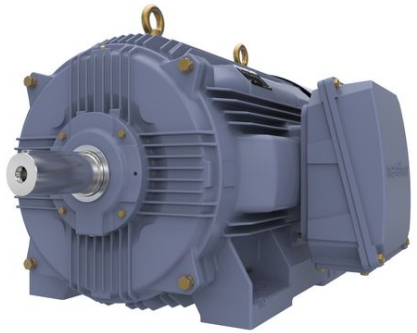
PRODUCT INFORMATION PACKET

Model No: TCA1602A3113GACD01
Catalog No: TCA1602A3113GACD01
160.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1500 RPM, 415 V, 315L Frame, TEFC
Cast Iron IE3 Efficiency Motors



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Nameplate Specifications

Output HP	215 Hp	Output KW	160.0 kW
Frequency	50 Hz	Voltage	415 V
Current	261.1 A	Speed	1487 rpm
Service Factor	1	Phase	3
Efficiency	95.8 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315L	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6319
Opp Drive End Bearing Size	6319	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1317 mm	Frame Length	840 mm
Shaft Diameter	80 mm	Shaft Extension	170 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0231501363

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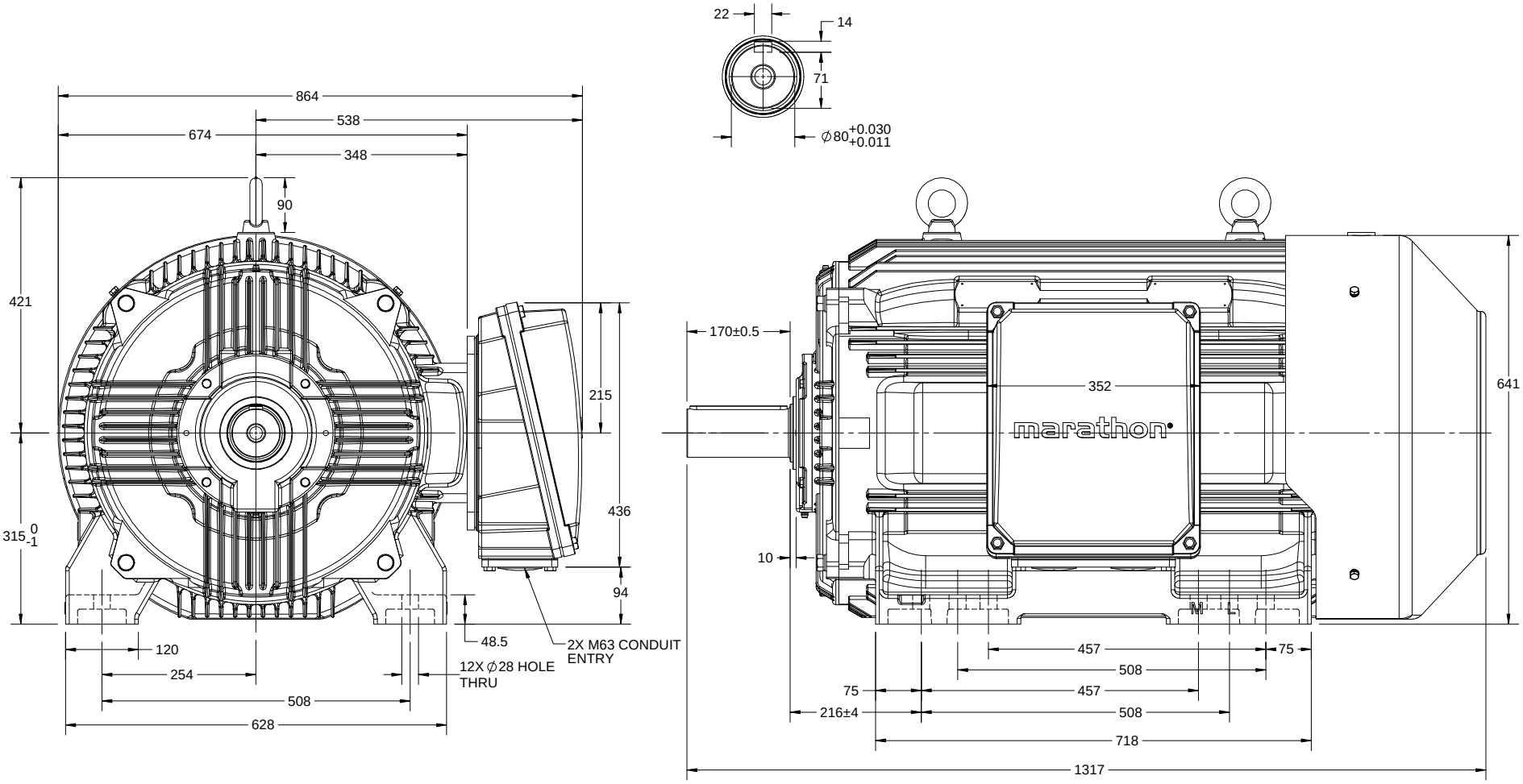

