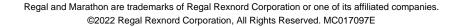
PRODUCT INFORMATION PACKET



Model No: TCN2001A1121GAC010 Catalog No: TCN2001A1121GAC010

TerraMAX® Cast Iron Motor, 270 HP, 3 Ph, 50 Hz, 400 V, 3000 RPM, 315L Frame, TEFC









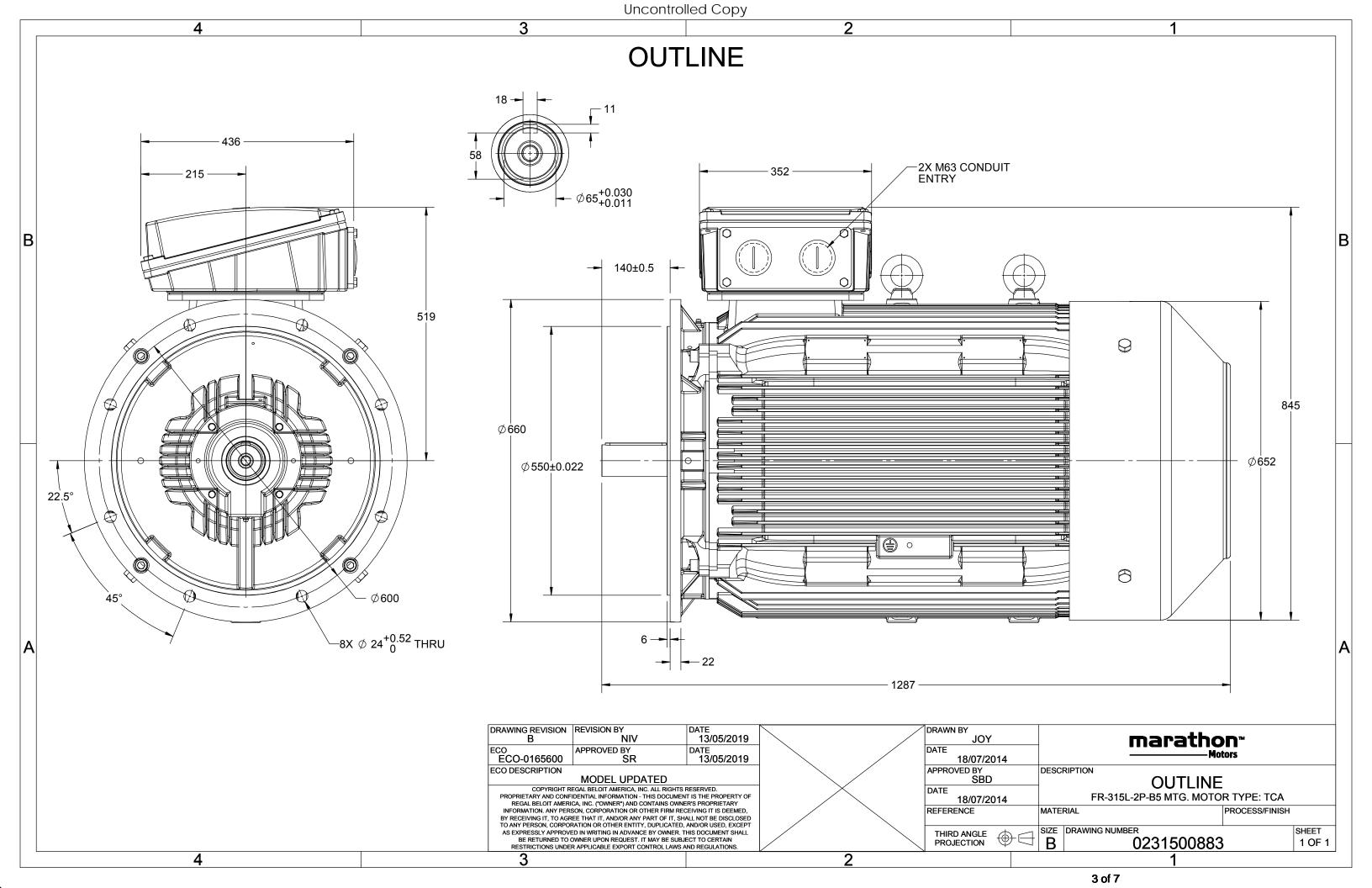
Nameplate Specifications

Output HP	270 Hp	Output KW	200.0 kW
Frequency	50 Hz	Voltage	400 V
Current	338.6 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.8 %	Power Factor	0.89
Duty	S 1	Insulation Class	F
Frame	315L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6316	Opp Drive End Bearing Size	6316
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	СЗ
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1287 mm	Frame Length	840 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Тор		
Outline Drawing	0231500883	Connection Drawing	8442000085

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DRAWING REVISION	REVISION BY	DATE
Α	SN	13/01/2017
ECO	APPROVED BY	DATE
ECO-0116390	SBD	13/01/2017
ECO DESCRIPTION		

NEW DRAWING RELEASE

GEOM	ENTRIC TOLE	RANCE
	>0~6	±0.1
LINEAR DIM	>6~30	±0.2
	>30~120	±0.3



NOTES:

- 1.
- 2.
- PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE 3. BY THE TABLE.

