

Surge Protector Circuit Questions

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- *From:* "loutiberia" <lou.tiberia@xxxxxxxxxx>
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Hello,

I'm hoping someone that's knowledgeable about surge protectors can answer this:

I opened the case of an industrial power strip (PDU) to see what's in it.

Basically, the PCB inside just has the Line, Ground, and Neutral wires soldered onto the PCB, and then 3 other matching L-G-N wires soldered on to continue on to the receptacles.

On the PCB, in parallel to these main L-G-N traces, are 3 surge protection circuits, each circuit consisting of 1 fuse, 1 thermal cut off (TCO), and 3 MOVs.

All 3 surge circuits connect in the classic arrangement of several MOVs in parallel placed across each of the three conductive pairs; L-N, L-G, and N-G.

I understand the arrangement of MOVs, thermal cut offs (TCOs), and fuses, but have 2 questions:

1)

The fuses are 2AG-224 8A 125V Fast-Acting.

Why was an 8A fuse picked?

Since the fuse is there for the case when the MOVs have failed closed and the surge circuit is always drawing current, wouldn't a lower rated fuse be preferred?

2)

The traces in the surge circuits are anywhere from .1" to .3" wide.

The PDU is rated 20A.

Shouldn't the traces be at least .5" wide?

For example, what happens if a surge strikes while the PDU has equipment plugged in that is drawing 18A?

Wouldn't that burn out or blast a trace path?

Thank you,
Lou

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- Next by thread: *Fail safe input*
- Index(es):
 - ◆ *Date*
 - ◆ *Thread*