



ATIS-0600012.02

ATIS Standard on -

Electrical Protection for Ethernet Systems



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Alliance for Telecommunications Industry Solutions

Approved March 16, 2017

Abstract

The purpose of this ATIS Standard is to assist the service provider in choosing appropriate protection methods for Ethernet communications circuits. This ATIS Standard describes protector characteristics that may impact Ethernet systems for outside plant, intra- and inter-building applications, and the services provided over these links. These protectors are categorized by technology type and configurations. This document describes protectors in their non-operating state and their effect on these services, and also considers the effects of protector response to a surge event and how that operation may affect these services. This is a subtending document and is intended to be used with the Broadband umbrella document ATIS-0600012, *Electrical Protection Considerations for Broadband Systems*.

Foreword

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between providers, customers, and manufacturers. The Sustainability in Telecom: Energy and Protection (STEP) Committee – formerly the Network Interface, Power, and Protection (NIPP) Committee – engages industry expertise to develop standards and technical reports for telecommunications equipment and environments in the areas of energy efficiency, environmental impacts, power, and protection. The work products of STEP enable vendors, operators, and their customers to deploy and operate reliable, environmentally sustainable, energy efficient communications technologies. STEP is committed to proactive engagement with national, regional, and international standards development organizations and forums that share its scope of work.

The mandatory requirements are designated by the word shall and recommendations by the word should. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word may denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, STEP, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time it approved this document, STEP, which is responsible for the development of this Standard, had the following leadership:

- J. Krahnert, Cisco, STEP Vice-Chair (Cisco)
- J. Fuller, NEP Chair (AT&T)
- E. Gallo, NEP Vice Chair (Ericsson)

The Network Electrical Protection (NEP) Subcommittee was responsible for the development of this document.

Table of Contents

1	Scope, Purpose, & Application	6
1.1	Scope.....	6
1.1.1	<i>Electrical Protection</i>	6
1.1.2	<i>Equipment Covered</i>	6
2	References	6
3	Definitions, Acronyms, & Abbreviations.....	8
3.1	Definitions	8
3.2	Acronyms.....	9
4	Description of Ethernet.....	10
4.1	Standard Ethernet.....	11
4.2	Power over Ethernet (PoE)	14
4.2.1	<i>Mode A</i>	16
4.2.2	<i>Mode B</i>	17
5	Single Pair PoE	23
6	Alternative 4 pair Simultaneous PoE Connection Types	24
7	Ethernet Protection Topologies	27
7.1	Grounding & Bonding of Ethernet Cable Shields.....	28
7.2	Service to Cell Towers	28
7.2.1	<i>Conductor-to-Conductor (Differential)</i>	29
7.3	Mitigation of Lightning Induced Surges.....	31
7.4	Tertiary Protection vs. Line Side Protection.....	32
7.4.1	<i>Tertiary Protection Advantages</i>	32
7.4.2	<i>Tertiary Protection Disadvantages</i>	32
7.4.3	<i>Line Side Protection Advantages</i>	32
7.4.4	<i>Line Side Protection Disadvantages</i>	32
7.5	PoE Protection	33
8	Data Line Protection.....	34
8.1	Low-Level Lightning, ESD & EFT Indoor Short-Haul.....	34
8.2	Lightning, ESD, EFT, Power Fault, Indoor Long-Haul	34
8.3	Line Side Ground Referenced Protection Issues.....	36
8.4	High Voltage Isolation (Lightning GPR)	37
8.5	Capacitor Isolation	41
8.6	Port to Port Protection.....	41
9	Ethernet Deployment Scenarios & Test Requirements	42
9.1	Port to Port Testing	58
10	ESD Testing (IEC 61000-4-2).....	60
11	Electrical Fast Transient (EFT) Testing (IEC 61000-4-4)	60
	Annex A: Ethernet Bandwidths & Voltages	62
	Annex B: Grounding of Cables.....	68

B.1 Terminating Screens at Both Ends to Control RF	68
B.2 Potential Issues When Systems are Terminated at Only One End	70
B.3 The Parallel Earth Conductor (PEC)	71
B.4 When Cable Screens Cannot Be Terminated at Both Ends:.....	73
B.5 Copper Communications between Buildings.....	74
Annex C: Updates regarding PoE	75
Annex D: Magnetically Induced Currents & Voltages in Ethernet Cable	76
D.1 Introduction	76
D.2 Magnetic coupling	76
D.2.1 Currents in Low Impedance Loops	76
D.2.2 Voltages in high impedance loops	77
D.3 Waveshapes	79
D.3 Circuit Conditions During Induced Lightning Voltage Events.....	80
D.3.1 Balanced Conditions	80
D.3.2 SPD Added to One Port.....	80
D.3.3 SPDs on Both Ports	81
D.4 Other Stress Factors	81
D.4.1 Ethernet SPD Operation	81
D.5 Summary.....	85

