## **PRODUCT INFORMATION PACKET**

Model No: TCN2004A1131GAC010 Catalog No: TCN2004A1131GAC010 TerraMAX® Cast Iron Motor, 270 HP, 3 Ph, 50 Hz, 400 V, 750 RPM, 355L Frame, TEFC



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Motors

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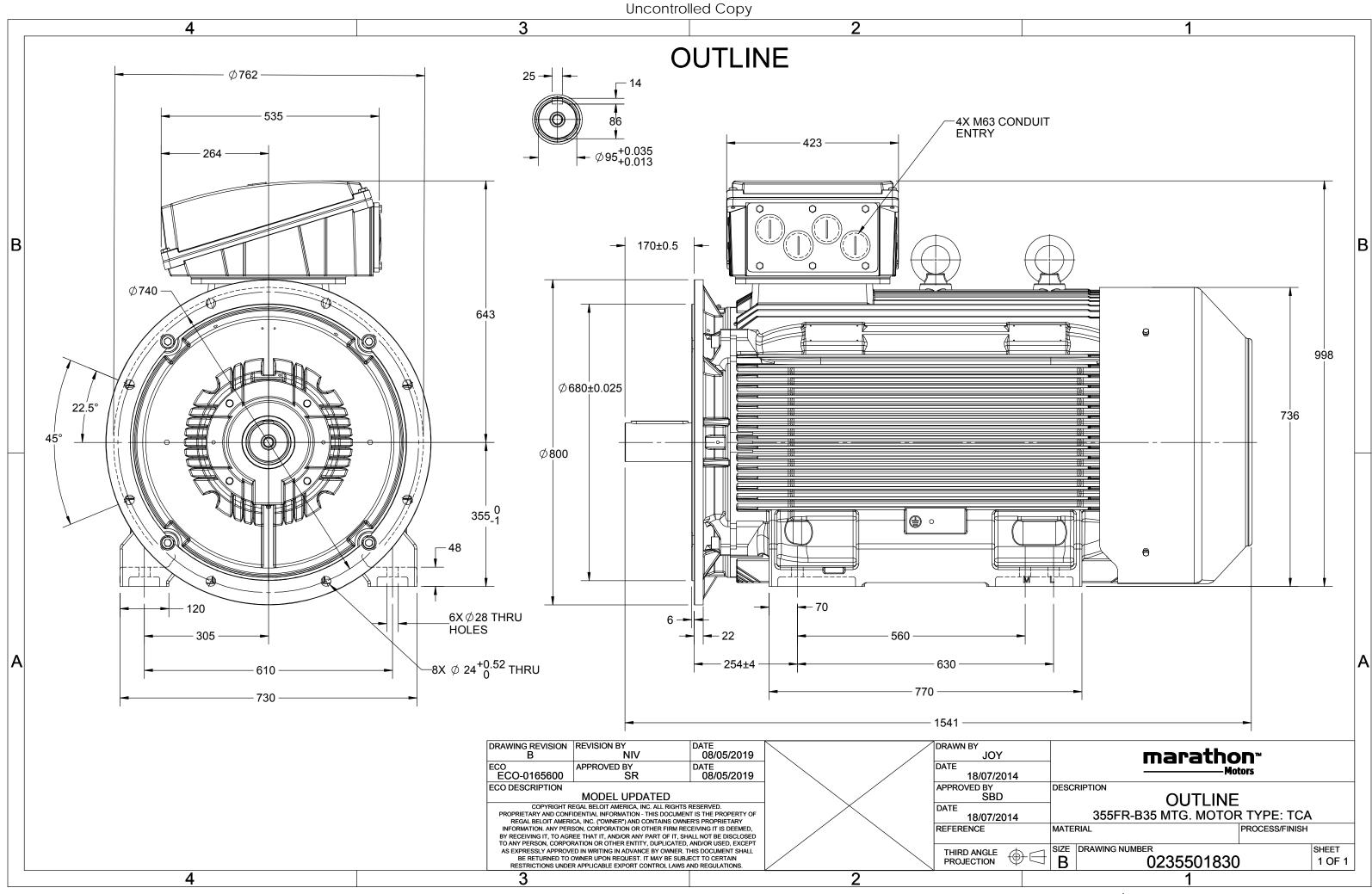
### Nameplate Specifications

Output HP	270 Нр	Output KW	200.0 kW
Frequency	50 Hz	Voltage	400 V
Current	367.7 A	Speed	742 rpm
Service Factor	1	Phase	3
Efficiency	94.6 %	Power Factor	0.83
Duty	S1	Insulation Class	F
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Frame Thermal Protection	355L No Protection	Enclosure Ambient Temperature	Totally Enclosed Fan Cooled 40 °C
Thermal Protection	No Protection	Ambient Temperature	40 °C
Thermal Protection Drive End Bearing Size	No Protection 6322	Ambient Temperature Opp Drive End Bearing Size	40 °C 6322

### **Technical Specifications**

Electrical Type	Squirrel Cage	Starting Method	Direct On Line	
Poles	8	Rotation	Bi-Directional	
Mounting	B35	Motor Orientation	Horizontal	
Drive End Bearing	C3	Opp Drive End Bearing	СЗ	
Frame Material	Cast Iron	Shaft Type	Keyed	
Overall Length	1542 mm	Frame Length	1010 mm	
Shaft Diameter	95 mm	Shaft Extension	170 mm	
Assembly/Box Mounting	Тор			
Outline Drawing	0235501830	Connection Drawing	8442000085	

