## **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 104 510-ASCIN 3GZH021010-7 2 Product code Calc. ref. 3 Type/Frame M2BAX 100LA 8 Mounting IM1001, B3(foot) Rated output P<sub>N</sub> kW 0.75 5 6 Service factor S1 100% 7 Type of duty Rated voltage U<sub>N</sub> VY 8 415 +10, -10 % Rated frequency f<sub>N</sub> 9 50 Hz +5, -5 % Rated speed n<sub>N</sub> 710 10 r/min 11 Rated current IN 2.6 Α 12 13 Starting current I<sub>s</sub>/I<sub>N</sub> Nominal torque T<sub>N</sub> 10.1 Nm 14 Locked rotor torque T<sub>S</sub>/T<sub>N</sub> 15 2 Maximum torque T<sub>max</sub>/T<sub>N</sub> 2.5 16 17 18 Load characteristics Load % Current A Efficiency % Power factor 19 PLL determined from residual loss 100 2.6 66.2 0.61 0.54 20 75 2.3 62.1 50 2.1 60 0.41 21 22 23 Thermal withstand time hot 21 s 24 Thermal withstand time cold 33 s F/B 25 Insulation class / Temperature class °C Ambient temperature 50 26 27 Altitude 1000 m.a.s.l. Degree of protection IP55 28 29 Cooling system IC411 Bearing DE/NDE 6206-2Z/C3 - 6205-2Z/C3 30 Sound pressure level (LP dB(A) 1m) 31 64 dB(A) at no-load Moment of inertia J = 1/4 GD2 32 0.0072 kg-m2 Position of terminal box 33 Тор Direction of rotation Bi-directional 35 Weight of rotor kg 30 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 100LA 8 Type/Frame Calc. ref. 3GZH021010-7 Product code 3GBA 104 510-ASCIN Rated output P<sub>N</sub> 0.75 kW Type of duty S1 100% Voltage (V) 415 Current I<sub>N</sub> (A) 2.6 Power factor at P<sub>N</sub> **0.61** Frequency (Hz) Speed (r/min) 710 Efficiency (%) at P<sub>N</sub> 66.2 50 1.2 1.1 1 0.9 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

ABB Motors and Generators	Starting	Curves			ARI
	Project		Location		
Department/Author	Customer nam	ie	Customer ref.		Item name
Our ref.		b Date of issue	Saving ident		1.00001 Pages
Type of product TEFC,	A phase squir	12/8/2020 rel cage induction r	untitled.xlsm		3(3)
• • • • • • • • • • • • • • • • • • • •	x 100LA 8	rei cage induction i	Calc. ref.	3GZH021010-7	
	104 510-ASCIN		Frequency (Hz)	50	
Rated output P <sub>N</sub> 0.75	kW		Rated current I <sub>N</sub>	2.6	Α
Type of duty S1 100			rated carrent in	2.0	A
, , , , o					
J <sub>motor</sub> (kgm2) <b>0.0072</b>	2	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J <sub>load</sub> (kgm2)		$T_{start}/T_{N}$	2	$T_{start}/T_{N}$	2
Speed (r/min) 710		Starting time (s)		Starting time (s)	
Γ <sub>N</sub> (Nm) <b>10.1</b>		Speed (r/min)		Speed (r/min)	1449
Γ <sub>load</sub> (Nm)		$I_s/I_n$	4	$I_s/I_n$	4
		$T_{\text{max}}/T_{\text{n}}$	2.5	$T_{max}/T_n$	2.5
3 т					6
-					
-					]
2.5			_		
2.5					. 5
t					1
-			\		
2					4
}			\		+
ے ا		7	\ \		1 _
LL /S 1.5 +			<del>\ \</del>		3 <u>%</u>
· [					-
ţ				<b>\</b>	1
1 -			$\overline{}$	1	2
ţ			\	1	1
ŀ			`	$\langle 1  $	-
0.5				$\mathcal{U}$	
ŀ				7	-
ļ.				\	1
0				, , , , , ,	
0	250	500	)	750	1000
		Speed (			
			-		
т	MotorUn 415V			TMotorII2 415V/	100%)
				TMotorU2 415V(	
IN	MotorUn 415V			IMotorU2 415V(1	00%)

