

# PRODUCT INFORMATION PACKET

Model No: TCN5P52A1131GAC010

Catalog No: TCN5P52A1131GAC010

TerraMAX® Cast Iron Motor, 7.50 HP, 3 Ph, 50 Hz, 400 V, 1500 RPM, 132S Frame, TEFC



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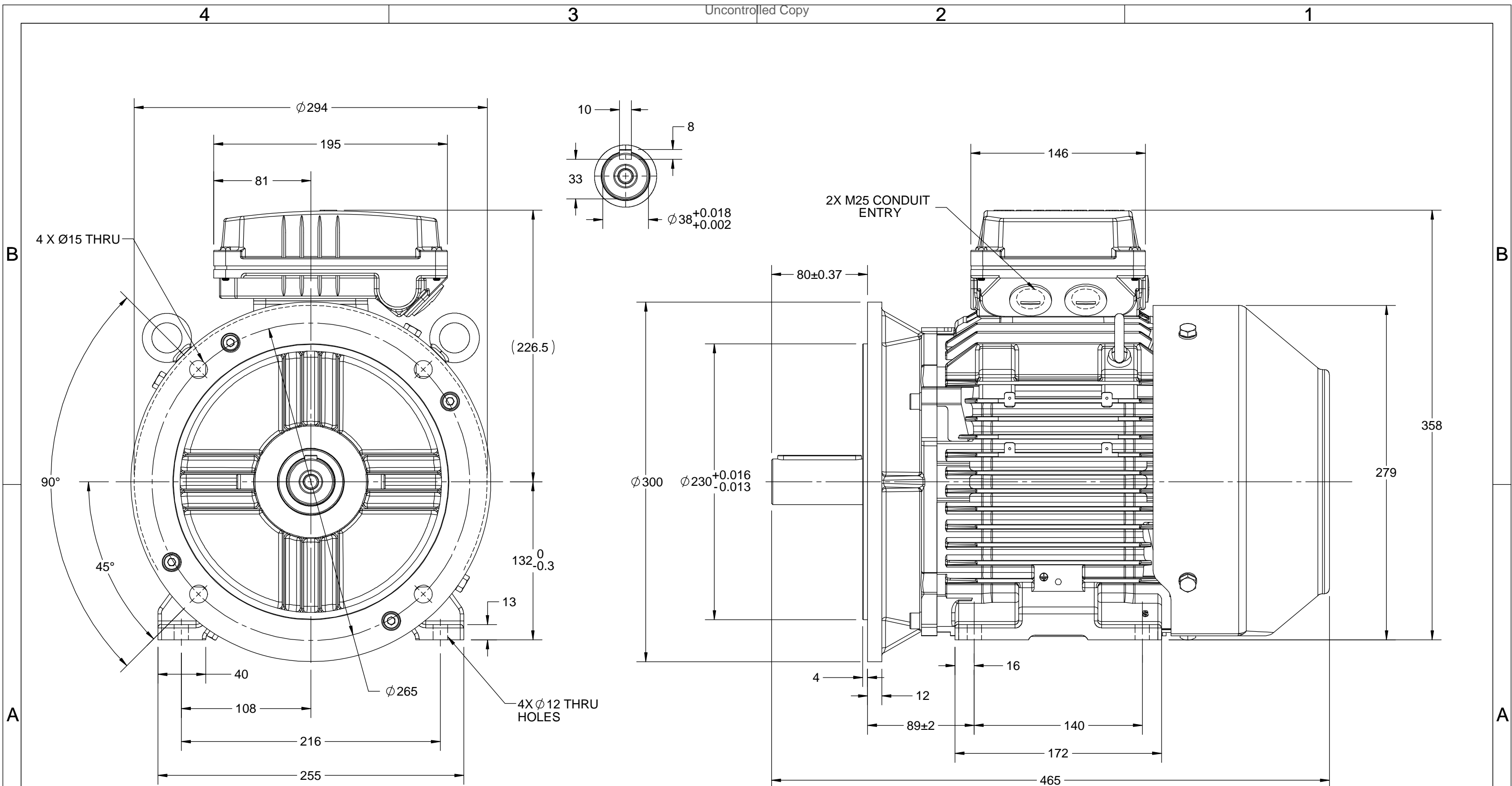
### Nameplate Specifications

