PRODUCT INFORMATION PACKET

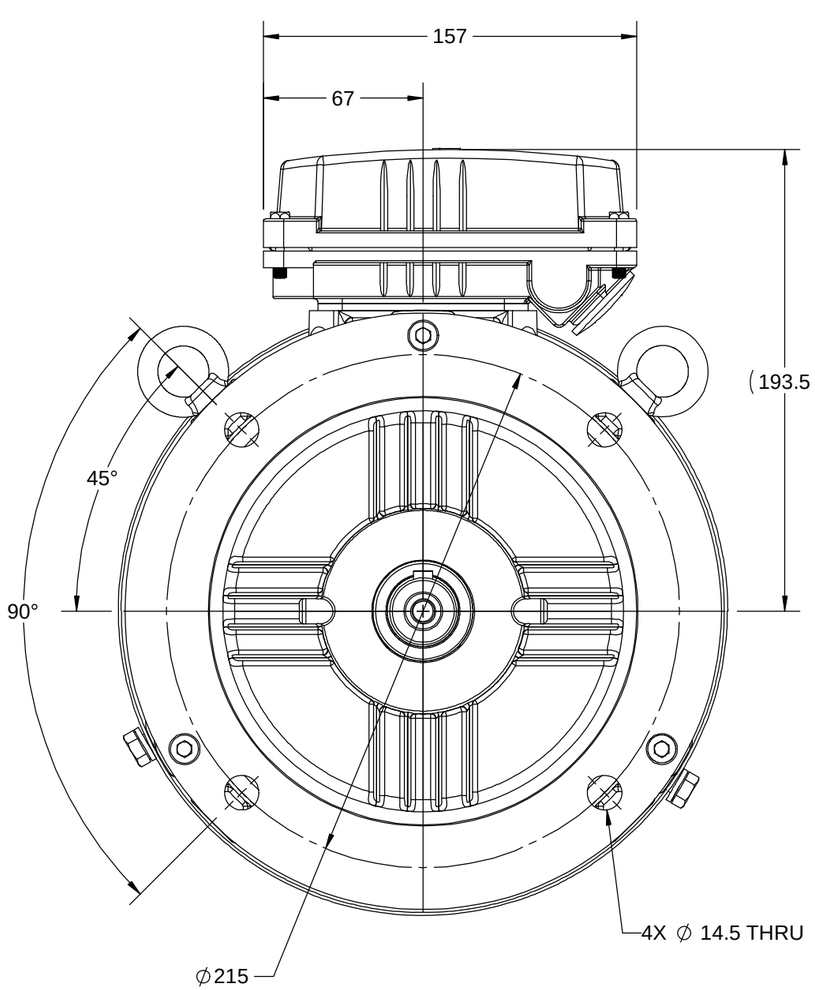
Model No: TCN2P23A1121GAC010
Catalog No: TCN2P23A1121GAC010
TerraMAX® Cast Iron Motor, 3 HP, 3 Ph, 50 Hz, 400 V, 1000 RPM, 112M Frame, TEFC

