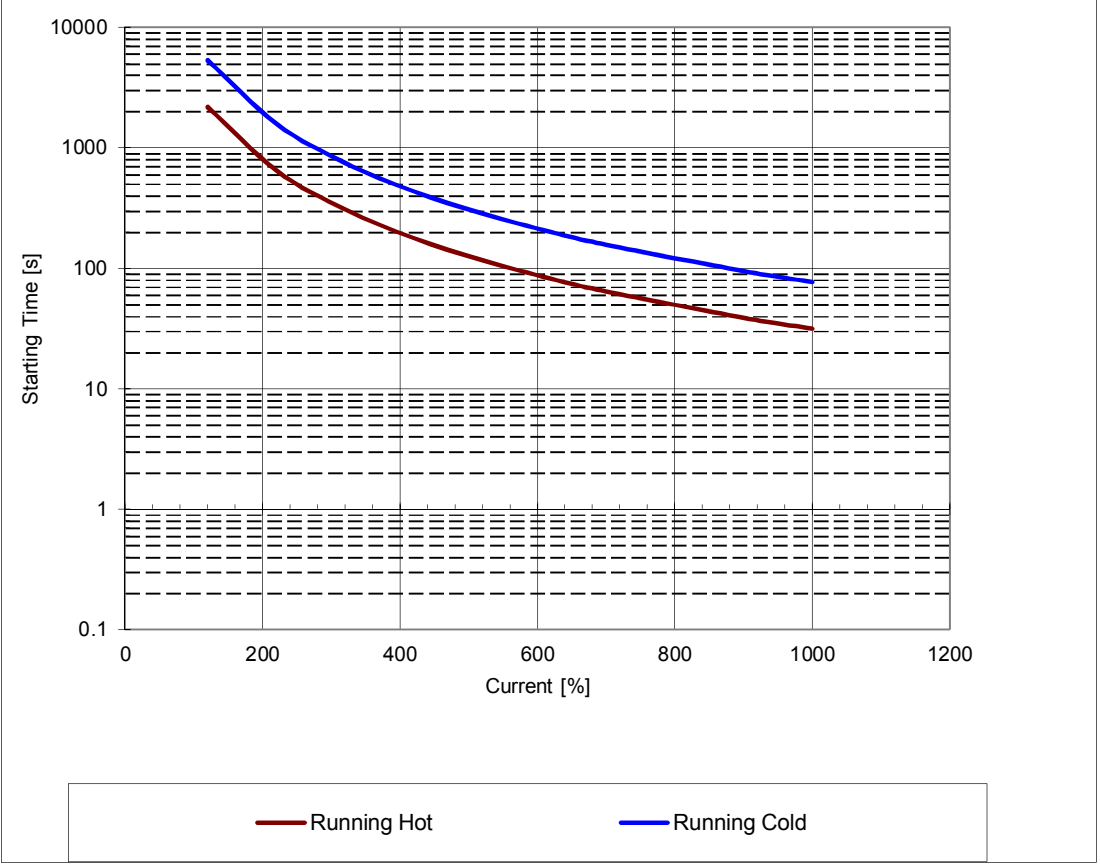
ABB Motors and Generators	Current & Speed Vs Time			
	Project	Location		
Department/Author	Customer name	Customer ref.	Item name <b>1.00003</b>	
Our ref.	Rev/Changed b	Date of issue	Saving ident	Pages
	<b>A</b>	<b>12/21/2017</b>	<b>untitled.xls</b>	<b>4(3)</b>
Type of product	<b>TEFC, 3-phase, squirrel cage induction motor</b>			
Type/Frame	<b>E3BA315SMA2</b>			
Product code	<b>E3BA 315 SMA2-ADCIN</b>	Frequency (Hz)	<b>50</b>	
Rated output P <sub>N</sub>	<b>110 kW</b>	Rated current I <sub>N</sub>	<b>183</b>	A
Type of duty	<b>S1 100%</b>			
J <sub>motor</sub> (kgm <sup>2</sup> )	<b>1.6</b>	Voltage (V) 100%	<b>415</b>	Voltage (V) <b>332V(80%)</b>
J <sub>load</sub> (kgm <sup>2</sup> )		T <sub>start</sub> /T <sub>N</sub>	<b>2.6</b>	T <sub>start</sub> /T <sub>N</sub> <b>1.5</b>
Speed (r/min)	<b>2980</b>	Starting time (s)	<b>0.7</b>	Starting time (s) <b>1.2</b>
T <sub>N</sub> (Nm)	<b>352</b>	Speed (r/min)	<b>2979</b>	Speed (r/min) <b>2963</b>
T <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>N</sub>	<b>7.7</b>	I <sub>s</sub> /I <sub>N</sub> <b>5.9</b>
		T <sub>max</sub> /T <sub>N</sub>	<b>2.9</b>	T <sub>max</sub> /T <sub>N</sub> <b>1.8</b>
 <p>Speed [rpm] vs Starting Time [s] and Current [A] vs Starting Time [s].</p>				
Data based on situation 10/2/2014				
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 <b>1.00003</b>	
Our ref.	Rev/Changed b	Date of issue	Saving ident	Pages
	<b>A</b>	<b>12/21/2017</b>	<b>untitled.xls</b>	<b>5(3)</b>
Type of product	<b>TEFC, 3-phase, squirrel cage induction motor</b>			
Type/Frame	<b>E3BA315SMA2</b>			
Product code	<b>E3BA 315 SMA2-ADCIN</b>	Frequency (Hz)	<b>50</b>	
Rated output P <sub>N</sub>	<b>110 kW</b>	Rated current I <sub>N</sub>	<b>183</b>	<b>A</b>
Type of duty	<b>S1 100%</b>			
J <sub>motor</sub> (kgm <sup>2</sup> )	<b>1.6</b>	Voltage (V) 100%	<b>415</b>	Voltage (V) <b>332V(80%)</b>
J <sub>load</sub> (kgm <sup>2</sup> )		T <sub>start</sub> /T <sub>N</sub>	<b>2.6</b>	T <sub>start</sub> /T <sub>N</sub> <b>1.5</b>
Speed (r/min)	<b>2980</b>	Starting time (s)	<b>0.7</b>	Starting time (s) <b>1.2</b>
T <sub>N</sub> (Nm)	<b>352</b>	Speed (r/min)	<b>2979</b>	Speed (r/min) <b>2963</b>
T <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>n</sub>	<b>7.7</b>	I <sub>s</sub> /I <sub>n</sub> <b>5.9</b>
		T <sub>max</sub> /T <sub>n</sub>	<b>2.9</b>	T <sub>max</sub> /T <sub>n</sub> <b>1.8</b>
 <p>The graph plots Starting Time [s] on a logarithmic y-axis (0.1 to 10000) against Current [%] on a linear x-axis (0 to 1200). 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 5000s at 100% current and drops to about 80s at 1000% current. The 'Running Hot' curve starts at approximately 2000s at 100% current and drops to about 30s at 1000% current.</p>				
<p>Data based on situation 10/2/2014</p> <p>All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004</p>				