

## 3 $\phi$ AC-DC CONVERTER

Rev: 01, AUG 2019, [www.variturndefence.com](http://www.variturndefence.com)

**110V, 10A, 1100W**



**Size : 300 x 150 x 265mm**

### Key Features:

- Input range: 387 to 473 VAC, 3 Phase, 3 wire, 50Hz.
- Nominal Output : 110VDC.
- High Efficiency.
- Maintains 0.99 PF on Full Load Condition.
- Inbuilt OR-ing Circuit. No external SYNC pulse req.
- Low ripple and noise.
- < **0.01** % of line regulation
- < **1.5** % of load regulation
- < **0.2%** of ripple.
- < **2%** of noise.
- Approx **10 m Sec** Holdup time.
- Fixed frequency switching operation.
- Isolated.
- Short circuit protection.
- Over Temperature Shutdown.
- LED Indications for Output OK, Input OK, Over Load and Over Temperature.
- Potential free Contact for Output OK and Input OK.
- 0° to +55°C operation.
- Compact in size.
- **Meets MIL-STD-461E (EMI/EMC)**
- **Meets JSS 55555 (Environmental)**

### Description:

These series of AC/DC converters are available in Customized package and Model: VI1K1-3 $\phi$ 110-1V1C1 is capable of driving up to 1100W. These AC/DC converters can accept an input voltage rail between 387VAC and 473VAC, 3 Phase, 3 wire, 50Hz and delivers nominal output of 110VDC.

No external capacitors/ resistors required and it has reliable and robust design with following protection features: Output short circuit , Over Temperature Shutdown.

Sharing of N+1 modules possible.

### Applications:

- Industrial power supplies.
- Telecommunication systems.
- Military.
- Navy.
- Submarine.
- Ruggedized systems.

### VARITURN ELECTRO PRODUCTS (P) LTD.

196, Phase-II, IDA, Charlapally, Hyderabad-500051, Telangana, INDIA.  
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## Electrical Specifications:

Sl. No	Parameter	Condition	Values			Units
			Min	Typ	Max	
1	Operating Input Voltage range	3 Phase, 3 Wire, 50Hz	387	430	473	VAC
2	Output voltage		+108.5	+110.0	+111.5	VDC
3	Output current		—	10	15	A
5	Output power		—	1100	1650	W
6	Line regulation	Vin Min to Vin Max and @ 10A load	—	—	0.1	%
7a	Load regulation	10% load to full Load	—	—	2.0	%
7b		No load to full Load	—	—	2.5	%
8	Output ripple	@ Nominal input	—	—	190	mVp-p
9	Noise	@Nominal input, 20 MHz Band width	—	—	2000	mVp-p
10	Efficiency	@ Nominal input	80	85	90	%
11a	Isolation	Input to Output	—	>1000	—	VDC
11b		Input to Case	—	>1000	—	VDC
11c		Case to Output	—	>1000	—	VDC
12	Holdup time	@ 10A load	—	—	10	mSec
	<u>Output protections</u>					
13	Short circuit (Auto recovery)	@ Nominal input voltage, Room temp.		YES		
14	Over load/ Over current (Auto recovery)	@ Nominal input voltage, Room temp.		YES		
15	Operating Temperature	—	0	—	+55	°C
16	Storage Temperature	—	0	—	+60	°C
17	Input connector	—	7 pin - Circular connector-Pins			
18	Output connector	—	4 pin - Circular connector– Sockets			
	<u>LED Indications</u>					
19	Input Voltage					
20	Output Voltage					
21	Over Load					
22	Over Temperature					
	<u>Special Features</u>					
23	Output OK Potential Free Contact					
24	Inbuilt Oring Module					
25	Input OK Potential Free Contact					

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## Qualification test Specifications:

Sl. No	Parameter	Condition	Remarks/ Frequency range
<b>Environmental As per JSS 55555, 2012 Rev03</b>			
1	<b>High Temperature Test</b>	Operation at 55°C $\pm$ 3°C, Storage at 60°C $\pm$ 3°C	
2	<b>Damp Heat Test</b>	Test No:10, Page no.4-48	
3	<b>Vibration Resistance Test</b>	The Equipment should be able to withstand vibration levels as below, A. 01Hz to 05Hz– Acceleration of 0.1g B. 05Hz to 50Hz– Acceleration of 2.0g	
4	<b>Mould Growth Test (FUNGUS)</b>	Test No:21, Page no.4-87	
5	<b>Corrosion (Salt) Test</b>	Test No.9, Procedure 1, Page no.4-44	
6	<b>Shock Test</b>	Minimum 30g for 11ms as per MIL-S-901D and the equipment to be in ON condition during the test	
7	<b>Environmental Stress Screen (ESS)</b>	Stage 1 : Thermal cycling stress screening (TCSS) 0° to +55°C (12 cycles Ramp 5°/min) Dwell: 10min  Stage 2 : Random vibration (RVSS) 20-80 Hz +3db Octave 80-350 Hz, PSD 0.04 g /Hz 350-2000Hz , -3db Octave 10 min per axis, G rms = 6.06  Stage 3 : Thermal cycling stress screening (TCSS) 0° to +55°C (12 cycles Ramp 5°/min) Dwell: 10min	
<b>EMI/EMC As per MIL-STD 461E</b>			
1	<b>CE-101</b>	Conducted Emissions , Power Leads	30 Hz – 10 KHz
2	<b>CE-102</b>	Conducted Emissions , Power Leads	10 KHz – 10 MHz
3	<b>CS-101</b>	Conducted Susceptibility , Power Leads	25 Hz – 150 KHz
4	<b>CS-114</b>	Conducted Susceptibility , Bulk Cable Injection	10 KHz – 200 MHz
5	<b>CS-115</b>	Conducted Susceptibility , Ground - Bulk Cable Injection	Impulse Excitation
6	<b>RE-101</b>	Radiated Emissions , Magnetic Field (Cables & equipment)	25 Hz – 100 KHz
7	<b>RE-102</b>	Radiated Emissions , Electric Field	10 KHz – 1 GHz
8	<b>RS-101</b>	Radiated Susceptibility , AC Magnetic Field	25 Hz – 100 KHz
9	<b>RS-103</b>	Radiated Susceptibility , Electric Field	2 MHz – 40 GHz

