



ATIS-0600012.04

ATIS Standard on -

Electrical Protection for Fast Access to Subscriber
Terminals (G.fast)



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Electrical Protection for Fast Access to Subscriber Terminals (G.fast)

Alliance for Telecommunications Industry Solutions

Approved November 10, 2017

Abstract

This ATIS Standard sets forth guidelines to assist the service providers, network designers, and system integrators in choosing appropriate electrical protection methods for G.fast communications circuits. It describes protector characteristics that may impact G.fast systems for outside plant, intra- and inter-building applications, and the services provided over these links.

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 Committee (NIPP) – 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 20004.

At the time of initiation or issuance of the letter ballot for this document, STEP, which was responsible for its development, had the following leadership:

E. Gallo, STEP Chair and STEP NEP Vice Chair (Ericsson)

J. Fuller, STEP Vice Chair and STEP NEP Chair (AT&T)

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

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1 Scope, Purpose, & Application

1.1 Scope

1.1.1 Electrical Protection

The purpose of this ATIS Standard is to assist the service providers, network designers, and system integrators in choosing appropriate protection methods for G.fast communications circuits. It describes protector characteristics that may impact G.fast 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 states 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 and in support of the Broadband umbrella document, ATIS-0600012, *Electrical Protection Considerations for Broadband Systems*.

1.1.2 Equipment Covered

This ATIS Standard applies to the electrical protection at all G.fast equipment locations. Examples include: G.fast equipment at Central Office (CO)-type facilities, remote sites, and customer location (including the entrance or interface point, and Customer Premises Equipment [CPE]).

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

- Primary protectors.
- Secondary protectors.
- Tertiary protectors.
- CO equipment.
- Remote Terminal equipment.
- Network Interface Devices (NIDs), Integrated/Intelligent Network Interface Devices (iNIDs), Network Interface Unit (NIUs), Optical Network Terminal (ONTs), Building Entrance Terminals (BETs), and other points of demarcation.

2 References

The following standards contain provisions which, 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.

As references are added to the documents, they are added to the end of the respective reference list using the next sequential reference number. Normative references are numbered 1-99 and informative references are numbered starting from 101 in order to distinguish the type of reference based on the number.