PRODUCT INFORMATION PACKET

Model No: TCN0222A1121GAC010
Catalog No: TCN0222A1121GAC010
TerraMAX® Cast Iron Motor, 30 HP, 3 Ph, 50 Hz, 400 V, 1500 RPM, 180L Frame, TEFC

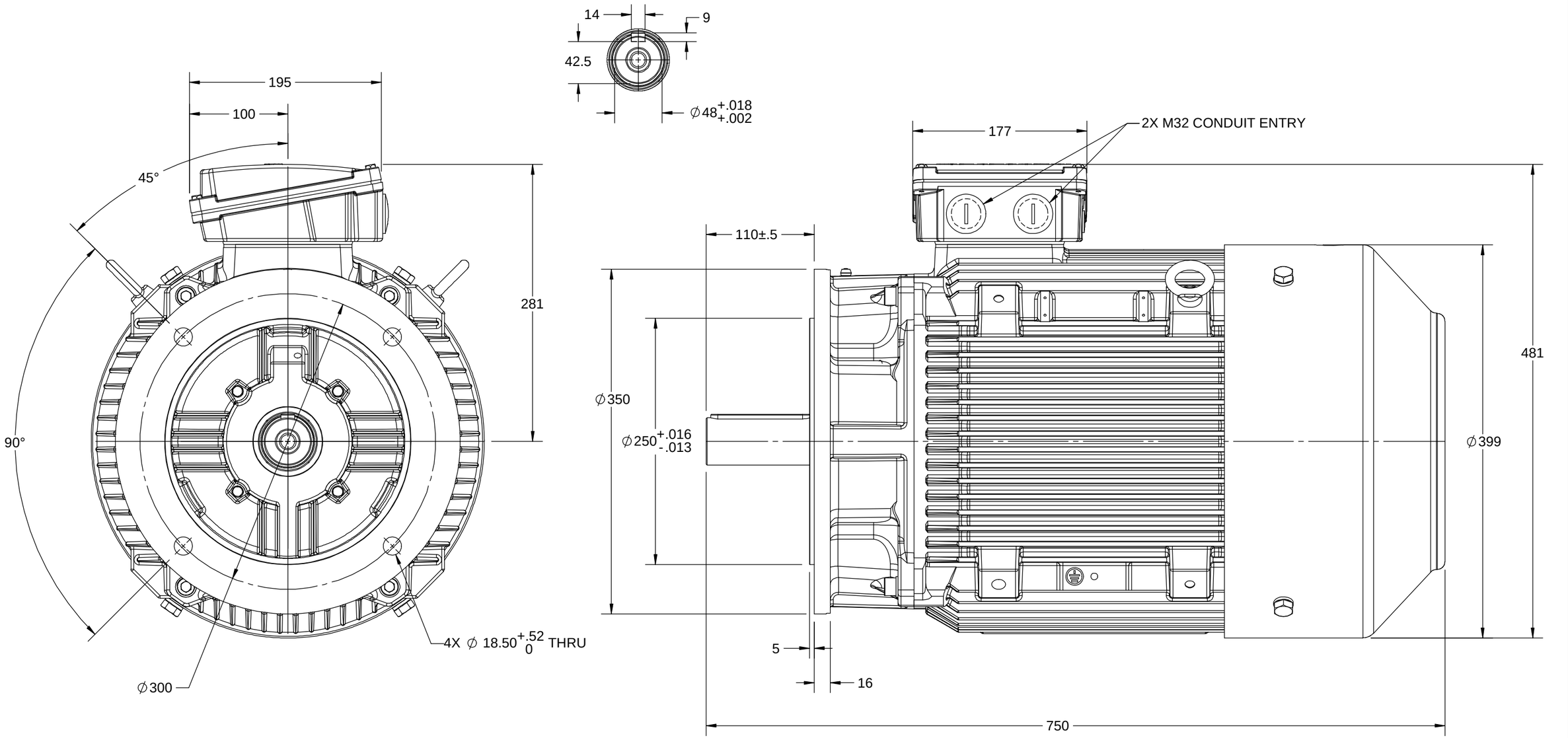
marathon®

Nameplate Specifications

Phase	3	Output HP	30 Hp
Output KW	22.0 kW	Voltage	400 V
Speed	1478 r/min	Service Factor	1
Frame	180L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	93 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	41.6 A	Power Factor	0.82
Duty	S1	Insulation Class	F
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

