

# SWITCHBACK 6600 CE

Reliable, Ripple-free DC Power to both Cool and Heat



REAR VIEW

## For Cleanstream and Terraview Thermoelectric Heat Exchangers

The Switchback 6600 CE is a high efficiency (95%) bipolar current-controlled power supply optimized for use with our heat exchangers. Its variable power results in maximum efficiency, while an integrated phase monitor and current rate limiter extends the lifetime of thermoelectric modules. Switchback meets all CE and Semi S2-0200 safety specifications.



FRONT VIEW

# The Right Temperature Without Fail

## Solid State Cooling Systems

### SPECIFICATIONS

<b>Operating Range</b>	0-40 °C, no derating	<b>Cooling</b>	External 4.69" fan (provided). Leave > 1.5" clearance around air intake and exhaust
<b>Operating Humidity</b>	0-80% relative humidity, non-condensing	<b>Control Signals</b>	Output current proportional to 0-5 VDC input signal (0 VDC = 0 amps, 5 VDC = $I_{MAX}$ ); current polarity reversed via TTL signal, On/Off via TTL signal
<b>Input Power</b>	200-240 VAC ( $\pm 5\%$ ), 3-phase 22 amps, 50 or 60 Hz, WYE	<b>Optional Control Signals</b>	Dual 4-20 mA. Normal polarity (cooling) output current proportional to input 1; reverse polarity (heating) output current proportional to input 2. 4 mA = 0 amps, 20 mA = $I_{MAX}$
<b>Output Power</b>	0-230 VDC, 0-30 amps current controlled	<b>Fault Signal</b>	A TTL high signal indicates normal operation. If a thermal shutdown or output stage overload occurs, a TTL signal low is produced.
<b>Output Current</b>	0-30 amps	<b>Local/Remote Operation</b>	Output current and polarity may be controlled via one of two sources: "remote" or "local"
<b>Line Filtering</b>	Integral line filter meets CE conducted emissions requirement	<b>Remote Sensing</b>	A 0-5 VDC signal proportional to the output current at $I_{MAX}/5$ amps per volt, where $I_{MAX}$ is the maximum output current setting
<b>Rated Capacity</b>	6.9 kW	<b>Over-current Protection</b>	Automatic electronic current limiting is provided
<b>Output Current Control Range</b>	Maximum output current ( $I_{MAX}$ ) is dipswitch adjustable from 6 to 30A	<b>Thermal Protection</b>	Automatic shutdown when heat sink reaches 70 °C; automatic restart at 53 °C
<b>Output Voltage Limit</b>	Maximum output voltage ( $V_{MAX}$ ) is dipswitch adjustable from 14 to 230 VDC	<b>Isolation</b>	Can withstand a 3000 VDC Hipot with input and output terminals tied together
<b>Non-isolated Output</b>	The power supply output is not isolated from the AC input. The output must not be connected to secondary referenced circuitry. Input voltage must be disconnected to prevent hazardous potentials from appearing at the output. DC control and logic circuits are isolated from the AC line and DC output.	<b>Courtesy Outputs</b>	12 VDC, 150 milliamps; 5 VDC, 20 milliamps
<b>Voltage Ripple</b>	<2.5 Volts for 0-50 VDC; <5% for 50-220 VDC	<b>Size (L x W x H)</b>	12.75"(plus two 1" mounting flanges) x 5" x 10.5"
<b>Regulation</b>	<5% of actual output current	<b>Weight</b>	19 lbs
<b>Control Band Width</b>	The current control loop bandwidth varies with the load resistance ( $R_{LOAD}$ ) by the following relationship: Bandwidth = $5288/R_{LOAD}$ (Hz)	<b>Options</b>	5 or 30 mA GFCI, Dual 4-20 mA input
<b>Transient Response</b>	Output current will regulate within 10 milliseconds of a setpoint change or load transient of up to 50%		