

Power Continuity in Wet and Extreme Environments

INDUSTRY

Defense, Telecom,
Transportation, Energy

SOLUTION

DF150

APPLICATION

Extreme
Environments

CHALLENGE

A field system required reliable power in conditions where **water exposure, humidity, and environmental extremes were unavoidable**. The equipment operated in remote locations with limited access to maintenance, drying time, or controlled storage — meaning the power subsystem had to perform consistently through rain, splash, condensation, washdowns, and occasional standing-water or flooded scenarios. In addition to wet ingress risks, the installation faced rapid temperature swings, vibration, and shock during transport. It also faced altitude-related stress, which can reduce performance in conventional supplies. Any interruption, derating, or instability in the power rail would immediately compromise system operation, creating unacceptable operational risk.

SOLUTION

The customer selected the Defiant Future DF150 AC-DC power supply. It provided the following benefits:

■ Fast Implementation

As a standard product certified to MIL-STD-810H and MIL-STD-461G, the DF150 eliminates custom design cycles and reduces lead times. Built on a proven platform, it minimizes qualification risk while supporting high-volume implementation.



SOLUTION

- **Reliability backed by MIL-STD-810H certification**

The design is tested and validated for humidity, altitude, shock, and vibration, ensuring stable operation during environmental exposure and rapid environmental changes.

- **IP67 rated with submersion capability**

Fully enclosed and IP67-rated, DF150 can withstand wet and flooded conditions without dependency on external protection systems.

- **Conduction or Convection Cooling Options**

In the customer's application, fanless, conduction-based cooling removed a common failure point and enabled operation in wet environments.

- **Consistent performance backed by MIL-STD-461G certification**

MIL-STD-461G certification validates immunity to conducted and radiated disturbances, helping maintain reliable operation in complex electrical environments.

RESULTS

The DF150 ensured dependable, continuous operation under the extreme conditions associated with the customer's application. It also reduced lead times, accelerated integration, and reduced qualification risk through MIL-STD-810H environmental durability, MIL-STD-461G EMC certification, and a sealed, fanless IP67-rated design. As a result, the customer gained the operational resilience needed to maintain performance in the most demanding environments.



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