CASE STUDY:

EXTERNAL POWER SUPPLY FOR ELECTRIC TORQUE WRENCH

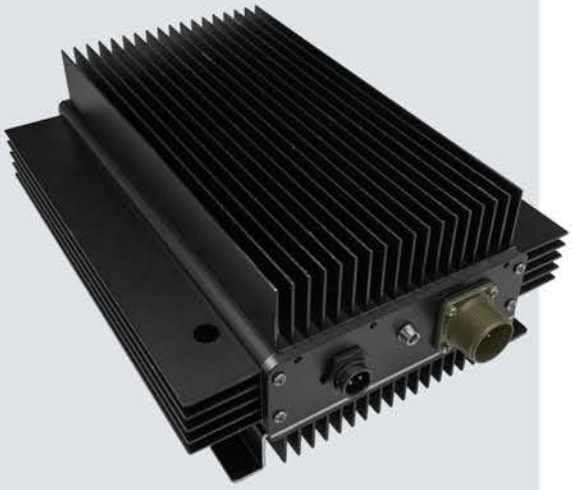
AT A GLANCE

Requirements

- 500 Watts average, 1,500 Watts peak
- Maintain regulation and efficiency over a wide range of loads
- Portable, sealed enclosure for outdoor operation
- Convection cooling; no forced airflow, venting or external conduction plates

Benefits

- High efficiency over a wide range of loading
- Supports a high (3:1) peak-to-average power load ratio
- Internal thermal conduction interface
- IP-rated enclosure with cooling fins



OVERVIEW

Digital torque wrenches have revolutionized the way industrial bolting applications are carried out. These tools have enabled precise torque levels and ensured safety in critical operations, from small bolts in basic machinery to large bolts in aircraft engines and automobile assemblies. With the ability to store data and generate reports, digital torque wrenches also help in quality control and compliance with industry standards. Furthermore, they provide real-time feedback and alerts, enabling operators to make necessary corrections during tightening.

POWER CHALLENGES

Digital torque wrenches require precise torque levels, including during very high power delivery. To deliver this precision and support both final tightening and initial loosening, their power sources must operate efficiently and effectively over various loads, including those with a peak-to-average range of 3:1 or wider. Additionally, digital torque wrenches are often used in industrial operations, which can have dirty indoor environments or outdoor locations exposed to weather. Having its power source in a portable, sealed enclosure with convection cooling allows the wrench to be used in virtually any location.

ASTRODYNE TDI'S SOLUTION

Astrodyne TDI's power solutions for industrial bolting tools are efficient, reliable, and safe. Their rugged and innovative designs deliver assured performance across the wide-ranging load power conditions required to support the dynamic needs of bolting applications. Their embedded overvoltage and overcurrent protection ensure safe handling, and their IP-rated enclosures with cooling fins provide both protection from and reliable operation in harsh environments.