

# PRODUCT INFORMATION PACKET

Model No: TCA5P51A3121GACD01  
Catalog No: TCA5P51A3121GACD01

5.5 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 132S Frame, TEFC  
Cast Iron IE3 Efficiency Motors





### Nameplate Specifications

Output HP	<b>7.50 Hp</b>	Output KW	<b>5.5 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>415 V</b>
Current	<b>9.5 A</b>	Speed	<b>2934 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>89.2 %</b>	Power Factor	<b>0.9</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>132S</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Ambient Temperature	<b>50 °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>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>2</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B5</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>0213200675</b>	Connection Drawing	<b>8442000085</b>

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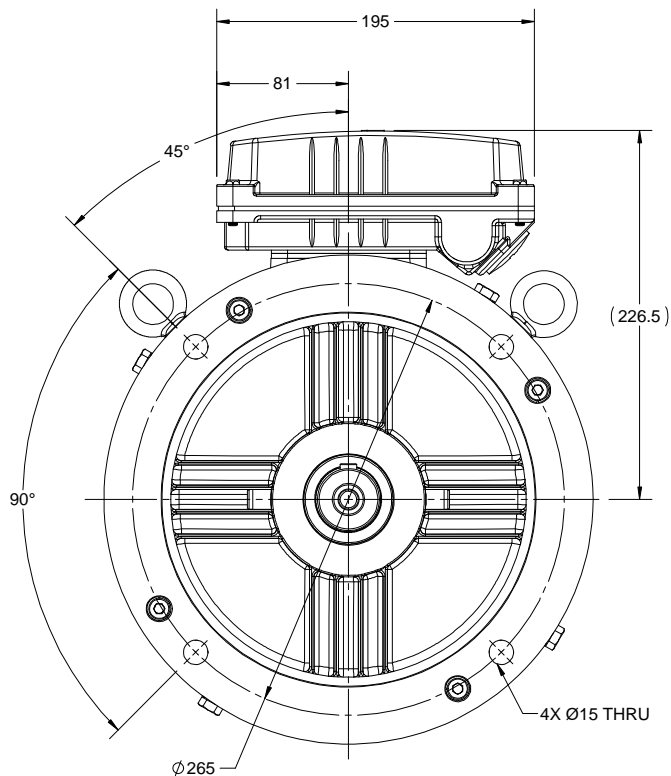
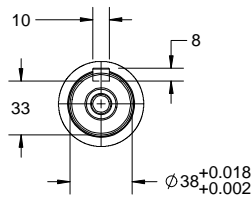
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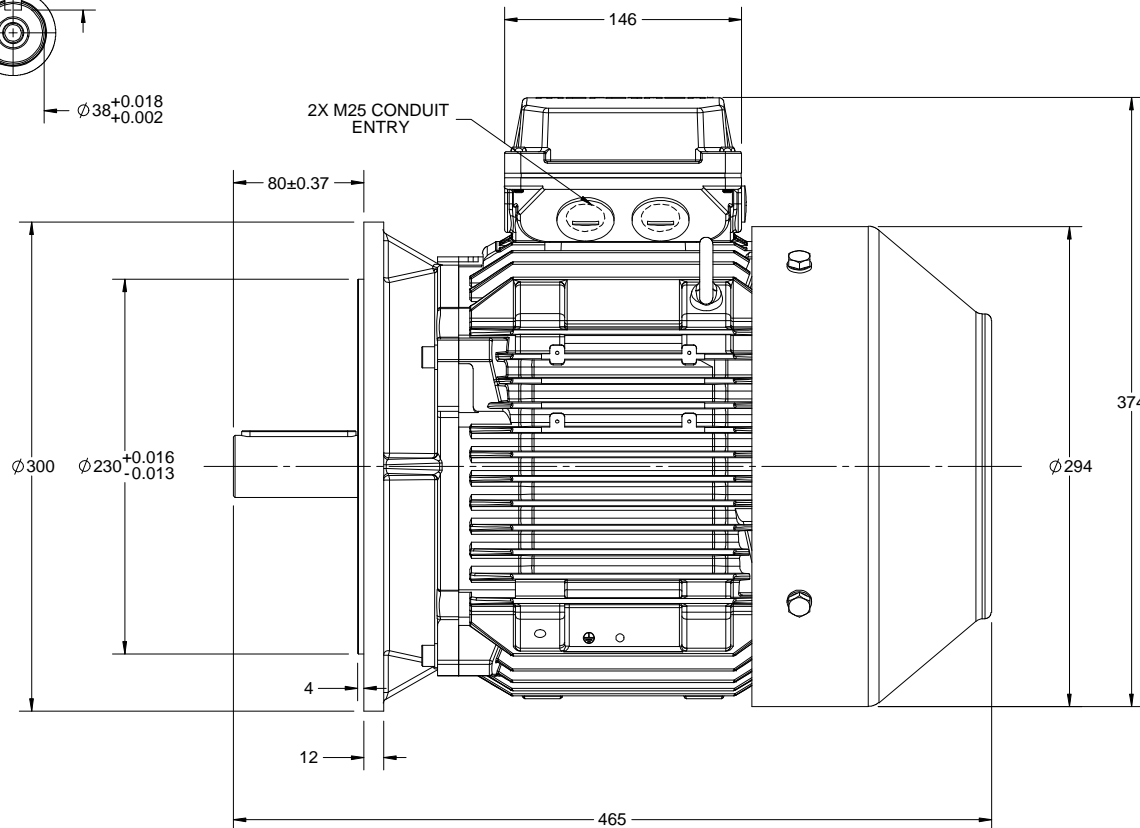
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2X M25 CONDUIT ENTRY



