PRODUCT INFORMATION PACKET

Model No: TCN0112A1113GAC010
Catalog No: TCN0112A1113GAC010
TerraMAX® Cast Iron Motor, 15 HP, 3 Ph, 50 Hz, 400 V, 1500 RPM, 160M Frame, TEFC

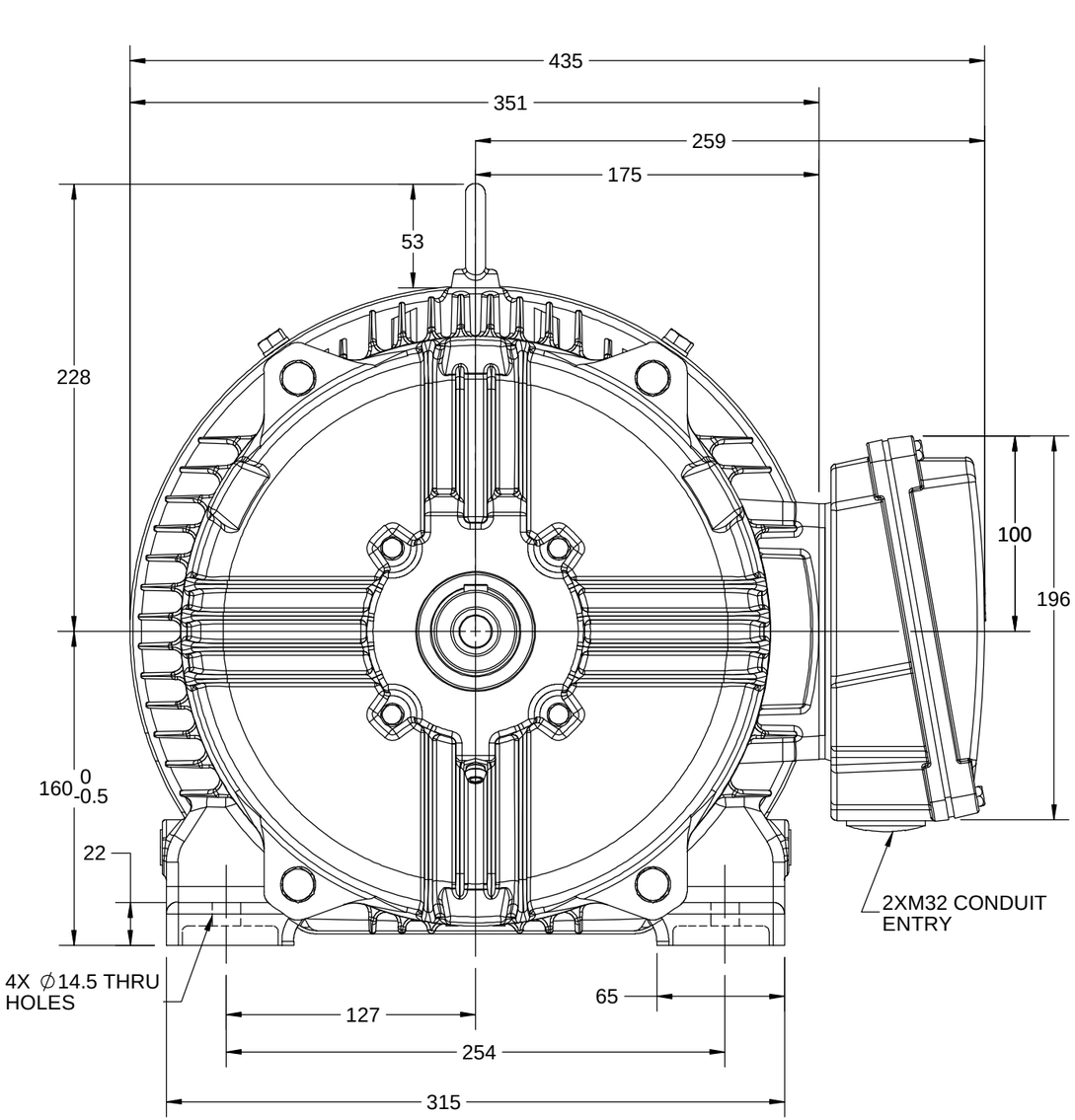
Nameplate Specifications

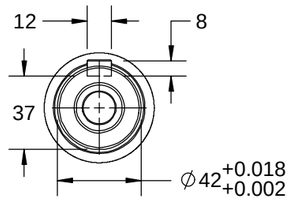
Output HP	15 Hp	Output KW	11.0 kW
Frequency	50 Hz	Voltage	400 V
Current	20.7 A	Speed	1475 rpm
Service Factor	1	Phase	3
Efficiency	91.4 %	Power Factor	0.84
Duty	S1	Insulation Class	F
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

