

ABB Motors and Generators		Technical Data Sheet - DOL			
Project		Location			
Department/Author		Customer name		Customer ref.	
Our ref.		Rev/Changed by		Date of issue	
		A		2/8/2016	
		Saving ident		untitled.xls	
				Item name	
				1.00001	
				Pages	
				1(3)	
No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM22452-PPN (3GBP221210-ADG+332+33			
3	Type/Frame	M3BP 225SMA 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	45	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated voltage U _N	400	VD	± 5 % (IEC 60034-1)	
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)	
10	Rated speed n _N	2961	r/min		
11	Rated current I _N	79.2	A		
12	No-load current	17.8	A		
13	Starting current I _s /I _N	6.7		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	145	Nm		
15	Locked rotor torque T _s /T _N	2.5			
16	Maximum torque T _{max} /T _N	2.5			
17	Minimum torque T _{min} /T _N	2			
18	Speed at minimum torque	1950	r/min		
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %	Power factor
19	PLL determined from residual loss	100	79.2	93.6 / IE2	0.88
20		75	60.5	93.9	0.86
21		50	42.1	93.1	0.83
22		Start	531		0.39
23	Maximum starting time from hot	15	s		
24	Maximum starting time from cold	27	s		
25	Insulation class / Temperature class	F / B			
26	Ambient temperature	40	°C		
27	Altitude	1000	m.a.s.l.		
28	Enclosure	IP55			
29	Cooling system	IC411 self ventilated			
30	Bearing DE/NDE	6313/C3 - 6212/C3			
31	Type of Grease				
32	Sound pressure level (LP dB(A) 1m)	74	dB(A)	at load	
33	Moment of inertia J = ¼ GD2	0.244	kg-m2		
34	Balancing				
35	Vibration class				
36	Position of terminal box	Top			
37	Terminal box entries; no, dimens.				
38	Number of power terminals				
39	Direction of rotation	CW or CCW			
40	Total weight of motor	347	kg		
41	Dimension drawing no.				
42					
43					
44					
45					
Ex-motors					
46					
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Option Variant Codes / Definition					
49					
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Remarks:					
Data based on situation 11/30/2015					
All data subject to tolerances in accordance with IEC					
Guaranteed values on request					

ABB Motors and Generators Load Curves			
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 2/8/2016	Saving ident untitled.xls Pages 2(3)
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG		
Rated output P _N	45	kW	
Type of duty	S1(IEC) 100%		
Voltage (V)	400	Current I _N (A)	79.2
Frequency (Hz)	50	Speed (r/min)	2961
		Power factor at P _N	0.88
		Efficiency (%) at P _N	93.6
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			

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 2/8/2016	Saving ident untitled.xls	Pages 3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG	Frequency (Hz)	50
Rated output P _N	45 kW	Rated current I _N	79.2 A
Type of duty	S1(IEC) 100%		
J _{motor} (kgm ²)	0.24	Voltage (V) 100%	400
J _{load} (kgm ²)		T _{start} /T _N	2.5
Speed (r/min)	2961	Starting time (s)	
T _N (Nm)	145	Speed (r/min)	
T _{load} (Nm)		I _s /I _N	6.7
Nbr. of Consecutive Starts at UN		T _{max} /T _N	2.5
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			

