

12:1 Input Range Simplifies Transient Protection For High-Rel DC-DC Converters

[Gaia Converter](#) extends its platform of dc-dc converters with ultra-wide-input range by introducing the high-rel MGDD-60W series, targeting military and airborne applications. Spanning 12 V to 160 V, the 12:1 input range of the MGDD-60 series is described as uniquely wide and well suited to comply with Mil-Std-1275, 704 or DO-160 standards without requiring an additional front end protection device. This capability even extends to the new and very stringent Mil-Std-1275E version.

This performance is attributed to Gaia's proprietary switching techniques, which not only permit operation across a wide input range but also keep efficiency above 90%. Meanwhile, the converters in this series provide two outputs (for parallel, serial or symmetrical operation) of 5 V, 12 V, 15 V and 24 V. This allows them to cover a wide variety of needs such as a single 5-V to 48-V output, ± 15 -V or 2 x 24-V outputs (30 W each) for example.

Packaged in the low-profile industry-standard 2-in. x 3-in. housing, the MGDD-60 series converters have a wide temperature range of -55°C to +105°C and are potted to fit rugged military and airborne environmental conditions. The units are full featured and protected with zero-to-full load regulation, trim & on/off capability, adjustable UVLO, soft start, embedded EMI filter as well as overcurrent and overtemperature protection. They can also be synchronized and/or paralleled for added power or N+1 redundancy. Designed for rugged applications, the MGDDI-60 series do not use any optocoupler.



Figure. Targeting military and airborne applications, the MGDD-60W series 60-W dc-dc converters feature a 12-V to 160-V input range that enables compliance with Mil-Std-1275 (even the strict Mil-Std-1275E version), 704 or DO-160 standards without requiring an additional front end protection device.