



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 081 320-ASCIN			Calc. ref.	3GZH021008-16
3	Type/Frame	M2BAX 80MB 2				
4	Mounting	IM1001, B3(foot)				
5	Rated output P _N	1.1	kW			
6	Service factor	1				
7	Type of duty	S1 100%				
8	Rated voltage U _N	415	VY	+10, -10 %		
9	Rated frequency f _N	50	Hz	+5, -5 %		
10	Rated speed n _N	2840	r/min			
11	Rated current I _N	2.5	A			
12						
13	Starting current I _s /I _N	6				
14	Nominal torque T _N	3.7	Nm			
15	Locked rotor torque T _S /T _N	2.5				
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	2.5	79.6 / IE2	0.77	
20		75	2	80	0.7	
21		50	1.67	77.9	0.59	
22						
23	Thermal withstand time hot	8	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	6204-2Z/C3 - 6203-2Z/C3				
31	Sound pressure level (LP dB(A) 1m)	70	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD ²	0.00088	kg-m ²			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Weight of rotor	2	kg			
36	Total weight of motor	14	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 80MB 2	Calc. ref.	3GZH021008-16
Product code	3GBA 081 320-ASCIN		
Rated output P _N	1.1	kW	
Type of duty	S1 100%		
Voltage (V)	415	Current I _N (A)	2.5
Frequency (Hz)	50	Speed (r/min)	2840
		Power factor at P _N	0.77
		Efficiency (%) at P _N	79.6

P ₂ /P _n	Current (%)	Efficiency (%)	Cosinus (%)
0.0	0.52	-	0.12
0.2	0.55	0.70	0.35
0.4	0.60	0.75	0.50
0.6	0.70	0.78	0.65
0.8	0.85	0.78	0.75
1.0	1.00	0.78	0.80
1.2	1.15	0.78	0.82
1.3	1.20	-	-

Data based on situation 8/8/2016

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


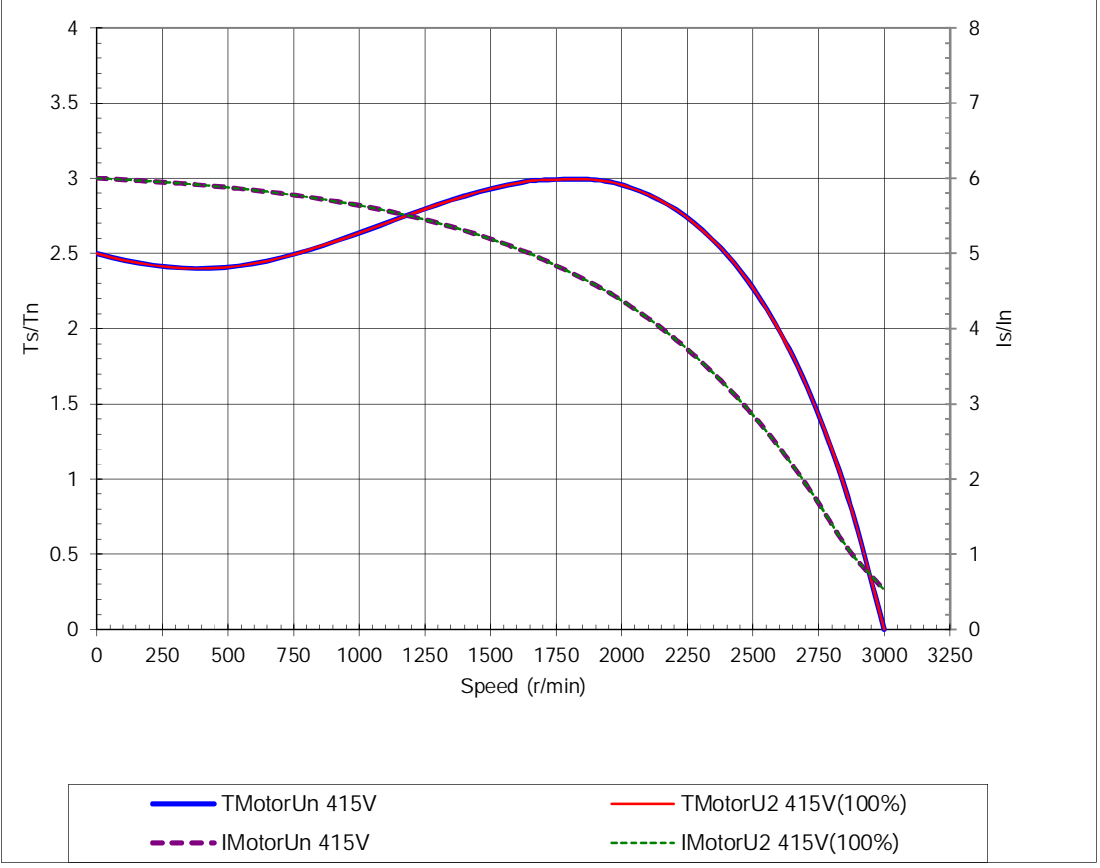


ABB Motors and Generators	Starting Curves			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name 1.00001
Our ref.	Rev/Changed b	Date of issue	Saving ident	Pages
	A	1/16/2019	untitled.xls	3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M2BAX 80MB 2	Calc. ref.	3GZH021008-16	
Product code	3GBA 081 320-ASCIN	Frequency (Hz)	50	
Rated output P _N	1.1 kW	Rated current I _N	2.5	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.0009	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.5	T _{start} /T _N 2.5
Speed (r/min)	2840	Starting time (s)		Starting time (s)
T _N (Nm)	3.7	Speed (r/min)		Speed (r/min)
T _{load} (Nm)		I _s /I _n	6	I _s /I _n 6
		T _{max} /T _n	3	T _{max} /T _n 3
				
<p>Data based on situation 8/8/2016</p> <p>All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004</p>				

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 80MB 2	Calc. ref.	3GZH021008-16	
Product code	3GBA 081 320-ASCIN	Frequency (Hz)	50	
Rated output P_N	1.1 kW	Rated current I_N	2.5	A
Type of duty	S1 100%			
J_{motor} (kgm ²)	0.0009	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J_{load} (kgm ²)		T_{start}/T_N	2.5	T_{start}/T_N 2.5
Speed (r/min)	2840	Starting time (s)		Starting time (s)
T_N (Nm)	3.7	Speed (r/min)		Speed (r/min)
T_{load} (Nm)		I_s/I_N	6	I_s/I_N 6
		T_{max}/T_n	3	T_{max}/T_n 3

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

— Speed [rpm] — Current [A]

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 80MB 2	Calc. ref.	3GZH021008-16
Product code	3GBA 081 320-ASCIN	Frequency (Hz)	50
Rated output P _N	1.1 kW	Rated current I _N	2.5 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	0.0009	Voltage (V) 100%	415 Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.5 T _{start} /T _N 2.5
Speed (r/min)	2840	Starting time (s)	Starting time (s)
T _N (Nm)	3.7	Speed (r/min)	Speed (r/min)
T _{load} (Nm)		I _s /I _n	6 I _s /I _n 6
		T _{max} /T _n	3 T _{max} /T _n 3

Current [%]	Starting Time [s] - Running Cold	Starting Time [s] - Running Hot
100	~300	~150
200	~100	~50
300	~40	~25
400	~25	~15
500	~18	~10
600	~13	~7
700	~10	~5.5
800	~8	~4.5

— Running Hot — Running Cold

Data based on situation 8/8/2016

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