

AN ISO 9001:2015 COMPANY



BIDIRECTIONAL CONVERTER



GROW CONTROL is a research-driven power electronics organization that integrates technology, innovation, and engineering to transform concepts into world-class products and solutions

GROW CONTROL Bidirectional Converter is an advanced electronic device that enables power flow in both directions between two systems, typically between a source and a load. It efficiently transfers power from the source to the load and vice versa, making it ideal for applications requiring energy storage or grid feedback. Common applications include renewable energy systems, battery storage solutions, and electric vehicle power management.

GROW CONTROL Bidirectional Converter provides a high-performance solution for applications requiring efficient and reliable power conversion. Developed using indigenous technology, these converters are designed to meet the rigorous demands of industrial, research, and defense sectors, ensuring exceptional efficiency, reliability, and versatility.

Features

- **High Efficiency:** Designed to minimize energy losses, achieving efficiencies greater than 95% for cost-effective operation.
- **Compact and Modular Design:** Space-efficient and modular, allowing for easy integration into existing systems and scalability for future needs.
- **User-Friendly Interface:** Remote-control options for easy monitoring and adjustment of settings.
- **Integrated Protection Mechanisms:** Features over-voltage, over-current, and thermal protection to ensure safe and reliable operation.
- **EMI/EMC Compliance:** Designed to meet MIL-STD-461 and EN 55022 standards, ensuring minimal electromagnetic interference.



Key Advantages

1. Indigenous Technology:

Developed and manufactured in India, tailored to meet local industry needs with accessible support and customization options.

2. High Reliability:

Engineered for durability and stability, ensuring consistent performance in demanding operational environments.

3. Energy Efficient:

Low power losses translate to reduced operational costs and enhanced sustainability, making it an environmentally friendly choice.

4. Comprehensive Customization:

GROW CONTROL offers tailored solutions to meet specific operational requirements, ensuring optimal functionality for every application.

Applications

1. Renewable Energy Systems:

Essential for wind and solar applications, enabling the integration of renewable energy sources into the grid.

2. Defense Systems:

Used in various defense applications requiring reliable frequency conversion for radar, communication, and electronic warfare systems.

3. Research and Development:

Supports experimental setups in research laboratories requiring precise frequency control and conversion.



Customization Options

GROW CONTROL provides a variety of customization options for the Bidirectional Converterto accommodate specific application requirements:

- Custom Input and Output Frequency Ranges
- Enhanced Control Algorithms for Specific Applications
- Integrated Monitoring Systems for real-time feedback
- Optimized Cooling Solutions
- Modular Configurations for Scalable Power Ratings
- Additional Communication Interfaces for enhanced integration

Our engineering team works closely with clients to deliver tailored solutions that precisely fit their operational needs, ensuring optimal performance and compatibility.

Why Choose GROW CONTROL?

- **Indigenous Expertise**: Tailored to meet Indian industry standards with local support for customization and maintenance.
- **Reliable and Efficient**: Designed for stability and high efficiency, ensuring consistent power delivery for critical applications.
- Low Maintenance Requirements: Durable design reduces wear and tear, minimizing downtime and maintenance costs.
- **Energy Efficient and Cost-Effective**: Low energy losses lead to cost savings and enhanced operational efficiency.
- **Customer Support**: From initial design consultation to installation and ongoing support, *GROW CONTROL* offers a full range of services.

Certifications

- MIL-STD-810 Environmental Testing Standards
- MIL-STD-461 Electromagnetic Compatibility Standards



Technical Specification

Model no	GCPT203BDC
Boost Mode: Input	Input from batteries
Inputs	
Nominal Voltage	160V DC
Voltage Operating Range	120-350V DC
Output	
Nominal Voltage	750V DC
Voltage Operating Range	750-770V DC
CurrentOperatingRange	28.5A
Buck Mode: Input	
Nominal Voltage	750VDC
Voltage Operating Range	750-770V DC
Output	
Nominal Voltage	160VDC
Voltage Operating Range	120-300V DC
Current Operating Range	120A
Isolation Range	I/P & O/P (\approx 1500 V) &I/P, O/P terminals
	to chassis (500 V)
Communication	RS485/Ethernet Interface for Remote
	Control
Mode of Operation	CV, CC, CP
Efficiency	>90%
Protections	Short circuit protection
	Reverse Polarity
	Over Temperature (OT)
	Inrush Current Limit
	UV, OV, OC (input & output)
Dimensions	5U size
	(600MM*433MM*222MM)



OUR CLIENTS



P-5/1/A, Road No. 13, IDA Nacharam, Hyderabad - 500 076, Telangana, India. Ph : +91- 40 -27175591, Fax : +91-40-27175386 gcptpltd@gmail.com I www.growcontrols.in