Table of Figures

Figure 4.1 – Ethernet Jacks	11
Figure 4.2 – Eye Patterns for Ethernet Signals.....	13
Figure 4.3 – Mode A for 10/100Base T	17
Figure 4.4 – Mode B for 10/100BASE-T	18
Figure 4.5 – Mode A for 1000BASE-T	19
Figure 4.6 – Mode B for 1000BASE-T	20
Figure 4.7 – PoE++ for 1000BASE-T.....	21
Figure 4.8 – PoE++ for 10/100Base-T	22
Figure 5.1 – General Block Diagram for Single Pair PoE	23
Figure 6.1 – 10/100BASE-T 4 Pair PoE (Alt A + Alt B) top and bottom lines are not signal pairs	24
Figure 6.2 – 1000BASE-T and 10GBASE-T 4 Pair PoE (Alt A + Alt B)	25
Figure 7.1 – Tertiary Differential Protection Example	30
Figure 7.2 – External Differential Ethernet Protection Example.....	31
Figure 8.1 – Typical Diode Bridge Schematics	34
Figure 8.2 – Powered Device End (PD) exposed to simultaneous longitudinal surge	35
Figure 8.3 – Power Sourcing Equipment (PSE) Exposed Simultaneous Longitudinal Surge.....	36
Figure 8.4 – Single End Protection Deficiency.....	37
Figure 8.5 – Secondary Peak Current vs. Primary Current (8/20 μ s)	39
Figure 8.6 – Secondary Current vs. Primary Current CW 1.2/50 μ s, 8/20 μ s, and 2/10 μ s	39
Figure 8.7 – Primary and secondary current waveforms of transformer B.....	40
Figure 8.8 – High Impulse Isolation Ethernet Circuit Example.....	41
Figure 8.9 – Port to Port Protection	42
Figure 9.1 – PoE Ethernet Testing.....	49
Figure 9.2 – Shielded Cable Testing.....	50

Figure 9.3 – Shield Bonding Testing	50
Figure 9.4 – Ethernet Insulation Testing	51
Figure 9.5 – Ethernet Isolation Testing	52
Figure 9.6 – Common mode simultaneous 10/360 test condition	53
Figure 9.7 – 50/60Hz common mode test setup change generator to same as in Figure 9.8	55
Figure 9.8 – Simultaneous 1.2/50-8/20 common mode surge test	57
Figure 9.9 – Metallic Surge Testing	58
Figure 9.10 – External port to external port surge test setup	59
Figure 9.11 – External port to internal port surge test setup	59
Figure 9.12 – Internal port to internal port surge test setup	60
Figure A.1 – 1000BASE-T (1GbE)	62
Figure A.2 – 100BASE-T	63
Figure B. 1 – 360° screening from end to end	69
Figure B.2 – Ground Potential Rise in Single-Point Earthing System	71
Figure B.3 – Examples of PECs	73
Figure D.1 – Induced lightning current waveshape in a low-impedance loop	77
Figure D.2 – Induced lightning voltage waveshape in a high-impedance loop	77
Figure D.3 – Coupling between two negligible diameter parallel wires of equal length	78
Figure D.4 – Induced lightning voltage in cable	79
Figure D.5 – Induced loop current and voltage waveshapes for 8/20 current	79
Figure D.6 – Induced loop current and voltage waveshapes for 1/32 current	79
Figure D.7 – Ethernet twisted pair induced voltage situation	80
Figure D.8 – Equipment port voltages in a balanced situation	80
Figure D.9 – Voltage levels with a single SPD	81
Figure D.10 – SPDs on both ports operated by GPR	81
Figure D.11 – SPD with high and low impedance differential terminations	82
Figure D.12 – SPD common mode to differential-mode surge conversion	82
Figure D.13 – 3-electrode and 2-electrode GDT operation	83
Figure D.14 – Separate GDTs and low impedance termination	84
Figure D.15 – Soil GPR surrounding a lightning stroke	85
Figure D.16 – Possible cable voltage conditions of clause 4 for lightning induced voltages in a home networking Optical Network termination	86

Table of Tables

Table 6.1 – Temperature Rise vs Maximum Steady-State Current	26
Table 6.2 – PoE Parameters	26
Table 9.1 – Low Exposure Environment	44
Table 9.2 – High Exposure Environment	45
Table 9.3 – Surge Test Conditions	46
Table 9.4 – Power Fault Testing Conditions	48

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1 Scope, Purpose, & Application

1.1 Scope

1.1.1 Electrical Protection

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1.1.2 Equipment Covered

This ATIS Standard applies to the electrical protection at all Ethernet network equipment locations. Examples include: Ethernet equipment at Central Office (CO) Type facilities, remote sites, and at the customer location [including the entrance or interface point, and Customer Premises Equipment (CPE)]. This equipment may interface with various types of cable media, such as coaxial cable or twisted pair that provides the Ethernet signal and possible power.

Although a variety of existing and proposed Ethernet equipment types are considered, the merits of the different technologies, and/or architecture types, are not covered.

The following are examples of equipment/items included in this ATIS standard:

- Primary protectors.
- Secondary protectors.
- CO equipment.
- Remote terminal equipment.
- Cell Site equipment.
- NIDs, iNIDs, NIUs, ONTs, ONUs, BETs, and other points of demarcation.
- CPE such as Set-Top Boxes (STBs), xDSL splitters, telephones, etc.
- Traffic security cameras, WiFi, Wi-max, and hot spots.

2 References

The following standards contain provisions that, through reference in this text, constitute provisions of this ATIS Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this ATIS Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ATIS-0600012, *Electrical Protection Considerations for Broadband Systems*.¹

¹ This document is available from ATIS at: < <https://www.atis.org/docstore/product.aspx?id=25717> >.