

PDU-253-1

Power Distribution Unit



The IPS Model PDU-253-1 Power Distribution Unit (PDU) is a 25 kVA self-contained unit with a 115 Vac, 400 Hz, 3-phase Wye input and an 875 Vac, 400 Hz, 3-phase Delta output. Initially designed to be installed on an MH-60S helicopter to supply power to the OASIS minesweeping system, the PDU is a self-cooled unit using fan-forced ambient air, and meets the environmental requirements of MIL-STD-810D.

The PDU consists of three major components: the transformer, power contactor, and controller. The transformer uses edge-wound flat wire to maximize cooling efficiency. The power contactor is located in the primary-side path and provides auxiliary contacts for monitoring contactor state. The controller, powered by an external 28 Vdc power source, monitors system status and controls the contactor. The controller provides protection for over/undervoltage, overcurrent, current imbalance, overtemperature, fan operation, and contactor failure. Two input signals, Output Enable and Emergency Shutdown, are provided to allow for operator control of the PDU. A Built-In-Test (BIT) procedure initiated upon power-up ensures the PDU is functioning properly. Application of the Output Enable input discrete and a healthy status allow the contactor to close. Continuous BIT monitors voltage, current, temperature, contactor state, and fan speed to assure system safety. The controller also annunciates status via five discrete outputs: Operational, Output Enabled, Over Temperature, Degraded, and Failed. Three NVG-compatible indicators mounted on the PDU indicate the presence of the three AC input phase voltages. Other PDU features include a cooling fan with replaceable filter, surge protection, and elapsed time indicator.

Specification

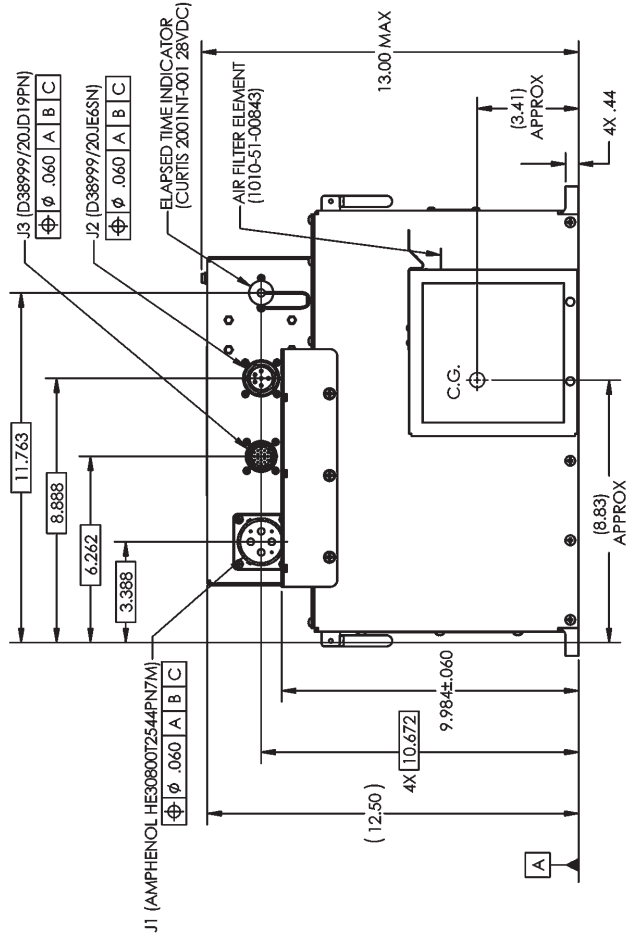
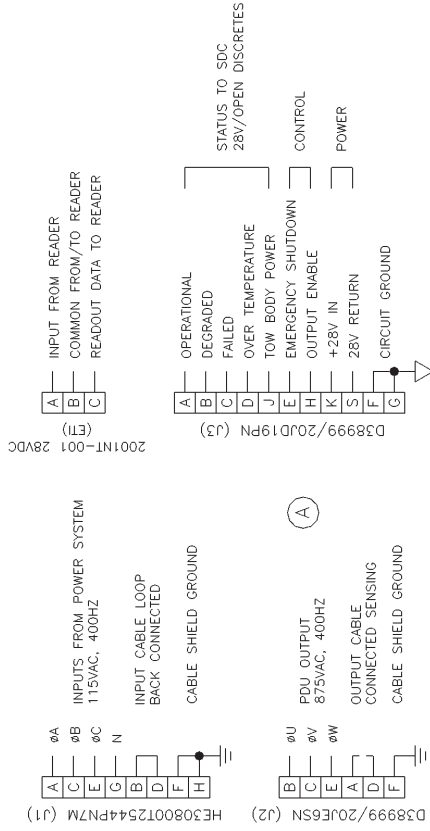
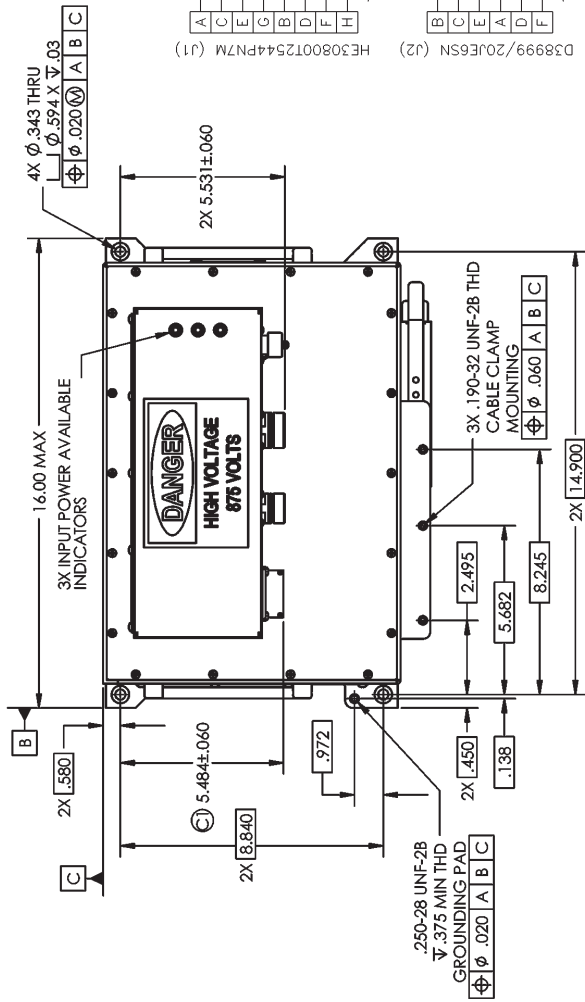
AC Input	115 Vac, 400 Hz, 3-phase, 4 wire Wye
DC Input	28 Vdc
Output	875 Vac, 400 Hz, 3-phase Delta
Load	25 kVA
Weight	57 lbs
Size	17" x 13" x 25"
Efficiency	97%
Cooling	Self-cooled, fan-forced air
Temperature	-50 °C to +71 °C
Protection	OV, UV, OC, OT, Balanced Current
BIT	PBIT & CBIT
Power Quality	MIL-STD-704E
EMI	MIL-STD-461E
Environmental	MIL-STD-810D



The Power To Do More

Power Distribution Unit

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SCHEMATIC DIAGRAM

WEIGHT: 60 LBS. MAX



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