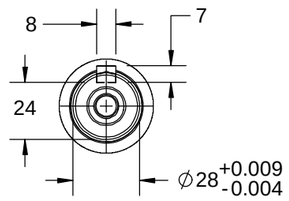
Nameplate Specifications

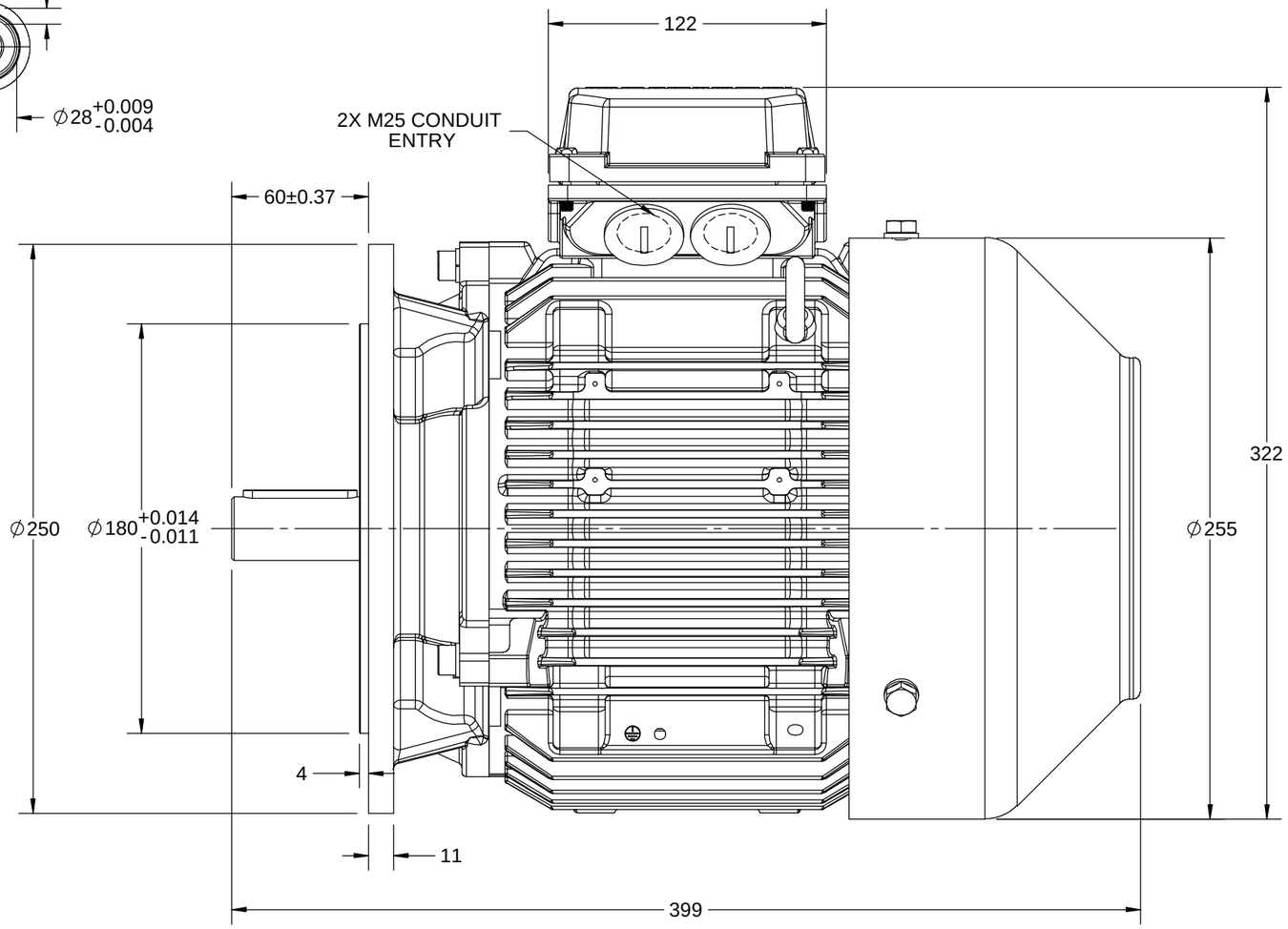
Output HP	3 Hp	Output KW	2.2 kW
Frequency	50 Hz	Voltage	400 V
Current	5.2 A	Speed	958 rpm
Service Factor	1	Phase	3
Efficiency	84.3 %	Power Factor	0.73
Duty	S1	Insulation Class	F
Frame	112M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6306	Opp Drive End Bearing Size	6206
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	6	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	399 mm	Frame Length	174 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0211200264



