PRODUCT INFORMATION PACKET

Model No: TCE0304A2121GAA001
Catalog No: TCE0304A2121GAA001
TerraMAX® Increased Safety Motors Ex eb, Totally Enclosed Fan Cooled, 40 HP, 3 Ph, 50 Hz, 400 V, 739 RPM, 250M Frame

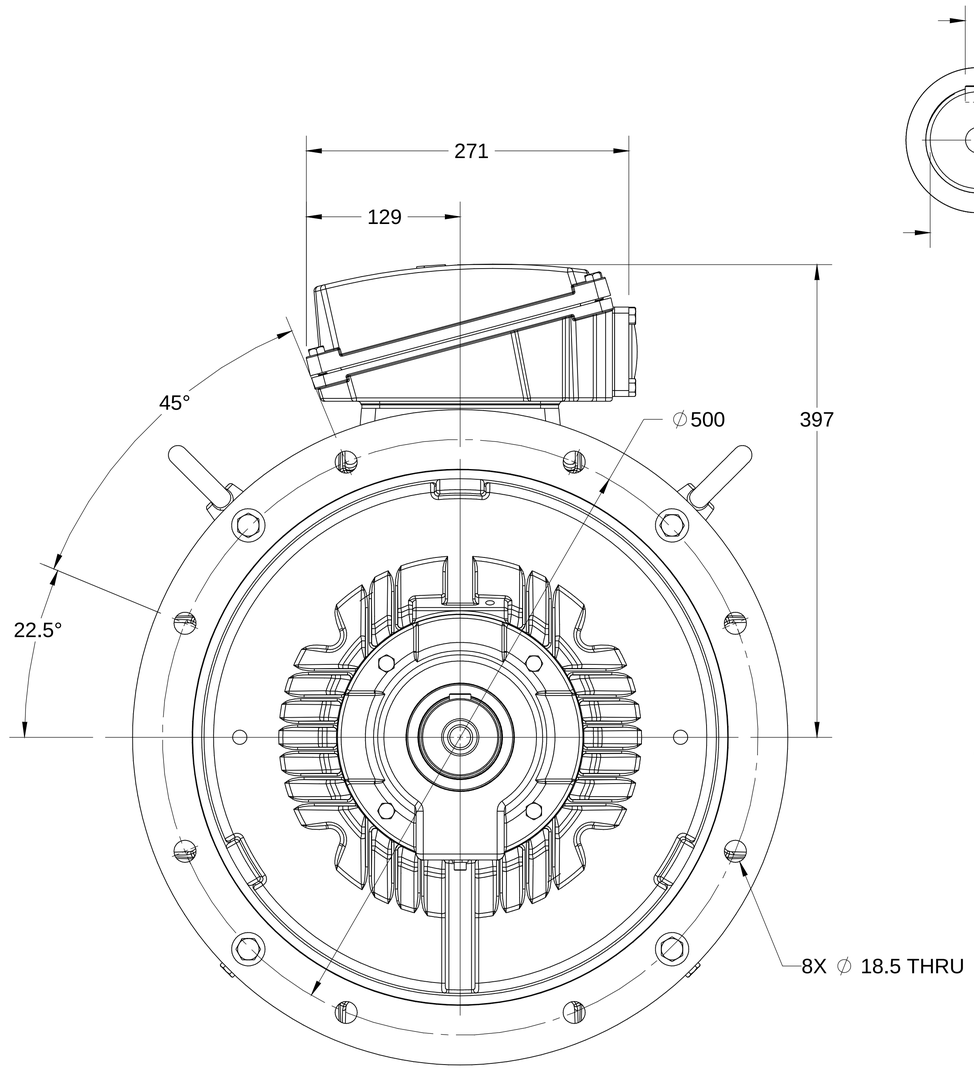
Nameplate Specifications

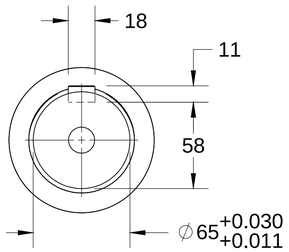
Output HP	40 Hp	Output KW	30.0 kW
Frequency	50 Hz	Voltage	400 V
Current	59.9 A	Speed	739 rpm
Service Factor	1	Phase	3
Efficiency	91.3 %	Power Factor	0.8
Duty	S1	Insulation Class	F
Frame	250M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6314	Opp Drive End Bearing Size	6314
UL	No	CSA	No
CE	Yes	IP Code	IP55
Number of Speeds	3		

