



Passenger Seat Actuator

Improving Passenger Comfort



Technical
Support



Small Size,
Low Profile



Scalable

The Customer's Challenge

The focus for all airlines is cost reduction. As fuel is the largest cost, new airplanes are being developed with innovative materials to lighten every element of the aircraft, from airframe to windows, enhanced entertainment systems to passenger comfort. At the same time airlines are seeking ways of differentiating themselves on cabin comfort and service to attract the lucrative business and first class passengers.

An airline seat manufacturer was developing a next generation business seat, with increased functionality requiring additional electronics. The increased power required needed to be lighter and fit in a smaller space than the previous design. To maximize profitability, the manufacturer was looking for one general purpose, flexible, scalable, off-the-shelf reliable power design for long-term use across multiple airframes.

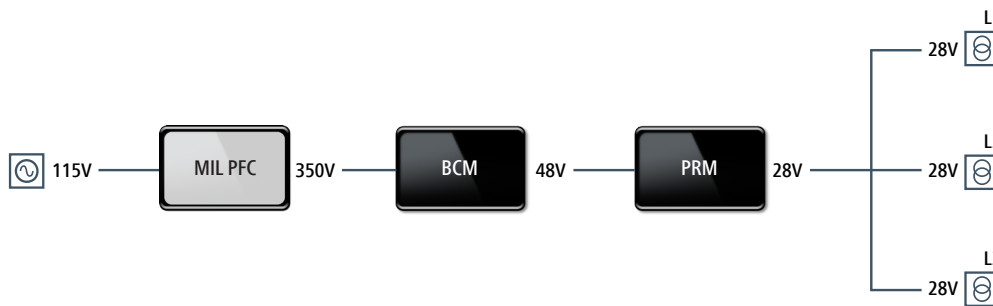
The customer already had a discrete 400 Hz PFC AC-DC solution, but needed an isolation barrier and regulation stage as well.



The Solution

A High voltage BCM Bus Converter Module stepped down the 350V_{DC} delivered by the discrete MIL PFC AC-DC solution, and provided the isolation. A PRM Regulator regulated the low voltage from the BCM to drive three servo motors used to adjust the seat position.

[Link to Whiteboard »](#)



The Results

The customer's design team were experts at seat design, but had limited power supply expertise. Our local technical support team worked closely with the customer's designers to develop a system that had a footprint area of just 14.3 cm². With the ultra-low profile of the products (7.26 mm for the BCM and 6.73 mm for the PRM) the solution was easy to slot into the available space. Use of power components meant the system was straightforward to implement and provided a flexible, scalable and efficient solution that could be scaled according to different load requirements.

Product Family Key Specifications

BCM® High Voltage Bus Converter Module

Input Voltages	260 – 410V 330 – 365V 360 – 400V
Output Voltage	From 8.1 – 51.3V
Output Current	Full Chip: Up to 28A 6123 ChiP: Up to 125A
Efficiency	Up to 98%
Dimensions	Full ChipP: 32.50 x 22.00 x 6.73 mm 6123 ChiP: 63.34 x 22.80 x 7.26 mm

PRM™ Regulator Module

Input Voltages	48V, (36 – 75V)
Output Voltage	48V
Output Power	Up to 600W
Efficiency	Up to 97%
Dimensions	32.5 x 22.0 x 6.73 mm