INTERNATIONAL STANDARD

ISO/IEC 11569

First edition
1993-09-01

Information technology — Telecommunications and information exchange between systems — 26-pole interface connector mateability dimensions and contact number assignments

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Dimensions des connecteurs d'interface à 26 poles et allocation des numéros de contact



Reference number
ISO/IEC 11569:1993(E)

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS

Not for Resale

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 11569 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Sub-Committee SC 6, *Telecommunications and information exchange between systems*.

Annex A of this International Standard is for information only.

© ISO/IEC 1993
All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

ISO/IEC Copyright Office • Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

--`,,```,,,,````-`-`,,`,,`,`,,`---
Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

Information technology — Telecommunications and information exchange between systems — 26-pole interface connector mateability dimensions and contact number assignments

1 Scope

This International Standard specifies a 26-pole connector, including the necessary mateability dimensions and the assignment of contact numbers, for use at the interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE). It is applicable where the functional characteristics of the interface conform to 100 Series definitions in CCITT Recommendation V.24 and the electrical characteristics conform to CCITT Recommendations V.10, V.11, or V.28. It is not applicable to modems for parallel data transmission.

2 Normative references

The following CCITT Recommendations and International Standards contain certain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All CCITT Recommendations and International 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/recommendations indicated below. Members of IEC and ISO maintain registers of currently valid International Standards. The CCITT Secretariat maintains a list of currently valid CCITT Recommendations.

ISO 2110: 1989, *Information technology — Data Communication — 25-pole DTE/DCE interface connector and contact number assignments.*

CCITT Recommendation V.10: *1988, Electrical characteristics for unbalanced double-current interchange circuits for general use with integrated circuit equipment in the field of data communications.*

CCITT Recommendation V.11: 1988, *Electrical characteristics for balanced double-current interchange circuits for general use with integrated circuit equipment in the field of data communications.*

CCITT Recommendation V.21: 1988, *300 bits per second duplex modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.22: 1988, *1200 bits per second duplex modem standardized for use in the general switched telephone network and on point-to-point 2-wire leased telephone type circuits.*

CCITT Recommendation V.22 *bis*: 1988, *2400 bits per second duplex modem using the frequency division technique standardized for use in the general switched telephone network and on point-to-point 2-wire leased telephone type circuits*

CCITT Recommendation V.23: 1988, *600/1200 bits per second modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.24: 1988, *List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE).*

CCITT Recommendation V.25 *bis*: 1988, *Automatic calling and/or answering equipment on the general switched telephone network (GSTN) using 100-series interchange circuits.*

CCITT Recommendation V.26 1988, *2400 bits per second modem standardized for use on 4-wire leased telephone-type circuits.*

CCITT Recommendation V.26 *bis*: 1988, *2400/1200 bits per second modem standardized for use in the general switched telephone network.*

CCITT Recommendation V.26 *ter*: 1988, *2400 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: 1988, *4800 bits per second modem with manual equalizer standardized for use on leased telephone-type circuits.*

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

CCITT Recommendation V.27 *bis*: 1988, *4800/2400 bits per second modem with automatic equalizer standardized for use on leased telephone-type circuits.*

CCITT Recommendation V.27 ter: 1988, *4800/2400 bits per second modem standardized for use on the general switched telephone network*

CCITT Recommendation V.28: 1988, *Electrical characteristics for unbalanced double-current interchange circuits.*

CCITT Recommendation V.29: 1988, *9600 bits per second modem standardized for use on point-to-point 4-wire leased telephone-type circuits.*

CCITT Recommendation V.32: 1988, *A family of 2-wire duplex modems operating at data signalling rates of up to 9600 bit/s for use on the general switched telephone network and on leased telephone-type circuits.*

CCITT Recommendation V.32 *bis*: 1990, *A duplex modem operating at data signalling rates up to 14400 bit/s for use on the general switched telephone network and on leased point-to-point 2-wire telephone-type circuits.*

CCITT Recommendation V.33: 1988, *14 400 bits per second modem standardized for use on point-to-point 4-wire leased telephone-type circuits.*

CCITT Recommendation V.42: 1988, *Error-correcting procedures for DCEs using asynchronous-to-synchronous conversion.*

CCITT Recommendation X.20 *bis*: 1988, *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*: 1988, *Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to synchronous V-series modems.*

3 Definitions

For the purposes of this International Standard the following definitions apply:

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

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

3.3 female contact : A contact intended to make electrical engagement on its inner surface.

3.4 intermateable connectors : Two connectors that are capable of being connected to each other electrically and mechanically.

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

3.6 male contact : A contact intended to make electrical engagement on its outer surface.

3.7 seating plane : The surface that the connector bottoms on when it is fully mated.

4 Connector

A 26-pole connector shall be provided for the DTE/DCE interface. Figures 1 to 4 illustrate the connectors. Only those dimensions that are essential for mating are shown.