8WD.442.2017







Model No. TCN2001A1121GAC010

U	Δ/Υ	f	Р	Р	I	n	T	IE		% EFF a	at load	l	PF	at lo	ad	I _A /I _N	T_A/T_N	T_K/T_N
(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
400	Δ	50	200	270	338.6	2984	644.39	IE3	-	95.8	95.8	94.6	0.89	0.87	0.8	7.3	2.3	3.6

Frame Material Cast Iron Cooling method IC 411 Frame size 315L Motor weight - approx. 1221 kg Duty S1 Gross weight - approx. 1266 kg Voltage variation * ± 10% Motor inertia 3.0911 kgm² Frequency variation * ± 5% Load inertia Customer to Provide Combined variation * 10% Vibration level 2.8 mm/s Design N Noise level (1 meter distance from motor) 83 dB(A) Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Insulation class F Starting method DOL Ambient temperature -20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Direction of rotation Bi-directional Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Motor type	TCN		Degree of protection	IP 55	
Frame size 315L Motor weight - approx. 1221 kg Duty S1 Gross weight - approx. 1266 kg Voltage variation * ± 10% Motor inertia 3.0911 kgm² Frequency variation * ± 5% Load inertia Customer to Provide Combined variation * 10% Vibration level 2.8 mm/s Design N Noise level (1 meter distance from motor) 83 dB(A) Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Insulation class F Starting method DOL Ambient temperature -20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Hazardous area classification Ex nA Standard rotation Bi-directional Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Enclosure	TEFC		Mounting type	IM B5	
Duty \$1 Voltage variation * ± 10% Motor inertia 3.0911 kgm² Frequency variation * ± 5% Combined variation * 10% Design N Service factor 1.0 Insulation class F Ambient temperature rise (by resistance) 80 [Class B] Altitude above sea level 1000 meter Davide are classification Ex nA Zone classification Zone 2 Gas group IIC Temperature class T3 Rotor type Aluminum Die cast Bearing type Anti-friction ball Doty Amotor inertia 3.0911 kgm² Motor inertia Customer to Provide	Frame Material	Cast Iron		Cooling method	IC 411	
Voltage variation * ± 10% Voltage variation * ± 10% Combined variation * 10% Design N Service factor 1.0 Insulation class F Ambient temperature rise (by resistance) Altitude above sea level Hazardous area classification Zone classification Zone classification Zone 2 Gas group Temperature class Ta Rotor type Anti-friction ball DE / NDE bearing 6316 C3 / 6316 C3 Motor inertia 3.0911 kgm² Notor inertia 3.0911 kgm² Stephon Motor inertia 3.0911 kgm² Subjects Load inertia Customer to Provide Customer to Provide 1.0 1.0 No. of starts hot/cold/Equally spread 2/3/4 Starting method DOL Type of coupling Direct Type of coupling Direct LR withstand time (hot/cold) 15/30 s Direct LR withstand time (hot/cold) 15/30 s Standard rotation Clockwise form DE Paint shade RAL 5014 Accessories Accessory - 1 PTC 150°C Accessory - 2 - Accessory - 3 Terminal box position TOP	Frame size	315L		Motor weight - approx.	1221	kg
Frequency variation * ± 5% Combined variation * 10% Vibration level 2.8 mm/s Design N Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Insulation class F Ambient temperature -20 to +40 Compare Temperature rise (by resistance) 80 [Class B] Altitude above sea level 1000 meter Direction of rotation Bi-directional Hazardous area classification Ex nA Zone classification Zone 2 Gas group IIC Gas group IIC Temperature class T3 Accessory - 1 Accessory - 2 Bearing type Anti-friction ball Accessory - 3 Terminal box position TOP	Duty	S1		Gross weight - approx.	1266	kg
Combined variation * 10% Vibration level 2.8 mm/s Design N Noise level (1meter distance from motor) 83 dB(A) Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Insulation class F Starting method DOL Ambient temperature20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Direction of rotation Bi-directional Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Voltage variation *	± 10%		Motor inertia	3.0911	kgm²
Design N Noise level (1meter distance from motor) 83 dB(A) Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Insulation class F Starting method DOL Ambient temperature -20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Hazardous area classification Ex nA Standard rotation Bi-directional Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - Terminal box position TOP	Frequency variation *	± 5%		Load inertia	Customer to Provide	
Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Insulation class F Starting method DOL Ambient temperature -20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Hazardous area classification Ex nA Standard rotation Bi-directional Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 Bearing type Anti-friction ball Accessory - 3 Terminal box position TOP	Combined variation *	10%		Vibration level	2.8	mm/s
Insulation class F Starting method DOL Ambient temperature -20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Design	N		Noise level (1meter distance from motor	or) 83	dB(A)
Ambient temperature -20 to +40 °C Type of coupling Direct Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Type of coupling Direct Type of coupling Direct Text Accessory Accessory - 1 Accessory - 2 Terminal box position TOP	Service factor	1.0		No. of starts hot/cold/Equally spread	2/3/4	
Temperature rise (by resistance) 80 [Class B] K LR withstand time (hot/cold) 15/30 s Altitude above sea level 1000 meter Direction of rotation Bi-directional Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Insulation class	F		Starting method	DOL	
Altitude above sea level 1000 meter Direction of rotation Bi-directional Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 DE reminal box position TOP	Ambient temperature	-20 to +40	°C	Type of coupling	Direct	
Hazardous area classification Ex nA Standard rotation Clockwise form DE Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Temperature rise (by resistan	ce) 80 [Class B]	K	LR withstand time (hot/cold)	15/30	s
Zone classification Zone 2 Paint shade RAL 5014 Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Altitude above sea level	1000	meter	Direction of rotation	Bi-directional	
Gas group IIC Accessories Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Hazardous area classification	Ex nA		Standard rotation	Clockwise form DE	
Temperature class T3 Accessory - 1 PTC 150°C Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Zone classification	Zone 2		Paint shade	RAL 5014	
Rotor type Aluminum Die cast Accessory - 2 - Bearing type Anti-friction ball Accessory - 3 - DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Gas group	IIC		Accessories		
Bearing type Anti-friction ball Accessory - 3 DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Temperature class	T3		Accessory - 1	PTC 150°C	
DE / NDE bearing 6316 C3 / 6316 C3 Terminal box position TOP	Rotor type	Aluminum Die cast		Accessory - 2	-	
	Bearing type	Anti-friction ball		Accessory - 3	-	
Lubrication method Regreasable Maximum cable size/conduit size 1R x 3C x 240mm²/2 x M63 x 1.5	DE / NDE bearing	6316 C3 / 6316 C3		Terminal box position	TOP	
	Lubrication method	Regreasable		Maximum cable size/conduit size	1R x 3C x 240mm ² /2 x M63 x 1.5	
Type of grease CHEVRON SRI-2 or Equivalent Auxiliary terminal box NA	Type of grease	CHEVRON SRI-2 or Equivalent		Auxiliary terminal box	NA	