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No.	Definition	Data	Unit	Remarks
1	Product	TEFC, 3-phase, squirrel cage induction motor		
2	Product code	MM22452-PPN (3GBP221210-ADG+332+333)		
3	Type/Frame	M3BP 225SMA 2		
4	Mounting	IM1001, B3(foot)		
5	Rated output P _N	45	kW	
6	Service factor	1		
7	Type of duty	S1(IEC) 100%		
8	Rated voltage U _N	415	VD	± 5 % (IEC 60034-1)
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)
10	Rated speed n _N	2964	r/min	
11	Rated current I _N	77.1	A	
12	No-load current	21	A	
13	Starting current I _s /I _N	7.1		Fullfilled IEC 60034-12 design N,H
14	Nominal torque T _N	145	Nm	
15	Locked rotor torque T _s /T _N	2.7		
16	Maximum torque T _{max} /T _N	2.7		
17	Minimum torque T _{min} /T _N	2		
18	Speed at minimum torque	1950	r/min	
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %
19	PLL determined from residual loss	100	77.1	93.7 / IE2
20		75	59	93.9
21		50	41.6	93
22		Start	547	0.39
23	Maximum starting time from hot	15	s	
24	Maximum starting time from cold	27	s	
25	Insulation class / Temperature class	F / B		
26	Ambient temperature	40	°C	
27	Altitude	1000	m.a.s.l.	
28	Enclosure	IP55		
29	Cooling system	IC411 self ventilated		
30	Bearing DE/NDE	6313/C3 - 6212/C3		
31	Type of Grease			
32	Sound pressure level (LP dB(A) 1m)	74	dB(A)	at load
33	Moment of inertia J = ¼ GD2	0.244	kg-m2	
34	Balancing			
35	Vibration class			
36	Position of terminal box	Top		
37	Terminal box entries; no, dimens.			
38	Number of power terminals			
39	Direction of rotation	CW or CCW		
40	Total weight of motor	347	kg	
41	Dimension drawing no.			
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Ex-motors				
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Option Variant Codes / Definition				
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Remarks:				
Data based on situation 11/30/2015				
All data subject to tolerances in accordance with IEC				
Guaranteed values on request				

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 2/8/2016	Saving ident untitled.xls Pages 2(3)
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG		
Rated output P _N	45	kW	
Type of duty	S1(IEC) 100%		
Voltage (V)	415	Current I _N (A)	77.1
Frequency (Hz)	50	Speed (r/min)	2964
		Power factor at P _N	0.87
		Efficiency (%) at P _N	93.7
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			

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	
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Type of product	TEFC, 3-phase, squirrel cage induction motor				
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180		
Product code	3GBP 221 210-ADG	Frequency (Hz)	50		
Rated output P _N	45 kW	Rated current I _N	77.1	A	
Type of duty	S1(IEC) 100%				
J _{motor} (kgm ²)	0.24	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.7	T _{start} /T _N	2.7
Speed (r/min)	2964	Starting time (s)		Starting time (s)	
T _N (Nm)	145	Speed (r/min)		Speed (r/min)	
T _{load} (Nm)		I _s /I _N	7.1	I _s /I _N	7.1
Nbr. of Consecutive Starts at UN		T _{max} /T _N	2.7	T _{max} /T _N	2.7
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC					

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Our ref.	Rev/Changed by A	Date of issue 2/8/2016	Saving ident untitled.xls	Pages 1(3)	
No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM22452-PPN (3GBP221210-ADG+332+333)			
3	Type/Frame	M3BP 225SMA 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	45	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated voltage U _N	690	VY	± 5 % (IEC 60034-1)	
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)	
10	Rated speed n _N	2961	r/min		
11	Rated current I _N	45.9	A		
12	No-load current	10.1	A		
13	Starting current I _s /I _N	6.7		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	145	Nm		
15	Locked rotor torque T _s /T _N	2.5			
16	Maximum torque T _{max} /T _N	2.5			
17	Minimum torque T _{min} /T _N	2			
18	Speed at minimum torque	1950	r/min		
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %	Power factor
19	PLL determined from residual loss	100	45.9	93.6 / IE2	0.88
20		75	35.1	93.9	0.86
21		50	24.4	93.1	0.83
22		Start	308		0.39
23	Maximum starting time from hot	15	s		
24	Maximum starting time from cold	27	s		
25	Insulation class / Temperature class	F / B			
26	Ambient temperature	40	°C		
27	Altitude	1000	m.a.s.l.		
28	Enclosure	IP55			
29	Cooling system	IC411 self ventilated			
30	Bearing DE/NDE	6313/C3 - 6212/C3			
31	Type of Grease				
32	Sound pressure level (LP dB(A) 1m)	74	dB(A)	at load	
33	Moment of inertia J = ¼ GD2	0.244	kg-m2		
34	Balancing				
35	Vibration class				
36	Position of terminal box	Top			
37	Terminal box entries; no, dimens.				
38	Number of power terminals				
39	Direction of rotation	CW or CCW			
40	Total weight of motor	347	kg		
41	Dimension drawing no.				
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43					
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Ex-motors					
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Option Variant Codes / Definition					
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Remarks:					
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ABB Motors and Generators Load Curves			
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 2/8/2016	Saving ident untitled.xls Pages 2(3)
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG		
Rated output P _N	45	kW	
Type of duty	S1(IEC) 100%		
Voltage (V)	690	Current I _N (A)	45.9
Frequency (Hz)	50	Speed (r/min)	2961
		Power factor at P _N	0.88
		Efficiency (%) at P _N	93.6
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			

