SCC18 Adhoc Report

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November 15, 2018

Adhoc meetings

- Adhoc met on November 13
- Primary goal was to review comments submitted against IEC TC64/PT716 64/2280/CD.
- Minutes are posted in the Adhoc public area.
- Links to IEC docs are linked to password protected access
- PT716 meets on Dec 6, the DR needs guidance by Dec 5.
- The adhoc will meet Nov 28 and Dec 5.

Adhoc Direction

- Adhoc started digesting the comments this week, more time is needed to review comments against the document.
- Adhoc has accepted the task of generating a slide deck to help the DR explain the urgency of our comment against ‘the circuit shall not automatically reset.’ (716.433.1.101, see next slide)
- Future adhoc work will only be to identify comments that are potential problems and provide guidance for the meeting.

716.433.1.101

Comment: The sentence “The circuit shall not reset automatically.” seems to disallow products that have multiple levels of current limit with different protections at each limit. The 802.3 PoE specification requires a (self-resetting) current foldback when the maximum rated supply current is exceeded. Outside the scope of the IEEE 802.3 specification, products usually have a fuse to meet the stated overcurrent protection required by specifications such as IEC 62368. The text should be clarified so that it is more explicit that multiple protection levels are allowed as long as one of the protections does not reset automatically.

Power Sourcing Equipment (PSE) operation as specified in IEEE P802.3bt is described in the following:

PSEs have current limits Ilim and Icut. Icut is a ‘PSE may shut off power to the port’ current limit and Ilim is a ‘PSE shall shut off power to the port’ current limit. Icut is reached when a Power Device (PD) draws more power than it advertised during classification for longer than 75ms max. Ilim is reached when the PD exceeds this power by a given percentage that varies according to the Type (this percentage decreases with increase power output/draw ~14% max). The Ilim min timing is Type dependent but is 75ms max for any Type. Most PSEs will choose the lower Tlim numbers (6 or 10ms) as thermal dissipation can be problematic at these operating points. In either of these cases (Icut or Ilim), the PSE moves back to detection after shutting off power to the port. If the PD presents valid detection and classification signatures and falls within the startup inrush current limits, power will be applied again automatically. This is by design. Customers do not want to manually intervene in a misbehaving PD (misbehaving being a PD product that is poorly designed such that it exceeds the current limits occasionally but is not damaged or a hazard). The PSE has an error delay timing spec that requires a 750ms delay before subsequent powering attempts. These timing requirements limit the duty cycle of any error event to less than 10% to ensure that there is no heating due to successive fault events.

IEEE 802.3 requests that the language of this section be modified to allow the above described behavior as hundreds of millions of ports are already in existence that will not conform and likely cannot be upgraded to comply.

One solution would be to clarify it is just the overload protection that cannot reset automatically. This can be accomplished by making a new section just for overload and adding a sentence to the overcurrent section:

After the list of principle measures in 433.1.101 add:

The measure used to protect against thermal effects and overcurrent may reset automatically.

716.433.1.101a Protection against overload

Motion SCC18a

Move that the IEEE 802.3 Working Group grant the SCC18 adhoc the authority to give guidance to the PT716 External Representative by December 5, 2018 for comment resolution against 64/2280/CD

Move: Chad Jones

Second: John Lewis

Motion passes by voice without opposition

Thank You