 I_A/I_N - Locked Rotor Current / Rated Current T_A/T_N - Locked Rotor Torque / Rated Torque

 T_K/T_N - Breakdown Torque / Rated Torque

NOTE

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-15

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

Technical data are subject to change. There may be slight variations between calculated values in this datasheet and the motor nameplate figures.

Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	IEC:60034-30-1	-	-	GEMS 2019	-	IEC:60034-30-1

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 $[\]ensuremath{^{*}}$ Voltage, Frequency and combined variation are as per IEC60034-1



Power Factor



Model No. TCN2001A1121GAC010

Enclosure	U	Δ/Υ	f	Р	Р	1	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
	(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m ²]	[kg]
TEFC	400	Δ	50	200	270	338.6	2984	65.71	644.39	IE3	40	S1	1000	3.0911	1221

Motor Load Data Load Point 1/4FL 1/2FL 3/4FL FL 5/4FL Current 98.9 128.9 193.1 263.2 338.6 Α Torque Nm 0.0 160.4 321.3 482.6 644.4 Speed r/min 3000 2996 2992 2988 2984 Efficiency % 0.0 91.1 94.6 95.8 95.8

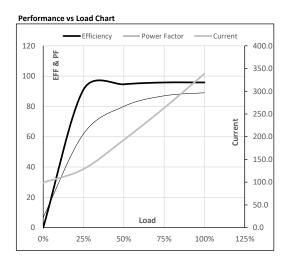
61.9

80.0

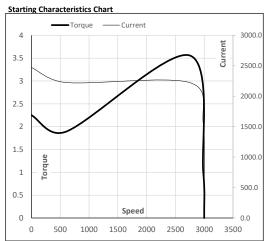
87.0

89.0

6.8



Motor Speed	d Torque Dat	ta				
Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2745	2984	3000
Current	Α	2471.6	2224.4	1541.9	338.6	98.9
Torque	nu	23	19	3.6	1	0



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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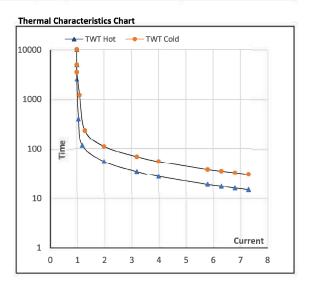




Model No. TCN2001A1121GAC010

Enclosure	U	Δ/Υ	f	Р	Р	- 1	n	Т	Т	ΙE	Amb	Duty	Elevation	Inertia	Weight
	(∨)	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m ²]	[kg]
TEFC	400	Δ	50	200	270.0	338.6	2984	65.71	644.39	IE3	40	S1	1000	3.0911	1221

Motor Spee	d Torg	ue Data						
Load		FL	I_1	l ₂	l ₃	I_4	I ₅	LR
TWT Hot	s	10000	55	39	28	24	22	15
TWT Cold	s	10000	110	80	55	50	40	30
Current	pu	1	2	3	4	5	5.5	7.3



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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