## **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 203 420-ADDIN 3GZH021020-23 2 Product code Calc. ref. 3 Type/Frame M2BAX 200MLB 6 Mounting IM1001, B3(foot) Rated output P<sub>N</sub> kW 22 5 6 Service factor S1 100% 7 Type of duty Rated voltage U<sub>N</sub> 8 415 VD +10, -10 % Rated frequency f<sub>N</sub> 9 50 Hz +5, -5 % Rated speed n<sub>N</sub> 986 10 r/min 11 Rated current IN 42.3 Α 12 13 Starting current I<sub>s</sub>/I<sub>N</sub> 7.5 Nominal torque T<sub>N</sub> 213 Nm 14 Locked rotor torque T<sub>S</sub>/T<sub>N</sub> 15 2.3 Maximum torque T<sub>max</sub>/T<sub>N</sub> 3.4 16 17 18 Load characteristics Load % Current A Efficiency % Power factor 92.2 / IE3 19 PLL determined from residual loss 100 42.3 0.79 34.1 0.73 20 75 92.2 50 27.1 0.62 21 91.1 22 23 Thermal withstand time hot 11 s 24 Thermal withstand time cold 18 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 6312-2Z/C3 - 6209-2Z/C3 30 Sound pressure level (LP dB(A) 1m) 31 80 dB(A) at no-load 32 Moment of inertia J = 1/4 GD2 0.585 kg-m2 Position of terminal box Тор 33 Direction of rotation Bi-directional 35 Weight of rotor 98 kg 263 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

## **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) TEFC, 3-phase, squirrel cage induction motor Product M2BAX 200MLB 6 Type/Frame Calc. ref. 3GZH021020-23 Product code 3GBA 203 420-ADDIN Rated output P<sub>N</sub> kW S1 100% Type of duty Current I<sub>N</sub> (A) Voltage (V) 415 42.3 Power factor at P<sub>N</sub> **0.79** Frequency (Hz) Speed (r/min) Efficiency (%) at P<sub>N</sub> 92.2 50 986 1.3 1.2 1.1 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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Type of product		3-phase, squir	rel cage indu	ction n		,	00711004			
Type/Frame		200MLB 6			Calc. re		3GZH0210	)20-23		
Product code		203 420-ADDIN			Frequency (Hz) 50 Rated current I <sub>N</sub> 42.3			^		
Rated output P <sub>N</sub>	22	kW			rated 0	unent I <sub>N</sub>	42.3		Α	
Type of duty	S1 100°	<b>%</b> o								
J <sub>motor</sub> (kgm2)	0.58		Voltage (V)	100%	415		Voltage (V)	)	415V(10	0%)
J <sub>load</sub> (kgm2)			T <sub>start</sub> /T <sub>N</sub>		2.3		T <sub>start</sub> /T <sub>N</sub>		2.3	
Speed (r/min)	986		Starting time	e (s)	0.1		Starting tin	ne (s)		
T <sub>N</sub> (Nm)	213		Speed (r/mir	n)			Speed (r/m	in)	1449	
T <sub>load</sub> (Nm)			$I_s/I_n$		7.5		$I_s/I_n$		7.5	
			$T_{max}/T_n$		3.4		$T_{max}/T_n$		3.4	
3.5   3.5   2.5   2   1.5   1   1   1   1   1   1   1   1   1					<u></u>					7 6 5 u/s 4 3
0.5							<b>₩</b>			1
0 =						ļ				
0		250	500 S <sub>l</sub>	peed (r		50	100	0		1250
_	TN	MotorUn 415V	,				TMotorU2 4	15\//1	100%)	
_	- 11	violoi 011 4 13 V					IMotorU2 4			
		lotorUn 415V								1.1

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Γype of product		૩-pnase, squii ℂ200MLB 6	rel cage induction r		20711024020 22		
Гуре/Frame				Calc. ref.	3GZH021020-23	•	
Product code		203 420-ADDIN		Frequency (Hz)	50		
Rated output P <sub>N</sub>	22	kW		Rated current I <sub>N</sub>	42.3	Α	
Type of duty	S1 100	%					
J <sub>motor</sub> (kgm2)	0.58		Voltage (V) 100%	415	Voltage (V)	415V(100%)	
I <sub>load</sub> (kgm2)			$T_{start}/T_{N}$	2.3	$T_{start}/T_{N}$	2.3	
Speed (r/min)	986		Starting time (s)	0.1	Starting time (s)		
Γ <sub>N</sub> (Nm)	213		Speed (r/min)		Speed (r/min)	1449	
Γ <sub>load</sub> (Nm)			I <sub>s</sub> /I <sub>n</sub>	7.5	I <sub>s</sub> /I <sub>n</sub>	7.5	
			T <sub>max</sub> /T <sub>n</sub>	3.4	T <sub>max</sub> /T <sub>n</sub>	3.4	
800						250 - 200 - 150 - 100 - 50	
0 0	0.02	0.04	0.06 Starting T	ime [s]	0.1 0.12  •Current [A]	0 0.14	

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Type of product	TFF		uirrel cage induction i			5(3)	
Гуре/Frame		AX 200MLB 6	jum or dago madonom i	Calc. ref.	3GZH021020-23		
Product code		A 203 420-ADI	OIN	Frequency (Hz)	50		
Rated output P <sub>t</sub>		kW		Rated current I <sub>N</sub>	42.3	Α	
Type of duty	S1 1			, , , , , , , , , , , , , , , , , , ,	42.5	A	
J <sub>motor</sub> (kgm2)	0.58		Voltage (V) 100%	415	Voltage (V)	415V(100%)	
I <sub>load</sub> (kgm2)			$T_{start}/T_{N}$	2.3	$T_{\text{start}}/T_{\text{N}}$	2.3	
Speed (r/min)	986		Withstand cold(s)	18	Withstand hot (s)	11	
Γ <sub>N</sub> (Nm)	213		Speed (r/min)		Speed (r/min)	1449	
Γ <sub>load</sub> (Nm)			I <sub>s</sub> /I <sub>n</sub>	7.5	$I_s/I_n$	7.5	
•			T <sub>max</sub> /T <sub>n</sub>	3.4	T <sub>max</sub> /T <sub>n</sub>	3.4	
Stall Time [s]							
0.1		200	Curre	00 800 ent [%]		1200	
		<b>─</b> Ru	nning Hot	<b>—</b> R			