PRODUCT INFORMATION PACKET

Model No: TCA0153A3133GACD01
Catalog No: TCA0153A3133GACD01
Cast Iron Motor, 20 HP, 3 Ph, 50 Hz, 415 V, 1000 RPM, 180L Frame, TEFC

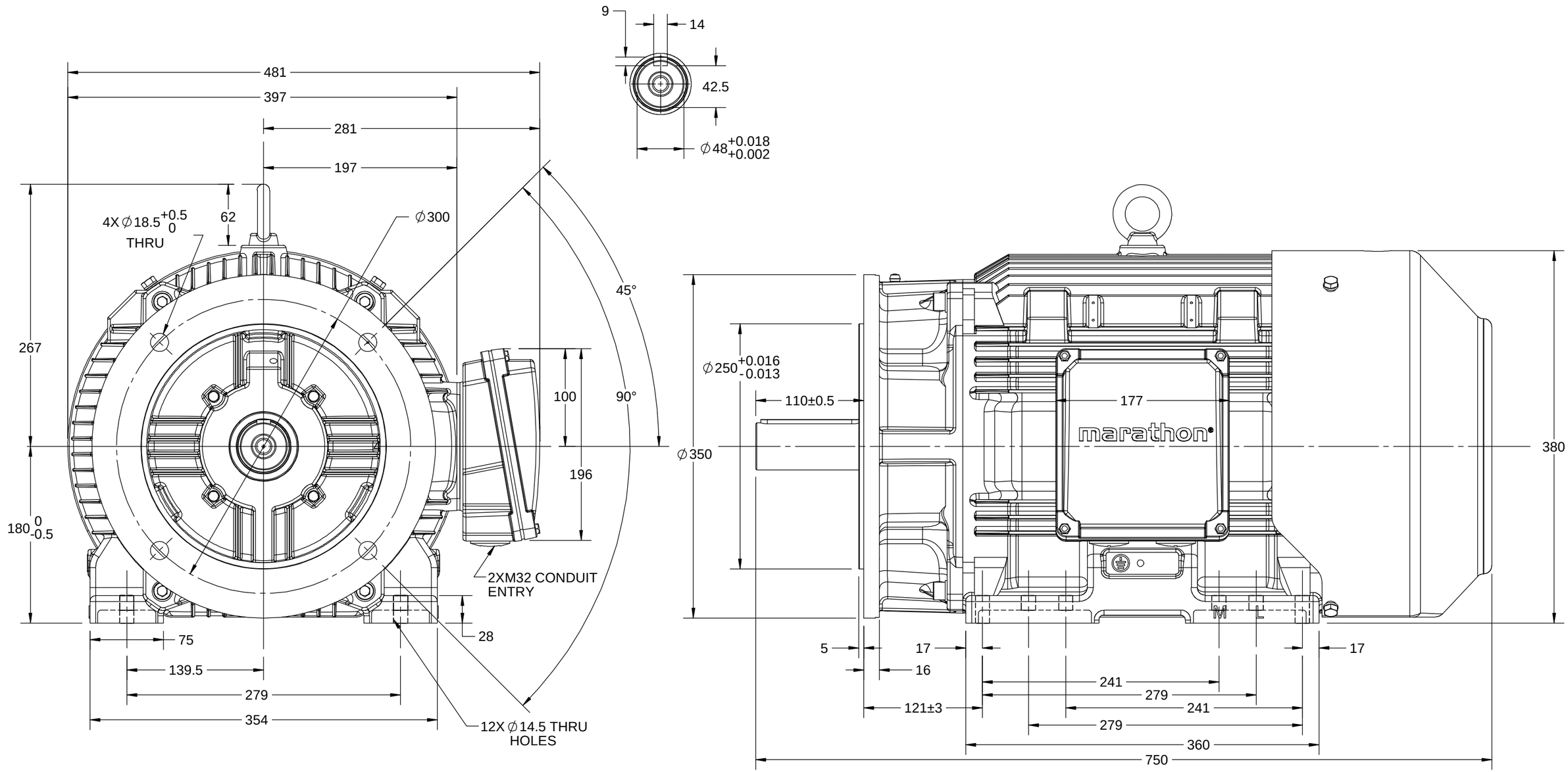
Nameplate Specifications

Output HP	**20 Hp**	Output KW	**15.0 kW**
Frequency	**50 Hz**	Voltage	**415 V**
Current	**28.6 A**	Speed	**980 rpm**
Service Factor	**1**	Phase	**3**
Efficiency	**91.2 %**	Power Factor	**0.8**
Duty	**S1**	Insulation Class	**F**
Frame	**180L**	Enclosure	**Totally Enclosed Fan Cooled**
Thermal Protection	**No Protection**	Ambient Temperature	**50 °C**
Drive End Bearing Size	**6311**	Opp Drive End Bearing Size	**6211**
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	**B35**	Motor Orientation	**Horizontal**
Drive End Bearing	**2z-C3**	Opp Drive End Bearing	**2z-C3**
