

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCM0032AZ121GAC011

Catalog No: TCM0032AZ121GAC011

TerraMAX® IE3, Mining Duty Motors, 3 kW, 3Ph, 4 Pole, 230/400V, B5, 50Hz, 100L Frame, TEFC



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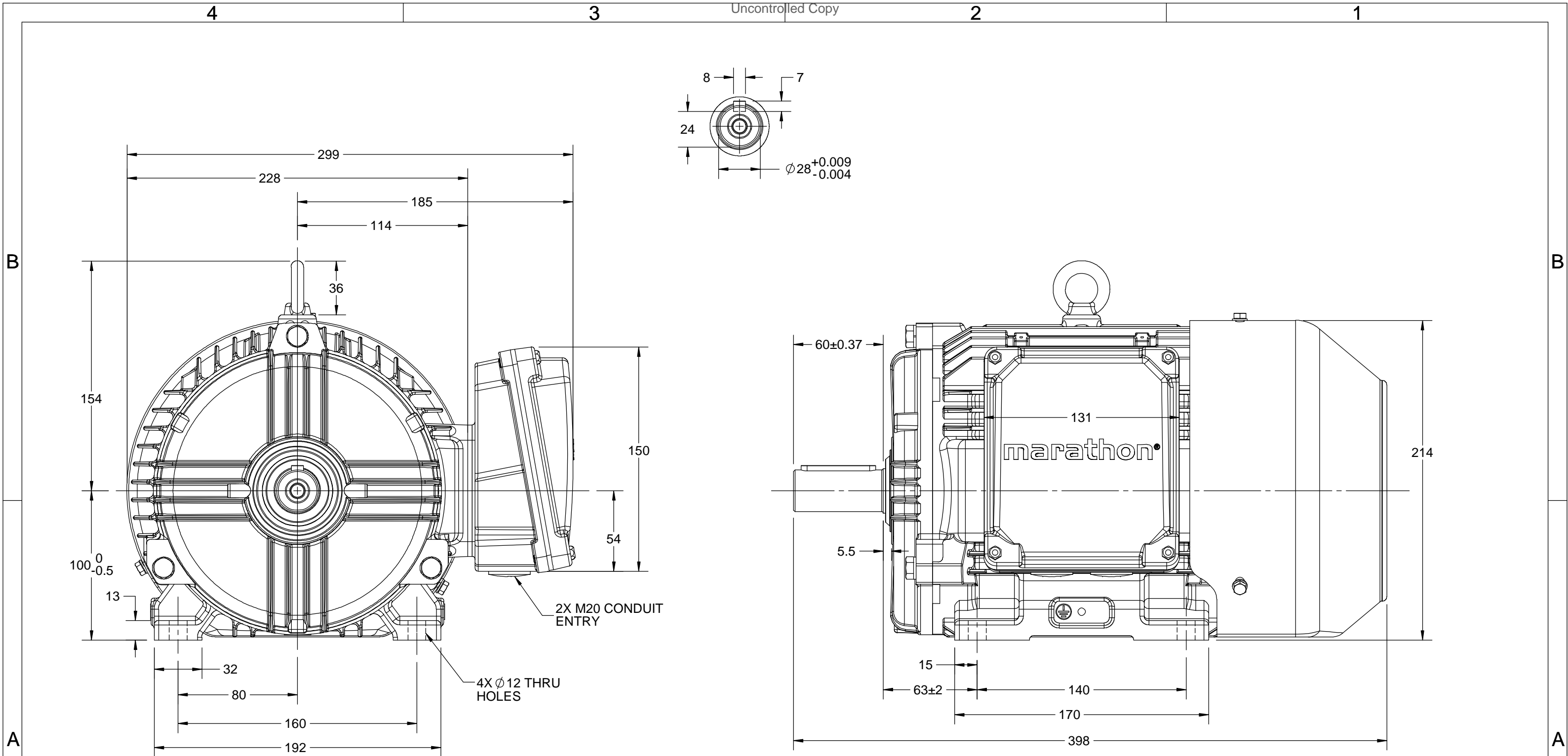
Nameplate Specifications

Output HP	4 Hp	Output KW	3.0 kW
Frequency	50 Hz	Voltage	230/400 V
Current	5.9 A	Speed	1458 rpm
Service Factor	1	Phase	3
Efficiency	87.7 %	Power Factor	0.84
Duty	S1	Insulation Class	H
Frame	100L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6206	Opp Drive End Bearing Size	6206
UL	NO	CSA	NO
CE	YES	IP Code	66
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	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	398 mm	Frame Length	200 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	TOP		
Connection Drawing	8442000085	Outline Drawing	0210000472

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DRAWING REVISION B	REVISION BY LK	DATE 31/07/2018
ECO ECO-0149382	APPROVED BY SBD	DATE 31/07/2018
ECO DESCRIPTION MODEL UPDATED WITH NEW STRUCTURE		
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DRAWN BY LK	DESCRIPTION marathon™ Motors OUTLINE 100 FR.- B3 MTG. MOTOR TYPE: TCM
DATE 18/12/2017	
APPROVED BY SBD	MATERIAL
DATE 18/12/2017	PROCESS/FINISH
REFERENCE	SIZE B
THIRD ANGLE PROJECTION	DRAWING NUMBER 0210000472
	SHEET 1 OF 1

