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Irish Standard
I.S. EN 62680-4:2014

Universal serial bus interfaces for data and power -- Part 4: Universal Serial Bus Cables and Connectors Class Document, Revision 2.0

I.S. EN 62680-4:2014

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April 2014

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English version

**Universal serial bus interfaces for data and power -
Part 4: Universal Serial Bus Cables and Connectors
Class Document, Revision 2.0
(IEC 62680-4:2013)**

Interfaces de bus universel en série pour
les données et l'alimentation électrique -
Partie 4: Document des classes des
câbles et des connecteurs de bus
universel en série, Révision 2.0
(CEI 62680-4:2013)

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Busses für Daten und Energie -
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Busses, Überarbeitung 2.0
(IEC 62680-4:2013)

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Foreword

The text of document 100/1984/CDV, future edition 1 of IEC 62680-4, prepared by Technical Area 14 "Interfaces and methods of measurement for personal computing equipment" of IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62680-4:2014.

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IEC 62680-4

Edition 1.0 2013-06

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NORME INTERNATIONALE



**Universal serial bus interfaces for data and power –
Part 4: Universal Serial Bus Cables and Connectors Class Document,
Revision 2.0**

**Interfaces de bus universel en série pour les données et l'alimentation
électrique –
Partie 4: Document des classes des câbles et des connecteurs de bus universel
en série, Révision 2.0**



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UNIVERSAL SERIAL BUS INTERFACES FOR DATA AND POWER –

Part 4: Universal Serial Bus Cables and Connectors Class Document, Revision 2.0

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The text of this standard is based on documents prepared by the USB Implementers Forum (USB-IF). The structure and editorial rules used in this publication reflect the practice of the organization which submitted it.

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The text of this standard is based on the following documents:

CDV	Report on voting
100/1984/CDV	100/2065/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

A list of all the parts in the IEC 62680 series, published under the general title *Universal serial bus interfaces for data and power* can be found on the IEC website.

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INTRODUCTION

The IEC 62680 series is based on a series of specifications that were originally developed by the USB Implementers Forum (USB-IF). These specifications were submitted to the IEC under the auspices of a special agreement between the IEC and the USB IF.

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IEC 62680-1, *Universal Serial Bus interfaces for data and power – Part 1: Universal Serial Bus Specification, Revision 2.0*

IEC 62680-2, *Universal Serial Bus interfaces for data and power – Part 2: USB Micro-USB Cables and Connectors Specification, Revision 1.01*

IEC 62680-3, *Universal Serial Bus interfaces for data and power – Part 3: USB Battery Charging Specification, Revision 1.2*

IEC 62680-4, *Universal Serial Bus interfaces for data and power – Part 4: Universal Serial Bus Cables and Connectors Class Document Revision. 2.0*

This part of the IEC 62680 series consists of several distinct parts:

- the main body of the text, which consists of the original specification developed by the USB-IF.

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Universal Serial Bus Cables and Connectors Specification

