

English version

**Home and Building Electronic Systems (HBES) -
Part 9-2: Installation requirements -
Inspection and testing of HBES installation**

This Technical Report was approved by CENELEC on 2007-04-27.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This Technical Report was prepared by the Technical Committee CENELEC TC 205, Home and Building Electronic Systems (HBES).

The text of the draft was circulated for vote as prTS in accordance with the Internal Regulations, Part 2, Subclause 11.4.3.3 and was approved by CENELEC as CLC/TR 50090-9-2 on 2007-04-27.

The 50090 series comprises the following parts:

- Part 1: Standardization structure
 - Part 2: System overview
 - Part 3: Aspects of application
 - Part 4: Media independent layers
 - Part 5: Media and media dependent layers
 - Part 6: Interfaces
 - Part 7: System management
 - Part 8: Conformity assessment of products
 - Part 9: Installation requirements
-

Contents

1	Scope	4
2	Normative references	4
3	Definitions	5
4	General requirements	6
4.1	Competency of inspectors and commissioning engineers	6
4.2	Use of standard based products and non-standard based products	6
4.3	Reports	6
4.4	Alternative cabling solutions	6
5	Purpose of inspection	6
5.1	General	6
5.2	Initial inspection	7
5.3	Periodic inspection	7
5.4	Path to inspecting a HBES	7
5.5	Visual inspection	8
6	Testing and commissioning	8
6.1	General	8
6.2	Passive testing and inspecting	9
6.3	Pre-commissioning	10
6.4	Commissioning	11
6.5	Reporting	12
7	Handover documentation	12
7.1	Initial handover	12
	Annex A (informative) Handover declaration and report	13
	Annex B (informative) Conforming standards	14
	Annex C (informative) HBES installation inspection schedule	15
	Annex D (informative) Cable test schedule, inspection and test record	17
	Annex E (informative) HBES loop test acceptance sheet	18
	Annex F (informative) Declaration of final commissioning and report	19
	Bibliography	20

Introduction

This Technical Specification defines the mandatory and optional requirements for inspecting, testing and commissioning Home and Building Electronic System (HBES). It has been developed in order to help ensure that the client or system owner has confidence that the HBES has been designed and installed

- in a competent manner, meeting with the manufacturers' installation instructions, relative standards and statutory requirements;
- with the intention of providing both reliability and resilience.

Although these requirements are normative, they are intended to be applied in a competent manner and can be readily adapted to the complexity of the HBES installation.

These requirements are provided for inspecting and testing of both professionally installed system and systems that have not been installed by professional operatives.

The aim of this document is also to ensure that the installation of the HBES will not affect the integrity of HBES products and that the client's perception of such systems is not diminished. It can also be used as a basis for a contractual agreement for completion of an installation and placing it into service.

1 Scope

This document provides the specific requirements for inspectors and commissioning engineers (as defined in the document), on checking and approving HBES installations in order to ensure its quality and safe operation.

The requirements apply to the HBES itself and its relations and interfaces with other systems and functions of buildings both inside and outside.

Although this document contains recommendations for testing HBES and their interfaces, it is not intended to cover the mechanical aspects of the installation such as pressure testing pneumatic or hydraulic lines and systems, or checking for compliance with the pressure vessel directive, etc. These aspects are covered in other standards. Likewise, when the HBES interfaces with machinery or boilers, etc., such equipment should be tested in accordance with the relevant standard and manufacturer's instructions.

These requirements are intended to assist in the inspection, testing and commissioning of HBES systems.

They are also intended as an aide to integration with the regulations for any other system that the HBES may need to interface with.

These requirements are intended for applications in any building, or part of a building, for which the designer considers the HBES suitable. They may also apply to any addition or modification to a HBES within a building, which will affect the overall integrity of the HBES and give guidance that ongoing inspection and maintenance will be necessary to ensure the continued safe and efficient operation of an installed HBES.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50110	Operation of electrical installations
EN 50173	Information technology - Generic cabling systems
EN 50346	Information technology - Cabling installation - Testing of installed cabling
HD 384/HD 60364 series	Electrical installations of buildings (IEC 60364 series, modified)
EN 61010	Safety requirements for electrical equipment for measurement, control and laboratory use (IEC 61010)