

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-12P(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)

The RPS-78E-2 Dual Airborne Power Supply provides power and signal access to the camera via standard CCXC-XX type cables. The following inputs/outputs are provided:

- A. Camera 12-pin connector
- B. HD input via BNC
- C. VD input via BNC
- D. Video/Luminance OUT via BNC
- E. Chrominance OUT via BNC

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 (common fluids)	Spray Test, Outer Surfaces, 11.4.1, F
Sand and Dust	Immersion Test, 11.4.2, F
Fungus Resistance	Dust Test, 12.4, S Sand Test, 12.5, S
Salt Fog	Analysis, Materials List, 13.5, F
Magnetic Effect	Normal test, 48 Hrs, Outer, 14.3.6.6, S
Power Input	±1° Deviation @ 1m, 15.3, A
Voltage Spike	Normal 16.6.1, A – Abnormal 16.6.2, A
Audio Frequencies	+56V, 17.4, B
Induced Susceptibility	10 – 150kHz, 18.3.1, R
RF Susceptibility	19.3.1~19.3.4, ZC
RF Emissions	20.4, Y & 20.5, Y
ESD	21.4, L & 21.5, L
Fire, Flammability	15KV, 10 pulses, ±polarity, 25.5, A
	Analysis, Materials List, 26.3.3, 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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