MR Series
300 Watt
Regulated
High Voltage
DC Modules

Models from
0-1 kV DC
through
0-5 kV DC

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

Features:

- **Air Insulated.** Single printed circuit board construction for easy access. Air insulation for serviceability and light weight.
- **Constant Voltage/Constant Current/Current Trip Operation.** Automatic crossover from constant voltage regulation to current control for protection from overloads, arcs, and shorts. Current control is user configured for constant current regulation or current trip.
- **Low Ripple.** Better than 0.02% RMS of rated voltage at full load.
- **Tight Regulation.** Voltage regulation better than 0.005%, line or load; current regulation better than 0.1% from short circuit to rated voltage.
- **Fast Transient Response.** Less than 2 milliseconds for a 50% load transient.

- **Local Control and Indicator.** Ten-turn control for either voltage or current. Power ON indicator.
- **Remote Interface Connections.** Voltage or current local control, voltage and current program and monitor terminals, current regulation/trip, TTL high voltage enable, safety interlock terminals, +10 volt reference source, common, and chassis ground.
- **Small Size and Weight.** 3.38” (85.4 mm) H x 7.25” (184.2) W x 16” (406) D. Weight less than 11 pounds (5 kg.)
- **Output Connector and Cable.** Choice of Alden connector with unshielded silicone wire or SHV connector with RG-59 shielded cable.
- **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.

Modules from 0 to 1 kV through 0 to 5 kV, 3.38” high x 7.25” wide x 16” deep. SHV connector version shown, Alden connector available.

The MR Series...a sophisticated, medium power, high voltage power supply designed to meet international safety approvals...is packaged as a space-saving module that avoids the cost of expensive panels and displays. However, no compromises in performance and operating features have been made. The result is a power supply that offers outstanding value for a wide range of demanding applications.
Specifications
(From 5% to 100% rated voltage. All units operate down to zero output with very slight degradation of performance.)
Input: 103-132 V RMS, 48-63 Hz single phase, <6 A. Connector per IEC 320 with mating line cord.
Efficiency: Typically 85% at full load.
Output: Continuous, stable adjustment, from 0 to rated voltage or current by panel mounted 10-turn potentiometer with 0.05% resolution, or by external 0 to 10V signals is provided. Linearity is <1% of rated. Voltage accuracy is 0.5% of setting, 0.2% of rated. Repeatibility is <0.1% of rated.
Stored Energy: <0.5 joules.
Voltage Regulation: <0.005% for line variations. For load variations, add 1 mV/mA.
Ripple: <0.02% RMS of rated voltage + 300 mV RMS.
Current Regulation: <0.1% of rated current from short circuit to rated voltage at any set current.
Voltage Monitor: 0 to + 10 V DC for zero to rated voltage. Accuracy, 0.5% of reading + 0.2% of rated voltage.
Current Monitor: 0 to + 10 V DC for zero to rated current. Accuracy, 1% of reading + 0.05% of rated current.
Stability: 0.01% per hour after 1/2 hour warm-up, 0.05% per 8 hours.
Voltage Rise/Decay Time Constant: Typically 50 ms rise or decay time constant using TTL on/off or remote voltage control with a minimum of 15% resistive load.
Temperature Coefficient: 0.01%/°C.
Ambient Temperature: -20 to +40°C operating, -40 to +85°C storage.
Polarity: Positive or negative with respect to chassis ground.
Protection: User-selected automatic current regulation or current trip protects against all overloads, including arcs and short circuits. Fuses, surge-limiting resistors, and low-energy components provide ultimate protection.
Accessories: Detachable 8-foot HV cable (see Models chart for choice of output connector and cable type) and 6-foot detachable line cord provided.
Remote Connections: Common, +10V reference, interlock, current program, current monitor, voltage program, voltage monitor, TTL HV enable, current regulation/trip, and chassis ground.
External Interlock: Open off, closed on.
HV Enable/Disable: 0-1.5 V off, 2.5-15 V on.

Options
Symbol Description
100 100 V input, rated 90-110 V RMS, 48-63 Hz.
200 200 V input, rated 180-220 V RMS, 48-63 Hz.
220 220 V input, rated 198-264 V RMS, 48-63 Hz.
400 48-420 Hz, available on standard models and options 100, 200, and 220.
SS Slow start ramp, up to 30 seconds. Specify time.
SVC 0-5 V voltage and current program/monitor.

Models (Alden Connector)

<table>
<thead>
<tr>
<th>Positive Polarity</th>
<th>Negative Polarity</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Output Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR1P300</td>
<td>MR1N300</td>
<td>0-1 kV</td>
<td>0-300 mA</td>
<td>Silicone wire</td>
</tr>
<tr>
<td>MR1.5P200</td>
<td>MR1.5N200</td>
<td>0-1.5 kV</td>
<td>0-250 mA</td>
<td>Silicone wire</td>
</tr>
<tr>
<td>MR2P150</td>
<td>MR2N150</td>
<td>0-2 kV</td>
<td>0-150 mA</td>
<td>Silicone wire</td>
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<tr>
<td>MR3P100</td>
<td>MR3N100</td>
<td>0-3 kV</td>
<td>0-100 mA</td>
<td>Silicone wire</td>
</tr>
<tr>
<td>MR5P60</td>
<td>MR5N60</td>
<td>0-5 kV</td>
<td>0-60 mA</td>
<td>Silicone wire</td>
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</tbody>
</table>

Models (SHV Connector)

<table>
<thead>
<tr>
<th>Positive Polarity</th>
<th>Negative Polarity</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Output Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR1P300L</td>
<td>MR1N300L</td>
<td>0-1 kV</td>
<td>0-300 mA</td>
<td>RG-59</td>
</tr>
<tr>
<td>MR1.5P200L</td>
<td>MR1.5N200L</td>
<td>0-1.5 kV</td>
<td>0-250 mA</td>
<td>RG-59</td>
</tr>
<tr>
<td>MR2P150L</td>
<td>MR2N150L</td>
<td>0-2 kV</td>
<td>0-150 mA</td>
<td>RG-59</td>
</tr>
<tr>
<td>MR3P100L</td>
<td>MR3N100L</td>
<td>0-3 kV</td>
<td>0-100 mA</td>
<td>RG-59</td>
</tr>
<tr>
<td>MR5P60L</td>
<td>MR5N60L</td>
<td>0-5 kV</td>
<td>0-60 mA</td>
<td>RG-59</td>
</tr>
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