The FC Series are sophisticated, 120 Watt, high voltage power supplies in a small and lightweight package. They are air insulated, fast response units with tight regulation.

Fully compliant with the European harmonized EMI directive, EN50082-2, and with the low voltage (safety) directive, 73/23/EEC.

Line harmonics are within the European harmonized standard, EN61000-3-2 specifications.

**Features**

**Low Stored Energy.** Most models exhibit less than 1 joule of stored energy.

**Pulse-Width Modulation.** Off-the-line-pulse-width modulation provides high efficiency and a reduced parts count for improved reliability.

**Air Insulated.** The FC Series features “air” as the primary dielectric medium. No oil or encapsulation is used to impede serviceability or increase weight.

**Constant Voltage/Constant Current Operation.** Automatic crossover from constant-voltage to constant-current regulation provides protection against overloads, arcs, and short circuits.

**Low Ripple.** Ripple is less than 0.02% of rated voltage at full load.

**Tight Regulation.** Voltage regulation is better than 0.005% for allowable line and load variations. Current regulation is better than 0.05% from short circuit to rated voltage.

**Front Panel Controls.** Separate 10-turn controls with locking vernier dials are used to set voltage and current levels. A high voltage enable (on) switch and an AC power on/off switch complete the panel controls.

L.E.D.’s indicate when high voltage is on, the output polarity, and whether the supply is operating in a voltage or current regulating mode. For the blank panel version, only a power on/off switch is provided on the panel.

**Remote Control Facilities.** As standard, all FC Series supplies provide output voltage and current program/monitor signals, high voltage enable, safety interlock terminals, and a +10 volt reference source.

**Small Size and Weight.** FC Series power supplies occupy only 1.75 inches of panel height. Net weight is less than 12 pounds.

**Warranty.** Standard power supplies are warranted for three years; OEM and modified power supplies are warranted for one year. A formal warranty statement is available.

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Designing Solutions for High Voltage Power Supply Applications

GLASSMAN HIGH VOLTAGE INC.

124 West Main Street, PO Box 317, High Bridge, NJ 08829-0317
(908) 638-3800 • Fax (908) 638-3700 • www.glassmanhv.com

GLASSMAN EUROPE Limited (UK) +44 1256 883007 FAX +44 1256 883017 E-mail: Glassman_europe@glassmanhv.com

GLASSMAN JAPAN High Voltage Limited +81 45 902 9988 FAX +81 45 902 2268 E-mail: Glassman_japan@glassmanhv.com

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Specifications

Program/monitor, HV enable, ground, and local control. A rear panel toggle switch selects either local or remote operation.

External Interlock: Open off, closed on. Normally latching except for blank panel version where it is non-latching.

Specifications

Input: 102-132V RMS, single-phase, 48-420 Hz, <2.5A. Connector per IEC 320 with mating line cord terminated with NEMA 5-15 plug.

Efficiency: Typically 80% at full load.

Output: Continuous, stable adjustment, from 0 to rated voltage or current by panel mounted 10-turn potentiometers with 0.05% resolution, or by external 0 to 10V signals is provided. Voltage accuracy is 0.5% of setting +0.2% of rated. Repeatability is <0.1% of rated.

Static Energy: See Models chart.

Dynamic Voltage Regulation: Better than 0.005% for specified line variations and 0.005% + 0.5 mV/mA for load variations.

Ripple: <0.02% of rated voltage plus 300mV RMS at full load.

Current Regulation: Better than 0.1% from short circuit to rated current at any load condition.

Voltage Monitor: 0 to +10 V equivalent to 0 to rated voltage. Accuracy, 0.5% of reading +0.2% rated.

Current Monitor: 0 to +10 V equivalent to 0 to rated current. Accuracy, 1% of reading +0.05% rated. Reversible polarity models: 1% of reading + 0.1% of rated.

Stability: 0.01% per hour after 1/2 hour warmup, 0.05% per 8 hours.

Voltage Rise/Decay Time Constant: 400 ms typical with a 10% resistive load using either HV on/off or remote programming control.

Temperature Coefficient: 0.01% per degree C.

Ambient Temperature:
-20 to +50 degrees C, operating;
-40 to +85 degrees C, storage.

Polarity: Available with either positive, negative, or reversible polarity with respect to chassis ground.

Protection: Automatic current regulation protects against all overloads, including arcs and shorts. Fuses, surge-limiting resistors, and low energy components provide ultimate protection.

Remote Controls: A five position terminal block and a 15 Pin “D” connector are provided for all remote functions, including common, +10 V reference, interlock, voltage and current program/monitor. HV enable, ground, and local control. A rear panel toggle switch selects either local or remote operation.

External Interlock: Open off, closed on. Normally latching except for blank panel version where it is non-latching.