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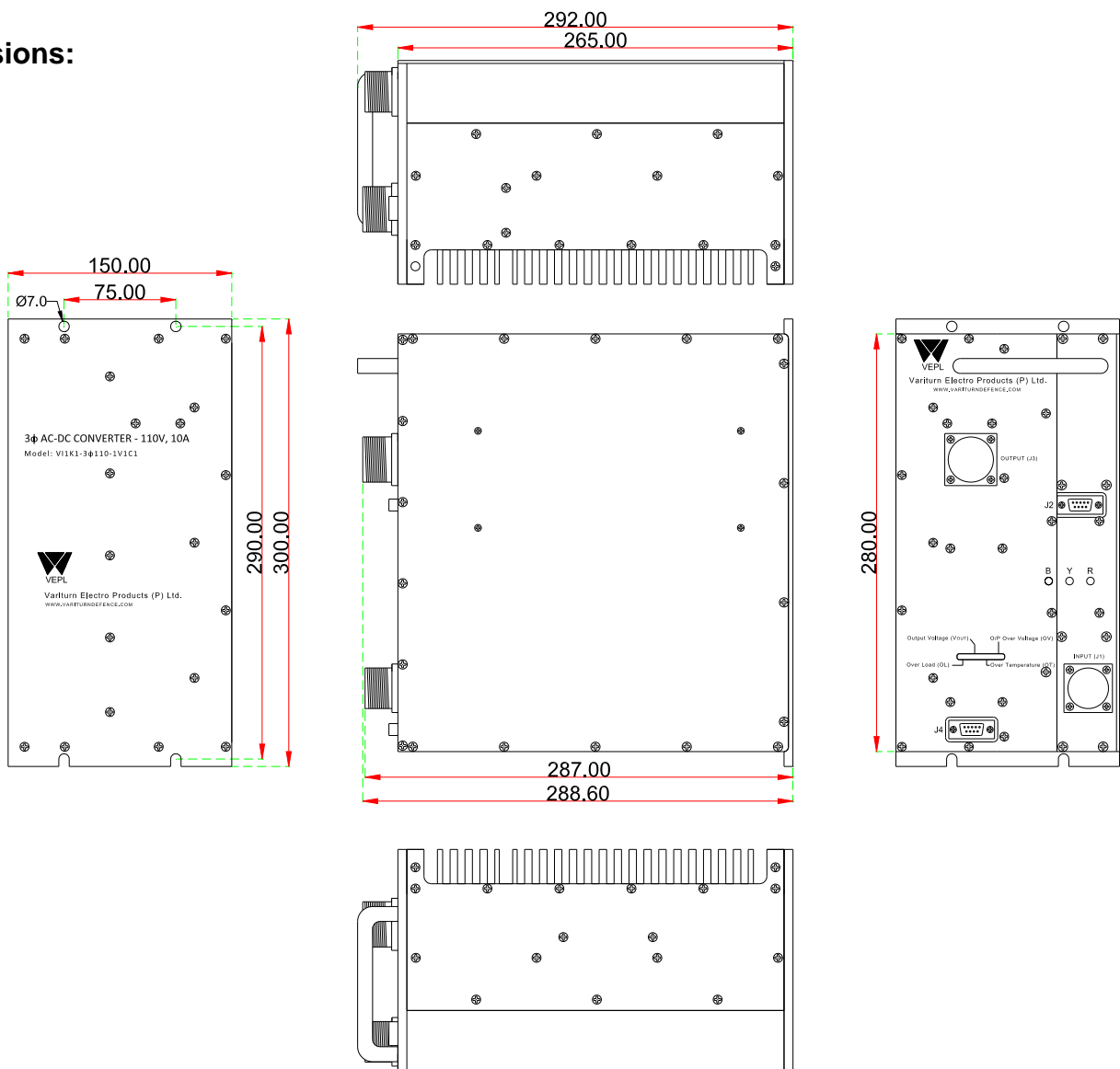
## Absolute Maximum ratings:

Input voltage	387VAC to 473VAC, 3Phase, 3 Wire,50Hz
Output power	1650 W
Output current	15 A
Storage temperature	0°C to +60°C

## Mechanical Specifications:

	Length (mm)	Width (mm)	Height (mm)
Overall specifications	<b>300 <math>\pm</math>0.5</b>	<b>150 <math>\pm</math>0.5</b>	<b>265 <math>\pm</math>0.5</b>

## Dimensions:



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