ISO/IEC JTC 1/SC 25/WG 3 N 808

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Customer Premises Cabling

Secretariat: Germany (DIN)

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TITLE:	**Liaison reports between SC 25 WG 3 to IEC SC 48B on Reliability testing of modular connectors under electrical load**
SOURCE:	**Secretaries ISO/IEC JTC 1/SC 25/WG 3 and IEC SC 48B** WG 3(Berlin06/IEEE 802.3)23, WG 3(Berlin06/WG 3)49A and WG 3(Berlin06/IEC SC 48B)58
PROJECT:	**25.03.xx.xx: Generic cabling for xx**
STATUS:	**Questions to and answers provided by IEC SC 48B**
ACTION ID:	**FYI**
DUE DATE:	**n/a**
REQUESTED: ACTION	**For information**
MEDIUM:	**Def**
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DISTRIBUTION:

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Home page SC 25: "http:/www.iec.ch/sc25"

Liaison reports between SC 25 WG 3 to IEC SC 48B on Reliability testing of modular connectors under electrical load

1 Liaison report from ISO/IEC JTC 1/SC 25/WG 3 to IEC SC 48B on Reliability testing of modular connectors under electrical load

ISO/IEC/SC25/JTC 1/WG 3 thanks IEC SC 48B for its continued support. This liaison is to follow up on an earlier request to further characterize connecting hardware for un-mating under load. WG 3 has the following additional observations and proposals:

Preliminary data of typical connectors does not indicate degradation in performance when unplugging for a limited number of cycles. WG 3 requests that IEC SC 48B studies the Long term reliability effects (up to 750 mechanical operation with FMGT) following un-mating.

- **SC 25/WG 3 understands that it is not possible to add new requirements to the installed base (e.g. un-mating under load)**
- **It is the understanding of SC 25/WG 3 that new requirements will be needed for future connectors that can reliably withstand un-mating up to 750 cycles under electrical load. WG 3 is not yet in a position to provide requirements.**
- **See 3Bln23, with attachments 3Bln43 and 3Bln44 for IEEE 802.3at input**
- **•Values for Current, R, C and L to be provided by WG 3 to IEC 48B, based on IEEE 802.3at POE input**

SC 25/WG 3 looks look forward to continue cooperation IEC SC 48B and will keep SC 48B informed as WG 3 makes further progress on these issues.

Sincerely,

Walter von Pattay

Convenor ISO/IEC JTC 1/SC 25/WG 3

Atts: 3Bln_06_023 (including 3Berlin 43, 44)

2 Liaison report from IEC SC 48B to ISO/IEC JTC 1/SC 25/WG 3on Reliability testing of modular connectors under electrical load

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

SUBCOMMITTEE NO. 48B

CONNECTORS

-- Secretariat -- *Please address reply to:*

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September 20, 2006

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RE : SC25 – POE Adhoc Liaison : Reply from IEC SC48B

Dear Walter,

Thank you for the input from the ISO/IEC SC25 WG3 POE requesting continued support and input from SC48B WG3 on the cycling under load test for connectors.

The SC48B WG3 experts discussed the issue at length and reviewed the same presentation made by Mr. Belopolsky & Mr. Gerber (GBY5A Berlin) during the WG3 meetings in Berlin on Sept 19th. Below are the four items raised in your POE adhoc report (in bold type) with some feedback from the SC48B WG3 experts.

1. **Preliminary data of typical connectors does not indicate degradation in performance when unplugging for a limited number of cycles. WG3 requests that 48B study the long term effects (up to 750 mechanical operation with FMGT) following un-mating.**

SC48B WG3 agrees and will attempt to provide additional feedback and test results from interested members. SC48B believes it is important to conduct the mixed flowing gas test as part of the qualification and it may also be helpful to provide long

term heat aging after cycling. SC48B hopes to develop a qualification procedure to address this application based on the additional evaluation.

2. **It is not possible to add new requirements to the installed base (e.g. unmating under load)**

SC 48B WG3 agrees in principle.

3. **It is our understanding that new requirements will be needed for future connectors that can reliably withstand un-mating up to 750 cycles. We are not yet in a position to provide requirements.**

   SC48B WG3 agrees to add the qualification procedure (cycling with load, MFG, Heat aging, etc.) to the basic test schedule (IEC 60603-7) and the new connector requirements (IEC 60603-7-41, -51, -71) when the necessary research is complete. However, due to SELV (Safe extra low voltage) issues, the test proposed will not have a voltage that exceeds these requirements (50 volts). The goal will be to develop the qualification program that covers your concerns.

4. **Values for current, R, C, and L to be provided by (ISO/IEC/JTC1/SC25) WG3 to IEC SC48B, based on IEEE 802.3at POE input which has a procedure for qualifications of connectors.**

   SC48B WG3 will await the above information. Please note this is critical to successfully developing the qualification program. .

SC48B WG3 members have another important concern from having completed multiple evaluations of the 60603-7 connectors at various power cycling levels. We believe that there is a limit to the power and electrical cycling that can be supported by the IEC 60603-7 series of connectors. IEEE may wish to consider limitations on the number of pairs powered and corresponding current loads. Would you be so kind to ask the liaison person with IEEE to share the WC48 WG3 experts concerns with the IEEE experts.

Please contact me if you have any questions.

Sincerely;

Jeffrey R. Toran

C : Mr. Brian Joynes – Chairman IEC SC48B
Mr. Gerd Weking – IEC TC48 Chairman/Convenor SC48B-WG3
Mr. Dan Mullin – IEC SC48B-WG3 Secretary & Project Leader
Mr. Charles Jacquemart – IEC Central Office