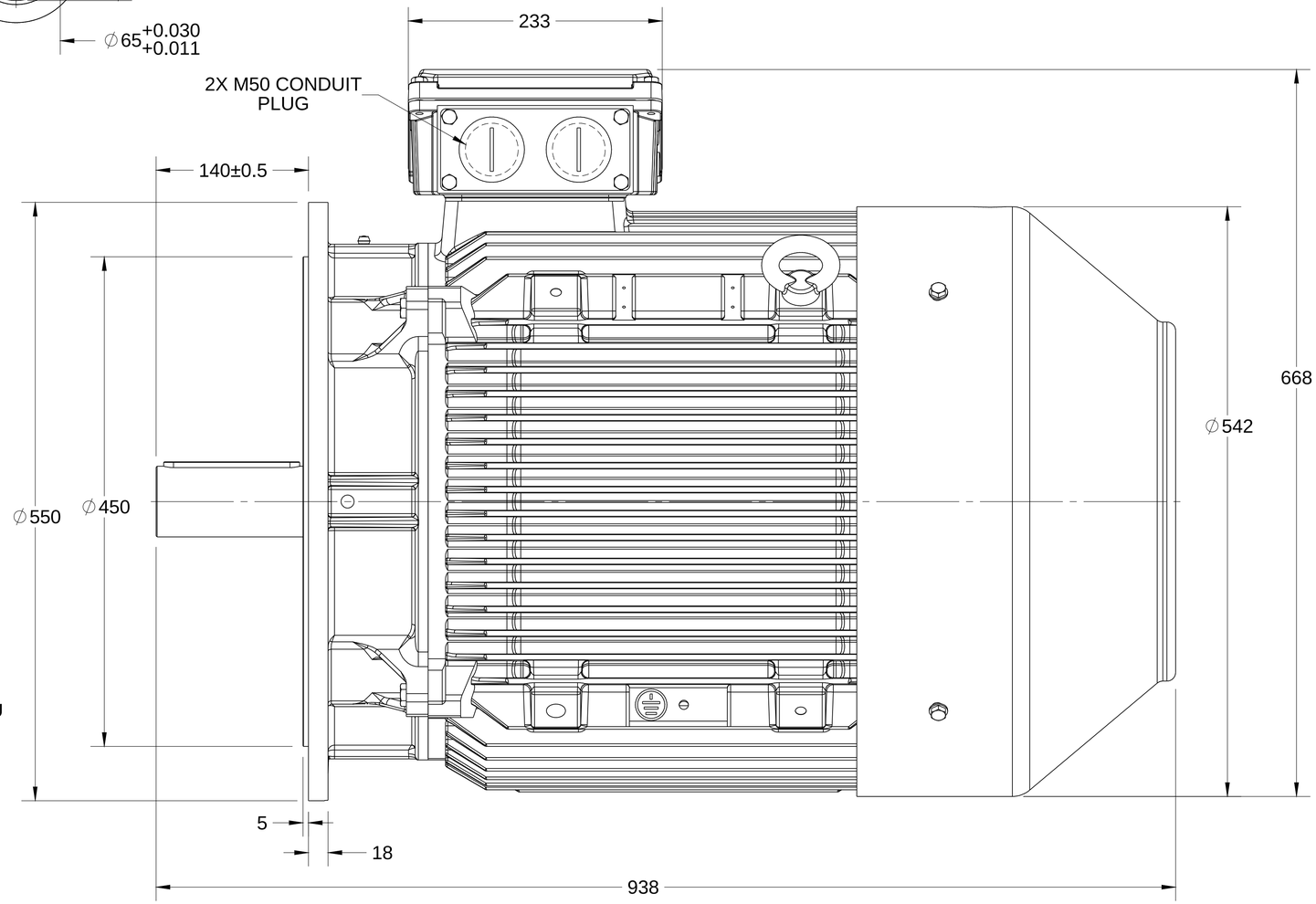
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	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	938 mm	Frame Length	460 mm
Shaft Diameter	60.000 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	0225000380	Connection Drawing	8442000085

