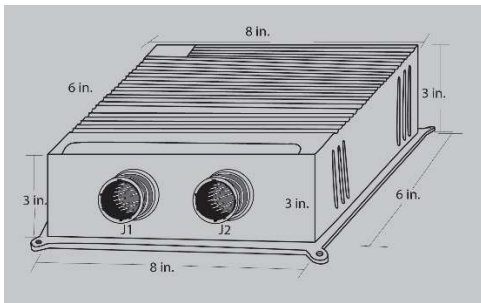


# RPDU EP40000

Redundant Power Distribution Unit

McClain Electronics Engineering

mcclainelectronicengineering.com



## Key Features

- Rugged power distribution unit for power switching and control
- Designed to support the most critical applications
- Twenty high current (4A) outputs control many types of loads, and outputs can be paralleled for even more current capacity
- Output Disable feature allows for full system level single fault tolerance by utilizing two units
- Configurable outputs allow for optional diodes or fuses when required
- Programmable default switch states provide ultimate system flexibility
- Two power inputs for general purpose power and battery power
- Low leakage battery power input
- Low Size, Weight, and Power (SWAP)
- Designed for qualification to MIL-STD-461F for EMI
- High operating temperature range of -34 to +71C.
- Circular MIL-DTL-38999 connectors
- Filtered, transient-protected power supply
- RS-422 Communication
- Detailed box health reported in status including:
  - Switch States
  - Current Draw
  - Temperature
- 28 VDC nominal power input voltage, with a wide allowable range of 12 to 36 VDC

## Applications

- Power distribution for critical systems
- Supply power to electronics units, sensors, solenoids and valves, actuators
- Designed to meet ground, maritime, aircraft, launch vehicle, and space vehicle environments

## Overview

The McClain Electronics Engineering (MEE) Redundant Power Distribution Unit (RPDU) EP40000 is a Commercial Off the Shelf (COTS) electronics unit designed for ruggedness and versatility, for use in the most critical applications. Size, Weight, and Power (SWAP) are optimized to ensure the unit can be used even in the most constrained applications. The configurable outputs allow the unit to power a diverse variety of loads without extra intermediate components. The programmable switch default positions allow the unit to power up in the correct configuration to power the rest of the system, often eliminating the need for additional power provisions to special loads and reducing overall system complexity. The unit is designed to withstand extended operating temperatures (-34 to +71C) as well as extreme shock and vibration conditions. The unit features MIL-DTL-38999 connectors. The aluminum chassis is sealed to IP67 standards, providing protection against dust and water.

Small and versatile, the RPDU is a perfect solution for systems that have varying power needs, or for systems that benefit for de-centralized power control. When one unit isn't enough, any number of units can be added to the system to provide additional power distribution capability.

While the unit is incredibly robust and designed for high reliability as a standalone power distribution and control solution, two units can be implemented into parallel systems for full single fault tolerance. Outputs from parallel systems can be diode-OR'd to ensure a load always receives power when commanded even if there is a failure in the power source of one of the systems. The Output Disable feature prevents an output from getting "stuck on" in the event of a failure in the comm system or elsewhere that prevents commands from being received or implemented. The key features of the RPDU allow it to be used in vital applications when everything must work.