Generators					<b>/</b> \IDI
	Project		Location		
Department/Author	Customer nar	ne	Customer ref.		Item name 1.00001
Our ref.		b Date of issue	Saving ident		Pages
Type of product <b>T</b>	A EFC, 3-phase, squi	12/8/2020 rel cage induction r	untitled.xlsm notor		4(3)
**	//2BAX 100LA 8		Calc. ref.	3GZH021010-7	
	GBA 104 510-ASCIN		Frequency (Hz)	50	
Rated output P <sub>N</sub> 0	0.75 kW		Rated current I <sub>N</sub>	2.6	Α
	61 100%				
J <sub>motor</sub> (kgm2) 0	0.0072	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J <sub>load</sub> (kgm2)		T <sub>start</sub> /T <sub>N</sub>	2	T <sub>start</sub> /T <sub>N</sub>	2
	'10	Starting time (s)		Starting time (s)	
	0.1	Speed (r/min)		Speed (r/min)	1449
Γ <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>n</sub>	4	I <sub>s</sub> /I <sub>n</sub>	4
u ( /		$T_{max}/T_n$	2.5	$T_{\text{max}}/T_{\text{n}}$	2.5
700					8 [V] 8 [V] 8 4
100					2
	0.005 0.01	0.015 Starting T		0.025 0.03	3 0.035
	Spec	ed [rpm]	_	Current [A]	

Generators	Project		Location		AD
	Fioject		Location		
Department/Author	Customer	name	Customer ref.		Item name 1.00001
Our ref.		ged b Date of issue	Saving ident		Pages
	A	12/8/2020	untitled.xlsm		5(3)
Type of product		quirrel cage induction			_
ype/Frame	M2BAX 100LA 8		Calc. ref.	3GZH021010-	./
Product code	3GBA 104 510-AS	CIN	Frequency (Hz)	50	
Rated output P <sub>N</sub>	<b>0.75</b> kW		Rated current I <sub>N</sub>	2.6	Α
ype of duty	S1 100%				
<sub>motor</sub> (kgm2)	0.0072	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J <sub>load</sub> (kgm2)		$T_{start}/T_{N}$	2	$T_{\text{start}}/T_{\text{N}}$	2
Speed (r/min)	710	Withstand cold(s)	33	Withstand hot (	(s) <b>21</b>
Γ <sub>N</sub> (Nm)	10.1	Speed (r/min)		Speed (r/min)	1449
T <sub>load</sub> (Nm)		I <sub>s</sub> /I <sub>n</sub>	4	I <sub>s</sub> /I <sub>n</sub>	4
,		T <sub>max</sub> /T <sub>n</sub>	2.5	$T_{\text{max}}/T_{\text{n}}$	2.5
100000					
100000					
10000					
10000					
10000					
10000					
10000					
10000					
10000 10000 1000 1000 1000 1000 1000 1					
10000					
10000 10000 1000 1000 1000 1000 1000 1					
10000					
10000 10000 1000 1000 1000 1000 1000 1					
10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 1000000					
10000 Time [s]					
10000 Time [s] 1000 Time [s] 1000 Time [s] 1000 Time [s] 100 Time [s]					
10000 1000 1000 1000 1000 1000 1000 10	100	200 300	400	500	600 700
10000 Time [s] 1000 Time [s] 1000 Time [s] 1000 Time [s] 100 Time [s]	100		400 Trent [%]	500	600 700
10000 Tool 1000	100			500	600 700
10000 1000 1000 1000 1000 1000 1000 10				500	600 700
10000 1000 1000 1000 1000 1000 1000 10			rrent [%]	Sunning Cold	600 700