

DC-DC CONVERTER

Rev: 01, AUG 2019, www.variturndefence.com

24V, 17A, 400W



Size : 300 x 225 x 90mm

Key Features:

- Input range: 200 to 240 VDC.
- Nominal Output : 24VDC.
- Variable Output: (22VDC-26VDC).
- High Efficiency.
- Inbuilt OR-ing Circuit. No external SYNC pulse req.
- Very low ripple and noise.
- < **0.04 %** of line regulation
- < **1.0 %** of load regulation
- < **0.5%** of ripple.
- < **1.5%** of noise.
- Approx **80 m Sec** Holdup time.
- Fixed frequency switching operation.
- Isolated.
- Short circuit protection.
- Over Temperature Shutdown.
- LED Indications for Output , Input , Over Load and Over Temperature.
- Potential free Contact for Output
- 0° to +55°C operation.
- Compact in size.
- **Meets MIL-STD-461E (EMI/EMC)**
- **Meets JSS 55555 (Environmental)**

Description:

These series of DC/DC converters are available in Customized package and Model: VI400-22024-1V1C1 is capable of driving up to 430W. These DC/DC converters can accept an input voltage rail between 200VDC and 240VDC and delivers nominal output of 24VDC. These converters have Variable knob to adjust the output voltage between 22VDC to 26VDC.

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.

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Electrical Specifications:

Sl. No	Parameter	Condition	Values			Units
			Min	Typ	Max	
1	Operating Input Voltage range		200	220	240	VDC
2	Output voltage		+22	+24	+26	VDC
3	Output current		16.67	17	21	A
5	Output power		367	400	433	W
6	Line regulation	Vin Min to Vin Max and @ 16.67A load	—	—	0.5	%
7a	Load regulation	10% load to full Load	—	—	1.0	%
7b		No load to full Load	—	—	1.0	%
8	Output ripple	@ Nominal input	—	—	50	mVp-p
9	Noise	@Nominal input, 20 MHz Band width	—	—	360	mVp-p
10	Efficiency	@ Nominal input	88	90	95	%
11a	Isolation	Input to Output	—	>1000	—	VDC
11b		Input to Case	—	>1000	—	VDC
11c		Case to Output	—	>1000	—	VDC
12	Holdup time	@ 16.67A load	—	—	80	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	—	4 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					

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Qualification test Specifications:

Sl. No	Parameter	Condition	Remarks/ Frequency range
Environmental As per JSS 55555, 2012 Rev03			
1	High Temperature Test	Operation at 55°C±3°C, Storage at 60°C±3°C	
2	Damp Heat Test	Test No:10, Page no.4-48	
3	Vibration Resistance Test	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	Mould Growth Test (FUNGUS)	Test No:21, Page no.4-87	
5	Corrosion (Salt) Test	Test No.9, Procedure 1, Page no.4-44	
6	Shock Test	Minimum 30g for 11ms as per MIL-S-901D and the equipment to be in ON condition during the test	
7	Environmental Stress Screen (ESS)	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	
EMI/EMC As per MIL-STD 461E			
1	CE-101	Conducted Emissions , Power Leads	30 Hz – 10 KHz
2	CE-102	Conducted Emissions , Power Leads	10 KHz – 10 MHz
3	CS-101	Conducted Susceptibility , Power Leads	25 Hz – 150 KHz
4	CS-114	Conducted Susceptibility , Bulk Cable Injection	10 KHz – 200 MHz
5	CS-115	Conducted Susceptibility , Ground - Bulk Cable Injection	Impulse Excitation
6	RE-101	Radiated Emissions , Magnetic Field (Cables & equipment)	25 Hz – 100 KHz
7	RE-102	Radiated Emissions , Electric Field	10 KHz – 1 GHz
8	RS-101	Radiated Susceptibility , AC Magnetic Field	25 Hz – 100 KHz
9	RS-103	Radiated Susceptibility , Electric Field	2 MHz – 40 GHz

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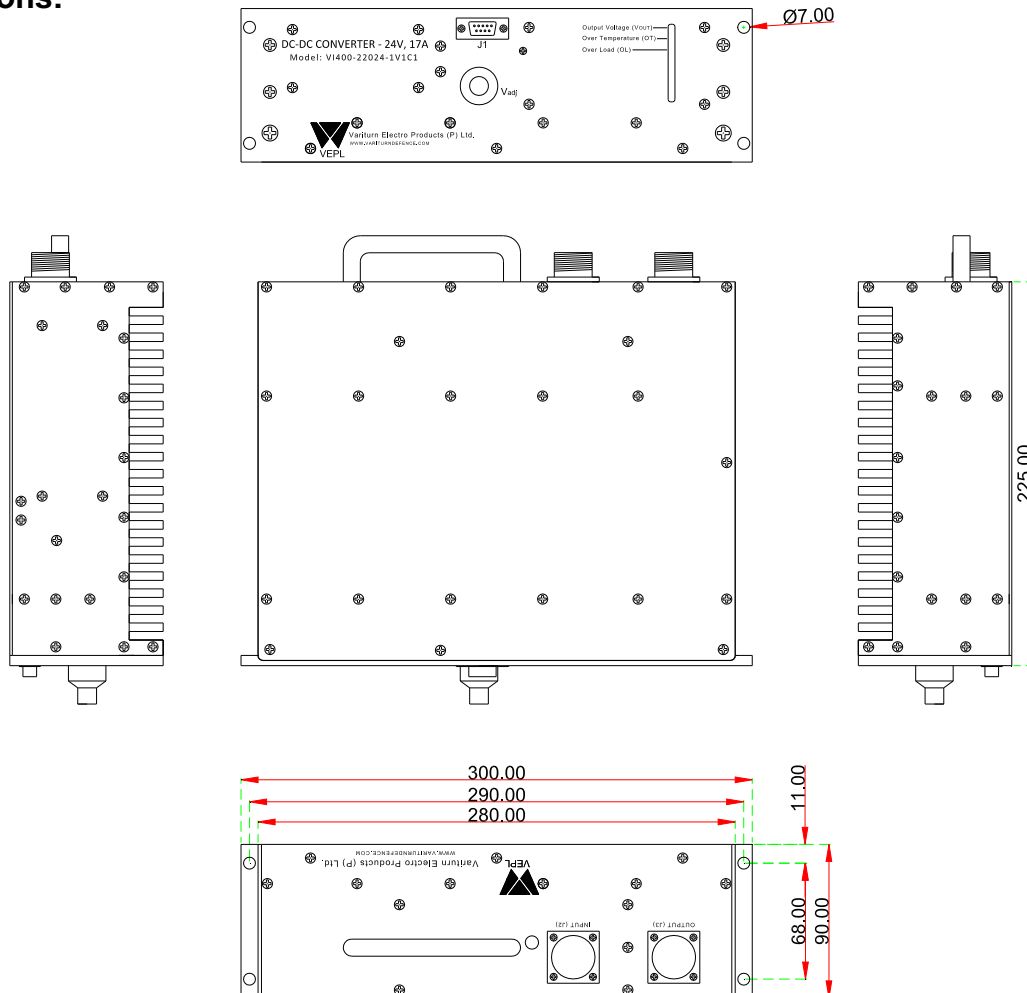
Absolute Maximum ratings:

Input voltage	200V to 240V
Output power	433 W
Output current	21 A
Storage temperature	0°C to +60°C

Mechanical Specifications:

	Length (mm)	Width (mm)	Height (mm)
Overall specifications	300 ±0.5	225 ±0.5	90 ±0.3

Dimensions:



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