OUTLINE







DRAWING REVISION	REVISION BY	DATE
ECO	APPROVED BY	DATE
ECO DESCRIPTION		

DRAWN BY	SDV
DATE	18/07/2014
APPROVED BY	SBD
DATE	18/07/2014
REFERENCE	
THIRD ANGLE PROJECTION	

marathon™ Motors

DESCRIPTION

OUTLINE

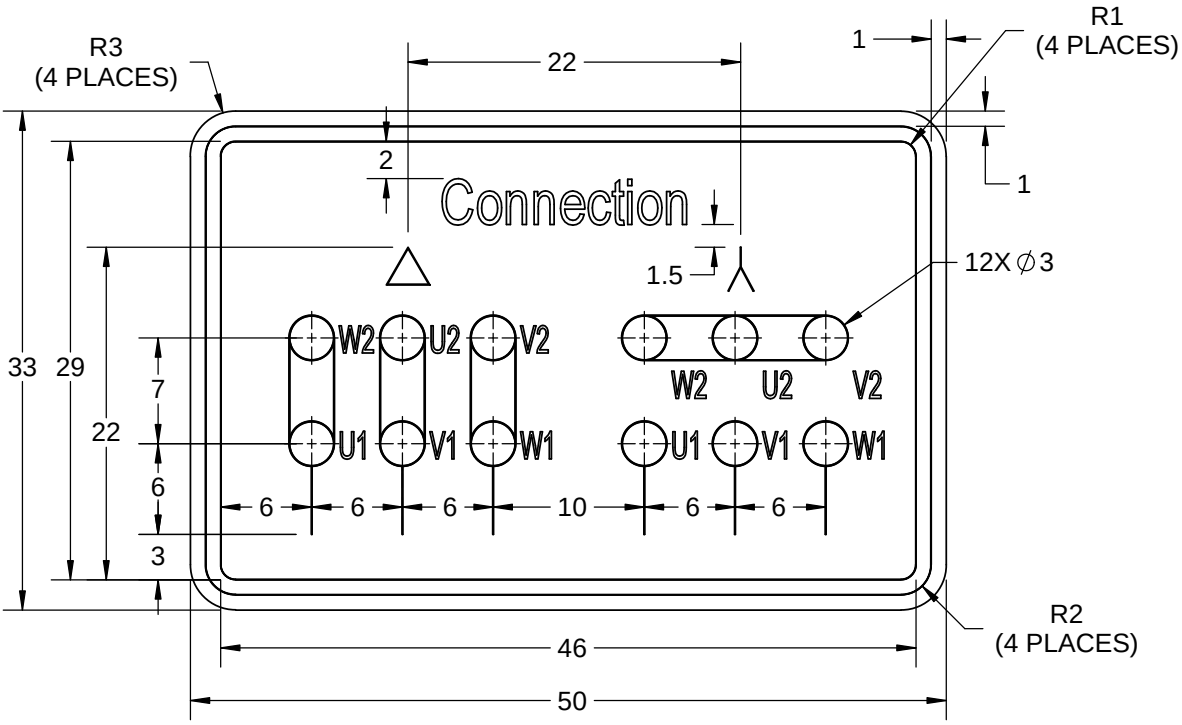
250FR-B5 MTG. MOTOR TYPE: TCA

MATERIAL	PROCESS/FINISH

SIZE	DRAWING NUMBER	SHEET
B	0225000380	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. TCE0304A2121GAA001

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	30	40.0	59.9	739	385.73	IE3	-	91.3	91.3	92.8	0.79	0.74	0.63	5.3	1.9	2.3