The DTE-DCE interface point is defined at the point between the cable connector associated with the cable attached to the DTE and the equipment connector associated with the DCE.

Figure 1 illustrates the cable connector which has 26 male contacts in a connector housing. Figure 2 illustrates the equipment connector which has 26 female contacts in a connector housing. The connector housing on the equipment connector is dimensioned to fit inside the connector housing of the cable connector (see figures 3 and 4). Figures 3 and 4 give contact numbering and illustrate the dimensions and latching mechanism for the cable and equipment connectors respectively.

5 Assignment of contacts

The assignment of contact numbers is given in table 2. The list of interchange circuits is given in table 1.

6 Shielding

The 26-pole connector is a shielded connector.

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

Table 1 - Interchange circuits

102	Signal Ground or common return
102a	DTE common return
102b	DCE common return
103*	Transmitted data
104*	Received data
105*	Request to send
106*	Ready for sending
107	Data set ready
108/1	Connect data set to line
108/2	Data terminal ready
109*	Data channel received line signal detector
112	Data signalling rate selector (DCE)
113*	Transmitted signal element timing (DTE source)
114*	Transmitted signal element timing (DCE source)
115*	Receiver signal element timing (DCE source)
116/1	Back-up switching in direct mode
116/2	Back-up switching in authorized mode
117	Standby indicator
118	Transmitted backward channel data
119	Received backward channel data
120	Transmit backward channel line signal
121	Backward channel ready
122	Backward channel received line signal detector
125	Calling indicator
126	Select transmit frequency
133*	Ready for receiving
135	Received energy present
140	Loopback/Maintenance test
141	Local loopback
142	Test indicator

* When these Circuit numbers are followed by an "A" or a "B" it indicates both sides of a balanced electrical circuit. This type of circuit should have both sides (the A and B) assigned to a twisted pair in the interconnecting cable to minimize cross-talk.

Table 2 - Assignment of contact numbers

Contact number	V.Series <20 000 bit/s[7)]	X.20*bis*	X.21*bis*	V.Series >20 000 bit/s
1[1)]	shield	shield	shield	shield
2	103	103	103	103A
3	104	104	104	104A
4[2)]	105/133	F	105	105A/133A
5	106	106	106	106A
6	107	107	107	107
7	102	102	102	102a
8	109	109	109	109A
9	F	F	F	115B
10	F	F	F	109
11[3)]	126	F	F	113B
12[4)]	112/122	F	F	114B
13[5)]	121	F	F	106B
14[5)]	118	F	F	103B
15	114	F	114	114A
16[5)]	119	F	F	104B
17	115	F	115	115A
18	141	141	141	141
19[5)]	120	F	F	105B/133B
20[6)]	108	108	108	108
21	140	140	140	140
22[8)]	125/135	125	125	125
23	111	F	F	102b
24	113	F	F	113A
25	142	142	142	142
26	NC	NC	NC	NC
Electrical characteristics	V.28	V.28	V.28	V.10/V.11

F= contact reserved for International use
NC = No connection

NOTES

1) Contact 1 - This contact is provided for shield continuity. Any connection to protective or signal ground is governed by National Safety regulations. The particular grounding requirements or arrangements may influence equipment susceptibility to main leakage noise.

--`,,```,,,,````-`-`,,`,,`,`,,`---

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS

Not for Resale

2) Contact 4 - Circuit 133 is only specified in Recommendation V.42 which is presently specified for duplex operation only. As Circuit 105 is used for half duplex operation there should be no conflicts.

3) Contact 11 - Circuit 126 is only specified in Recommendation V.21.

4) Contact 12 - Circuit 122 is only specified in Recommendations V.23 (leased line), V.26, V.26 *bis*, V.27, V.27 *bis*, and V.27 *ter*. Circuit 112 is specified in Recommendations V.22 *bis*, V.32, V.33, and V.32 *bis*.

5) Contacts 13, 14, 16, and 19 - Circuits 118, 119, 120 and 121 are only specified for modems with a backward channel, Recommendations V.23, V.26, V.26 bis, V.27, V.27 *bis* and V.27 *ter*.

6) Contact 20 may be designated either Circuit 108/1 or 108/2.

7) Where ISO 8480 is implemented and backward channels are not present (see note 5), contact 14 is used for circuit 116/1 or 116/2 and contact 16 is used for circuit 117.

8) When used in connection with text telephone operation, contact 22 may be assigned to either circuit 125 or circuit 135 at different times during the call. Whereas the addition of circuit 135 has received the endorsement of Working Party XVII/2 it has not yet received final approval by SG XVII.

