



Newsletter

AT&T Cabling Systems Category 6A Connecting Hardware Verified to PoE+

Cologne, Germany, December 2014

Following the ratification of IEEE 802.3at (30 October 2009) designers of LAN cabling systems have to take several measures and precautions if they want to ensure support of PoE+.

Substantial efforts were made in order to simulate and predict the overheating of cables installed in large bundles carrying 0.6A, needed to provide 30W at 50V.

TIA TSB-184 and ISO/IEC TR 29125 offer guidelines for supporting PoE and many other publications deal with the implications and risks involved.

Surprisingly, very little was done to evaluate the impact of PoE+ on the connecting hardware.

The only standard that deals directly with this issue is *IEC 60512-99-001*:

Connectors for electronic equipment – Tests and measurements – Part 99-001: Test schedule for engaging and separating connectors under electrical load – Test 99a: Connectors used in twisted pair communication cabling with remote power.

This standard (published August 2012) evaluates the extent of damage caused to the connecting pins in RJ45 connectors after two sets of 50 cycles of disconnections under load due to the electric spark generated.

This spark may cause increase in contact resistance and even disconnection by damaging the gold plating which may lead to corrosion of the exposed base metal.

More information on the test method and its importance can be found at Delta website:

<http://www.madebydelta.com/imported/images/documents/LAN/NewsMarch2012.pdf>

The ability of RJ45 jacks to pass this rigorous test depends on two factors: The quality of the gold plating and the shape of the connecting pins. If the point of contact (when the plug is fully inserted into the jack) is exposed to the spark it may be damaged after several disconnections.

Due to our commitment to quality and in order to support the AT&T Millennium™ Lifetime Warranty, we must make sure our components will support all relevant applications, including PoE+.

The only way to ensure that a certain jack can survive multiple disconnections under PoE+ load is to perform this test. The only independent test house currently performing this test is DELTA (Denmark). For this reason AT&T Cabling system submitted its CAT 6A jack for testing, and it is now EC Verified according to IEC 60512-99-001.

A copy of the certificate is attached and is also available at

<http://www.madebydelta.com/imported/images/documents/LAN/2014-561.pdf> .

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Compliance Statement

No. 2014-561

Connecting Hardware, Category 6A

Including Power over Ethernet Plus

(Mating and un-mating connectors under electrical load)

Company

AT&T Cabling Systems – EMEA HQ
Hohenstaufenring 62
50674 Cologne
Germany

Product description

Screened Category 6A RJ45 Keystone Jack characterised up to 500 MHz, 100 Ω

Product identification

Screened Cat. 6A RJ45 Keystone Jack.
Part Number: 15C6ANV008A-MK61

Generic cabling and cabling components standards - Category 6A connector requirements

- ISO/IEC 11801:2011 (Ed. 2.2)
- IEC 60603-7-51:2010
- IEC 60512-99-001:2012 (Ed. 1.0)
- EN 50173-1:2011
- EN 50173-2:2007 including amendment A1:2010
- ANSI/TIA-568-C.2:2009

including all connector alien crosstalk parameters (PS ANEXT and PS AFEXT)

Technical report

DELTA-T209980-03, DANAK-19/14830

EC Cabling product ID

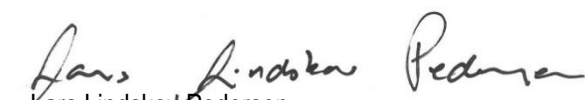
5846

CS valid until

17 December 2015

This product has been tested by DELTA EC Cabling Group and complies with the electrical requirements of the above specified standards and "Terms and conditions for the EC VERIFIED programme for Generic and Coaxial Cabling", DQP231006. The testing included measurement of NEXT with a compliant test plug and calculation of all the 14 test cases in both measurement directions. The product takes part in a maintenance of certification schedule, which implies that DELTA EC Cabling performs a quality audit of the manufacturer's production and QA sites. The maintenance testing of the product is performed on a sample basis once a year.

Hørsholm, 17 December 2014


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