Revision 2.0
August, 2007

Revision History

Revision	Date	Filename	Comment
2.0 RC6	August 10, 2007	CabConnRC6_Aug10.doc	Added Go/No-go & latch measurement for Micro series Added Drain wire inspection process Added pin contact visual inspection Added clarifying text to 4-axis test description
2.0 RC5	June 5, 2007	CabConn20RC5_June5	Removed Shielding Effectiveness Replace Rotational Continuity with 4-Axis continuity Other miscellaneous minor changes
2.0 RC4	May, 2007	CabConn20RC4_May07	Cable Construction inspection added
2.0	April 4, 2007	CabConn20	Removed Shielding Effectiveness, Added power line resistance test Added cable rotation test
2.0	February 14, 2007	CabConn Rev 2.0	Edits from Tsuyoshi YAMANE of Matsushita
2.0	February 13, 2007	CabConn Rev 2.0	Edited by Jim Koser new chart from Hirose
2.0	February 7, 2007	CabConn Rev 2.0	Edited draft
2.02RC2	February 6, 2007	CabConnRC2_02-06-07	Work group editorials
2.01RC2	December 6, 2006	CabConnRC2_12-06-06	Work group editorials
2.0RC2	July 11, 2006	CabConnRC2_7-11-06	Added durability requirements for Ruggedized Standard "A" receptacle and durability requirements for Micro series
2.0RC2	June 7, 2006	CabConnRC2_6-7-06	Added new critical dimensions drawings for standard "A" and "B" plugs and receptacles and changed the criteria for "mini" products to the use of go – no go gages in Appendix B
2.0RC2	March 24, 2006	CabConnRC2_3-23-06.doc	Added new IP agreement
2.0RC2	December 03, 2003	CabConnRC2.doc	Final edit during USB DWG meeting in Austin prior to posting the document to Web site
2.0RC1	October 29, 2002	CabConnRC1.doc	Adjust formatting in technical edit pass
2.0RC	August 13, 2002		Rewrite of test program to reflect current practice and general updates to reflect changes in the USB Specification.
1.1	September 1, 1999		Editorial Update for improved use. Add Appendices 'A' and 'B.'
1.0	May 22, 1999		Accepted unanimously by USB-IF DWG after 30-day posting without negative comment.
1.0RC	March 27, 1999		Release for industry comment

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Revision	Date	Filename	Comment
0.9a	January 19, 1999		Moved to Revision 0.9 by consensus of the Cable & Connector Work Group. Pending final editorial cleanup RRs to be voted on at a special Cable & Connector Work Group meeting February 21, 1999.
0.9RC	December 18, 1998		Moves Document to 0.9RC by consensus of the Cable & Connector Group to Version 0.9 without Appendices Drawings and Lab Listings. Special dispensation by the DWG to move to Revision 1.0 for use at the January 1999 Plug Fest.
0.8	October 20, 1998		Release for industry comment

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1 Introduction

1.1 Purpose

This document describes the mechanical, electrical, environmental, design and performance criteria and voluntary supplier compliance requirements for USB connectors, cable and fabricated cable assemblies. In addition, this document provides detailed requirements for the design, approval and implementation of application specific USB connectors and fabricated cable assemblies.

1.2 Scope

The information provided in this document serves as a guideline for design, development and voluntary compliance testing of USB connectors and fabricated cables assemblies, as well as defining mechanical, electrical, environmental and performance characteristics. As such, it defines how USB connectors, cable and fabricated cables assemblies are to be implemented and how manufacturers and/or fabricators will interact with the voluntary compliance requirements.

1.3 Related Documents

American Society for Testing and Materials

ASTM-D-4565 *Standard Test Methods for Physical and Environmental Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable.* This specification is available through the World Wide Web site <http://www.astm.org/>

ASTM-D-4566 *Standard Test Methods for Electrical Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable.* This specification is available through the World Wide Web site <http://www.astm.org/>

ANSI/EIA 364-C *Electrical Connector/Socket Test Procedures Including Environmental Classifications*, approved 1994. Available in hard copy – reference search site <http://www.nssn.org/information.html>

Underwriters Laboratories

UL STD-94 *Test procedures used to classify polymeric materials 94HB, 94V-1, 94V-2, 94-5VA, 94-5VB, 94VTM-0, 94VTM-1, 94VTM-2, 94HBF, 94HF-1, and 94HF-2.* This specification is available through the World Wide Web site <http://www.comm-2000.com/>

UL Subject-444 *Type CMP (plenum cable), Type CMR (riser cable), Type CM (commercial cable), and Type CMX (cable for restricted use.* This specification is available through the World Wide Web site <http://www.comm-2000.com/>

[USB2.0] *Universal Serial Bus Specification*, revision 2.0 (also referred to as the *USB Specification*). This specification is available on the World Wide Web site <http://www.usb.org>.

USB On-The-Go *On-The-Go Supplement to the USB 2.0 Specification* (also referred to as the *USB On-The-Go Specification*). This specification is available on the World Wide Web site <http://www.usb.org>.

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