PSE & PD Power baseline v500

> **Info (not part of baseline)**
>
> This baseline addresses a number of issues identified in the PSE and PD power section (33.2.8.4 and friends).

33.2.5.4 Type 1 and Type 2 variables

> **Info (not part of baseline)**
>
> The legacy state diagram variables I_{Inrush} and I_{Port} have unfortunate names, seeming to imply they relate to 4-pair currents. By renaming them to $I_{Inrush-2P}$ and $I_{Port-2P}$ they better reflect what they are: pairset currents.

Rename I_{Inrush} to $I_{Inrush-2P}$ for the legacy state diagram.

Rename I_{Port} to $I_{Port-2P}$ for the legacy state diagram.

33.2.8 Power supply output

> **Info (not part of baseline)**
>
> I_{Con} is defined in Table 33–17, but actually only applies to Type 1/2 and 4-pair single-signature. It would be more logical to have I_{Con} only pertain to 4-pair single-signature. Solution:
>
> – Remove I_{Con} from Table 33–17
>
> – Use I_{Con-2P} for Type 1 and Type 2 PSEs (similar to dual-signature PDs)

Remove item 5 (I_{Con}) from Table 33–17.

33.2.8.4 Continuous output current capability in the POWER_ON state

For Type 1 and Type 2 PSEs, $I_{Port-2P}$ is defined in 33.2.5.4. For Type 3 and Type 4 PSEs, $I_{Port-2P}$ and $I_{Port-2P-other}$ are the currents on the pairs with the same polarity of the two pairsets and are defined in Equation (33–5) and Equation (33–6).

> **Info (not part of baseline)**
>
> The D1.7 text says that PSEs need to be able to source I_{Con}, I_{Con-2P} and $I_{Con-2P-unb}$. This is not correct in all cases, for instance, PSEs connected to a dual-signature PD do not need to meet $I_{Con-2P-unb}$. The existing text is designed such that a all PSEs only need to meet I_{Con-2P}. The definition of I_{Con-2P} guarantees that meeting I_{Con-2P} automatically means meeting the other relevant parameters such as I_{Con} and $I_{Con-2P-unb}$ if they are applicable.

PSEs shall be able to source ~~I_{Con},~~ I_{Con-2P} ~~and $I_{Con-2P-unb}$~~ as specified in ~~Table 33–17 and~~ Equation (33–7).

…

I_{Con-2P} is the current the PSE supports on each powered pairset and is defined by Equation 33–7. ~~A PSE is not required to support I_{Con-2P} values greater than $I_{Con-2P-unb}$.~~ I_{Con} is the total current of both pairs with the same polarity that a Type 3 and Type 4 PSE supports , when powerering a single-signature PD in 4-pair mode. I_{Con} is defined in Equation 33–N1 $I_{Con-2P-unb}$ is the maximum currentbremovethe a Type 3 or Type 4 PSE supports over one of the pairs of the same polarity under maximum unbalance condition (see 33.2.8.4.1) in the POWER_ON state , when powering a single-signature PD in 4-pair mode.

Insert new Equation for I_{Con} after the above paragraph:

$$I_{Con} = \frac{P_{Class}}{V_{PSE}} \tag{33–N1}$$

> **Info (not part of baseline)**
>
> Now we use the same scheme for $P_{Peak-2P}$.

In addition to ~~I_{Con},~~ I_{Con-2P}, ~~and $I_{Con-2P-unb}$~~ as specified in ~~Table 33–17 and~~ Equation 33–7, the PSE shall support the ~~following~~ AC current wave000parameter~~s~~ $I_{Peak-2P}$, while within the operating voltage range of V_{Port_PSE-2P}.

33.2.8.7 Output current — at short circuit condition