



**GROW CONTROL**  
**POWER TECH PVT. LTD.**

We Provide Solutions....

**AN ISO 9001:2015 COMPANY**



**HIGH POWER DC-DC CONVERTER**

**GROW CONTROL** DC-DC Converters are designed using cutting-edge indigenous technology to meet the stringent requirements of defense and aerospace applications. Engineered for high performance, reliability, and efficiency under extreme environmental conditions, these converters are ideal for military aircraft, helicopters, UAVs (Unmanned Aerial Vehicles), and other airborne platforms.

With over 20 years of expertise in power electronics, **GROW CONTROL** delivers rugged and robust solutions that comply with military standards, ensuring seamless operation in mission-critical environments.

### Features

- Isolated & regulated dc to dc converter.
- 36kw,480A continues.
- $\geq 85\%$  efficiency.
- Wide input range 750 – 800 vdc.
- High frequency switching
- Allows remote sense or local sense operation
- Tight regulation over all line and load conditions
- Fully operational voltage and current limit.
- OC, OV, UV, OL, short circuit and thermal
- Protection and i/p abnormal, PS fault.
- Cooling by high built-in fans.
- Compact and robust design.

### Key Advantages

- **Indigenous Technology:**  
100% designed, developed, and manufactured in India, reducing dependency on foreign systems and supporting India's defense self-reliance.
- **Military-Grade Reliability:**  
Built to withstand the toughest airborne environments, these converters ensure continuous, high-performance power supply for mission-critical operations.
- **Customizable Options:**

**GROW CONTROL** offers customization for output voltage, power capacity, and other parameters to match specific defense and aerospace applications.

- **Energy-Efficient Design:**  
The high-efficiency design ensures minimal power loss, translating to longer operational time and reduced cooling requirements for airborne platforms.
- **Compliance with Defense Standards:**  
**GROW CONTROL** DC-DC converters comply with **MIL-STD-810E/F/G** (environmental testing), ensuring they meet the most stringent defense requirements.
- **Wide Range of Applications:**  
Suitable for use in various airborne platforms including **UAVs**, and **defense electronics systems**.

### Applications

1. **UAVs (Unmanned Aerial Vehicles):** Offering lightweight and compact power solutions for UAV platforms.
2. **Defense Electronics:** Supporting critical defense systems requiring stable DC-DC conversion in harsh airborne environments.

### Customization Options

**GROW CONTROL** provides customizable solutions to meet the unique power requirements of various defense and aerospace applications. Our team of engineers collaborates with defense agencies and manufacturers to design solutions tailored to specific airborne platforms. Some customizable features include:

- Output Voltage Levels
- Power Ratings
- Size and Form Factor Adjustments
- Specific Environmental Hardening
- Enhanced Protection Features

### **Why Choose *GROW CONTROL*?**

- Proven Track Record: With over three decades of experience in power electronics, ***GROW CONTROL*** is trusted by defense and aerospace agencies across India.
- Indigenous Innovation: Our indigenous technology development ensures that all products meet the specific requirements of Indian defense forces while promoting technological self-reliance.
- Stringent Quality Control: All products undergo rigorous testing to ensure compliance with military standards and optimal performance under extreme conditions.
- Customer Support: From product design to post-delivery support, ***GROW CONTROL*** ensures seamless customer experience with high-quality solutions and reliable after-sales service.

### **Certifications**

- MIL-STD-810 F/G/H– Environmental Testing for Defense Equipment
- MIL-STD-461 E/F/G – Electromagnetic Interference (EMI) Compliance
- MIL-STD-704 F – Power Supply Compatibility
- MIL-HDBK-2164A – Environmental Stress Screening
- MIL-STD-810 G – Environmental
- MIL-STD-461 F EMI/EMC
- MIL-STD-704F - PSC



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### Technical Specification

Model no	GC36KW-75V/480A	GCPT103DC-DC
<b>Input</b>		
Voltage	750VDC $\pm$ 5%	350V to 600V DC (400V Nominal)
<b>Output</b>		
Voltage	75VDC (nominal)	O/P-1: 300V O/P-2: 28V
Current	480A (max).	O/P-1: 35A O/P-2: 15A
Power	36KW	10kW
<b>Line regulation</b>	$\pm$ 1% for input range mentioned	$\leq$ 1.5%
<b>Load regulation</b>	$\pm$ 1% from no load to full load for the set value.	$\leq$ 1.5%
<b>Over voltage protection</b>	110% of rated output voltage	>305 V
<b>System efficiency</b>	Min 85-max90%	$\geq$ 85%
<b>Isolation</b>	Input to output :1000v Input to output terminals to chassis :500	Input to Output 500M' $\Omega$ @1000V Input to Chassis 500M' $\Omega$ @1000V Output to Chassis 500M' $\Omega$ @1000V Between Outputs 500M' $\Omega$ @1000V
<b>Operating temperature</b>	-20 to 55 $^{\circ}$ C	Minimum -40 $^{\circ}$ C to maximum +70 $^{\circ}$ C
<b>Storage temperature</b>	-30 to 70 $^{\circ}$ C	Minimum -40 $^{\circ}$ C to maximum +100 $^{\circ}$ C
<b>Cooling</b>	Forced air by high quality built-in fans and conduction to heat sink or chassis, fan draw air into the unit	Conduction cooled
<b>Weight</b>	100kg (approximated)	Less than 14kg



