



Airborne Electronic Countermeasures Low Noise Airborne Power Solution



Low EMI



Small Size,
Low Profile



Low
Weight

The Customer's Challenge

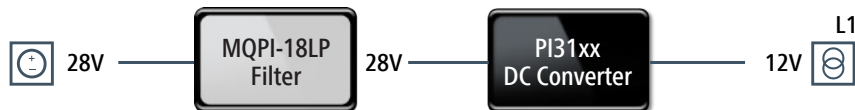
This aircraft-mounted passive detection system needed to sense radio signals over a wide bandwidth. The design of the detection system power supply had to meet very low levels of conducted and radiated EMI to enable the system to detect the low level signals generated outside the aircraft. Intended for use on a variety of aircraft and helicopters the supply needed to be physically small, low weight, yet very rugged.



The Solution

The power supply was based around the PI31xx Isolated DC-DC Converter that accommodates a wide 16 – 50V input, and provides a regulated, isolated output at up to 50W, with minimal external components required. EMI filtering was provided by an active common mode stage, the QuietPower® EMI filter module MQPI, which at 12.4 x 25 x 4.5 mm had a small footprint and was very light weight.

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The Results

Physically lightweight and very small (just 22 x 16.5 x 6.7 mm), the DC-DC converter fulfilled the low profile requirement. Indeed, the physical dimensions and weight of the system meant that it was also suitable for use on unmanned autonomous vehicles (UAVs). The total solution complied with MIL-STD-461F EMI requirements.

Product Family Key Specifications

PI31xx Isolated DC-DC Converter Modules

Input Voltages	48V (36 – 75V) Comms
	28V (16 – 50V) M-Grade
	24V (18 – 36V) Industrial
Output Voltages	3.3V, 5V, 12V, 15V, 18V
Output Power	50W / 60W (dependent on model)
Efficiency	Up to 87%
Dimensions	22 x 16.5 x 6.7 mm