

## IEEE P802.3cr Maintenance #14: Isolation Initial Sponsor ballot comments

CI 0	SC 0	P25	L13	# I-12
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Maytum, Michael Retired,Retired/Unemployed

Comment Type **TR** Comment Status **A**

"Isolation impedance between", but J1 doesn't mention impedance

*SuggestedRemedy*

Delete "impedance"

Response Response Status **W**

ACCEPT.

CI J1	SC J1	P119	L27	# I-43
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Maytum, Michael Retired,Retired/Unemployed

Comment Type **TR** Comment Status **R**

How to handle voltage limiters has never been clearly defined, even back in the IEC 60950-1 days. Yet the approach is obvious to experienced engineers.

Many Ethernet port designs use a voltage limiting function (component) to prevent voltage transients (impulse) from causing the insulation breakdown. Technically the conduction of voltage limiting function is not insulation breakdown, but it will try to mitigate the specified AC, DC and impulse voltages appearing at the Ethernet port. IEC 62368-1 has two approaches when the external circuit port is fitted with voltage limiting. 5.4.9.1 Test procedure for type testing of solid insulation states "Components providing a DC path in parallel with the insulation to be tested, such as discharge resistors for filter capacitors and voltage limiting devices, may be disconnected." Please note "May" not "Shall".

For impulse testing, the Table 28 notes explains some more " Surge suppressors may be removed, provided that such devices pass the impulse test of 5.4.10.2.2 when tested as components outside the equipment." and "During this test, it is allowed for a (fitted) surge suppressor to operate and for a sparkover to occur in a GDT."

For AC and DC testing no source impedance is specified (unlimited current) so voltage limiters must be removed to avoid destroying them. For impulse testing the voltage limiting function may be left in place as this is its intended purpose (mitigate transient voltages).

*SuggestedRemedy*

Add the following text

"Voltage limiters intended to prevent Ethernet port insulation breakdown shall be removed for AC and DC voltage testing if their limiting voltage is less than the specified AC or DC test voltages applied. For impulse testing, voltage limiters may be left in place to perform their intended function. If removed for impulse testing, the voltage limiter shall pass the impulse test when separately tested."

Response Response Status **U**

REJECT.

The CRG disagrees with the commenter. There was no consensus to change the text based on the commenters suggested remedy.