DRAWING REVISION: B	REVISION BY: VS	DATE: 11/07/2018	DRAWN BY: SKM	marathon Motors	
ECO: ECO-0148344	APPROVED BY: SBD	DATE: 11/07/2018	DATE: 08/11/2017		
ECO DESCRIPTION: MODEL UPDATED			APPROVED BY: JAY	DESCRIPTION: OUTLINE	
			DATE: 08/11/2017	315L FR 4~8P B3 MTG. TCA/QCA-RHS TB	
			REFERENCE	MATERIAL	PROCESS/FINISH
			THIRD ANGLE PROJECTION	SIZE: B	DRAWING NUMBER: 0231501363
					SHEET: 1 OF 1

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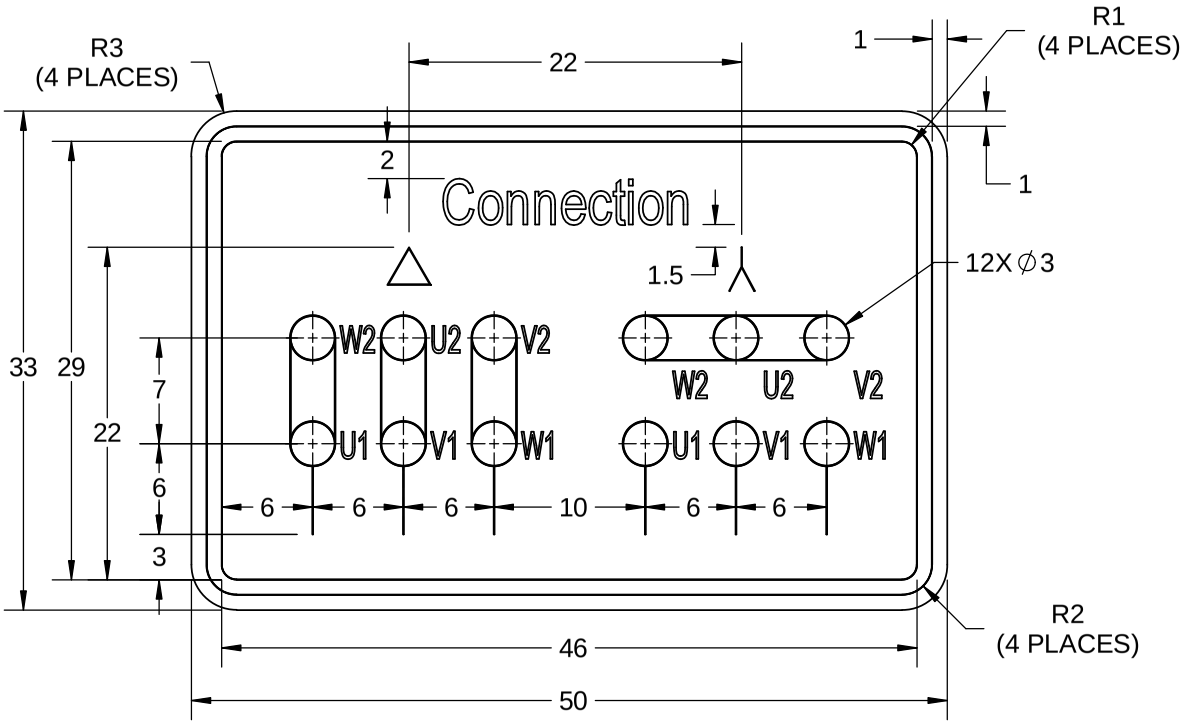
DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO	APPROVED BY	DATE
ECO-0116390	SBD	13/01/2017
ECO DESCRIPTION		
NEW DRAWING RELEASE		

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. TCA1602A3113GACD01

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]
415	Δ	50	160	215	261.1	1487	1029.75	IE3	-	95.8	95.8	95.7	0.89	0.87	0.81	6.3	2.0	2.8

Motor type	TCA	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	315L	
Duty	S1	
Voltage variation *	± 10%	
Frequency variation *	± 5%	
Combined variation *	10%	
Design	N	
Service factor	1.0	
Insulation class	F	
Ambient temperature	-20 to +50	°C
Temperature rise (by resistance)	70 [Class B]	K
Altitude above sea level	1000	meter
Hazardous area classification	NA	
Zone classification	NA	
Gas group	NA	
Temperature class	NA	
Rotor type	Aluminum Die cast	
Bearing type	Anti-friction ball bearing	
DE / NDE bearing	6319 C3 / 6319 C3	
Lubrication method	Regreasable	
Type of grease	Shell Gadus S5 V100 or Equivalent	

