

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA1101A3133GACD01

Catalog No: TCA1101A3133GACD01

110.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 315S Frame, TEFC
Cast Iron IE3 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	150 Hp	Output KW	110.0 kW
Frequency	50 Hz	Voltage	415 V
Current	180.6 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.2 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315S	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6316
Opp Drive End Bearing Size	6316	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1176 mm	Frame Length	729 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0231501397

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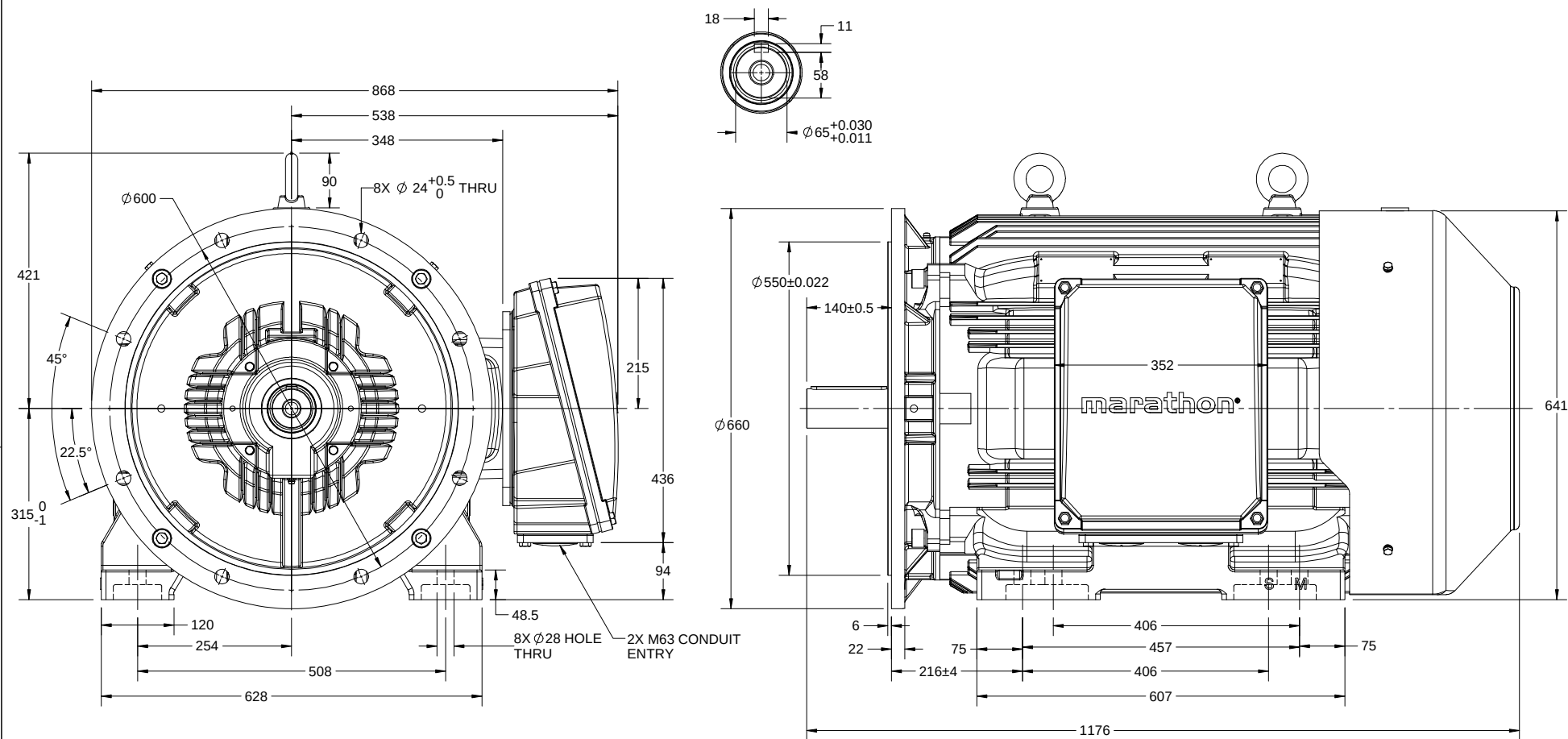
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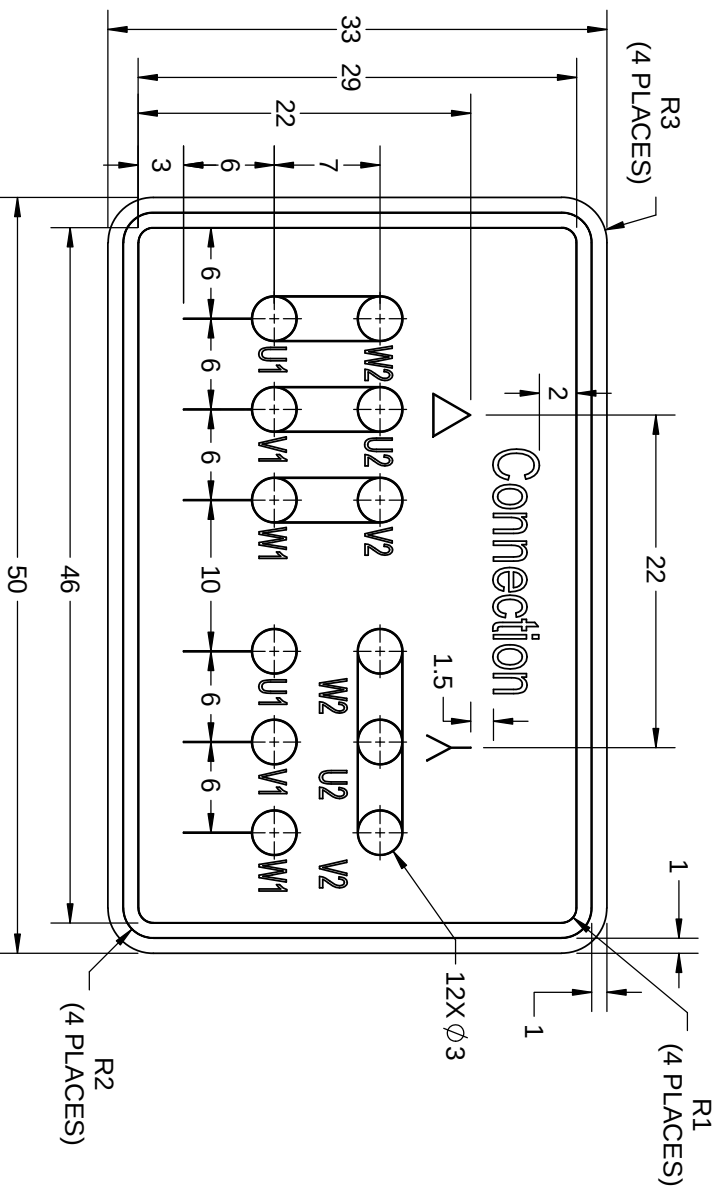
DRAWING REVISION B	REVISION BY VS	DATE 11/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 11/07/2017
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY GSR
DATE 11/15/2017
APPROVED BY JAY
DATE 11/15/2017
REFERENCE

