

## Re: Electrostatic discharge on bus?

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*Source:* <http://sci.tech-archive.net/Archive/sci.physics/2005-04/msg02456.html>

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- *From:* bz <bz+sp@xxxxxxxxxxxxxxxxxxxxxx>
  - *Date:* Mon, 18 Apr 2005 14:27:56 +0000 (UTC)
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jmfbahciv@xxxxxxx wrote in <news:Ib2dnUEyd9mZJP7fRVn-gA@xxxxxxx>:

> In article <Xns963C4D59CB88DWQAHBGMXSZHVspammote@xxxxxxxxxxxxxxxx>,  
> bz <bz+sp@xxxxxxxxxxxxxxxxxxxxxx> wrote:  
>>jmfbahciv@xxxxxxx wrote in [news:f76dnbNmDqUGC\\_7fRVn-jw@xxxxxxx](news:f76dnbNmDqUGC_7fRVn-jw@xxxxxxx):  
>>  
>>.....  
>>>  
>>> The nozzle can't be grounded because it has that hose going from  
>>> it to the pump.  
>>  
>>You will find, if you cut the hose,  
>  
> I'm going to believe you and not test it. I have managed  
> to establish a pleasant relationship with the guy who owns  
> the gas pump.  
>

Probably a good idea not to put too much strain on your friendship. :)

>> ..that it has a flexible metal liner or  
>>other conductive material that connects from one end to the other. The  
>>hose, itself, could be a conductive material. However, you will probably  
>>find a metal liner.  
>  
> So how do I get in contact with that metal liner in the hose?  
> Is the handle directly connected? That seems like this would  
> be a problem in that anything could touch that handle, like a  
> live power wire.  
>

If there is a live power wire near, you have more problems than that.

BTW, I was putting gas in my car, at a self-service pump just off the LSU campus while a powerline crew was working on a powerline pole. They were tightening up the guy-wires with a ratchet/winch. I went into the store to pay for my gas.

The winch slipped. This caused a wave to propagate along the powerlines, in

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both directions from the pole they had been working on. The wires from two phases touched. BZZZZAAAAAPPPPPPP. One of the wires burned through and dropped into the street, in front of a passing car. Screechhhh of brakes.

Angry zzzaaapppppping sounds as the live wire sparked and jumped around. People running every-which-way to get out of the way. Finally, a circuit breaker somewhere tripped and the excitement died down.

>>

>>Gasoline is an insulator. Flowing gasoline inside an insulated hose is >>dangerous because static charges can build up from the motion.

>

> I don't understand this part to the point that I can't ask a > question.

>

> Well, now that I'm thinking, I don't know why Dad put insulators on > the electric fence. There were ceramic cylinders that were > spread apart..I don't remember how far apart. It was lots of > feet 5 yards?

The insulators are so that the fence charger can maintain a high voltage on the electric fence. Fence chargers are high voltage, low current devices (you don't want to cook them, just scare them, right?)

>>

>>Get your ohm meter out.

>

> I don't have one.

Everyone should have one. I carry one around with me, in my pocket.

>

>> . Measure the resistance from the pump to the nozzle.

>>It is REQUIRED by safety laws to be less than a megaohm. It is probably >>MUCH less.

>

> Now I'm completely out of my field of experience. Isn't a megaohm > a lot?

Yes, but it is low enough to prevent static electricity from building up a significant charge.

--

bz

please pardon my infinite ignorance, the set-of-things-I-do-not-know is an

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infinite set.

bz+sp@xxxxxxxxxxxxxxxxxxxxx remove ch100-5 to avoid spam trap

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- **References:**

- ◆ **Re: Electrostatic discharge on bus?**

- ◆ *From:* bz

- Prev by Date: **Re: Stratellite**

- Next by Date: **Re: Expert on frequencies required**

- Previous by thread: **Re: Electrostatic discharge on bus?**

- Next by thread: **Scientific Conference Falls for Gibberish Prank**

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