Options

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>90 to 110V RMS input, 48-420Hz. NEMA 5-15 Plug.</td>
</tr>
<tr>
<td>220</td>
<td>198 to 250V RMS input, 48-420Hz. NEMA 6-15 Plug.</td>
</tr>
<tr>
<td>NC</td>
<td>Blank front panel, power switch only.</td>
</tr>
<tr>
<td>CT</td>
<td>Current trip. Power supply trips off when the load current reaches the programmed level. This option has a rear panel switch that selects either “trip” operation or current limiting.</td>
</tr>
<tr>
<td>ZR</td>
<td>Zero start interlock. Voltage control, local or remote, must be at zero before HV will enable.</td>
</tr>
<tr>
<td>SS</td>
<td>Slow start ramp. Specify standard times of 1, 2, 3, 5, 10, 15, 20, or 30 s +/- 20%.</td>
</tr>
<tr>
<td>X13</td>
<td>0-5 V voltage and current program/monitor.</td>
</tr>
</tbody>
</table>

HVS: High voltage status indicator. Normally open relay contacts that close when HV is enabled. Contacts are rated for 24VDC at 1A maximum.

Please consult factory for special requirements.

Models

<table>
<thead>
<tr>
<th>Positive Polarity</th>
<th>Negative Polarity</th>
<th>Reversible Polarity</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Stored Energy</th>
<th>Output Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC1P120</td>
<td>FC1N120</td>
<td>FC1R120</td>
<td>0 - 1kV</td>
<td>0 - 120mA</td>
<td>0.2 J</td>
<td>RG - 58</td>
</tr>
<tr>
<td>FC1.5P80</td>
<td>FC1.5N80</td>
<td>FC1.5R80</td>
<td>0 - 1.5kV</td>
<td>0 - 80mA</td>
<td>0.45 J</td>
<td>RG - 58</td>
</tr>
<tr>
<td>FC2P60</td>
<td>FC2N60</td>
<td>FC2R60</td>
<td>0 - 2kV</td>
<td>0 - 60mA</td>
<td>0.7 J</td>
<td>RG - 58</td>
</tr>
<tr>
<td>FC3P40</td>
<td>FC3N40</td>
<td>FC3R40</td>
<td>0 - 3kV</td>
<td>0 - 40mA</td>
<td>0.7 J</td>
<td>RG - 58</td>
</tr>
<tr>
<td>FC5P24</td>
<td>FC5N24</td>
<td>FC5R24</td>
<td>0 - 5kV</td>
<td>0 - 24mA</td>
<td>0.3 J</td>
<td>RG - 58</td>
</tr>
<tr>
<td>FC6P20</td>
<td>FC6N20</td>
<td>FC6R20</td>
<td>0 - 6kV</td>
<td>0 - 20mA</td>
<td>0.25 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC8P15</td>
<td>FC8N15</td>
<td>FC8R15</td>
<td>0 - 8kV</td>
<td>0 - 15mA</td>
<td>0.3 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC10P12</td>
<td>FC10N12</td>
<td>FC10R12</td>
<td>0 - 10kV</td>
<td>0 - 12mA</td>
<td>0.4 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC12P10</td>
<td>FC12N10</td>
<td>FC12R10</td>
<td>0 - 12kV</td>
<td>0 - 10mA</td>
<td>0.7 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC15P8</td>
<td>FC15N8</td>
<td>FC15R8</td>
<td>0 - 15kV</td>
<td>0 - 8mA</td>
<td>1.1 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC20P6</td>
<td>FC20N6</td>
<td>FC20R6</td>
<td>0 - 20kV</td>
<td>0 - 6mA</td>
<td>0.85 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC25P4.8</td>
<td>FC25N4.8</td>
<td>FC25R4.8</td>
<td>0 - 25kV</td>
<td>0 - 4.8mA</td>
<td>1 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC30P4</td>
<td>FC30N4</td>
<td>FC30R4</td>
<td>0 - 30kV</td>
<td>0 - 4mA</td>
<td>1 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC40P3</td>
<td>FC40N3</td>
<td>FC40R3</td>
<td>0 - 40kV</td>
<td>0 - 2mA</td>
<td>1.5 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC50P2.4</td>
<td>FC50N2.4</td>
<td>FC50R2.4</td>
<td>0 - 50kV</td>
<td>0 - 2.4mA</td>
<td>2 J</td>
<td>RG - 8U</td>
</tr>
<tr>
<td>FC60P2</td>
<td>FC60N2</td>
<td>FC60R2</td>
<td>0 - 60kV</td>
<td>0 - 2mA</td>
<td>2.4 J</td>
<td>RG - 8U</td>
</tr>
</tbody>
</table>

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