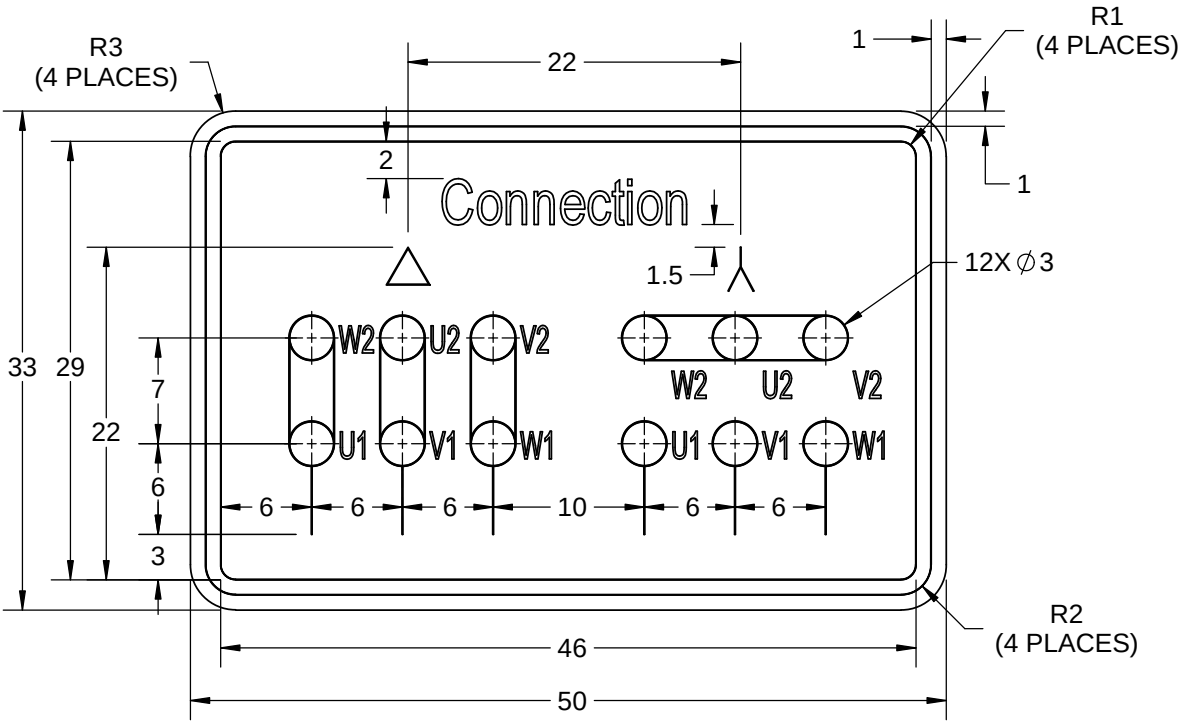
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	750 mm	Frame Length	366 mm
Shaft Diameter	48 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0218000504



DRAWING REVISION C	REVISION BY S.MUDDA	DATE 26/8/2020		DRAWN BY SDV	REGAL™ Regal Beloit America, Inc.
ECO ECO-0190270	APPROVED BY JAY	DATE 26/8/2020		DATE 7-05-2014	
ECO DESCRIPTION CONFIGURATIONS ADDED TO THE 3D MODEL				APPROVED BY SBD	DESCRIPTION OUTLINE 180L-2~8P-B5
				DATE 7-05-2014	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE B / DRAWING NUMBER 0218000504 / 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

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Model No. TCN0222A1121GAC010

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	22	30	41.6	1478	144.6	IE3	-	93	93	92.5	0.82	0.76	0.63	7.5	2.7	3.5

Motor type	TCN	
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 +40	°C
Temperature rise (by resistance)	80 [Class B]	K
Altitude above sea level	1000	meter
Hazardous area classification	Ex nA	
Zone classification	Zone 2	
Gas group	IIC	
Temperature class	T3	
Rotor type	Aluminum Die cast	
Bearing type	Anti-friction ball	
DE / NDE bearing	6311-2Z / 6211-2Z	
Lubrication method	Greased for life	
Type of grease	NA	