Frame Material	**Cast Iron**	Shaft Type	**Keyed**
Overall Length	**750 mm**	Frame Length	**366 mm**
Shaft Diameter	**48 mm**	Shaft Extension	**110 mm**
Assembly/Box Mounting	**R Side**		
Outline Drawing	**0218000765**	Connection Drawing	**8442000085**

OUTLINE

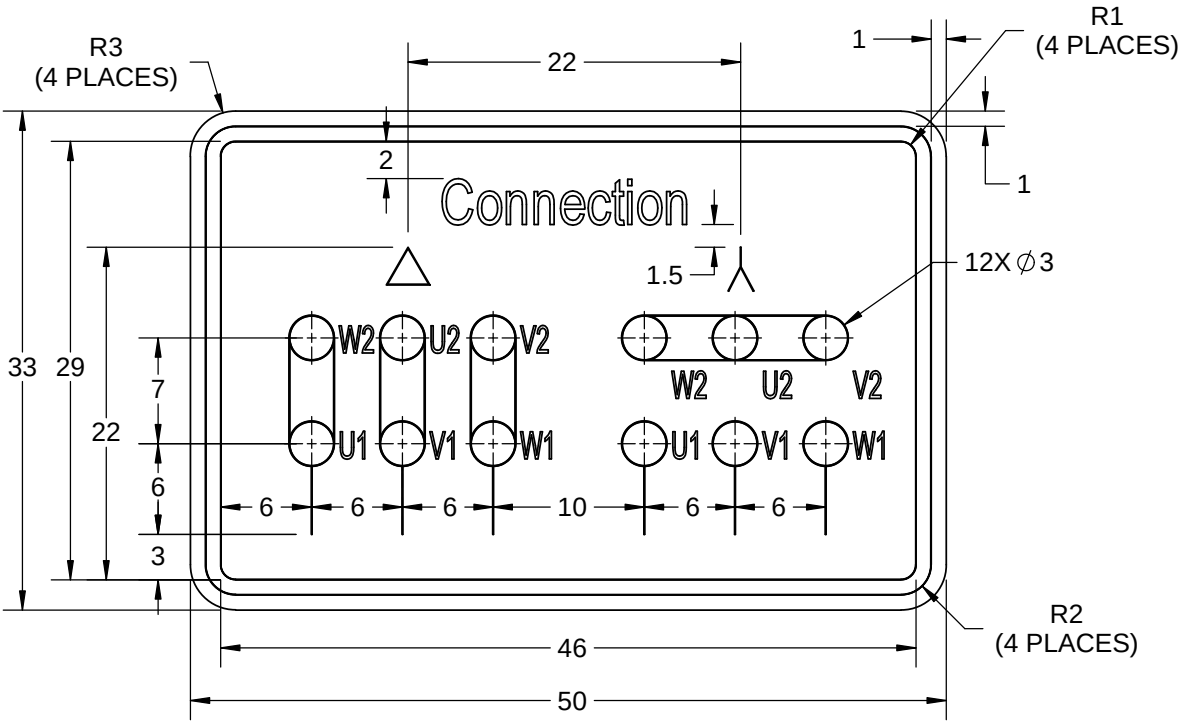


DRAWING REVISION: A	REVISION BY: BISWA	DATE: 05/07/2018	
ECO: ECO-0148344	APPROVED BY: SBD	DATE: 05/07/2018	
ECO DESCRIPTION: NEW DRAWING RELEASE			

DRAWN BY: BISWA	marathon™ Motors		
DATE: 05/07/2018			
APPROVED BY: SBD	DESCRIPTION: OUTLINE 180L FR-B35 MTG. MOTOR TYPE: TCA\QCA-RHS TB		
DATE: 05/07/2018			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE: B	DRAWING NUMBER: 0218000765	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. TCA0153A3133GACD01