Motor type	TCE		Degree of protection	IP 55	
Enclosure	TEFC		Mounting type	IM B5	
Frame Material	Cast Iron		Cooling method	IC 411	
Frame size	250M		Motor weight - approx.	562	kg
Duty	S1		Gross weight - approx.	597	kg
Voltage variation *	± 10%		Motor inertia	2.1617	kgm^2
Frequency variation *	± 5%		Load inertia	Customer to Provide	
Combined variation *	10%		Vibration level	2.2	mm/s
Design	N		Noise level (1meter distance from motor)	63	dB(A)
Service factor	1.0		No. of starts hot/cold/Equally spread	2/3/4	
Insulation class	F		Starting method	DOL	
Ambient temperature	-15 to +40	°C	Type of coupling	Direct	
Temperature rise (by resistance)	70 [Class B]	K	tE time	25	s
Altitude above sea level	1000	meter	Direction of rotation	Bi-directional	
Hazardous area classification	Ex eb		Standard rotation	Clockwise form DE	
Zone classification	Zone 1		Paint shade	RAL 7016	
Gas group	IIC		Accessories		
Temperature class	T3		Accessory - 1	PTC 150°C	
Rotor type	Aluminum die cast		Accessory - 2	-	
Bearing type	Anti-friction ball bearing		Accessory - 3	-	
DE / NDE bearing	6314 C3 / 6314 C3		Terminal box position	TOP	
Lubrication method	Regreasable		Maximum cable size/conduit size	1R x 3C x 95mm²/2 x M50 x 1.5	
Type of grease	Shell Gadus S5 V100 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 60079-7

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		-	-	-	IEC:60034-30-1

REGAL

marathon® Motors

TerraMAX®

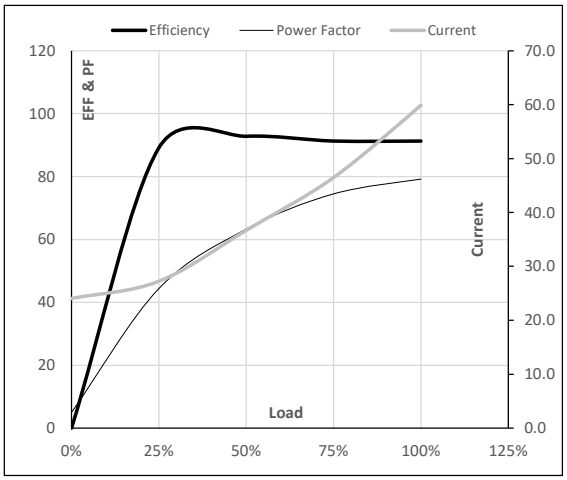
Model No. TCE0304A2121GAA001

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	30	40	59.9	739	39.33	385.73	IE3	40	S1	1000	2.1617	562

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	24.1	27.2	36.7	46.5	59.9	
Torque	Nm	0.0	129.2	259.4	390.6	385.7	
Speed	r/min	750	747	745	742	739	
Efficiency	%	0.0	89.1	92.8	91.3	91.3	
Power Factor	%	5.0	44.4	63.3	74.5	79.2	

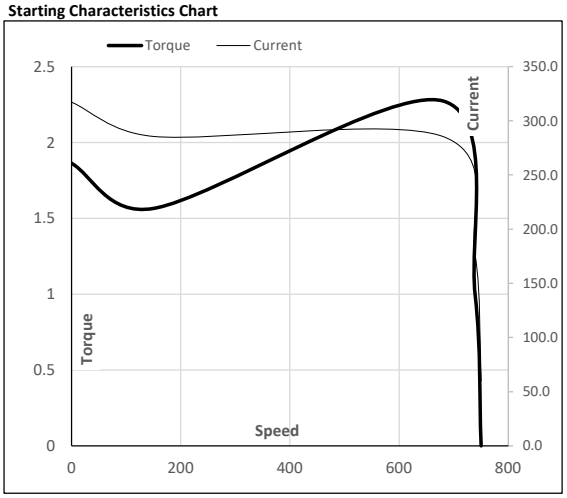
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	150	680	739	750
Current	A	317.3	285.6	176.7	59.9	24.1
Torque	pu	1.9	1.6	2.3	1	0

Starting Characteristics Chart



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

Issued By
Issued Date

REGAL