

STN	Rozhrania univerzálnej sériovej zbernice pre dáta a napájanie Časť 1-3: Spoločné súčasti Špecifikácia USB kábla a konektora typu CTM	STN EN 62680-1-3 36 8365
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Universal serial bus interfaces for data and power - Part 1-3: Common components - USB Type-CTM Cable and Connector Specification

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 04/18

Obsahuje: EN 62680-1-3:2017, IEC 62680-1-3:2017

Oznámením tejto normy sa od 30.10.2020 ruší
STN EN 62680-1-3 (36 8365) z apríla 2017

126553

EUROPEAN STANDARD

EN 62680-1-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2017

ICS 33.120.20; 33.120.30; 35.200

Supersedes EN 62680-1-3:2016

English Version

**Universal serial bus interfaces for data and power - Part 1-3:
Common components - USB Type-CTM Cable and Connector
Specification
(IEC 62680-1-3:2017)**

Interfaces de bus universel en série pour les données et
l'alimentation électrique - Partie 1-3: Composants communs
- Spécification des câbles et connecteurs USB de type CTM
(IEC 62680-1-3:2017)

Schnittstellen des Universellen Seriellen Busses für Daten
und Energie - Teil 1-3: Gemeinsame Bauteile - Festlegung
für USB-Typ-CTM-Kabel und -Steckverbinder
(IEC 62680-1-3:2017)

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EN 62680-1-3:2017 (E)**European foreword**

The text of document 100/2853/CDV, future edition 2 of IEC 62680-1-3, 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 62680-1-3:2017.

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IEC 62680-1-3

Edition 2.0 2017-09

INTERNATIONAL STANDARD



**Universal serial bus interfaces for data and power –
Part 1-3: Common components – USB Type-CTM Cable and Connector
Specification**

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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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IEC 62680-1-3

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Part 1-3: Common components – USB Type-CTM Cable and Connector
Specification**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.120.20; 33.120.30; 35.200

ISBN 978-2-8322-4842-3

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

UNIVERSAL SERIAL BUS INTERFACES FOR DATA AND POWER –

**Part 1-3: Common components –
USB Type-C™ Cable and Connector Specification**

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This second edition cancels and replaces the first edition published in 2016 and constitutes a technical revision.

The text of this standard was 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
100/2853/CDV	100/2958/RVC

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This standard is the USB-IF publication USB Type-C™ Cable and Connector Specification Revision 1.2 as of March 25, 2016.

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Universal Serial Bus Type-C Cable and Connector Specification

Revision 1.2
March 25, 2016

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Note: All Engineering Change Notice's (ECN) and Errata documents as of December 06, 2016 that pertain to this core specification follow the last page of the specification starting on page 217.

Specification Work Group Chairs / Specification Editors

Intel Corporation (USB 3.0 Promoter company)	Yun Ling – Mechanical WG co-chair, Mechanical Chapter Co-editor Bob Dunstan – Functional WG co-chair, Specification Co-author Brad Saunders – Plenary/Functional WG chair, Specification Co-author
Seagate	Alvin Cox, Mechanical WG co-chair, Mechanical Chapter Co-editor

Specification Work Group Contributors

Advanced-Connectek, Inc. (ACON)	Glen Chandler Jeff Chien Lee (Dick Lee) Ching Conrad Choy	Vicky Chuang Aven Kao Danny Liao Alan MacDougall	Alan Tsai Stephen Yang
Advanced Micro Devices	Steve Capezza	Walter Fry	Will Harris
Agilent Technologies, Inc.	James Choate		
Analogix Semiconductor, Inc.	Mehran Badii	Greg Stewart	
Apple	Mahmoud Amini Sree Anantharaman Paul Baker Jason Chung David Conroy Bill Cornelius William Ferry	Zheng Gao Girault Jones Keong Kam Min Kim Chris Ligtenberg Nathan Ng James Orr	Keith Porthouse Sascha Tietz Jennifer Tsai Colin Whitby- Stevens Dennis Yarak
Cypress Semiconductor	Mark Fu Rushil Kadakia	Anup Nayak Jagadeesan Raj	Sanjay Sancheti Subu Sankaran
Dell	Mohammed Hijazi David Meyers	Sean O'Neal Ernesto Ramirez	Thomas Voor
DisplayLink (UK) Ltd.	Pete Burgers	Richard Petrie	
Electronics Testing Center, Taiwan	Sophia Liu		
Foxconn	Asroc Chen Allen Cheng Jason Chou Edmond Choy Bob Hall	Chien-Ping Kao Ji Li Ann Liu Terry Little Steve Sedio	Pei Tsao AJ Yang Yuan Zhang Jessica Zheng Andy Yao
Foxlink/Cheng Uei Precision Industry Co., Ltd.	Robert Chen Sunny Chou Carrie Chuang Wen-Chuan Hsu Alex Hsue	Armando Lee Dennis Lee Justin Lin Tse Wu Ting	Steve Tsai Wen Yang Wiley Yang Junjie Yu
Google	Joshua Boillard Alec Berg Todd Broch Jim Guerin Jeffrey Hayashida	Mark Hayter Nithya Jagannathan Lawrence Lam Ingrid Lin Richard Palatin	Adam Rodriguez David Schneider Ken Wu
Granite River Labs	Mike Engbretson	Johnson Tan	
Hewlett Packard (USB 3.0 Promoter company)	Alan Berkema Robin Castell	Michael Krause Jim Mann	Linden McClure Mike Pescetto