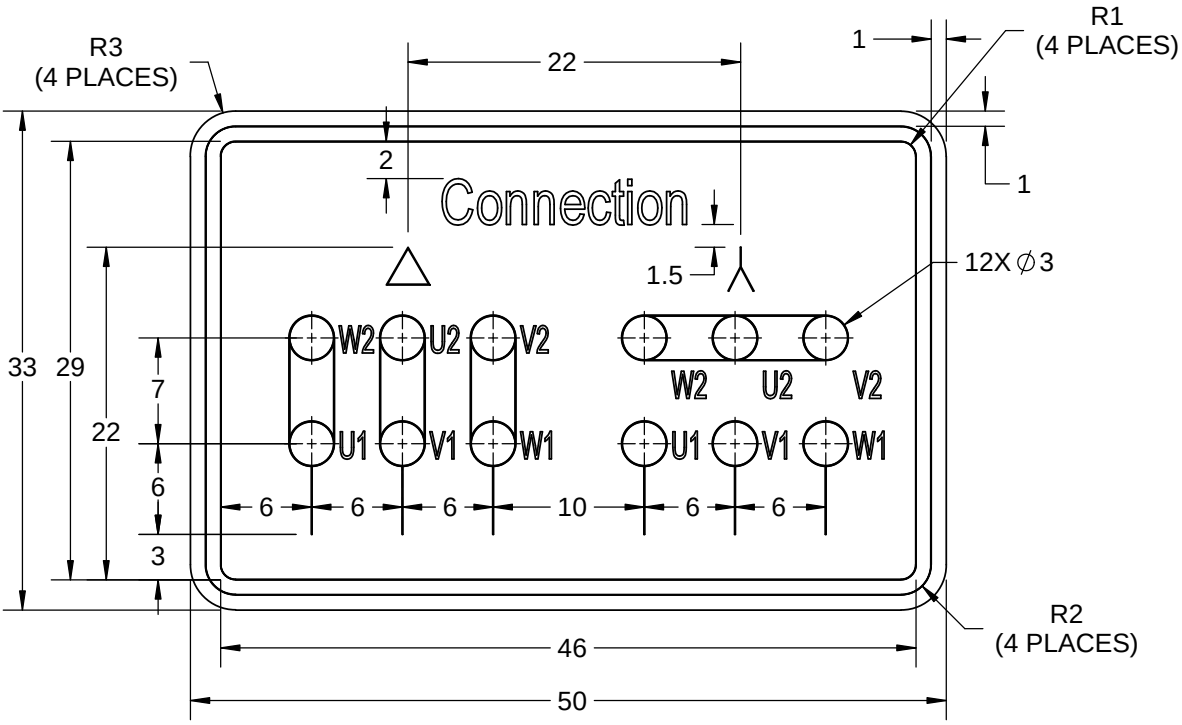




DRAWING REVISION: B	REVISION BY: S.MUDDA	DATE: 6/7/2018		DRAWN BY: SMAR	marathon™ Motors
ECO: ECO-0147359	APPROVED BY: JAY	DATE: 6/7/2018		DATE: 02/09/13	
ECO DESCRIPTION: OUTLINE UPDATED AS PER NEW 3D STRUCTURING				APPROVED BY: JAY	DESCRIPTION: OUTLINE 112 FR.- B5 MTG. MOTOR TYPE: TCA
				DATE: 02/09/13	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE: B / DRAWING NUMBER: 0211200264 / SHEET: 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. TCN2P23A1121GAC010

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	Y	50	2.2	3.0	5.2	958	22.34	IE3	-	84.3	84.3	82.4	0.73	0.65	0.5	5.9	2.5	2.8

Motor type	TCN	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	112M	
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	6306-2Z / 6206-2Z	
Lubrication method	Greased for life	
Type of grease	NA	

Degree of protection	IP 55	
Mounting type	IM B5	
Cooling method	IC 411	
Motor weight - approx.	49	kg
Gross weight - approx.	52	kg
Motor inertia	0.0158	kgm^2
Load inertia	Customer to Provide	
Vibration level	1.6	mm/s
Noise level (1meter distance from motor)	58	dB(A)
No. of starts hot/cold/Equally spread	2/3/4	
Starting method	DOL	
Type of coupling	Direct	
LR withstand time (hot/cold)	15/30	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	TOP	
Maximum cable size/conduit size	1R x 3C x 16mm²/2 x M25 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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marathon® Motors

