



NSAI
Standards

Standard Recommendation
S.R. CLC/TR 50552:2010

Home and Building Electronic Systems (HBES) - Open communication system - Interfaces - Medium interface, twisted pair, class 1

S.R. CLC/TR 50552:2010

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

<i>This document replaces:</i>	<i>This document is based on:</i> CLC/TR 50552:2010	<i>Published:</i> 14 May, 2010
This document was published under the authority of the NSAI and comes into effect on: 14 June, 2010		ICS number: 97.120
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

TECHNICAL REPORT
RAPPORT TECHNIQUE
TECHNISCHER BERICHT

CLC/TR 50552

May 2010

ICS 97.120

Supersedes R205-010:1996

English version

**Home and Building Electronic Systems (HBES) -
Open communication system -
Interfaces -
Medium interface, twisted pair, class 1**

Home and Building Electronic Systems
(HBES) -
Open communication system -
Interfaces -
Medium interface, twisted pair, class 1

This Technical Report was approved by CENELEC on 2010-05-01.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, 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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

This Technical Report was prepared by the Technical Committee CENELEC TC 205, Home and Building Electronic Systems (HBES), joined by the co-operating partner KNX Association.

This document supersedes R205-010:1996.

It was circulated for voting in accordance with the Internal Regulations, Part 2, Subclause 11.4.3.3 (simple majority) and was approved by CENELEC as CLC/TR 50552 on 2010-05-01.

This Technical Report relates to the HBES system as described in the EN 50090 series under the generic title "*Home and Building Electronic Systems (HBES)*", which 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	5
2	Normative references	5
3	Terms, definitions and abbreviations	6
	3.1 Terms and definitions	6
	3.2 Abbreviations.....	6
4	Medium interface realisation type 1	6
	4.1 Introduction.....	6
	4.2 Technical characteristics	6
5	Medium interface realisation type 2	9
	5.1 Introduction.....	9
	5.2 Technical characteristics	9
	5.3 Constructional features of the data rail	11
	5.4 Constructional features of data rail cover	12
	5.5 Data rail to wire connector	12
6	Medium interface connector type 3	13
	6.1 Introduction.....	13
	6.2 Constructional features	14
7	Medium interface connector type 4	14
	7.1 Introduction.....	14
	7.2 Constructional features	16
8	Medium interface connector type 5	18
	8.1 Introduction.....	18
	8.2 Requirements	18
	8.3 Pin assignment of connector type 5.....	20
9	HBES TP overvoltage protector (secondary protector)	20
	9.1 General requirements	20
	9.2 Requirements for communication	20
	9.3 Electrical safety requirements	20
	9.4 Environmental conditions	21
	9.5 EMC	21
	9.6 Mechanical, dimensions	21
	9.7 Electrical requirements.....	22
	9.8 Installation	22

Figures

Figure 1 - Realisation type 1 - Principal diagram 8

Figure 2 - Example of a realisation type 1 with constructional features 8

Figure 3 - Colour coding of cable connector..... 9

Figure 4 - Example of a realisation type 2 with constructional features 11

Figure 5 - Data rail and data rail cover 11

Figure 6 - Constructional Features 12

Figure 7 - Constructional Features of Connector Type 3 Male and Female 14

Figure 8 - Example of a connector type 4 male single phase 16

Figure 9 - Example of a connector type 4 female single phase 17

Figure 10 - Example of a connector type 4 male three phase..... 17

Figure 11 - Example of a connector type 4 male three phase..... 18

Figure 12 - Example of a HBES TP overvoltage protector..... 21

Figure 13 - Connecting the overvoltage protector directly on a bus coupling unit, replacing the
connector by the overvoltage protector 22

Figure 14 - Connecting the overvoltage protector at the existing connector at the bus coupling unit .. 23

Introduction

In R205-010:1996 was published documenting the medium interface solutions for Twisted pair implementations of the then existing European home and building electronic systems, more specifically Batibus and EIB.

In 1997 the convergence process between the Batibus, EIB and EHSA was initiated, which resulted in 2003 in the publication of the KNX standard and in the subsequent submission of this standard by the KNX Association as CENELEC cooperating partner to CLC/TC 205. This resulted in a positive UAP vote of this standard as part of the EN 50090 series by the European National Committees.

This version intends to bring the description of the HBES medium interface up to date with the current technical situation.

1 Scope

This Technical Report describes the current realisations of Twisted Pair 1 medium interface solutions.

TP1 signal forms are not described in this technical report as they already form part of EN 50090-5-2.

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 50090-1 1)	Home and Building Electronic Systems (HBES) - Part 1: Standardization structure
EN 50090-2-2	Home and Building Electronic Systems (HBES) - Part 2-2: System overview - General technical requirements
EN 50090-5-2	Home and Building Electronic Systems (HBES) - Part 5-2: Media and media dependent layers - Network based on HBES Class 1, Twisted Pair
EN 60998-2-1	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units (IEC 60998-2-1)
EN 60998-2-2	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units (IEC 60998-2-2)
EN 60715:2001	Dimensions of low-voltage switchgear and controlgear - Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations (IEC 60715:1981 + A1:1995)
EN 60669-1	Switches for household and similar fixed-electrical installations - Part 1: General requirements (IEC 60669-1)
EN 60603-7:2009	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors (IEC 60603-7:2008)
EN 60999 (Series)	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units (IEC 60999 (Series))
EN 61535	Installation couplers intended for permanent connection in fixed installations (IEC 61535)

1) Under consideration.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-