

DC Power Distribution Unit



Introduction

- Spectrum Control Inc is introducing a new best in class AC & DC PDU product line. High performance, a full feature set and a ruggedized design combined with a focus on manufacturability and component availability deliver excellent value to our customers.
- Additionally, the product series was developed as a platform to facilitate minor hardware customizations such as input and output connectors & cables and flexible configuration and operation via software.
- The high-performance Microchip controller, with 10-15 year availability, ensures support for modern interfaces and security protocols.

Value Proposition

- For Aerospace, Defense and Industrial customers that need to manage and protect high value assets in harsh environments.
- Spectrum Control's best in class AC & DC Power Distribution Units provide secure control and reliable protection unlike most COTS vendors who trade off reliability & ruggedness for cost.
- We do this by building a ruggedized product with a full-featured modern controller supporting the latest security and interfaces combined with current, voltage and temperature monitoring on a per port basis.
- Reliability and performance are demonstrated by our MIL-STD-810H and MIL-STD-461G qualification testing.

Features

General Operation

- Secure remote access / control / local control.
- Front panel status display (OLED & LEDs).
- Common control across AC/DC PDU's and RF/ Microwave Systems.
 - Enables common UI (user interface) and single connection
- Supports logical interfaces including SSH, Telnet and Serial interfaces using proprietary ASCII based command line interface (CLI).
- Supports SNMPv1/2c/3.
- DHCP or Static IPv4 addressing over a Gigabit Ethernet physical layer.

Flexible configuration

- Remote Monitoring and control of each outlet individually.
- Configurable UP and DOWN Sequencing.
- Configurable Channel Groups.
- Configurable soft breaker settings including configurable recover retries.
- Configurable over and under alarm settings for voltage, current and temperature.
- Auto Up Sequence, Group Enable or Individual Channel Enable following special events (power on, EPO).

Hardware

- 1 RU 19" rack mount package.
- Designed for manufacturability, automated production test, emphasis on parts availability.
- Front panel switches with LEDs for mains status.
- Local / remote control and status.
- OLED display for addressing, hour meter and additional status.
- Ethernet (GigE) nickel-plated-shielded RJ45 and USB 2.0 type-C interfaces.
- Input and output monitoring (voltage, current, temperature) / protection / EMI filtering.
- Hardware watchdog timer shuts down unit if control is non-responsive.
- Ruggedized design, wide temperature range / low smoke wiring.
- Conservatively rated for high MTBF and cool operation.
- Operator Safeguards – Emergency Power Off (EPO) functionality.

Specifications

Input Characteristics:

- Voltage: 18 – 32VDC
- Total Current: 160A
- Inputs: 2 x 1P/80A Breaker w/ high current input lug connections
- Input Monitoring
 - Voltage measurement +/- 1%
 - Current measurement +/- 5%
 - Temperature
- Transient / Surge Protection:
 - TVS Diode – Bi-directional Voltage Transient / Surge Protection / 30kW peak pulse capability, 1.0 pS fast response

Output Characteristics

- Voltage: 18 – 32VDC
- 2 Banks, 80A per Bank, 6 Ports per Bank, 40A Maximum per Port
- Output Ports: 2x Anderson Power Pole with Retention Screw
- Output Monitoring per Port
 - Voltage measurement +/- 1%
 - Current measurement +/- 5%
 - Temperature

Mechanical Characteristics

- Material: Aluminum
- Finish: Powder Coat, Black, Fine Texture
- Lettering: Silk Screen, White
- Mounting: Brackets accommodate Front or Mid Mount
- Weight: 5kg

Communication

- USB Type C connector
- 10/100/1000 Base-T (MIL-C-26482 RJ-45 Connector)