TerraMAX®

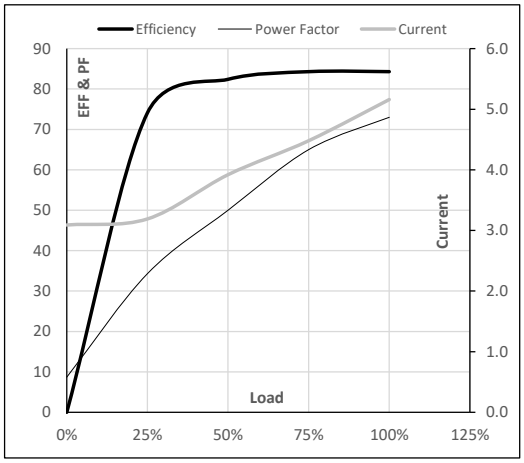
Model No. TCN2P23A1121GAC010

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	Y	50	2.2	3.0	5.2	958	2.28	22.34	IE3	40	S1	1000	0.0158	49

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	3.1	3.2	3.9	4.5	5.2	
Torque	Nm	0.0	5.4	10.9	16.6	22.3	
Speed	r/min	1000	990	981	970	958	
Efficiency	%	0.0	74.1	82.4	84.3	84.3	
Power Factor	%	8.7	34.3	50.0	65.0	73.0	

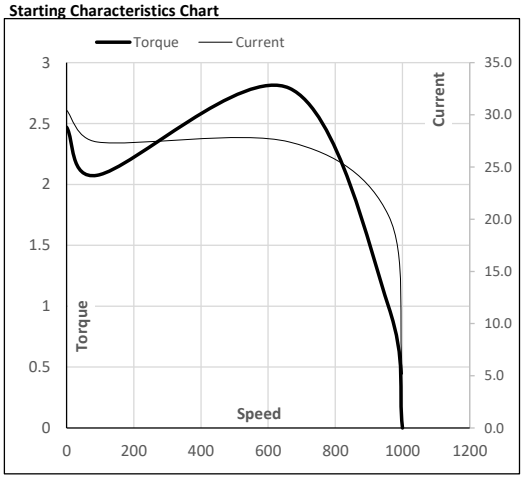
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	91	663	958	1000
Current	A	30.4	27.4	20.4	5.2	3.1
Torque	pu	2.5	2.1	2.8	1	0

Starting Characteristics Chart



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

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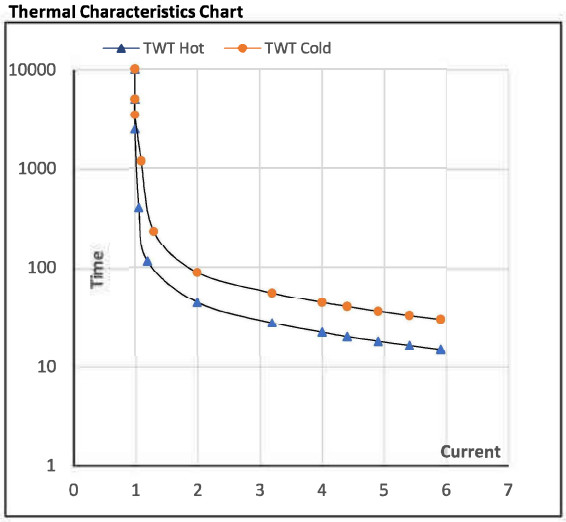
Model No. TCN2P23A1121GAC010

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	Y	50	2.2	3.0	**5.2**	958	2.28	22.34	IE3	40	S1	1000	0.0158	49

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	44	30	22	17	16	15
TWT Cold	s	10000	89	59	44	34	31	30
Current	pu	1	2	3	4	5	5.5	5.9

Thermal Characteristics Chart



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