

1. Record Nr.	UNINA9910797578203321
Autore	Frenzel Louis E., Jr.
Titolo	Handbook of serial communications interfaces : a comprehensive compendium of serial digital input/output (I/O) standards / / Louis E. Frenzel Jr
Pubbl/distr/stampa	Oxford, UK : , : Elsevier Science, , [2016] ©2016
ISBN	0-12-800671-4
Edizione	[1st edition]
Descrizione fisica	1 online resource (338 p.)
Disciplina	621.39/8
Soggetti	Serial communications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Front Cover; Handbook of Serial Communications Interfaces; Copyright Page; Contents; Preface; 1. Introduction to Serial I/O Communications; Rationale; Approach; 2. Serial I/O Primer: A Short Course in Data Communications and Networking; Serial versus Parallel Transfer; Serial Data Rate; Data Rate versus Bandwidth; Line Coding; OSI Model; Topology; Balanced versus Unbalanced Configurations; Transmission Medium; Asynchronous versus Synchronous Transmission; Clock and Data Recovery; Protocols; Error Detection and Correction; Access Methods; Duplexing; Miscellaneous Serial Techniques Serial to Parallel and Parallel to Serial Conversion Gearbox Operations; Equalization; Bit Banging; Fieldbuses; 3. Selecting an Appropriate Interface; Important Note; I. Low-Speed Interfaces (0-10 Mb/s); 4. 1-Wire; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 5. Actuator Sensor Interface (AS-i); Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 6. BITBUS Applications Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 7. C-Bus; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium;

Connectors; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 8. Controller Area Network (CAN); Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Connector; Range; Network Configuration; Logic Levels; Protocol; Protocol Variations; IC Sources; 9. DMX512; Applications SourceNational or International Standard; Key Features; Data Rate; Cable Medium; Connectors; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 10. FlexRay; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 11. Foundation Fieldbus; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Connectors; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 12. Highway Addressable Remote Transducer Protocol (HART) ApplicationsSource; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 13. Inter-Integrated Circuit (I2C) Bus; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; Interface and Protocol Variations; IC Sources; 14. IO-Link; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources 15. Inter-IC Sound (I2S) Bus

Sommario/riassunto

This book catalogs the most popular and commonly used serial-port interfaces and provides details on the specifications and the latest standards, enabling you to select an interface for a new design or verify that an interface is working correctly. Each chapter is based on a different interface and is written in an easy to follow, standard format. With this book you will learn:

- The most widely used serial interfaces
- How to select the best serial interface for a specific application or design
- The trade-offs between data rate and distance (length or range)
- The operation and benefits of serial
