63315, 62368-3, and 62368-1

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Background

- IEC 63315 was started as an effort to update 62368-3, and it is intended to replace 62368-3
- A recent change to the 63315 scope makes PSEs that supply less than 100 W out of scope
- This means that PSEs will have to comply with 62368-1

63315 scope

Scope

This document applies to any equipment intended to supply or receive charging or operating power from Information and Communication Technology (ICT) interfaces using ICT wiring or cables. It covers particular requirements for circuits that are designed to transfer DC power through an ICT interface from a power sourcing equipment (3.2) to a powered device (3.3) for equipment that uses ~~rated~~ interfaces at voltage not exceeding 60 V DC and as determined by IEC 62368-1:2023: ~~power exceeding PS1.~~

- PDs at power exceeding 15 W;
- PSEs outputs at power exceeding 100 W under any of the following conditions: **normal operating conditions**, **abnormal operating conditions** or **single fault conditions**.

PSEs which limit the output power to 100 W under all three conditions: **normal operating conditions**, **abnormal operating conditions** and **single fault conditions** are considered out of scope of this document.

62368-3:2017

63315 would delete this text

5.3.1 DC power transfer interconnection to building wiring

To protect the communication cables, including building wiring, and other devices including the **PD**, the **PSE** shall implement power limiting control to reduce the likelihood of ignition and shall limit the output current to a value that does not cause damage to the wiring system.

To reduce the likelihood of ignition, the **PSE** circuit that provides power shall comply with the requirements for a limited power source (LPS) of Clause Q.1 of IEC 62368 1:2014.

NOTE 1 This means that a **fire enclosure** is not normally required in the power feeding load circuits of the **PD**.

For interconnection of **PSE** circuits to other devices for DC power transfer via building wiring, where it is unknown whether remotely attached devices comply with this document, the **PSE** shall limit the output current to a value that does not cause damage to the wiring system due to overheating, under any conditions of external load up to and including short circuits. The maximum continuous current from the equipment shall not exceed a current limit that is suitable for the minimum wire gauge specified in the equipment installation instructions.

For a **PD** that receives multiple power input circuits from one or more **PSE**, the **PD** also shall implement power limiting in accordance with PS2 or Annex Q of IEC 62368-1:2014 to control additive power from returning to another **PSE** under **normal operating conditions**, **abnormal operating conditions** and **single fault conditions**.

NOTE 2 The requirement for **single fault condition** does not apply to an IC current limiter in compliance with Clause G.9 of IEC 62368-1:2014.

EXAMPLES of such **PD** equipment are: an analogue telephone, a security camera, a network switch or hub, or devices outside the scope of IEC 62368-1 such as lighting or novelty items.

PSE circuits connected to external paired conductor cable, such as those described in ID numbers 1 and 2 of Table 14 of IEC 62368-1:2014 having a minimum wire diameter of 0,4 mm, shall have the current limited to not more than 1,3 A.

Compliance is checked with 6.2 or Clause Q.1 of IEC 62368-1:2014.

NOTE 3 These **safeguards** typically apply to equipment that are not located in close proximity to each other, such as those associated with power over Ethernet and similar communication cables.

62368-1:2023

6.5.2 Requirements for interconnection to building wiring

Equipment intended to provide power over the wiring system to remote equipment shall limit the output current to a value that does not cause damage to the wiring system, due to overheating, under any **normal operating conditions** or external load conditions. The maximum continuous current from the equipment shall not exceed a current limit that is suitable for the minimum wire gauge specified in the equipment installation instructions.

NOTE This wiring is not usually controlled by the equipment installation instructions, since the wiring is often installed independent of the equipment installation.

PS2 circuits or PS3 circuits that provide power to **external circuits** shall have their output power limited to values that reduce the likelihood of ignition within building wiring during **normal operating conditions** and external fault conditions.

External circuits, such as those described in Table 13, ID 1a, 1b, 1c and 2, shall have the current limited to 1,3 A RMS or DC when they are intended to provide power over a paired conductor cable having a minimum wire diameter of 0,4 mm.

EXAMPLE Time/current characteristics of type gD and type gN fuses specified in IEC 60269-2 comply with the above limit. Type gD or type gN fuses rated 1 A, would meet the 1,3 A current limit.

Compliance is checked by test, inspection and by the requirements of Annex Q.

This SHALL in 62368-3 5.3.1 is not covered in 62368-1

62368-3

5.3.1 DC power transfer interconnection to building wiring

To protect the communication cables, including building wiring, and other devices including the **PD**, the **PSE** shall implement power limiting control to reduce the likelihood of ignition and shall limit the output current to a value that does not cause damage to the wiring system.

To reduce the likelihood of ignition, the **PSE** circuit that provides power shall comply with the requirements for a limited power source (LPS) of Clause Q.1 of IEC 62368 1:2014.

NOTE 1 This means that a **fire enclosure** is not normally required in the power feeding load circuits of the **PD**.

For interconnection of **PSE** circuits to other devices for DC power transfer via building wiring, where it is unknown whether remotely attached devices comply with this document, the **PSE** shall limit the output current to a value that does not cause damage to the wiring system due to overheating, under any conditions of external load up to and including short circuits. The maximum continuous current from the equipment shall not exceed a current limit that is suitable for the minimum wire gauge specified in the equipment installation instructions.

For a **PD** that receives multiple power input circuits from one or more **PSE**, the **PD** also shall implement power limiting in accordance with PS2 or Annex Q of IEC 62368-1:2014 to control additive power from returning to another **PSE** under **normal operating conditions**, **abnormal operating conditions** and **single fault conditions**.

NOTE 2 The requirement for **single fault condition** does not apply to an IC current limiter in compliance with Clause G.9 of IEC 62368-1:2014.

EXAMPLES of such **PD** equipment are: an analogue telephone, a security camera, a network switch or hub, or devices outside the scope of IEC 62368-1 such as lighting or novelty items.

PSE circuits connected to external paired conductor cable, such as those described in ID numbers 1 and 2 of Table 14 of IEC 62368-1:2014 having a minimum wire diameter of 0,4 mm, shall have the current limited to not more than 1,3 A.

Compliance is checked with 6.2 or Clause Q.1 of IEC 62368-1:2014.

NOTE 3 These **safeguards** typically apply to equipment that are not located in close proximity to each other, such as those associated with power over Ethernet and similar communication cables.

62368-1

6.5.2 Requirements for interconnection to building wiring

Equipment intended to provide power over the wiring system to remote equipment shall limit the output current to a value that does not cause damage to the wiring system, due to overheating, under any **normal operating conditions** or external load conditions. The maximum continuous current from the equipment shall not exceed a current limit that is suitable for the minimum wire gauge specified in the equipment installation instructions.

NOTE This wiring is not usually controlled by the equipment installation instructions, since the wiring is often installed independent of the equipment installation.

PS2 circuits or PS3 circuits that provide power to **external circuits** shall have their output power limited to values that reduce the likelihood of ignition within building wiring during **normal operating conditions** and external fault conditions.

External circuits, such as those described in Table 13, ID 1a, 1b, 1c and 2, shall have the current limited to 1,3 A RMS or DC when they are intended to provide power over a paired conductor cable having a minimum wire diameter of 0,4 mm.

EXAMPLE Time/current characteristics of type gD and type gN fuses specified in IEC 60269-2 comply with the above limit. Type gD or type gN fuses rated 1 A, would meet the 1,3 A current limit.

Compliance is checked by test, inspection and by the requirements of Annex Q.

This SHALL in 62368-3 5.3.1 is not covered in 62368-1, but PDs that draw > 15 W are still in scope of 63315. This requirement does not exist in 63315