STANDARDS

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ANSI/BICSI 007-2020

Information Communication Technology Design and Implementation Practices for Intelligent Buildings and Premises

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Information Communication Technology Design and Implementation Practices for Intelligent Buildings and Premises

Committee Approval: April 26, 2020
ANSI Final Action: May 4, 2020
First Published: May 13, 2020

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Published by:

BICSI
8610 Hidden River Parkway
Tampa, FL 33637-1000 USA

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TABLE OF CONTENTS

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INDEX OF FIGURES

INDEX OF TABLES

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PREFACE

Revision History

August 12, 2017 First publication of this standard, titled ANSI/BICSI 007-2017, *Information Communication Technology Design and Implementation Practices for Intelligent Buildings and Premises*

May 13, 2020 Revision of ANSI/BICSI 007-2017 published as ANSI/BICSI 007-2020, *Information Communication Technology Design and Implementation Practices for Intelligent Buildings and Premises*

Major Revisions include:

- Addition of Section 9, *Electronic Safety and Security Systems (*
- Addition of Section 10, *Audio and Visual Systems*
- Removal of former Appendix A, *Commissioning Fundamentals*
- Addition of Appendix A, *Reliability for ICT Infrastructure*, Appendix B, *Network Design and Security*, Appendix C, *Cloud Computing for Intelligent Building Systems* and Appendix E, *Light Fidelity Technology*

Minor Revisions include

- Revision of Section 5, *Communications Infrastructure* and Section 6, *Design Considerations for Building Systems* to reflect technological advancements and design methodology
- Restructuring of existing systems content not included within major revision actions
- Expansion of asset tracking
- Expansion of system integration
- Other content updates and editorial corrections

Document Format (Usability Features)

This standard has the following usability features as aids to the user:

- Additions and changes, other than those for editorial purposes, are indicated with a vertical rule within the left page margin.
- Deletion of one or more paragraphs within unrevised content is indicated with a bullet (•) within the left page margin.

NOTE: The relocation of content within or between sections related to structure, readability, or content alignment is not indicated.

Translation Notice

This standard may have one or more translations available as a reference for the convenience of its readers. As that act of translation may contain inconsistencies with the original text, if differences between the translation and the published English version exist, the English text shall be used as the official and authoritative version.

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1 Introduction

1.1 General

An intelligent building, or premise, utilizes communication technology to integrate building systems, allowing intersystem connection and coordinated safeguard monitoring, access and control measures, to provide for a secure, safer, more comfortable, productive, and efficient space environment. As innovation occurs, systems and applications that have not been traditionally connected to a data or telecommunications network are now utilizing Ethernet and network infrastructure as a means to provide new or expanded functions or as an additional or alternative infrastructure solution. Also, given the increased use of information communication technology (ICT) transmission media (e.g., balanced twisted–pair, optical fiber, wireless) within these systems, the design and implementation methodology based on the historical practice of using legacy, proprietary or application specific cabling systems such as one or two pair solid copper conductor wire is now obsolete.

1.2 Purpose

This standard is intended to be used for any size building and can be applied to residential and other premises (e.g. commercial, industrial, healthcare, educational, etc.) in all markets. This standard is written for use in the design and implementation of the structured cabling systems used to support building or premise systems which can be integrated through the use of common infrastructure.

This standard may be used to determine design requirements in conjunction with the system owner, occupant, or other project consultants. This standard provides a reference of common technology and design practices but is not intended to be used by design professionals as their sole reference or as a step-by-step design guide.

1.3 Categories of Criteria

Two categories of criteria are specified – mandatory and advisory.

- Mandatory criteria generally apply to protection, performance, administration, and compatibility; they specify the absolute minimum acceptable requirements.
- Advisory or desirable criteria are presented when their attainment will enhance the general performance of the component, system, or other element as indicated within all its contemplated applications.

Mandatory requirements are designated by the word *shall*; advisory recommendations are designated by the words *should*, *may*, or *desirable,* which are used interchangeably in this standard. While requirements and recommendations are typically separated to assist in usability, paragraphs or sections may exist where both appear together for context or readability.

Where equivalent local codes and standards exist, requirements from these local specifications shall apply. Where reference is made to a requirement that exceeds minimum code requirements, the specification requirement shall take precedence over any apparent conflict with applicable codes.

2 Scope

This standard applies to building systems that utilize information communication technology (ICT) components, systems, and infrastructure to interconnect and share information between building systems. Examples of these systems include, but are not limited to:

- Building automation and management
- Energy and electrical power management
- Lighting
- Audio/visual (A/V) systems (e.g., digital signage, notification, AV over IP)
- Electronic safety and security (ESS) systems

The performance specifications for building systems are not offered in this standard unless they relate to the structured cabling system or other supporting systems requirements and recommendations found within this standard.