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Information technology — Data communication — 25-pole DTE/DCE interface connector and contact number assignments

Technologies de l'information — Communication de données — Connecteur d'interface ETTD/ETCD à 25 pôles et affectation des numéros de contact

Reference number
ISO 2110 : 1989 (E)

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2110 was prepared by Technical Committee ISO/TC 97, *Information processing systems.*

This third edition cancels and replaces the second edition (ISO 2110 : 1980), of which it constitutes a minor revision: certain terms have been aligned with the terms and definitions used by IEC.

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International Organization for Standardization
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Information technology — Data communication — 25-pole DTE/DCE interface connector and contact number assignments

1 Scope

This International Standard specifies the 25-pole connector and the assignment of contact numbers at the interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) or parallel automatic calling equipment (ACE). It is applicable to voice band modems, public data network (PDN) facilities, telegraph signal converters, and automatic calling equipment where CCITT [1] Recommendations V.24 and V.28 are applicable.

In the case of the PDN attachment through the X.20 interface, the functions of the interchange circuits are in accordance with CCITT Recommendation X.24.

In the case of the V.20 type outstation interface, the electrical characteristics are in accordance with CCITT Recommendation V.31 or V.31 bis.

International Standard ISO/IEC 2110 additionally provides the dimensions of the connector housing, as well as the recommended means of providing a locking device (latching block) and connector shielding.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 261 : 1973, *ISO general purpose metric screw threads — General plan.*

ISO 8480 : 1987, *Information processing — Data communication — DTE/DCE interface back-up control operation using the 25-pole connector.*

CCITT Recommendation S.16 : 1989, *Connection to the telex network of an automatic terminal using a V.24 [1] DCE/DTE interface.*

CCITT Recommendation V.19 : 1989, *Modems for parallel data transmission using telephone signalling frequencies.*

CCITT Recommendation V.20 : 1989, *Parallel data transmission modems standardized for universal use in the general switched telephone network.*

CCITT Recommendation V.21 : 1989, *300 bits per second duplex modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.22 : 1989, *1 200 bits per second duplex modem standardized for use on the general switched telephone network and on point-to-point 2-wire leased telephone-type circuits.*

CCITT Recommendation V.22 bis : 1989, *2 400 bits per second duplex modem using the frequency division technique standardized for use on the general switched telephone network and on point-to-point 2-wire leased telephone-type circuits.*

CCITT Recommendation V.23 : 1989, *600/1 200-baud modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.24 : 1989, *List of definitions for interchange circuits between data terminal equipment and data circuit-terminating equipment.*

CCITT Recommendation V.25 : 1989, *Automatic answering equipment and/or parallel automatic calling equipment on the general switched telephone network including disabling of echo control devices for both manually and automatically established calls.*

CCITT Recommendation V.25 bis : 1989, *Automatic calling and/or answering equipment on the general switched telephone network (GSTN) using the 100-series interchange circuits.*

CCITT Recommendation V.26 : 1989, *2 400 bits per second modem standardized for use on 4-wire leased telephone-type circuits.*

1) International Telegraph and Telephone Consultative Committee.

CCITT Recommendation V.26 bis : 1989, *2 400/1 200 bits per second modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.26 ter : 1989, *2 400 bits per second duplex modem using the echo cancellation technique standardized for use on the general switched telephone network and on point-to-point 2-wire leased telephone-type circuits.*

CCITT Recommendation V.27 : 1989, *4 800 bits per second modem with manual equalizer standardized for use on leased telephone-type circuits.*

CCITT Recommendation V.27 bis : 1989, *4 800/2 400 bits per second modem with automatic equalizer standardized for use on leased telephone-type circuits.*

CCITT Recommendation V.27 ter : 1989, *4 800/2 400 bits per second modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.28 : 1989, *Electrical characteristics for unbalanced double-current interchange circuits.*

CCITT Recommendation V.29 : 1989, *9 600 bits per second modem standardized for use on point-to-point 4-wire leased telephone-type circuits.*

CCITT Recommendation V.31 : 1989, *Electrical characteristics for single-current interchange circuits controlled by contact closure.*

CCITT Recommendation V.31 bis : 1989, *Electrical characteristics for single-current interchange circuits using optocouplers.*

CCITT Recommendation V.32 : 1989, *A family of two-wire, duplex modems operating at data signalling rates of up to 9 600 bit/s for use on the general switched telephone network and on leased telephone-type circuits.*

CCITT Recommendation V.33 : 1989, *14 400 bits per second modem standardized for use on point-on-point 4-wire leased telephone-type circuits.*

CCITT Recommendation X.20 : 1989, *Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for start-stop transmission services on public data networks.*

CCITT Recommendation X.20 bis : 1989, *Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to asynchronous duplex V-series modems.*

CCITT Recommendation X.21 bis : 1989, *Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to synchronous V-series modems.*

CCITT Recommendation X.24 : 1989, *List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) on public data networks.*

IEC Publication 50(581) : 1978, *International Electrotechnical Vocabulary — Chapter 581: Electromechanical components for electronic equipment.*

IEC Publication 807-2 : 1985, *Rectangular connectors for frequencies below 3 MHz — Part 2: Detail specification for a range of connectors with round contacts — Fixed solder contact types.*

3 Definitions

The following definitions have been taken from IEC Publication 50(581) : 1978.

3.1 cable adaptor: A part of a connector or an accessory consisting of a rigid housing for attachment to the connector body. It may incorporate provision for a cable clamp or seal for terminating screens and provide shielding from electrical interference. It may be straight or angled.

3.2 connector housing: A part of a connector into which the insert and contacts are assembled.

3.3 contact arrangement: The number, spacing and configuration of contacts in a component.

3.4 female contact: A contact intended to make electrical engagement on its inner surface and which will accept entry of a male contact.

3.5 intermateable connectors: Two connectors are intermateable when they are capable of being connected electrically and mechanically but without regard to their performance and intermountability.

3.6 locking device: A feature incorporated in certain components to provide mechanical retention of their mating parts.

3.7 male contact: A contact intended to make electrical engagement on its outer surface and which will enter a female contact.

3.8 (n-pole-)connector: A component which terminates conductors for the purpose of providing connection and disconnection to a suitable mating component.

4 Connector

A 25-pole connector shall be provided for the DTE/DCE interface. A separate 25-pole connector shall be provided for the parallel automatic calling equipment interface if the facility in accordance with CCITT Recommendation V.25 is used.

Figures 1 to 6 illustrate the 25-pole connector. Only those dimensions that are essential for mating are shown.

Figure 1 illustrates the DTE connector which has 25 male contacts in a connector housing. Figure 2 Illustrates the DCE connector which has 25 female contacts in a connector housing. The connector housing on the DCE connector is dimensioned to fit inside the connector housing on the DTE connector (see figures 1 and 2). Contact numbering is specified in figures 1 and 2. Figure 3 illustrates the dimensions for the contact