



Power over Ethernet (POE) Distribution Power for the Ethernet



Conduction
Cooling



High
Efficiency

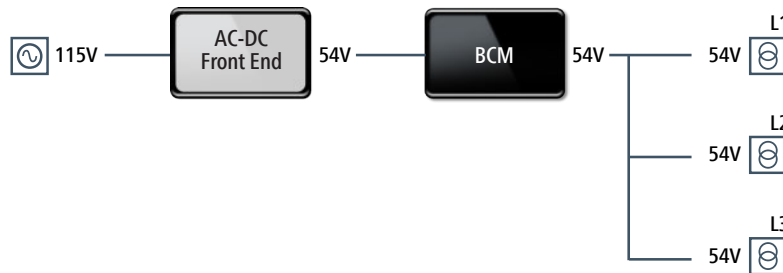
The Customer's Challenge

More and more systems are connected within an Ethernet network. And powering components like wireless access points, VoIP or remote cameras become a challenge. A customer needed a system to operate reliably over a wide temperature range, and also under harsh environmental conditions. High power supply efficiency was required to keep the temperature within the system as low as possible. The output supply needed to be isolated to avoid noise being transferred back into the system.



The Solution

An AC-DC front end provided a 54V rail to power the system. The PoE loads required further isolation to reduce system noise, and therefore a "DC-DC" 1:1 transformer was needed. A BCM Bus Converter Module is the ideal component for this requirement as it provides isolation, very high efficiency and minimum voltage drop over the load current.



[Link to Whiteboard »](#)

The Results

The Sine Amplitude Conversion (SAC™) topology of the BCMs provides the highest efficiency and therefore low losses. Heat sinks can be mounted on the BCMs and by using conduction cooling the heat can easily be removed from the system and does not influence other components. This keeps temperature rises in the system at a minimum, allowing reliable operation at extreme temperatures. Isolation provided by the BCM reduced switching noise in the network cabling and added a further layer of safety to the network.

Product Family Key Specifications

BCM® Low Voltage Bus Converter Module

Input Voltages	36 – 60V
Output Voltage	From 2.4 – 55.0V
Output Current	Full/Half Chip: Up to 70A 6123 ChiP: Up to 150A 3814 VIA: Up to 150A
Efficiency	Up to 97.9%
Dimensions	Full ChiP: 32.50 x 22.00 x 6.73mm Half ChiP: 22.00 x 16.50 x 6.73mm 6123 ChiP: 61.00 x 25.14 x 7.21mm 3814 VIA: 3.76 x 1.4 x 0.37in