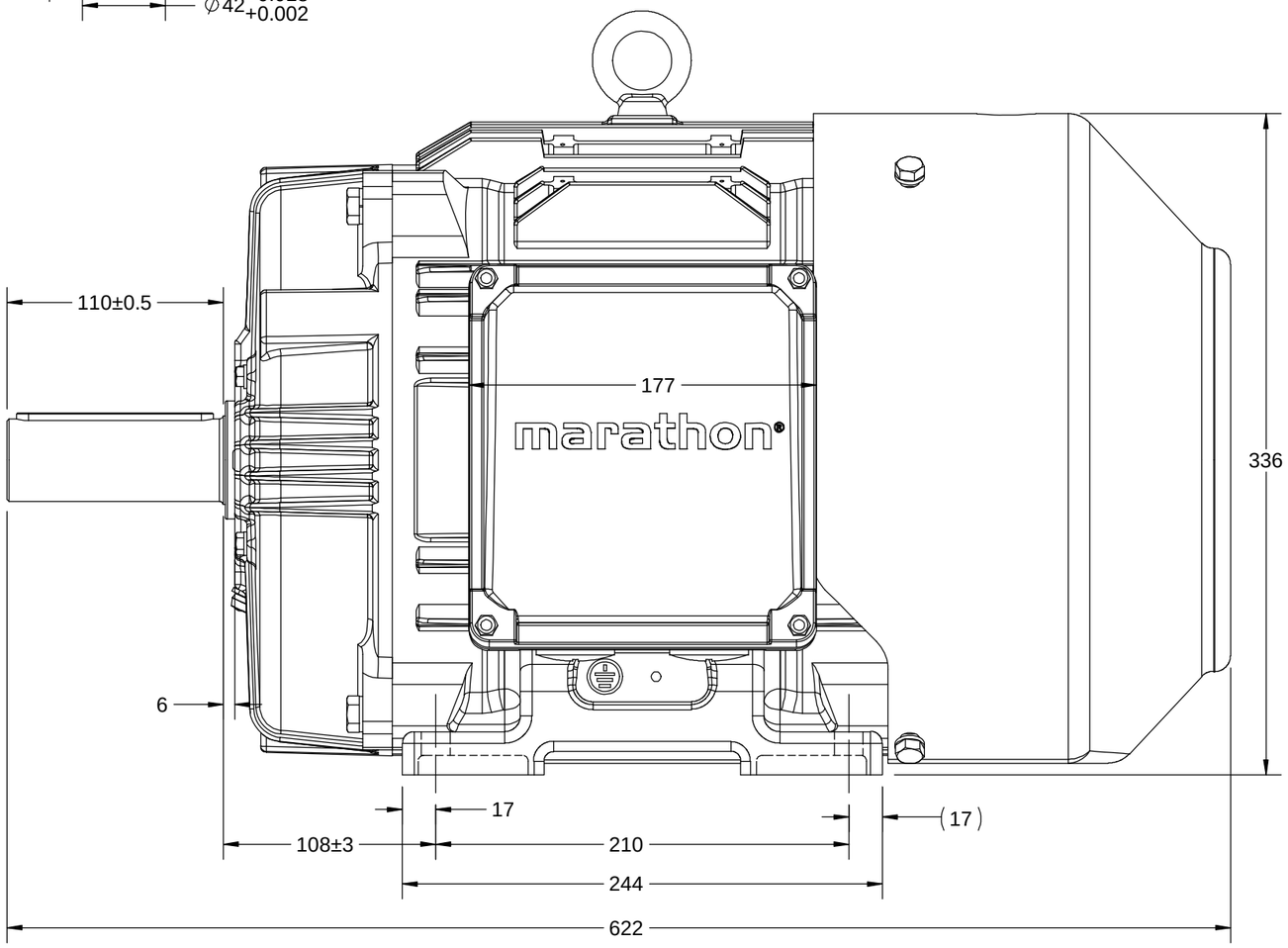
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	622 mm	Frame Length	254 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0216000810

