Ticket #1258

Ticket Status:	Closed	**Name:**	Philip Piper
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Create Date:	03/13/2016 4:16 pm	**Phone:**	(713) 501-2744
Field of Study:	Electrical Engineering		

Subject: **Yale University**
03/13/2016 4:16 pm Philip Piper

Would using the following LED as the prominent accumulator indicator break any isolation rules if it was press fit mounted such that the LED bulb stuck out of the accumulator? The indicator housing is isolated from its leads from what I can tell.

Additionally we realize this LED is supposed to be used with 12V. I'm pretty sure this just means that the internal resistor has been sized for 12V. We plan to use an external 22K 3W resistor to limit the current to 13mA (300V source).

http://www.newark.com/chicago-miniature-lighting/5102h1-12v/panel-mount-indicator-led-6-35m

Thanks!

Phil

03/14/2016 12:59 pm

Hi Phil,
Your link appears to be broken, can you attach a data sheet?

Thanks
FHRC

03/14/2016 10:19 pm Philip Piper

Whoops. Fixed link attached.

http://www.newark.com/chicago-miniature-lighting/5102h1-12v/panel-mount-indicator-led-6-35mm/dp/18M8153

03/17/2016 8:56 am

Good Morning Phil,
To Clarify, You wouls like to drill a hole in your accumulator box, insert this LED into the hole and use it to meet rule EV3.4.7? Do I have the jest of it?

Thanks,
FHRC

03/17/2016 8:59 am Philip Piper

That is correct. As opposed to drilling a hole, affixing a permanent acryllic or other see-through plastic over the hole, and placing the LED behind it.

Phil

03/17/2016 9:17 am

So long as no more that 12 volts are being supplied to the LED (DC-DC converter or something) than you would compliant as HV would not be leaving the box (similar to the TSVP lights). I would recommend sealing around the LED for any water intrusion.

Thanks,
FHRC

03/17/2016 9:22 am Philip Piper

The LED is powered directly from the tractive system voltage, but through a linear regulator. We could not find a DC-DC converter that worked both at 300VDC and 30VDC as required by EV3.4.7 for this application. Therefore the LED is powered with 12V, but it is not isolated from the tractive system. From what I can tell the LED enclosure is completely insulated. Assuming this is the case, would we still be able to press fit it into the accumulator box?

Phil

03/21/2016 11:38 am

We discussed this as a group this morning, as it is not isolated from the TSV we would feel much better if the LED was fully enclosed in the accumulator box. You can add an acrylic cover or some other means of enclosing it.

Thanks,
FHRC

03/21/2016 12:32 pm Philip Piper

Sounds good to me. We will make that work!

Thanks,

Phil

Please Wait!

Please wait... it will take a second!