

## IEEE 802.3 Ethernet Working Group Liaison Communication

Source: IEEE 802.3 Working Group<sup>1</sup>

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From: David Law Chair, IEEE 802.3 Ethernet Working Group  
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Subject: Potential scope and requirement overlap between IEC PT 63315 and IEC 60364

Approval: Agreed to at IEEE 802.3 interim teleconference meeting, 30 September 2021

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<sup>1</sup> This document solely represents the views of the IEEE 802.3 Working Group and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

Dear Mr Wiese, Mr Peronnet and members of IEC PT 63315 and IEC TC 64,

We are contacting you about an apparent scope overlap between the IEC PT 63315 project and the IEC 60364 series of standards which might result in an overlapping set of differing requirements for DC power transfer between ICT equipment ports at  $\leq 60$  Vd.c. using fixed ICT wiring.

The current scope of [IEC PT 63315](#) says it applies to '... any equipment intended to supply and/or receive operating power from Information Communications Technologies (ICT) ports using ICT wiring and cables' and that 'It covers particular requirements for circuits that are designed to transfer DC power through an ICT port from a power sourcing equipment (PSE) to a powered device (PD) including passive equipment connected between the PSE and PD.'. We understand that IEC 63315 is intended to replace IEC 62368-3.

The scope of IEC 60364-1:2005 'Low-voltage electrical installations – Part 1: Fundamental principles, assessment of general characteristics, definitions' says that it '... applies to the design, erection and verification of electrical installations such as those of ...' and then lists premises such as residential, commercial, public, industrial, agricultural, and horticultural. It then goes on to say that it covers circuits supplied at nominal operating voltages up to and including 1000 a.c. or 1500 V d.c.' and 'fixed wiring for information and communications technology ...'. Power transfer using ICT is therefore covered by IEC 60364, and is being addressed in [IEC PT 60364-7-716](#).

In addition, we understand that IEC 61140 'Protection against electric shock – Common aspects for installation and equipment' is a Basic Safety Publication intended for use by Technical Committees in the preparation of standards following the principles in IEC guide 104. Its scope says that 'The intent is to give fundamental principles and requirements which are common to electrical installations, systems and equipment...'. We however note that IEC PT 63315 doesn't appear to be currently following IEC 61140 with regards to voltage limits and source requirements for equipment intended for connection to fixed ICT wiring, and instead currently references the IEC 62368-1 ES1 requirements which appear to be different.

As a result, it seems the moment equipment encompassed by IEC PT 63315 is connected to fixed ICT wiring, for example, an IEEE 802.3 Power over Ethernet Power Sourcing Equipment (PSE) is connected to the RJ45 outlet of a patch panel using a patch cord, the requirements of IEC 60364 will also apply to that equipment. As it appears that the voltage limits and source requirements in IEC 60364 are more restrictive than the IEC 62368-1 ES1 <[https://ieee802.org/3/ad\\_hoc/PDCC/public/ES1\\_LPS\\_SELV\\_1\\_0821.pdf](https://ieee802.org/3/ad_hoc/PDCC/public/ES1_LPS_SELV_1_0821.pdf)>, the reference to the ES1 limits in IEC PT 63315 for equipment that is intended to be connected to fixed wiring appear to be redundant and could create confusion.

Please could you provide your perspective regarding these potentially overlapping set of differing requirements for DC power transfer over fixed ICT wiring at  $\leq 60$  Vd.c.?

Sincerely,  
David Law  
Chair, IEEE 802.3 Ethernet Working Group

Project titles:

[IEC PT 63315](#): AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT – SAFETY – DC power transfer between ICT equipment ports using ICT cabling at  $\leq 60$  Vd.c.

[IEC PT 60364-7-716](#) Low-Voltage electrical installations - Part 7-716: Requirements for special installations or locations – DC power distribution over Information Technology Cable Infrastructure