Hirose Electric Co., Ltd.	Jeremy Buan William MacKillop	Gourgen Oganessyan	Sid Tono
Intel Corporation (USB 3.0 Promoter company)	Dave Ackelson Mike Bell Kuan-Yu Chen Hengju Cheng Bob Dunstan Paul Durley Howard Heck Hao-Han Hsu Abdul (Rahman) Ismail	James Jaussi Luke Johnson Jerzy Kolinski Rolf Kuhniss Christine Krause Henrik Leegaard Yun Ling Xiang Li Guobin Liu Steve McGowan	Sankaran Menon Chee Lim Nge Sridharan Ranganathan Brad Saunders Amit Srivastava Ron Swartz Karthi Vadivelu Rafal Wielicki
Japan Aviation Electronics Industry Ltd. (JAE)	Kenji Hagiwara Masaki Kimura Toshio Masumoto Joe Motojima Ron Muir Tadashi Okubo Kazuhiro Saito	Kimiaki Saito Yuichi Saito Mark Saubert Toshio Shimoyama Tatsuya Shioda Atsuo Tago Masaaki Takaku	Jussi Takaneva Tomohiko Tamada Kentaro Toda Kouhei Ueda Takakazu Usami Masahide Watanabe Youhei Yokoyama
JPC/Main Super Inc.	Sam Tseng	Ray Yang	
LeCroy Corporation	Daniel H. Jacobs		
Lenovo	Rob Bowser Tomoki Harada	Wei Liu	Howard Locker
Lotes Co., Ltd.	Ariel Delos Reyes Ernest Han Mark Ho	Regina Liu-Hwang Max Lo Charles Kaun	JinYi Tu Jason Yang
LSI Corporation	Dave Thompson		
Luxshare-ICT	Josue Castillo Daniel Chen Lisen Chen	CY Hsu Alan Kinningham John Lin	Stone Lin Pat Young
MegaChips Corporation	Alan Kobayashi		
Microchip (SMSC)	Josh Averyt Mark Bohm	Donald Perkins	Mohammed Rahman
Microsoft Corporation (USB 3.0 Promoter company)	Randy Aull Fred Bhesania Anthony Chen Marty Evans Vivek Gupta Robbie Harris	Robert Hollyer Kai Inha Jayson Kastens Andrea Keating Eric Lee	Ivan McCracken Toby Nixon Gene Obie Srivatsan Ravindran David Voth
MQP Electronics Ltd.	Sten Carlsen	Pat Crowe	
Nokia Corporation	Daniel Gratiot Pekka Leinonen	Samuli Makinen Pekka Talmola	Timo Toivola Panu Ylihaavisto
NXP Semiconductors	Vijendra Kuroodi	Guru Prasad	
Renesas Electronics Corp. (USB 3.0 Promoter company)	Nobuo Furuya	Philip Leung	Kiichi Muto
Rohm Co., Ltd.	Mark Aaldering Kris Bahar Yusuke Kondo	Arun Kumar Chris Lin	Takashi Sato Hiroshi Yoshimura

