ABB Motors and Technical Data Sheet Generators Project Location Department/Author Customer ref. Item name Customer name 1.00001 Rev/Changed by Our ref. Date of issue Saving ident Pages 12/8/2020 untitled.xlsm 1(3) Definition No. Data Unit Remarks Product TEFC, 3-phase, squirrel cage induction motor 3GBA 181 410-ADCIN 3GZH021018-1 2 Product code Calc. ref. 3 Type/Frame M2BAX 180MLA 2 Mounting IM1001, B3(foot) Rated output P_N kW 22 5 6 Service factor S1 100% 7 Type of duty Rated voltage U_N VD 8 415 +10, -10 % Rated frequency f_N 9 50 Hz +5, -5 % 2932 Rated speed n_N 10 r/min 11 Rated current IN 38 Α 12 13 Starting current I_s/I_N Nominal torque T_N 72 Nm 14 Locked rotor torque T_S/T_N 2.6 15 Maximum torque T_{max}/T_N 3.2 16 17 18 Load characteristics Load % Current A Efficiency % Power factor 91.3 / IE2 19 PLL determined from residual loss 100 0.88 29.5 91.7 0.85 20 75 50 8.0 21 21 91 22 23 Thermal withstand time hot 20 s 24 Thermal withstand time cold 32 s F/B 25 Insulation class / Temperature class °C 50 26 Ambient temperature 27 Altitude 1000 m.a.s.l. Degree of protection IP55 28 29 Cooling system IC411 Bearing DE/NDE 6310-2Z/C3 - 6209-2Z/C3 30 Sound pressure level (LP dB(A) 1m) 31 85 dB(A) at no-load Moment of inertia J = 1/4 GD2 32 0.0679 kg-m2 Position of terminal box 33 Тор Direction of rotation Bi-directional 35 Weight of rotor 36 kg 152 36 Total weight of motor kg 37 38 39 40 41 42 43 44 45 Ex-motors 46 47 48 Variant Codes / Definition Option 49 50 51 52 Applicable standards: IS 12615:2018, IEC 60034-30-1:2014

All performance values are subject to IS/IEC tolerances

ABB Motors and Load Curves Generators Project Location Department/Author Customer name Customer ref. Item name 1.00001 Our ref. Rev/Changed by Date of issue Saving ident Pages 12/8/2020 untitled.xlsm 2(3) Product TEFC, 3-phase, squirrel cage induction motor M2BAX 180MLA 2 Type/Frame Calc. ref. 3GZH021018-1 Product code 3GBA 181 410-ADCIN Rated output P_N kW Type of duty S1 100% Voltage (V) 415 Current I_N (A) 38 Power factor at P_N **0.88** Frequency (Hz) Speed (r/min) 2932 Efficiency (%) at P_N 91.3 50 1.4 1.3 1.2 1.1 0.4 0.3 0.2 0.1 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.1 1.2 1.3 P2/Pn Current - - Efficiency ----- Cosinus Applicable standards: IS 12615:2018, IEC 60034-30-1:2014

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Department/Author Our ref.		Custom	Customer name				Customer ref. Saving ident			Item na	Item name 1.00001 Pages	
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Type of product	TEEC	A 3-nhase	equire	12/8/2	2020 e inductio		ed.xlsm			3(3)		
Type of product Type/Frame		3-pnase, (180ML/	-	ei caye	e mauciio	Calc.	ref	3G <i>7</i>	H021018-	1		
Product code		181 410-					ency (Hz)	002	50			
Rated output P _N 22		kW				Rated current I _N		38				
Гуре of duty	S1 100									A		
J _{motor} (kgm2)	0.068			Voltag	je (V) 100°	% 415		Voltaç	ge (V)	415V(1	100%)	
J _{load} (kgm2)				T _{start} /T		2.6		T _{start} /		2.6	,	
Speed (r/min)	2932				ng time (s)				ng time (s			
T _N (Nm)	72				d (r/min)	2932			d (r/min)	2932		
T _{load} (Nm)				I _s /I _n	•	7		I _s /I _n		7		
· · · · · · · · · · · · · · · · · · ·				T _{max} /T	n	3.2		T _{max} /1	r _n	3.2		
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U 250	J 500	750	1000	125		d (r/min)	2000 22	250 25	DOU 2/5	0 3000	J 323U	
					Speci	~ (1/11111)						
	ТІ	MotorUn	415V					TMotor	U2 415V	(100%)		
•	- II\	/lotorUn	415V					iiviotorl	J2 415V(100%)		

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		Project		Location		
Department/Author		Customer nan	ne	Customer ref.	Item name	
Our ref.		_	b Date of issue	Saving ident		1.00001 Pages
Type of product	TEEC	A 3-phase squir	12/8/2020 rel cage induction r	untitled.xlsm		4(3)
Type of product Type/Frame		з-рпаѕе, ѕүип (180MLA 2	rer cage induction i	Calc. ref.	3GZH021018-1	
Product code		181 410-ADCIN		Frequency (Hz)	50	
						۸
Rated output P _N	22	kW		Rated current I _N	38	Α
Type of duty	S1 100	70				
J _{motor} (kgm2)	0.068		Voltage (V) 100%	415	Voltage (V)	415V(100%)
J _{load} (kgm2)			T _{start} /T _N	2.6	T _{start} /T _N	2.6
Speed (r/min)	2932		Starting time (s)	0.1	Starting time (s)	0.1
Γ _N (Nm)	72		Speed (r/min)	2932	Speed (r/min)	2932
Γ _{load} (Nm)			I _s /I _n	7	I _s /I _n	7
iodu (··/			T _{max} /T _n	3.2	$T_{\text{max}}/T_{\text{n}}$	3.2
3000						250 200 150 100
500						50
0 0	0.02	0.04	0.06 0.00 Starting T	ime [s]	0.12 0.1 Current [A]	0 4 0.16

ABB Motors and Generators Department/Author Our ref.		Thermal		_AB			
		Project		Location	Location Customer ref.		
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Type of produc	+ TEEC	3-phase squi	12/8/2020 rrel cage induction		untitled.xlsm		
гуре огргосис Гуре/Frame		, э-рнаѕе, squi X 180MLA 2	rrei cage induction		Calc. ref. 3GZH021018-1		
Product code		181 410-ADCIN	J	Frequency (Hz)	50		
Rated output P _N 22		kW	•	Rated current I _N	38	Α	
Type of duty S1 100°				N.			
_{motor} (kgm2)	0.069		Voltage (V) 100%	415	Voltage (V)	415V(100%)	
l _{load} (kgm2)	0.068		T _{start} /T _N	2.6	Voltage (V) T _{start} /T _N	415V(100%) 2.6	
Speed (r/min)	2932		Start/ N Starting time (s)	2.6 0.1	Starting time (s)		
N (Nm)	72		Speed (r/min)	2932	Speed (r/min)	2932	
Γ _{load} (Nm)	12		I _s /I _n	7	I _s /I _n	7	
load (INIII)				3.2	T_{max}/T_n	3.2	
			T_{max}/T_n	J. L	¹max/ ¹n	J.L	
Stall Time [s]							
Ot Stal							
1							
0.1							
	0 100	200 3			700 800	900 1000	
0.1	0 100	200 3		500 600 rent [%]	700 800	900 10	