Output HP	<b>7.50 Hp</b>	Output KW	<b>5.5 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>400 V</b>
Current	<b>10.6 A</b>	Speed	<b>1468 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>89.6 %</b>	Power Factor	<b>0.84</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>132S</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6308</b>	Opp Drive End Bearing Size	<b>6208</b>
UL	<b>No</b>	CSA	<b>No</b>
CE	<b>Yes</b>	IP Code	<b>55</b>
Number of Speeds	<b>1</b>	Efficiency Class	<b>IE3</b>

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B35</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>2z-C3</b>	Opp Drive End Bearing	<b>2z-C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>465 mm</b>	Frame Length	<b>202 mm</b>
Shaft Diameter	<b>38 mm</b>	Shaft Extension	<b>80 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Outline Drawing	<b>0213200611</b>	Connection Drawing	<b>8442000085</b>

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DRAWING REVISION B	REVISION BY A. KEETHA	DATE 13/07/2018
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ECO ECO-0147359	APPROVED BY JAY	DATE 13/07/2018
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ECO DESCRIPTION  
**OUTLINE UPDATED AS PER NEW 3D STRUCTURING**  
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TOLERANCES UNLESS OTHERWISE SPECIFIED:  

DEC.	INCH	mm	ANGLE
.X	$\pm 0.1$	[ $\pm 2.5$ ]	$\pm 0.5^\circ$
.XX	$\pm 0.01$	[ $\pm 0.25$ ]	
.XXX	$\pm 0.005$	[ $\pm 0.127$ ]	
.XXXX	$\pm 0.0005$	[ $\pm 0.0127$ ]	

 REMOVE BURRS & BREAK SHARP  
 EDGES:  $.003 / .015$  [ $.076 / .381$ ] X  $45^\circ$   
 CORNER FILLETS: R.02 [.51]  
 MACHINED SURFACES:  $125 \sqrt{3.2}$   
 mm SHOWN IN [BRACKETS]

DRAWN BY VINAY	DATE 10/11/2014
APPROVED BY KRK	DATE 10/11/2014
REFERENCE	
THIRD ANGLE PROJECTION	

<b>REGAL</b> ™ Regal Beloit America, Inc.	
DESCRIPTION	<b>OUTLINE</b> 132-S FR.- B35 MTG. MOTOR TYPE TCA
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0213200611
	SHEET 1 OF 1

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

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.
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 <b>SN</b>	DATE <b>16/12/2016</b>		 <b>Regal Beloit America, Inc.</b>
	APPROVED BY <b>SBD</b>		
	DATE <b>16/12/2016</b>		DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>
	REFERENCE	MATERIAL	PROCESS/FINISH
	THIRD ANGLE PROJECTION 	SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>

**Model No.** TCN5P52A1131GAC010

U (V)	Δ / Y Conn	f [Hz]	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>K</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Δ	50	5.5	7.5	10.5	1468	36.4	IE3	-	89.6	89.6	89.7	0.84	0.79	0.67	6.7	2.3	2.7

Motor type	TCN	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	132S	Motor weight - approx.	86 kg
Duty	S1	Gross weight - approx.	89 kg
Voltage variation *	± 10%	Motor inertia	0.0446 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level ( 1meter distance from motor)	61 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 +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	80 [ Class B ] K	LR withstand time (hot/cold)	10/20 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	Ex nA	Standard rotation	Clockwise form DE
Zone classification	Zone 2	Paint shade	RAL 5014
Gas group	IIC	Accessories	
Temperature class	T3	Accessory - 1	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6308-2Z / 6208-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm <sup>2</sup> /2 x M25 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>K</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - Locked Rotor 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 IEC:60034-30-1	China -	India -	Aus/Nz GEMS 2019	Brazil -	Global IEC IEC:60034-30-1