Degree of protection	IP 55	
Mounting type	IM B5	
Cooling method	IC 411	
Motor weight - approx.	247	kg
Gross weight - approx.	267	kg
Motor inertia	0.2415	kgm^2
Load inertia	Customer to Provide	
Vibration level	2.2	mm/s
Noise level (1meter distance from motor)	64	dB(A)
No. of starts hot/cold/Equally spread	2/3/4	
Starting method	DOL	
Type of coupling	Direct	
LR withstand time (hot/cold)	12/25	s
Direction of rotation	Bi-directional	
Standard rotation	Clockwise form DE	
Paint shade	RAL 5014	
Accessories		
Accessory - 1	PTC 150°C	
Accessory - 2	-	
Accessory - 3	-	
Terminal box position	TOP	
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

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-15

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	-	-	GEMS 2019	-	IEC:60034-30-1

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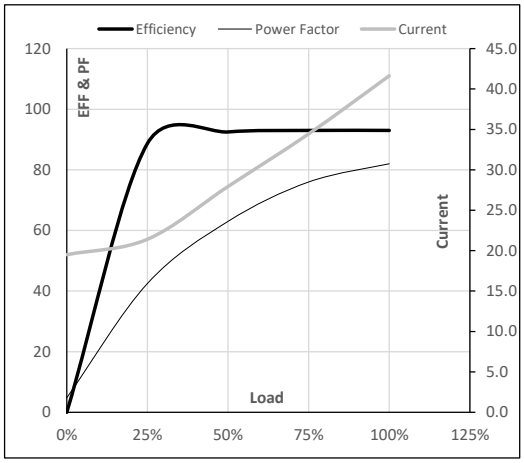
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	400	Δ	50	22	30	41.6	1478	14.74	144.60	IE3	40	S1	1000	0.2415	247

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	19.5	21.4	27.9	34.5	41.6	
Torque	Nm	0.0	35.7	71.7	108.0	144.6	
Speed	r/min	1500	1495	1489	1484	1478	
Efficiency	%	0.0	88.7	92.5	93.0	93.0	
Power Factor	%	4.8	42.5	63.0	76.0	82.0	

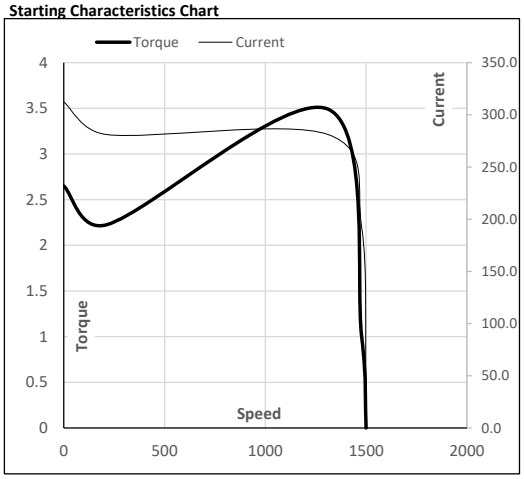
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1312	1478	1500
Current	A	312.3	281.1	192.4	41.6	19.5
Torque	pu	2.7	2.2	3.5	1	0

Starting Characteristics Chart



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

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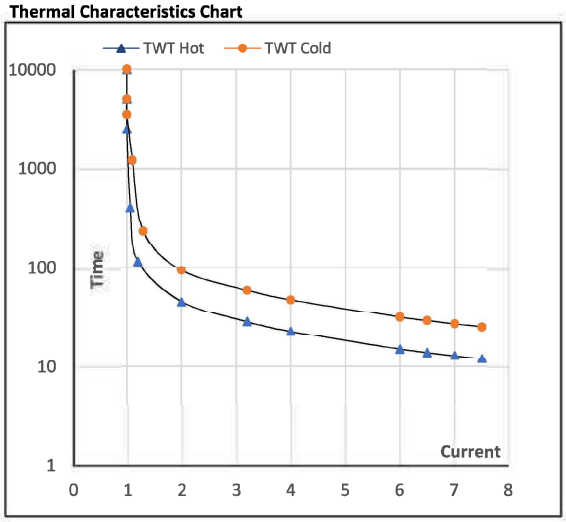
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	400	Δ	50	22	30.0	41.6	1478	14.74	144.60	IE3	40	S1	1000	0.2415	247

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	45	31	23	20	14	12
TWT Cold	s	10000	94	60	47	44	40	25
Current	pu	1	2	3	4	5	5.5	7.5

Thermal Characteristics Chart



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