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	15	20	28.6	980	145.32	IE3	-	91.2	91.2	91.2	0.8	0.74	0.62	5.8	2.0	2.5

Motor type	TCA	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	180L	
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	6311-2Z / 6211-2Z	
Lubrication method	Greased for life	
Type of grease	NA	

Degree of protection	IP 55
Mounting type	IM B35
Cooling method	IC 411
Motor weight - approx.	232 kg
Gross weight - approx.	252 kg
Motor inertia	0.3035 kgm^2
Load inertia	Customer to Provide
Vibration level	2.2 mm/s
Noise level (1meter distance from motor)	62 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 35mm²/2 X M32 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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TerraMAX®

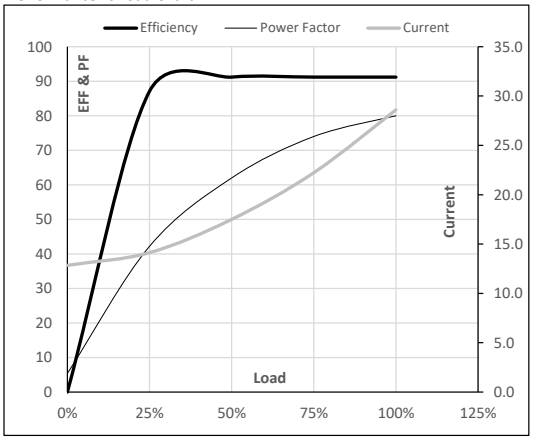
Model No. TCA0153A3133GACD01

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	15	20.0	28.6	980	14.82	145.32	IE3	50	S1	1000	0.3035	232

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	12.8	14.1	17.5	22.2	28.6	
Torque	Nm	0.0	35.8	71.9	108.4	145.3	
Speed	r/min	1000	995	991	986	980	
Efficiency	%	0.0	87.1	91.2	91.2	91.2	
Power Factor	%	5.4	42.2	62.0	74.0	80.0	

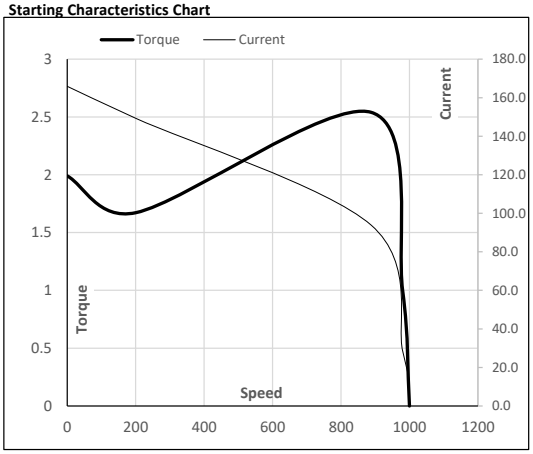
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	200	888	980	1000
Current	A	165.9	149.3	93.9	28.6	12.8
Torque	pu	2.0	1.7	2.5	1	0

Starting Characteristics Chart



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

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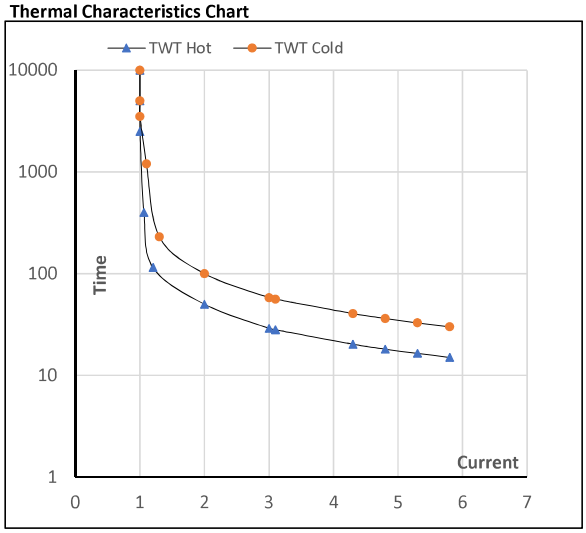
Model No. TCA0153A3133GACD01

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	15	20	28.6	980	14.81	145.32	IE3	50	S1	1000	0.3035	232

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	50	29	25	17	16	15
TWT Cold	s	10000	100	58	50	35	31	30
Current	pu	1	2	3	4	5	5.5	5.8

Thermal Characteristics Chart



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