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U	$\Delta / Y$	f	Р	Р	1	n	т	IE		% EFF	at_loa	d	PF	at_l	oad	I <sub>A</sub> /I <sub>N</sub>	$T_A/T_N$	T <sub>K</sub> /T <sub>N</sub>
(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL		1/2FL	[pu]	[pu]	[pu]
400	Δ	50	200	270	367.7	742	2590.61	IE3	-	94.6	94.6	95	0.83	0.8	0.71	6.3	1.7	2.5
Motor	type				TCN				Deg	gree of	protectio	on				IP 55		
Enclos	ure				TEFC				Мо	unting	type					IM B35		
Frame	Materia	I			Cast Iro	on			Cod	oling me	ethod					IC 411		
Frame	size				355L				Мо	tor wei	ght - app	orox.				2044		kg
Duty					S1				Gro	oss weig	ght - app	rox.				2089		kg
Voltag	e variatio	on *			± 10%	, b			Мо	tor iner	tia					13.1902		kgm <sup>2</sup>
Freque	ency varia	ation *			± 5%				Loa	id inerti	а				Custo	omer to Provi	de	
Combi	ned varia	ation *			10%				Vib	ration l	evel					2.8		mm/s
Design					N				Noi	ise leve	( 1mete	er distanc	e from i	motor)		65		dB(A)
Service	e factor				1.0				No	of star	ts hot/co	old/Equal	ly sprea	ıd		2/3/4		
Insulat	ion class	5			F				Sta	rting m	ethod					DOL		
Ambie	nt tempe	erature			-20 to +	40		°C	Тур	e of co	upling					Direct		
Tempe	rature ri	ise (by i	resistan	ce)	80 [ Class	5 B ]		К	LR	withsta	nd time	(hot/cold	)			15/30		S
Altitud	e above	sea lev	el		1000			meter	Dir	ection c	of rotatic	n			В	i-directional		
Hazard	lous area	a classif	ication		Ex nA				Sta	ndard r	otation				Cloc	kwise form D	DE	
	Zone cla	assifica	tion		Zone	2			Pai	nt shad	e					RAL 5014		
	Gas gro	up			IIC				Acc	essorie	s							
	Temper	rature o	lass		Т3					Acc	cessory -	1				PTC 150°C		
Rotor 1	type			Alı	uminum d	ie cast				Aco	cessory -	2				-		
Bearin	g type			A	Anti-frictio	n ball				Acc	cessory -	3				-		
DE / N	DE beari	ng		63	22 C3/6	322 C3			Ter	minal b	ox positi	ion				ТОР		
Lubrica	ation me	thod			Regrease	ble			Ma	ximum	cable siz	e/condui	t size	1R	x 3C x 3	00mm²/4 x N	163 x 1.5	
Туре о	f grease			CHEVRO	ON SRI-2 c	r Equival	ent		Aux	kiliary te	erminal b	хох				NA		

 $I_{\text{A}}/I_{\text{N}}$  - Locked Rotor Current / Rated Current

 $T_A/T_N$  - Locked Rotor Torque / Rated Torque

 $T_{\rm K}/T_{\rm N}$  - 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

\* Voltage, Frequency and combined variation are as per IEC60034-1

Technical dat	a are subject to	o change. There may be slight varia	ations between calculated	values in this datashee	t and the motor namep	ate figures.
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC

Standards	IEC:60034-30-1	-	-	GEMS 2019	-	IEC:60034-30-1



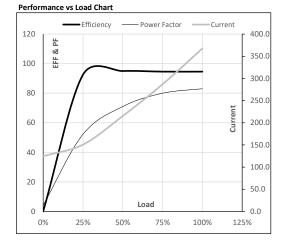
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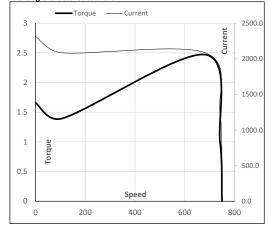
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Enclosure	U	$\Delta / Y$	f	Р	Р	I	n	Т	Т	IE	Amb	Duty	Elevation	Inertia	Weight
	(∨)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m <sup>2</sup> ]	[kg]
TEFC	400	Δ	50	200	270	367.7	742	264.17	2590.61	IE3	40	S1	1000	13.1902	2044

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	А	124.6	150.6	215.3	286.8	367.7	
Torque	Nm	0.0	642.7	1288.5	1937.6	2590.6	
Speed	r/min	750	748	746	745	742	
Efficiency	%	0.0	92.5	95.0	94.6	94.6	
Power Factor	%	4.2	52.2	71.0	80.0	83.0	



### Starting Characteristics Chart



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

Issued By Issued Date

Motor Speed Torque Data

r/min

А

pu

LR

0

1.7

P-Up

107

2316.2 2084.6 1237.2

1.4

BD

683

2.5

Rated

742

367.7

1

NL

750

124.6

0

Load Point

Speed

Current

Torque

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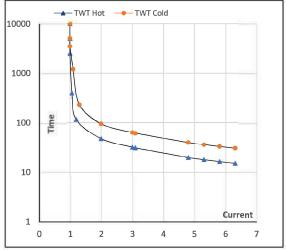
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Enclosure	U	Δ/Υ	f	Р	Р	1	n	т	т	IE	Amb	Duty	Elevation	Inertia	Weight
	(∨)	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m <sup>2</sup> ]	[kg]
TEFC	400	Δ	50	200	270.0	367.7	742	264.17	2590.61	IE3	40	S1	1000	13.1902	2044

#### Motor Speed Torque Data

Load		FL	$I_1$	l <sub>2</sub>	l <sub>3</sub>	$I_4$	I <sub>5</sub>	LR
TWT Hot	s	10000	47	32	25	18	16	15
TWT Cold	s	10000	95	63	48	37	33	30
Current	pu	1	2	3	4	5	5.5	6.3

### Thermal Characteristics Chart



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

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