THIRD ANGLE
PROJECTION

marathon[®] Motors	
DESCRIPTION OUTLINE 315S/M-2P-B35 MTG. TCA/QCA-RHS TB	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0231501397
SHEET 1 OF 1	

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. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
 2. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.
 - 3.

Regal Beloit America, Inc.

		DRAWN BY		SN	
		DATE		16/12/2016	
		APPROVED BY		SBD	
		DATE		16/12/2016	
		REFERENCE			
		DESCRIPTION		Regal Beloit America, Inc.	
		CONN DIAGRAM-NAMEPLATE			
MATERIAL		PROCESS/FINISH			
SIZE		DRAWING NUMBER		SHEET	
A		84420000085		1 OF 1	

Model No. TCA1101A3133GACD01

U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	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 _b /T _N [pu]
415	Δ	50	110	150	180.6	2984	358.02	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.3	2.1	3.7

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315S	Motor weight - approx.	1054 kg
Duty	S1	Gross weight - approx.	1099 kg
Voltage variation *	± 10%	Motor inertia	2.4236 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level (1meter distance from motor)	83 dB(A)
Service factor	1.0	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	F	Starting method	DOL
Ambient temperature	-20 to +50 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [Class B] K	LR withstand time (hot/cold)	15/30 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 5014
Gas group	NA	Accessories	
Temperature class	NA	Accessory - 1	-
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball bearing	Accessory - 3	-
DE / NDE bearing	6316 C3 / 6316 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 240mm ² /2 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

I_a/I_N - Locked Rotor Current / Rated CurrentT_b/T_N - Breakdown Torque / Rated TorqueT_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 combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

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



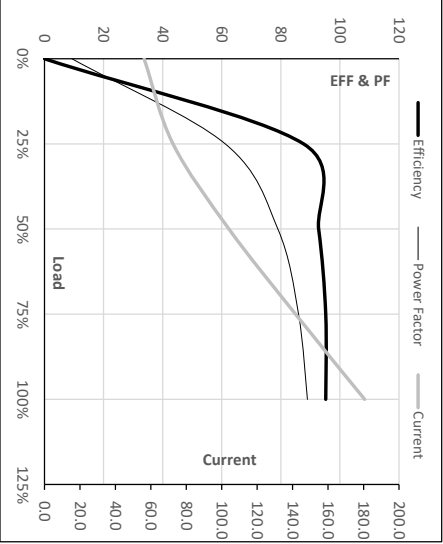
Model No. TCA1101A3133GACD01

Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	Com	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]			[m]	[kg·m ²]	[kg]
TEFC	415	Δ	50	110	150	180.6	2984	36.51	358.02	IE3	50	S1	1000	2.4236	1054

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	56.2	72.5	104.1	141.7	180.6	
Torque	Nm	0.0	89.1	178.5	268.1	358.0	
Speed	r/min	3000	2996	2992	2988	2984	
Efficiency	%	0.0	87.7	92.8	95.2	95.2	
Power Factor	%	9.3	61.2	79.0	86.0	89.0	

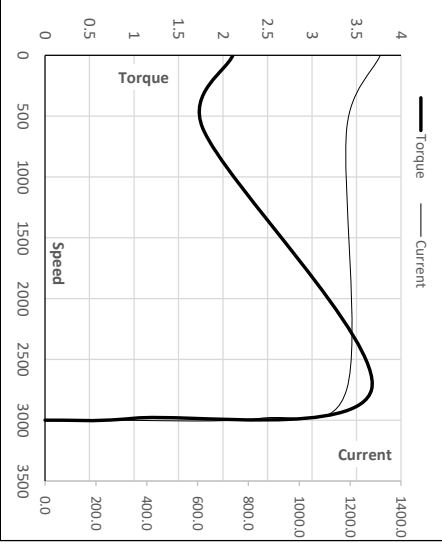
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2745	2984	3000
Current	A	1318.5	1186.7	848.6	180.6	56.2
Torque	pu	2.1	1.8	3.7	1	0

Starting Characteristics Chart



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

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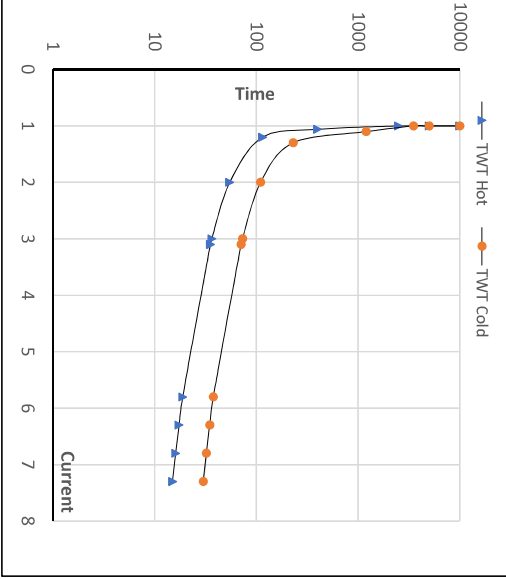
Model No. TCA1101A3133GACD01

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	110	150	180.6	2984	36.48	358.02	IE3	50	S1	1000	2.4236	1054

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	55	37	30	25	20	15
TWT Cold	s	10000	110	73	60	45	40	30
Current	pu	1	2	3	4	5	5.5	7.3

Thermal Characteristics Chart



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

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