OUTLINE







DRAWING REVISION	REVISION BY	DATE
B	BISWA	27/07/2018
ECO	APPROVED BY	DATE
ECO-0148344	SBD	27/07/2018

ECO DESCRIPTION: DRAWING UPDATED

DRAWN BY	SN
DATE	19/08/2016
APPROVED BY	SBD
DATE	19/08/2016
REFERENCE	

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DESCRIPTION: OUTLINE
160M FR B3-MTG.TYPE: TCA/QCA-RHS TB

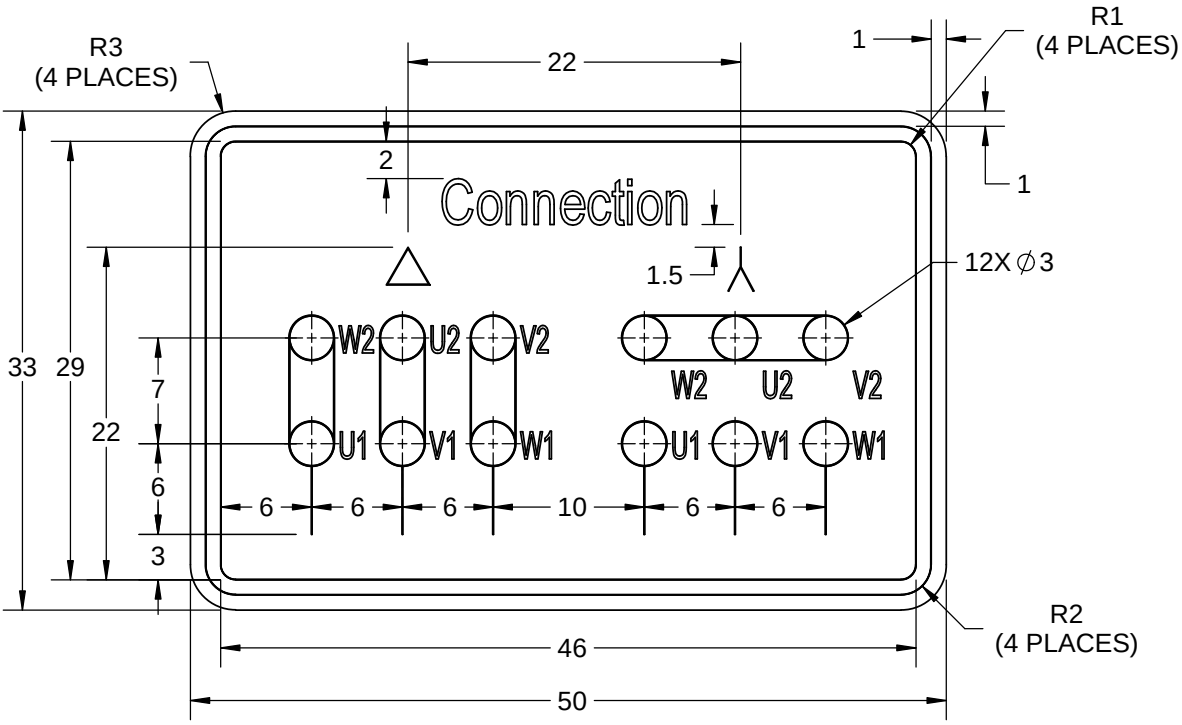
MATERIAL | PROCESS/FINISH

THIRD ANGLE PROJECTION

SIZE	DRAWING NUMBER	SHEET
B	0216000810	1 OF 1

DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO	APPROVED BY	DATE
ECO-0116390	SBD	13/01/2017
ECO DESCRIPTION		
NEW DRAWING RELEASE		

GEOMENTRIC TOLERANCE		
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



NOTES:

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

8WD.442.2017

DRAWN BY: SN	REGAL™ Regal Beloit America, Inc.	
DATE: 16/12/2016		
APPROVED BY: SBD	DESCRIPTION: CONN DIAGRAM-NAMEPLATE	
DATE: 16/12/2016		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE: A / DRAWING NUMBER: 8442000085	SHEET: 1 OF 1

marathon® Motors

TerraMAX®

Model No. TCN0112A1113GAC010

U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load 5/4FL	FL	3/4FL	1/2FL	PF at __ load FL	3/4FL	1/2FL	I_A/I_N [pu]	T_A/T_N [pu]	T_K/T_N [pu]
400	Δ	50	11	15	20.7	1475	72.41	IE3	-	91.4	91.4	90.6	0.84	0.78	0.66	7.3	2.5	3.3

Motor type	TCN	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	160M	
Duty	S1	
Voltage variation *	± 10%	
Frequency variation *	± 5%	
Combined variation *	10%	
Design	N	
Service factor	1.0	
Insulation class	F	
Ambient temperature	-20 to +40	°C
Temperature rise (by resistance)	80 [Class B]	K
Altitude above sea level	1000	meter
Hazardous area classification	Ex nA	
Zone classification	Zone 2	
Gas group	IIC	
Temperature class	T3	
Rotor type	Aluminum Die cast	
Bearing type	Anti-friction ball	
DE / NDE bearing	6309-2Z / 6209-2Z	
Lubrication method	Greased for life	
Type of grease	NA	

