Features

General Features:

Architecture
- PC/104 compliant

Isolation
- Galvanic Isolation

Voltage Input:
- +18 ~ 36 VDC Input range
- High transient voltage margin (50V 1ms)

Voltage Output:
- +5V, +12VDC

Power Output:
- 60 Watt Combined Output Power (-40°C through +85°C)
- 100W peak output power up to +70°C
- +5V @ 12A (20A peak)
- +12V @ 2.5A

Input Protection:
- Transient and reverse voltage protection (Input protected with automotive transient voltage suppressor, 6600W 10/1000us ideal for +24V battery installations)

Output Protection:
- 5V Overload Protected
- Over-temperature Shutdown

EMI Input Filter:
- Onboard input filter designed to comply with MIL-STD-461, CE, and EN-55022 class B conducted and radiated emissions
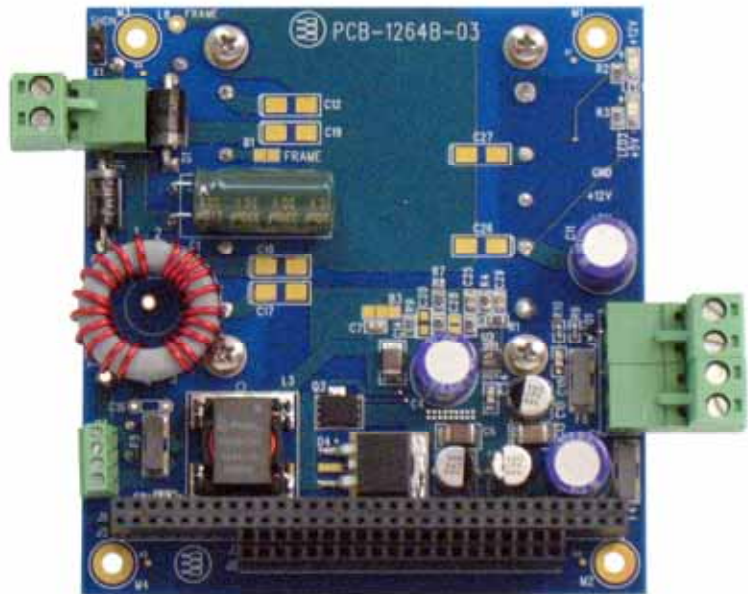
Other Features:
- Status LED Indicators
- Remote Shutdown Capability

Power Connectors:
- PC/104 Bus
- Screw Clamp Terminal Blocks;
- HDD Terminal Block

RoHS:
- Fully RoHS (2002/95/CE) Compliant
- RoHS replacement for ACS-5160

The ACS-5161 is a galvanically-isolated dual-output DC/DC power converter in a PC/104 form factor. Providing up to 100 watts of peak power (minimum 60 watts continuous at extended temps if not structurally heatsinked), the ACS-5161 features a special mechanical design hardened for extreme temperatures and high levels of shock and vibration, making it ideal for aircraft, rail, ship or industrial installations. All the components are securely fixed to the board for shock/vibration resistance.

Intended to be bottom board of a PC/104 card stack, the power supply incorporates a DC/DC converter module placed on its bottom side, so that it can be structurally heatsinked to a thermally conductive base or enclosure wall - to enable reliable extended temperature operation (-40C to +85C) without any active cooling. The output voltages are driven into the PC/104 bus and can also be accessed from easily removable terminal blocks on the side of the module. Indicator LEDs show the status of the power outputs. The power supply can be switched ON/OFF remotely with a switch or ignition key of a vehicle.

Input protected and filtered, the ACS-5161 is ideal for battery-operated +24V DC nominal systems. It offers reverse protection up to -45VDC and short-term tolerance of spikes up to 50V (1ms). It also supports configurable timing for power sequencing, as well as remote shutdown. The onboard common mode input filter and protection circuitry is designed to meet the requirements of the EC low voltage directives for CE compliance EN55022-B and EN61000 and MIL-STD-461 for conducted and radiated emissions. Integration of the filter stage on-board makes system integration easier, eliminating external pre-filter boards. Emissions are reduced by optimal board layout, as well as EMI filtering of all the outputs of the board including the power that is supplied into the PC/104 bus.

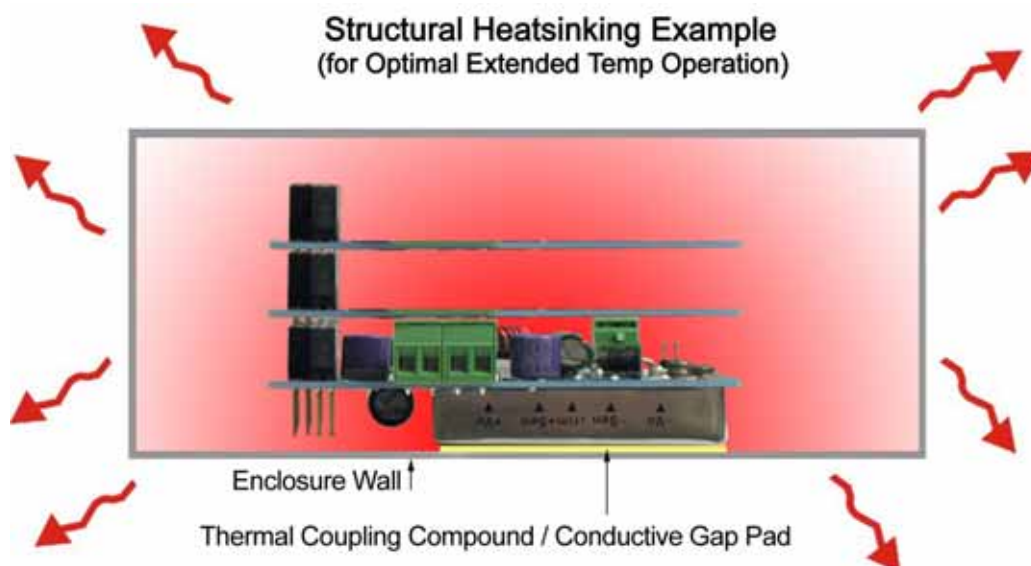### EUROTECH

ACS-5161

Applications

Airborne, shipboard and industrial installations where galvanic isolation is desired

About Eurotech

Eurotech delivers embedded computer systems for high capability and low power applications, networking and wearable computing solutions, and application framework middleware for multimedia, industrial, transportation, medical, and wireless applications. Eurotech platforms allow OEM and enterprise customers to focus on their core revenue-generating products and services and get to market quickly.

Specifications

EFFICIENCY	85% typical on 5V (at full load)
MTBF	166732 hours (calculated per: MIL-HDBK-217F @ 40°C Ground Benign, Controlled GB, GC)
DIMENSIONS	90 x 96 mm (3.6" x 3.8")
OPERATING TEMPERATURE	-40 ~ +85°C (-40 ~ +185°F) if used with structural heatsink

Structural Heatsinking Example
(for Optimal Extended Temp Operation)

Enclosure Wall

Thermal Coupling Compound / Conductive Gap Pad