Degree of protection	IP 55	
Mounting type	IM B3	
Cooling method	IC 411	
Motor weight - approx.	1157	kg
Gross weight - approx.	1202	kg
Motor inertia	4.4423	kgm^2
Load inertia	Customer to Provide	
Vibration level	2.8	mm/s
Noise level (1meter distance from motor)	69	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	-	
Accessory - 2	-	
Accessory - 3	-	
Terminal box position	RHS	
Maximum cable size/conduit size	1R x 3C x 240mm^2/2 x M63 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

All performance values at rated voltage and frequency.
All performance parameters are subjected to standard tolerance as per IEC 60034-1
* Voltage, Frequency and combine variation are as per IEC60034-1
Technical data are subject to change. There may be discrepancies between calculated and name plate values.

Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

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marathon® Motors

TerraMAX®

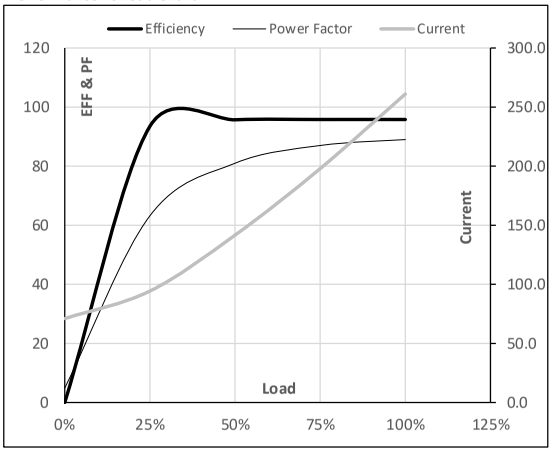
Model No. TCA1602A3113GACD01

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	415	Δ	50	160	215	261.1	1487	105.00	1029.75	IE3	50	S1	1000	4.4423	1157

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	71.0	94.3	141.7	197.9	261.1	
Torque	Nm	0.0	255.7	512.5	770.5	1029.7	
Speed	r/min	1500	1497	1494	1490	1487	
Efficiency	%	0.0	93.5	95.7	95.8	95.8	
Power Factor	%	4.9	63.2	81.0	87.0	89.0	

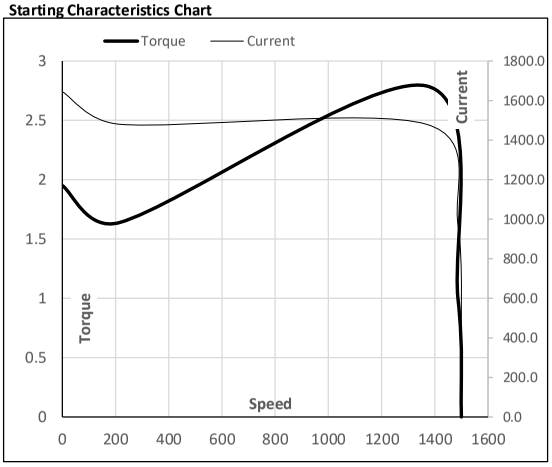
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1368	1487	1500
Current	A	1644.8	1480.3	973.7	261.1	71.0
Torque	pu	2.0	1.6	2.8	1	0

Starting Characteristics Chart



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

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marathon® Motors

TerraMAX®

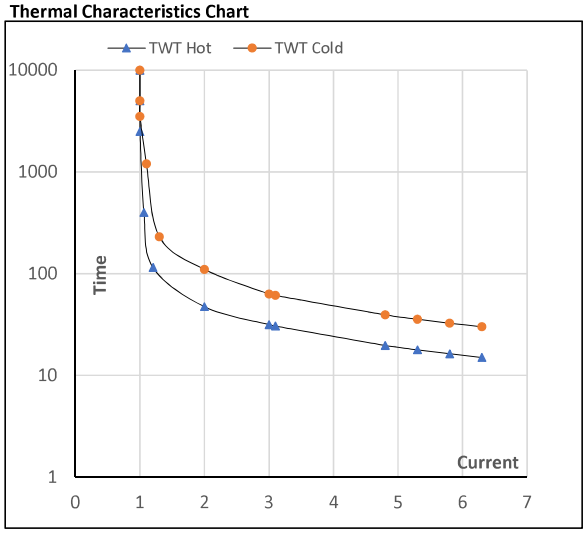
Model No. TCA1602A3113GACD01

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	415	Δ	50	160	215	261.1	1487	104.93	1029.75	IE3	50	S1	1000	4.4423	1157

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	47	32	25	20	18	15
TWT Cold	s	10000	110	63	50	38	36	30
Current	pu	1	2	3	4	5	5.5	6.3

Thermal Characteristics Chart



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