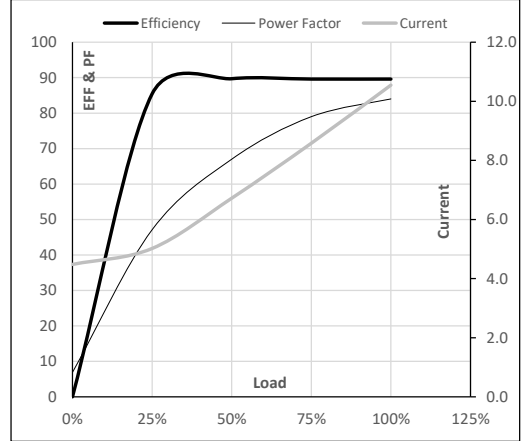
**Model No.** TCN5P52A1131GAC010

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 <sup>2</sup> )	Weight (kg)
TEFC	400	Δ	50	5.5	7.5	10.5	1468	3.71	36.40	IE3	40	S1	1000	0.0446	86

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	4.5	5.0	6.7	8.6	10.5	
Torque	Nm	0.0	8.9	18.0	27.1	36.4	
Speed	r/min	1500	1492	1485	1477	1468	
Efficiency	%	0.0	85.4	89.7	89.6	89.6	
Power Factor	%	6.9	47.1	67.0	79.0	84.0	

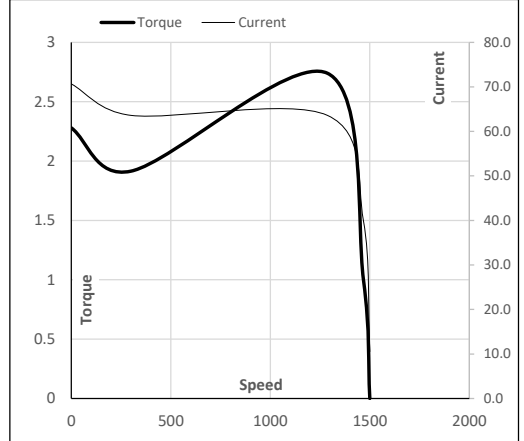
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	300	1287	1468	1500
Current	A	70.7	63.6	39.9	10.5	4.5
Torque	pu	2.3	1.9	2.7	1	0

**Starting Characteristics Chart**



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

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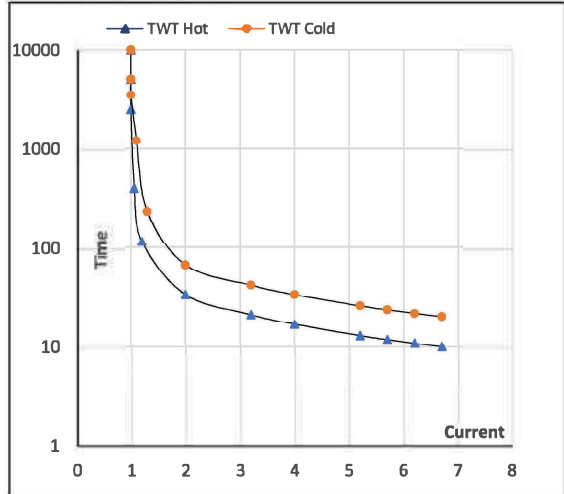
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	Δ	50	5.5	7.5	10.5	1468	3.71	36.40	IE3	40	S1	1000	0.0446	83

**Motor Speed Torque Data**

Load	FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	LR	
TWT Hot	s 10000	34	24	17	14	13	10	
TWT Cold	s 10000	67	45	34	28	24	20	
Current	pu	1	2	3	4	5	5.5	6.7

**Thermal Characteristics Chart**



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

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