



Current Limit

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802.3-2005, Clause 33

What it says

Table 33-5—PSE output PI electrical requirements for all PD classes, unless otherwise specified

Item	Parameter	Symbol	Unit	Min	Max	Additional information
1	Output voltage	V_{Port}	Vdc	44	57	See 33.2.8.1
2	Output current	I_{Port}	mA	100	100	See 33.2.8.2
10	Output current – at short circuit condition	I_{LIM}	mA	400	450	See 33.2.8.8
11	Short circuit time limit	T_{LIM}	ms	50	75	See 33.2.8.9

33.5.1 General safety

All equipment meeting this standard shall conform to IEC 60950-1:2001. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1:2001.

Equipment shall comply with all applicable local and national codes related to safety.



802.3-2005, Interpretation

Interpretation Number: 2-03/06
Topic: DTE Power Short circuit requirements
Relevant Clause: Table 33-5
Classification: Defect

Interpretation Request

This interpretation request relates to the requirements placed on the PSE output voltage and current during a short circuit condition. Subclause 33.2.8 'Power supply output' of

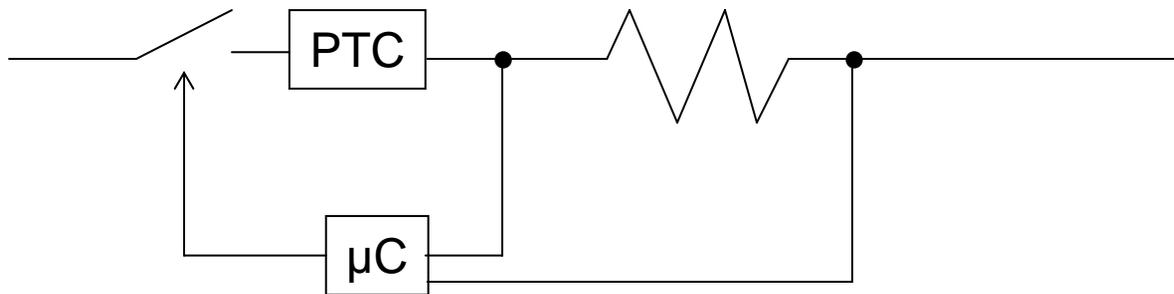
- IEEE Working Group 802.3 has classified short circuit behavior as a “DEFECT”



Decision

- Meet output current
 - Fail output voltage
 - Most PSE ICs do this
 - Really required for multiport PSEs
- Meet output voltage
 - Fail output current
 - OK for single port PSEs

Single Port PSE

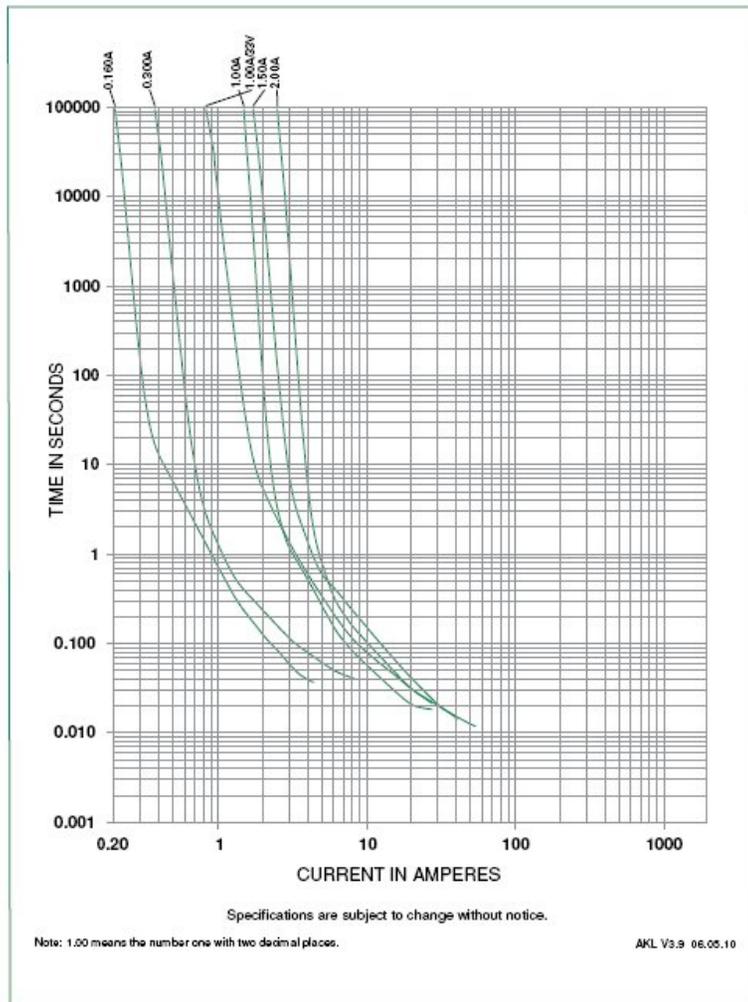


- Can meet IEC 60950, I_{CUT} , T_{CUT} , T_{LIM}
- Can't meet I_{LIM}

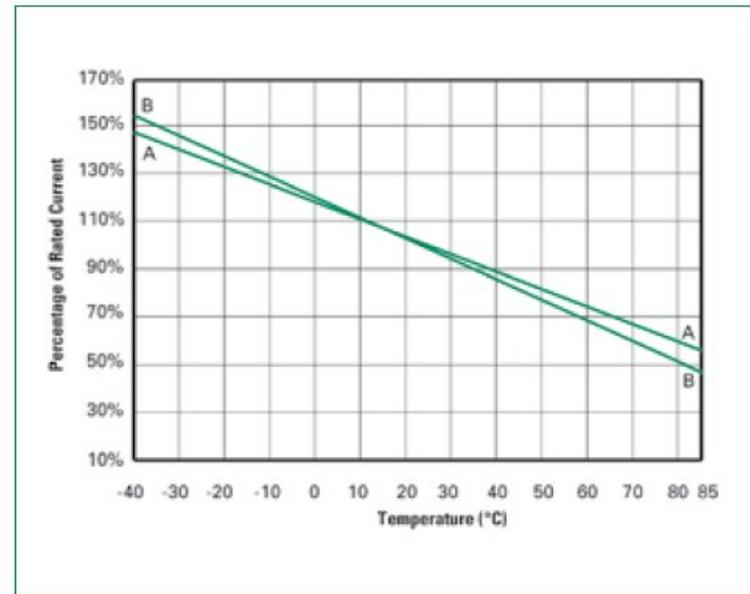


Current Limit

Average Time Current Curves



Temperature Derating Curve



A: 2016L050
 2016L100
 2016L200

B: 2016L030
 2016L100/33
 2016L150



Single Port PSE

- Short circuit was broken
- Engineers had to make decisions on their own to meet what they could.
- I_{LIM} and/or T_{LIM} must change
 - 802.3 WG has determined it is broken
 - Current limit is not the only choice
 - Don't exclude existing “good faith” efforts



Suggestions

- Ensure ILIM, ICUT, TLIM and TCUT enforce interoperability
- Ensure all PSEs meet IEC 60950 Limited Power Source requirements
- Don't force one solution
- Don't write a product specification