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 2/8/2016	Saving ident untitled.xls	Pages 3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG	Frequency (Hz)	50
Rated output P _N	45 kW	Rated current I _N	45.9 A
Type of duty	S1(IEC) 100%		
J _{motor} (kgm ²)	0.24	Voltage (V) 100%	690
J _{load} (kgm ²)		T _{start} /T _N	2.5
Speed (r/min)	2961	Starting time (s)	
T _N (Nm)	145	Speed (r/min)	
T _{load} (Nm)		I _s /I _N	6.7
Nbr. of Consecutive Starts at UN		T _{max} /T _N	2.5
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			

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No.	Definition	Data	Unit	Remarks
1	Product	TEFC, 3-phase, squirrel cage induction motor		
2	Product code	MM22452-PPN (3GBP221210-ADG+332+333)		
3	Type/Frame	M3BP 225SMA 2		
4	Mounting	IM1001, B3(foot)		
5	Rated output P _N	45	kW	
6	Service factor	1		
7	Type of duty	S1(IEC) 100%		
8	Rated voltage U _N	460	VD	± 5 % (IEC 60034-1)
9	Rated frequency f _N	60	Hz	± 2 % (IEC 60034-1)
10	Rated speed n _N	3566	r/min	
11	Rated current I _N	68.9	A	
12	No-load current	15.7	A	
13	Starting current I _s /I _N	7.7		Fullfilled IEC 60034-12 design N,H
14	Nominal torque T _N	121	Nm	
15	Locked rotor torque T _s /T _N	2.6		
16	Maximum torque T _{max} /T _N	2.7		
17	Minimum torque T _{min} /T _N	2.1		
18	Speed at minimum torque	2340	r/min	
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %
19	PLL determined from residual loss	100	68.9	93.5 / IE2
20		75	53	93.2
21		50	36.8	91.7
22		Start	531	0.36
23	Maximum starting time from hot	15	s	
24	Maximum starting time from cold	27	s	
25	Insulation class / Temperature class	F / B		
26	Ambient temperature	40	°C	
27	Altitude	1000	m.a.s.l.	
28	Enclosure	IP55		
29	Cooling system	IC411 self ventilated		
30	Bearing DE/NDE	6313/C3 - 6212/C3		
31	Type of Grease			
32	Sound pressure level (LP dB(A) 1m)	82	dB(A)	at load
33	Moment of inertia J = ¼ GD2	0.244	kg-m2	
34	Balancing			
35	Vibration class			
36	Position of terminal box	Top		
37	Terminal box entries; no, dimens.			
38	Number of power terminals			
39	Direction of rotation	CW or CCW		
40	Total weight of motor	347	kg	
41	Dimension drawing no.			
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43				
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45				
Ex-motors				
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Option Variant Codes / Definition				
49				
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Remarks:				
Data based on situation 11/30/2015				
All data subject to tolerances in accordance with IEC				
Guaranteed values on request				

ABB Motors and Generators Load Curves			
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 2/8/2016	Saving ident untitled.xls Pages 2(3)
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG		
Rated output P _N	45	kW	
Type of duty	S1(IEC) 100%		
Voltage (V)	460	Current I _N (A)	68.9
Frequency (Hz)	60	Speed (r/min)	3566
		Power factor at P _N	0.88
		Efficiency (%) at P _N	93.5
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			

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 2/8/2016	Saving ident untitled.xls	Pages 3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 2	Calc. ref.	3GZF021022-180
Product code	3GBP 221 210-ADG	Frequency (Hz)	60
Rated output P _N	45 kW	Rated current I _N	68.9 A
Type of duty	S1(IEC) 100%		
J _{motor} (kgm ²)	0.24	Voltage (V) 100%	460
J _{load} (kgm ²)		T _{start} /T _N	2.6
Speed (r/min)	3566	Starting time (s)	
T _N (Nm)	121	Speed (r/min)	
T _{load} (Nm)		I _s /I _N	7.7
Nbr. of Consecutive Starts at UN		T _{max} /T _N	2.7
Load characteristics (IEC 60034-2-1:2007) Data based on situation 11/30/2015 All data subject to tolerances in accordance with IEC			