Degree of protection	IP 55	
Mounting type	IM B3	
Cooling method	IC 411	
Motor weight - approx.	147	kg
Gross weight - approx.	167	kg
Motor inertia	0.1200	kgm^2
Load inertia	Customer to Provide	
Vibration level	2.2	mm/s
Noise level (1meter distance from motor)	64	dB(A)
No. of starts hot/cold/Equally spread	2/3/4	
Starting method	DOL	
Type of coupling	Direct	
LR withstand time (hot/cold)	25-Dec	s
Direction of rotation	Bi-directional	
Standard rotation	Clockwise form DE	
Paint shade	RAL 5014	
Accessories		
Accessory - 1	PTC 150°C	
Accessory - 2	-	
Accessory - 3	-	
Terminal box position	RHS	
Maximum cable size/conduit size	1R x 3C x 35mm²/2 X M32 x 1.5	
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

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

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

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

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TerraMAX®

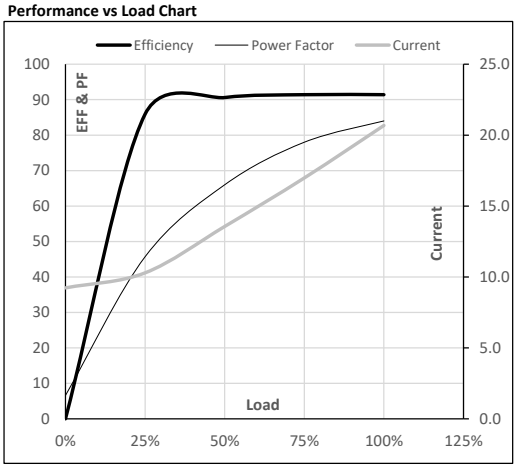
Model No. TCN0112A1113GAC010

Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	400	Δ	50	11	15	20.7	1475	7.38	72.41	IE3	40	S1	1000	0.12	147

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	9.2	10.3	13.6	17.0	20.7	
Torque	Nm	0.0	17.9	35.9	54.1	72.4	
Speed	r/min	1500	1494	1488	1482	1475	
Efficiency	%	0.0	85.9	90.6	91.4	91.4	
Power Factor	%	6.6	45.7	66.0	78.0	84.0	

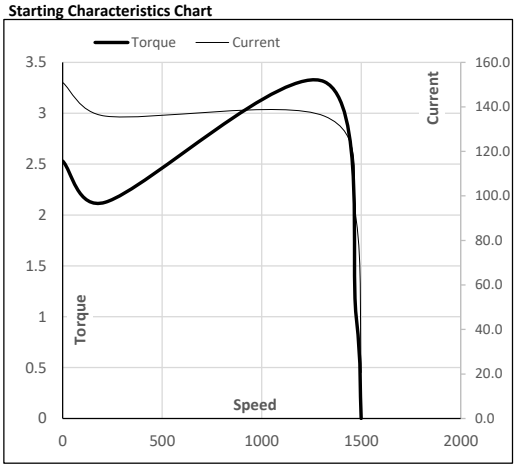
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1315	1475	1500
Current	A	151.0	135.9	89.2	20.7	9.2
Torque	pu	2.5	2.1	3.3	1	0

Starting Characteristics Chart



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

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TerraMAX®

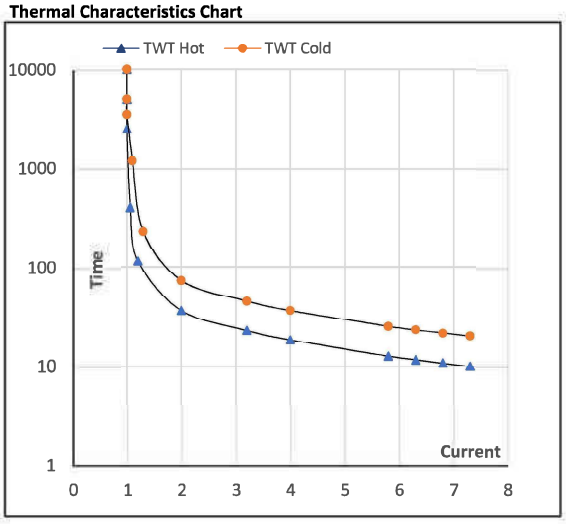
Model No. TCN0112A1113GAC010

Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	400	Δ	50	11	15.0	20.7	1475	7.38	72.41	IE3	40	S1	1000	0.12	147

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	37	26	19	16	13	10
TWT Cold	s	10000	73	49	37	34	27	20
Current	pu	1	2	3	4	5	5.5	7.3

Thermal Characteristics Chart



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