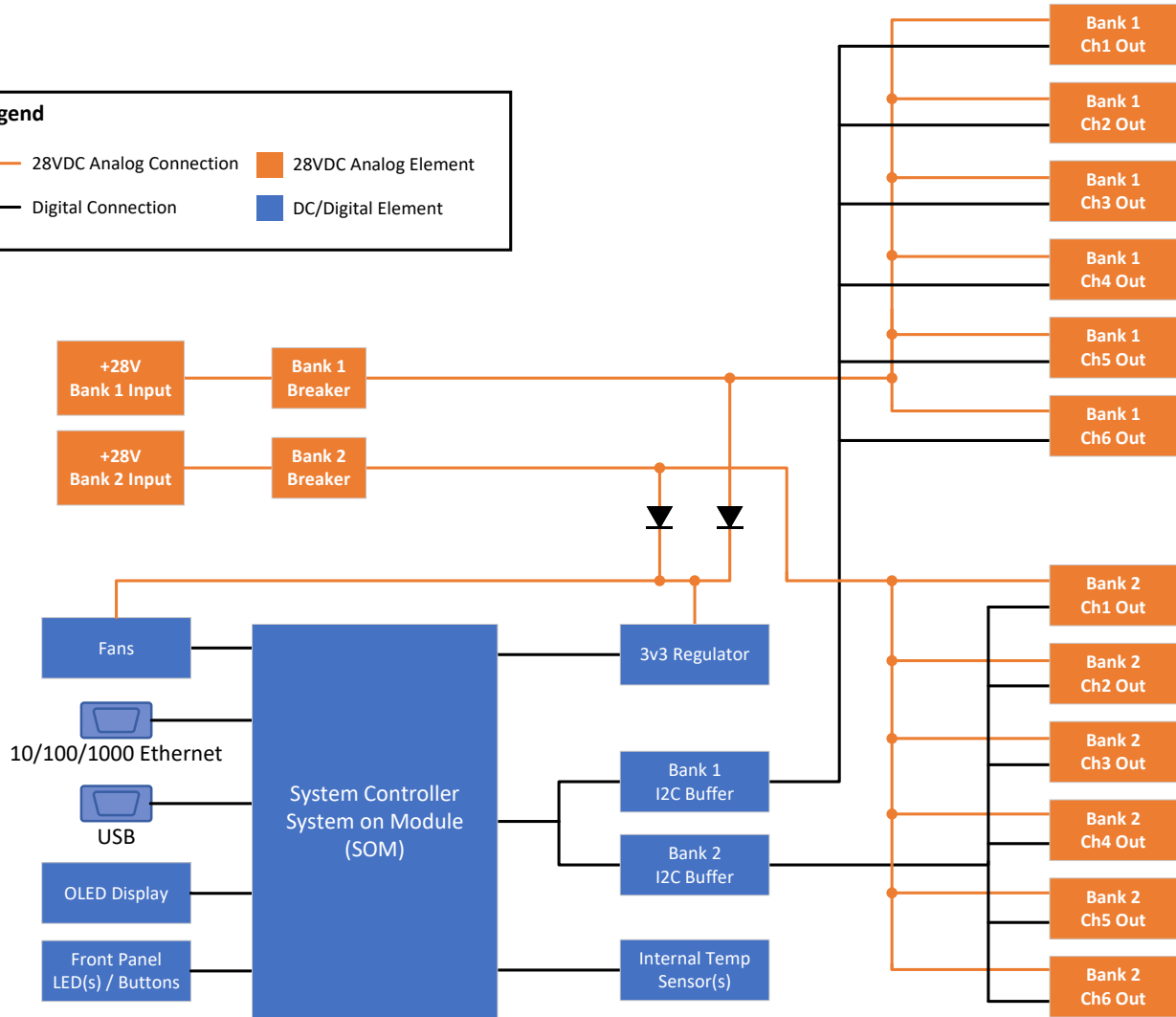
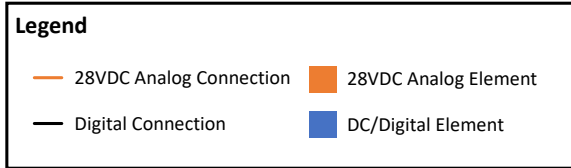
Operation Environment

- Operating Temperature: -40C to +50C
- Storage Temperature: -40C to +80C
- Relative Humidity: 0 – 95% (non-Condensing)
- Elevation: 0 – 3,050 meters
- Internal and External Temperature Sensing

Environmental

- MIL-STD-810H
 - 501.7 Procedure II
 - 507.6 Procedure II
 - 514.8 Procedure I
 - 516.8 Procedures IV & V
- MIL-STD-461G

Block Diagram



Dimensional Drawing

