



GROW CONTROL
POWER TECH PVT. LTD.

We Provide Solutions....

AN ISO 9001:2015 COMPANY



HIGH POWER DC-DC CONVERTER

GROWCONTROL 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, **GROWCONTROL** 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

Technical Specification

Model no	GC36KW-75V/480A
Input	
Voltage	750VDC \pm 5%
Current	65A (MAX)
Output	
Voltage	75VDC(nominal)
Current	480A (max).
Voltage adjustment	1.0-10v analog programming in local mode. 2. RS485 and ethernet interface in remote mode.
Current adjustment	1.0-10v analog programming in local mode. 2. RS485 and ethernet interface in remote mode.
Line regulation	\pm 1% for input range mentioned
Load regulation	\pm 1% from no load to full load for the set value.
Modes of operation	Constant voltage and constant current
Turn on-rise time	500msec
Over load protection	110 % of rated output current
Over voltage protection	110% of rated output voltage
System efficiency	Min 85-max90% of full load depending on input/output configuration
Isolation	Input to output :1000v Input to output terminals to chassis :500
Operating temperature	-20 to 55 $^{\circ}$ c
Storage temperature	-30 to 70 $^{\circ}$ c
Cooling	Forced air by high quality built -in fans and conduction to heat sink or chassis,fan draw air into the unit
Weight	100kg(approximated)

