RPS-78E-2
Dual Airborne Power Supply

Features
- 28 to 12 VDC Mil-Type DC/DC Converter and Regulator permits 16 to 40 VDC operation of a camera system

General Description
The RPS-78E-2 is a junction box and power supply in one package. This unit facilitates the use of SEKAI ruggedized cameras and accessories. It has been designed to withstand the rugged environment of civilian and military aircraft and vehicles. The RPS-78E-2 contains DC/DC power converters that allow 28VDC power to be used to power two cameras.

Electrical Characteristics:
DC/DC Converter: Military style converter and filter network.
A. Power input: 28 VDC
B. Power output: 12 VDC, 30 W
C. Conversion efficiency: min 80%
D. Output Specifications:
   Voltage Accuracy: ±1.0%, max
   Line Regulation (LL-HL): ±0.2%, max
   Load Regulation (NL-FL): ±0.2%, max
   Ripple and Noise (10MHz): 100mV,P-P, max
   Temperature Drift: ±0.05% / °C, max
   Short Circuit Current Limit: 75% Iout, max
   Short Circuit Protection: Indefinite

Mechanical Specifications
Size: 3.16W x 1.83H x 1.97D inch
Weight: 13.7 oz (387 g)
Case Material: Metal
Power Connector: PT02E-8-4P
Power Mating Connector: PT06E-8-4S(SR)
Power Connector Pins:
   A. +28VDC
   B. 28VDC Return (Ground)
   C. Chassis
   D. Not Used
Video Connector: HR10A-10R-12SB(71) & BNCs
Video Mating Connector: HR10A-10P(73)
Video Connector Pins:
   1 – Ground
   2 – +12V
   3 – VBS/Y Output (ground)
   4 – VBS/Y Output (signal)
   5 – HD Input (ground)
   6 – HD Input (signal)
   7 – VD Input (signal)
   8 – -/C Output (ground)
   9 – -/C Output (signal)
   10 – Ground
   11 – +12V
   12 – VD Input (ground)

Environmental Specifications*
Test Standard: RTCA DO-160F applicable limits, procedures & categories:
Storage Temperature -55°C to +85°C (4.5.1, 4.5.3, E2)
Operating Temperature -55°C to +85°C (4.5.2,4.5.4, E2)
Temperature Variation -55°C to +85°C, 10°C/min (5.3.1, A)
Altitude (Operating)  70,000 ft (4.6.1, E2)
Humidity 95% RH >65°C, 10 cycles, 6.3.2, B
Shock (Operational) 6 g’s @ 11ms, 6.3.2, B
Shock (Crash Safety) 20 g’s @ 11ms, 7.3, B
Vibration (Performance) Curve F (3.34 Grms), 1 Hr, 8.8.3, U2
Vibration (Endurance) Curve F1 (4.76 Grms), 3 Hrs, 8.8.3, U2
Explosive Atmosphere +85°C, 9.4.2, E
Waterproofing Condensing, 10.3.1, W
Fluids Susceptibility Spray Test, Outer Surfaces, 11.4.1, F
Sand and Dust Dust Test, 12.4, S | Sand Test, 12.5, S
Fungus Resistance Analysis, Materials List, 13.5, F
Salt Fog Normal test, 48 Hrs, Outer, 14.3.6.6, S
Magnetic Effect +1° Deviation @ 1m, 15.3, A
Power Input Normal 16.6.1, A – Abnormal 16.6.2, A
Voltage Spike ±56V, 17.4, B
Audio Frequencies 10 – 150kHz, 18.3.1, R
Induced Susceptibility 19.3.1~19.3.4, ZC
RF Susceptibility 20.4, Y & 20.5, Y
RF Emissions 21.4, L & 21.5, L
ESD 15KV, 10 pulses, ±polarity, 25.5, A
Fire, Flammability Analysis, Materials List, 28.3.3, C

* Target values / tests, not yet tested. Consult with Sekai for the latest status. Specifications are subject to change without notice.

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