

Tuesday, July 3, 2012

Low Cost Power Supplies Can Be Expensive

Recently, one of our Field Application Engineers came into my office to show me an AC-DC adapter/power supply he had purchased on-line.

"I paid \$6.00 for this power supply. It has selectable outputs and multiple connectors, he proudly announced. How do they build it for such a low price?" he asked.



I was a little suspicious as it did not seem to have a UL logo, and judging by the weight of the adapter, it was a linear (not switch-mode), which may violate the off load power draw requirements in the US.

"Don't leave it plugged-in when you leave the house" was my advice.

The next day he came back into my office and said:

"I set the output voltage to 4.5V and it powered up my digital camera just fine. After I finished down loading my photographs, the camera went into standby mode and stopped working (permanently)."

When tested, the adapter would regulate under load, but at light loads, the output rose to from 4.5V to 12V. Of course, when the camera went into sleep mode it drew very little power and the resulting unforeseen 12V output fried the camera's circuitry.

Now, looking at the attached photograph, I see that the manufacturer misspelled "Adaptor", which should have been a clue regarding the low quality of this unit.

"Sorry, you got what you paid for my friend" I commented.

Posted by [Power Guy](#)