Samsung Electronics Co., Ltd.	Soondo Kim Woonki Kim	Jagoun Koo Cheolho Lee	Jun Bum Lee
Seagate	Alvin Cox Tony Priborsky	Tom Skaar	Dan Smith
STMicroelectronics (USB 3.0 Promoter company)	Nathalie Ballot Nicolas Florenchie Joel Huloux	Christophe Lorin Patrizia Milazzo	Federico Musarra Pascal Legrand
Tektronics, Inc.	Randy White		
Texas Instruments (USB 3.0 Promoter company)	Jawaid Ahmad Richard Hubbard Scott Jackson Yoon Lee Grant Ley	Win Maung Lauren Moore Martin Patoka Brian Quach Wes Ray	Anwar Sadat Sue Vining Deric Waters
Tyco Electronics Corp. (TE Connectivity Ltd.)	Max Chao Robert E. Cid Kengo Ijiri Eiji Ikematsu Joan Leu Clark Li Mike Lockyer	Jim McGrath Takeshi Nakashima Luis A. Navarro Masako Saito Yoshiaki Sakuma Gavin Shih Hiroshi Shirai	Scott Shuey Hidenori Taguchi Bernard Vetten Ryan Yu Sjoerd Zwartkruis
VIA Technologies Inc.	Terrance Shih	Jay Tseng	Fong-Jim Wang

Pre-Release Draft Industry Reviewing Companies That Provided Feedback

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		Sumitomo Electric Industries
		Toshiba Corporation

Revision History

Revision	Date	Description
1.0	August 11, 2014	Initial Release
1.1	April 3, 2015	Reprint release including incorporation of all approved ECNs as of the revision date plus editorial clean-up.
1.2	March 25, 2016	Reprint release including incorporation of all approved ECNs as of the revision date plus editorial clean-up.

1 Introduction

With the continued success of the USB interface, there exists a need to adapt USB technology to serve newer computing platforms and devices as they trend toward smaller, thinner and lighter form-factors. Many of these newer platforms and devices are reaching a point where existing USB receptacles and plugs are inhibiting innovation, especially given the relatively large size and internal volume constraints of the Standard-A and Standard-B versions of USB connectors. Additionally, as platform usage models have evolved, usability and robustness requirements have advanced and the existing set of USB connectors were not originally designed for some of these newer requirements. This specification is to establish a new USB connector ecosystem that addresses the evolving needs of platforms and devices while retaining all of the functional benefits of USB that form the basis for this most popular of computing device interconnects.

1.1 Purpose

This specification defines the USB Type-C™ receptacles, plug and cables.

The USB Type-C Cable and Connector Specification is guided by the following principles:

- Enable new and exciting host and device form-factors where size, industrial design and style are important parameters
- Work seamlessly with existing USB host and device silicon solutions
- Enhance ease of use for connecting USB devices with a focus on minimizing user confusion for plug and cable orientation

The USB Type-C Cable and Connector Specification defines a new receptacle, plug, cable and detection mechanisms that are compatible with existing USB interface electrical and functional specifications. This specification covers the following aspects that are needed to produce and use this new USB cable/connector solution in newer platforms and devices, and that interoperate with existing platforms and devices:

- USB Type-C receptacles, including electro-mechanical definition and performance requirements
- USB Type-C plugs and cable assemblies, including electro-mechanical definition and performance requirements
- USB Type-C to legacy cable assemblies and adapters
- USB Type-C-based device detection and interface configuration, including support for legacy connections
- USB Power Delivery optimized for the USB Type-C connector

The USB Type-C Cable and Connector Specification defines a standardized mechanism that supports Alternate Modes, such as repurposing the connector for docking-specific applications.

1.2 Scope

This specification is intended as a supplement to the existing *USB 2.0*, *USB 3.1* and *USB Power Delivery* specifications. It addresses only the elements required to implement and support the USB Type-C receptacles, plugs and cables.

Normative information is provided to allow interoperability of components designed to this specification. Informative information, when provided, may illustrate possible design implementations.

1.3 Related Documents

USB *Universal Serial Bus Revision 2.0 Specification*
2.0 This includes the entire document release package.
 <http://www.usb.org/developers/docs>

- USB 3.1** *Universal Serial Bus Revision 3.1 Specification*
This includes the entire document release package.
<http://www.usb.org/developers/docs>
- USB PD** *USB Power Delivery Specification, Revision 2.0, Version 1.2, March 25, 2016*
USB Power Delivery Specification, Revision 3.0, Version 1.0a, March 25, 2016
<http://www.usb.org/developers/docs>
- USB BB** *USB Billboard Device Class Specification, Revision 1.0, August 11, 2014*
<http://www.usb.org/developers/docs>
- USB BC** *Battery Charging Specification, Revision 1.2 (including errata and ECNs through March 15, 2012), March 15, 2012*
<http://www.usb.org/developers/docs>

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