DRAWING REVISION B	REVISION BY A. KEETHA	DATE 12/07/2018
ECO ECO-0147359	APPROVED BY JAY	DATE 12/07/2018
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DATE 17/04/2015
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DATE 17/04/2015
REFERENCE

**marathon**  
Motors

DESCRIPTION  
**OUTLINE**  
132-S FR.- B5 MTG. MOTOR TYPE: TCA

MATERIAL  
PROCESS/FINISH

THIRD ANGLE  
PROJECTION

SIZE  
B  
DRAWING NUMBER  
**0213200675**

SHEET  
1 OF 1

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3

2

1



Model No. TCA5P51A3121GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I		n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>L</sub> /I <sub>N</sub> [pu]	T <sub>L</sub> /T <sub>N</sub> [pu]	T <sub>L</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]	[A]	[A]				5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	5.5	7.5	9.5	2934	18.21		IE3	-	89.2	89.2	87.8	0.9	0.86	0.76	7.3	2.2	3.5

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	132S	Motor weight - approx.	77 kg
Duty	S1	Gross weight - approx.	80 kg
Voltage variation *	± 10%	Motor inertia	0.0184 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)	64 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)	10/20 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	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>L</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

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

T<sub>L</sub>/T<sub>N</sub> - 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	-	-	-

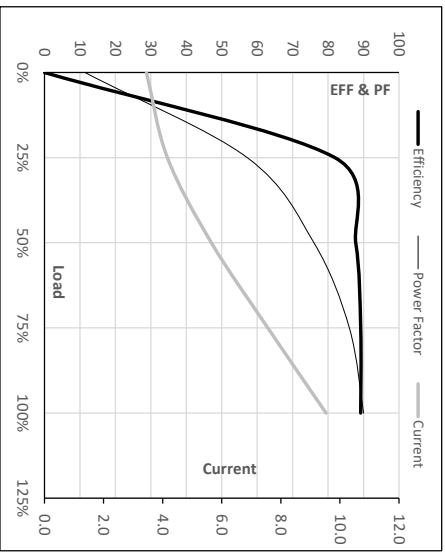
Model No. TCASPS1A3121GA0D01

Enclosure	U [V]	$\Delta$ /Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb Temp [°C]	Duty	Elevation [m]	Inertia [kg·m <sup>2</sup> ]	Weight [kg]
TFC	415	$\Delta$	50	5.5	7.5	9.5	2934	1.86	18.21	IE3	50	S1	1000	0.0184	77

**Motor Load Data**

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	3.5	4.2	5.7	7.6	9.5
Torque	Nm	0.0	4.5	9.0	13.6	18.2
Speed	r/min	3000	2984	2968	2952	2934
Efficiency	%	0.0	81.9	87.8	89.2	89.2
Power Factor	%	11.4	57.2	76.0	86.0	90.0

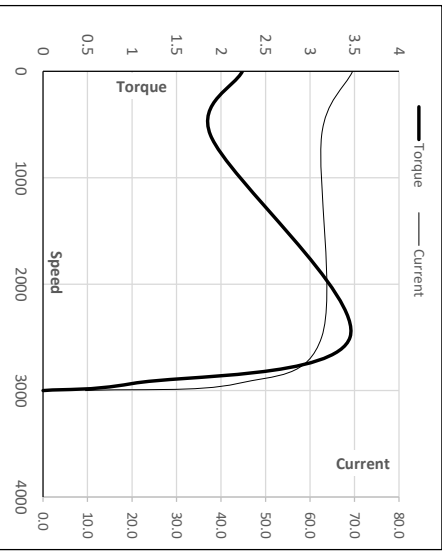
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2498	2934	3000
Current	A	69.6	62.6	43.7	9.5	3.5
Torque	pu	2.2	1.9	3.5	1	0

**Starting Characteristics Chart**



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

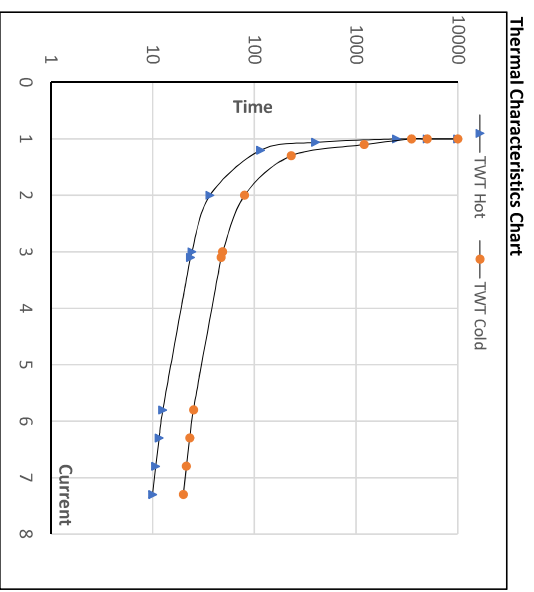
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Model No. TCASP51A3121GACD01

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	415	Δ	50	5.5	7.5	9.5	2934	1.86	18.21	IE3	50	S1	1000	0.0184	77

**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	37	24	20	16	13	10
TWT Cold	s	10000	80	49	44	36	26	20
Current	pu	1	2	3	4	5	5.5	7.3



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

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