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

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

Model No. TCM0032AZ121GAC011

U (V)	Δ / Y Conn	f [Hz]	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I_A/I_N [pu]	T_A/T_N [pu]	T_K/T_N [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Y	50	3	4	5.9	1458	19.54	IE3	-	87.7	87.7	86.2	0.84	0.78	0.65	7.7	2.6	3.1

Motor type	TCM	Degree of protection	IP 66
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	100L	Motor weight - approx.	46 kg
Duty	S1	Gross weight - approx.	49 kg
Voltage variation *	$\pm 10\%$	Motor inertia	0.0145 kgm ²
Frequency variation *	$\pm 5\%$	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level (1meter distance from motor)	55 dB(A)
Service factor	1.15	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	H	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)	10/20 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	NA	Standard rotation	Clockwise form DE
Zone classification	NA	Paint shade	RAL 2008
Gas group	NA	Accessories	
Temperature class	NA	Accessory - 1	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6206-2Z-C3 / 6206-2Z-C3	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm ² /2 x M25 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

 I_A/I_N - Locked Rotor Current / Rated Current T_K/T_N - Breakdown Torque / Rated Torque T_A/T_N - Locked Rotor Torque / Rated Torque**NOTE**

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 IEC:60034-30-1	China -	India -	Aus/Nz AS/NZ 1359:5:2004	Brazil -	Global IEC IEC:60034-30-1

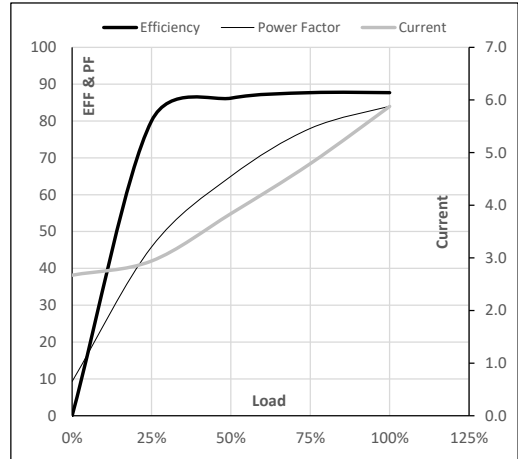
Model No. TCM0032AZ121GAC011

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	3	4	5.9	1458	1.99	19.54	IE3	40	S1	1000	0.0145	46

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	2.7	2.9	3.8	4.8	5.9	
Torque	Nm	0.0	4.8	9.6	14.5	19.5	
Speed	r/min	1500	1490	1480	1470	1458	
Efficiency	%	0.0	80.0	86.2	87.7	87.7	
Power Factor	%	9.3	45.8	65.0	78.0	84.0	

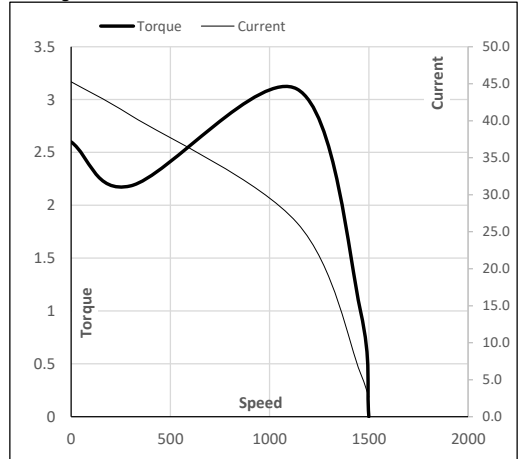
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	300	1138	1458	1500
Current	A	45.3	40.7	26.2	5.9	2.7
Torque	pu	2.6	2.2	3.1	1	0

Starting Characteristics Chart



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

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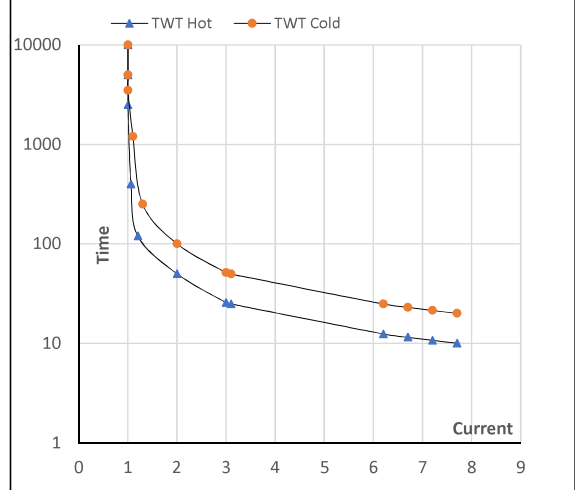
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Y	50	3	4.0	5.9	1458	1.99	19.54	IE3	40	S1	1000	0.0145	46

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	50	26	22	19	16	10	
TWT Cold	s 10000	100	51	44	38	32	20	
Current	pu	1	2	3	4	5	5.5	7.7

Thermal Characteristics Chart



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

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