

Application Note

60PB24VDL (24 VAC to 12 VDC, DC Iris, Line Lock)

60PB24VDLC (24 VAC to 12 VDC, DC Iris, Line Lock, Crystal)

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1.0 Introduction

24Vac to 12Vdc Camera Power Supply Board

Scope:

The Campower AC power board is a galvanically isolated 24VAC to 12VDC power supply designed for powering color and monochrome board cameras from Videology as well as some cameras from other manufacturers.

Additionally, the Campower board offers the option of a DC auto iris circuit, the generation of a line-lock pulse from the AC zero crossing with phase adjust for line-lock capable board cameras, and a special AC oscillator line-lock circuit for the 20VC3617 series that allows the low cost monochrome camera to have the line-lock functionality of higher cost board cameras.

2.0 Electrical Specifications:

Electrical Specification:

Power supply:

Isolation between primary and secondary circuit

Input:	AC	12 to 28V – 50 / 60 Hz
	DC	10.8 to 39V

Output:	+12Vdc	12V +/- 0,25V -- 250 mA max
	+ 5Vdc	5V +/- 5% -- 85 mA max

note: Total current in 12V and 5V may not exceed 250mA

Efficiency	Load 3W	61%
	Load 2W	70%

EMC test	EN55022 Conducted & Radiated Interference Test
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3.0 Mechanical Specifications

Test points: (size = 1.2mm)

MP-1	Collector switch-mode transistor (width Vdc-input = 24V → pulse = 50Vpp)
MP-2	Output voltage 12V
MP-3	Primary ground
MP-4	Ground
MP-5	Video output (1Vpp)
MP-6	Output voltage 5V
MP-7	Line lock detection circuit VD. (> 4V in AC operation, < 0.5V in DC operation)
MP-8	Lock signal. (1.8V in AC operation)
MP-9	N.C.
MP-10	Rectified input power (DC) to switch-mode (Approx. 41 Vdc in AC operation)
MP-11	AC input
MP-12	AC input
MP-13	Iris signal from camera
MP-14	VD input pulse (2 msec)
MP-15	Iris drive +
MP-16	Iris control -
MP-17	Iris control +
MP-18	Line lock pulse out (2msec width, neg. going)

4.0 Input / Output Connectors

In / Output Connectors:

Input/Output connectors

AMP 2-mm pitch

Connector P1

Pin 1: Output 12V
Pin 2: Ground
Pin 3: Video input
Pin 4: Output Line-lock
Pin 5: Input Iris signal

Connector P2

Pin 1: AC input (or DC -)
Pin 2: AC input (or DC +)

Connector Iris - P3

Pin 1: Control -
Pin 2: Control +
Pin 3: Drive +
Pin 4: Drive -

Connector P6

pin 1: Video out (AC coupled) from VC 36 plug
Pin 2: Ground

60PB24VDLC only:

Connector for VC36 - P7

Pin 1: output +12V
Pin 2: Video in from VC36
Pin 3: Ground
Pin 4: not used

Connector for VC36 - P8

Pin 1: Ground
Pin 2: 5V to VC36
Pin 3: Internal VC36 connected
Pin 4: Ground

Pin connector for VC36 - P9

Output Reference oscillator (2Vpp)

Pin connector for VC36 - P10

Ground Reference oscillator

Pin connector for VC36 - P5

Input VD pulse from VC36 (+5Vpp)

Pin connector for VC36 - P11

Input Iris signal from VC36

5.0 Diagram

