





HIGH VOLTAGE CONSTANT CURRENT POWER SUPPLY



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 High Voltage Constant Current Power Supplies are engineered to provide stable, precise, and high-voltage output with constant current, ideal for applications requiring consistent current delivery under high-voltage conditions. These power supplies, developed with indigenous technology, are crafted for durability and high performance in fields such as plasma generation, particle acceleration, electrostatic applications, and advanced research. Built to comply with stringent industrial standards, they ensure optimal operation in high-stress and critical environments.

GROW CONTROL High Voltage Constant Current Power Supplies offer reliable, stable, and efficient solutions for industries that demand consistent current at high voltages. Designed with **indigenous technology**, these power supplies are engineered to support a range of critical applications, providing the power and precision required by India's industrial, research, and defense sectors.

Features

- **High Stability and Low Ripple:** Ensures steady output with minimal ripple, essential for applications demanding high current stability.
- **Constant Current Control:** Precisely maintains a constant current output, ideal for applications that require uniform current at high voltages.
- **Energy Efficiency:** Operates at up to 95% efficiency, reducing operational costs and heat generation, enhancing long-term reliability.
- **Comprehensive Safety Systems:** Built-in protections against over-voltage, over-current, arc events, and thermal overload, safeguarding both the power supply and connected equipment.
- **Remote Monitoring and Control:** Digital interfaces allow remote adjustments, precise control, and real-time monitoring for secure and seamless operation.
- **Compact and Modular Design:** Rack-mountable and modular design for easy integration, facilitating scalability in both small and large setups.



• **EMI/EMC Compliance:** Conforms to meet**EN 55022** standards, minimizing interference in sensitive high-voltage applications.

Key Advantages

1. Indigenous Technology:

Designed and manufactured in India, *GROW CONTROL* high-voltage power supplies meet the specific requirements of the Indian industry and research sectors, with local expertise and support.

2. Precision in Output Control:

Consistent current output with low ripple ensures accuracy and stability, vital for precision-driven applications such as semiconductor fabrication and plasma research.

3. Energy Efficient and Cost-Effective:

High operational efficiency reduces power loss, minimizing energy costs and heat generation for sustained, reliable operation.

4. Robust Safety Mechanisms:

Integrated arc protection, over-current prevention, and thermal safeguards ensure safe operation under high-stress conditions.

5. Modular and Scalable:

Ideal for custom configurations and multi-output requirements, making it suitable for complex installations.

Applications

1. Plasma Processing:

Provides consistent high-voltage current for plasma generation, essential for applications like thin-film deposition, plasma etching, and semiconductor manufacturing.

2. Particle Accelerators and Electron Beams:

Supplies reliable high-voltage, constant current, crucial for applications in highenergy physics and material research.

3. Medical Imaging and X-Ray Systems:

Supports constant current output necessary for stability in X-ray generation and medical imaging systems.



4. Electrostatic and Capacitor Charging:

Stable current output makes it suitable for electrostatic and high-voltage capacitor charging applications in scientific and industrial research.

5. Aerospace and Research Applications:

Used in high-voltage experiments, plasma applications, and beam control in aerospace research, where precise current control is critical.

Customization Options

GROW CONTROL offers a wide range of customization options to meet unique high-voltage constant current power requirements:

- Voltage and Current Range Customization
- Enhanced Protection Options (Over-current, Arc, Short-Circuit)
- Extended Cooling Solutions (Air or Liquid)
- Analog and Digital Control Interfaces
- Modular Multi-Output Configurations
- Pulse Modulation Options for Select Applications

Our expert engineering team works closely with clients to deliver tailored solutions that fit specific operational needs, ensuring optimal performance in high-voltage environments.

Why Choose GROW CONTROL?

- **Indigenous Expertise**: Tailored to meet the demands of Indian industries, these power supplies are supported locally, providing reliability and convenience.
- **Precision and Stability**: Ensures stable, low-ripple constant current output, crucial for precision-driven and high-energy applications.
- **Energy Efficient**: Reduces energy costs and heat production, ideal for applications that demand extended periods of operation.
- **Safety and Protection**: Advanced safety features protect both the equipment and operators, offering peace of mind in high-voltage setups.
- **Customer Support**: From design consultation to installation and maintenance, *GROW CONTROL* offers complete customer support.



Certifications

- EN 55022 EMI Compliance
- ISO 9001:2015 Quality Management Systems

Technical Specification

Model No.	GCPT1 62HVC CPS	GCPT 53HV CCPS	GCPT 63HV CCPS	GCPT 103H VCCP S	GCPT 153H VCCP S	GCPT 203H VCCP S	GCPT4 03HVC CPS	GCPT4 53HVC CPS	GCPT5 03HVC CPS	GCPT10 03HVCC PS
O/p Voltage (kV)	1.6	5	6	10	15	20	40	45	50	100
Input	440 ±10%, 3ph, 50Hz	415V ±10% , 3ph, 50Hz	230V ±5%, 1ph, 50Hz	415V ±10%, 3ph, 50Hz			400V ±10%, 3ph, 50Hz	415V ±10%, 3ph, 50Hz	400V ±10%, 3ph, 50Hz	415V ±10%, 3ph, 50Hz
Output Current (A)	6.5A	0 to 20mA	10mA	0 to 40mA	0 to 8	0 to 5mA	1	1	1	1
Power factor	0.8 or better									
Efficienc y (%)	Up to 92%									



OUR CLIENTS



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