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

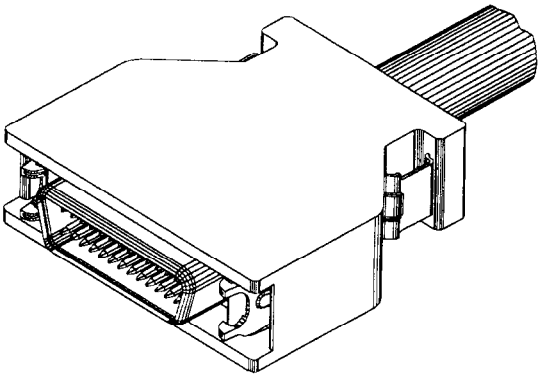


Figure 1 - Cable connector (male contacts)

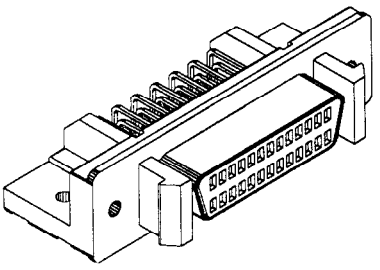
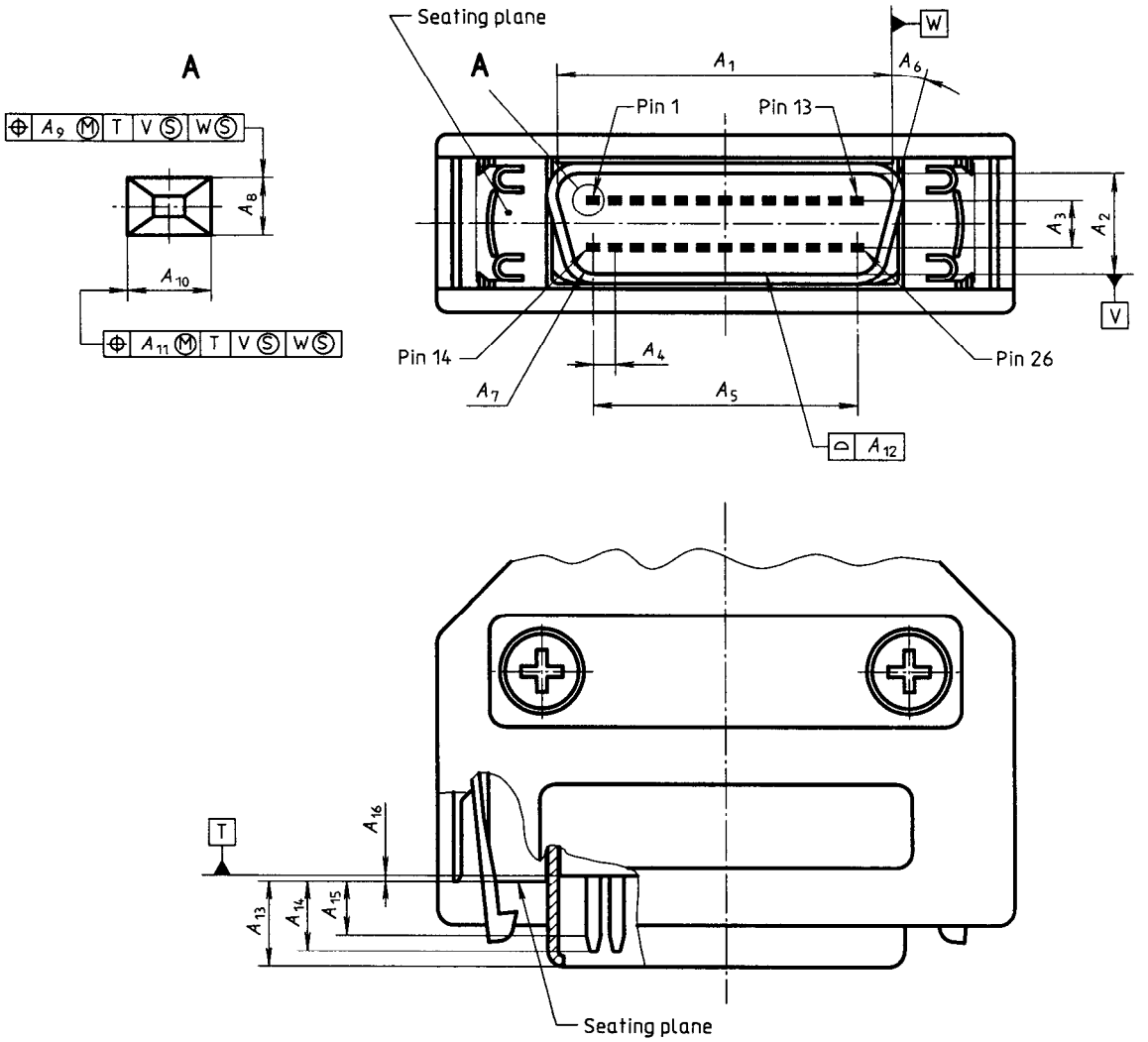


Figure 2 - Equipment connector (female contacts)

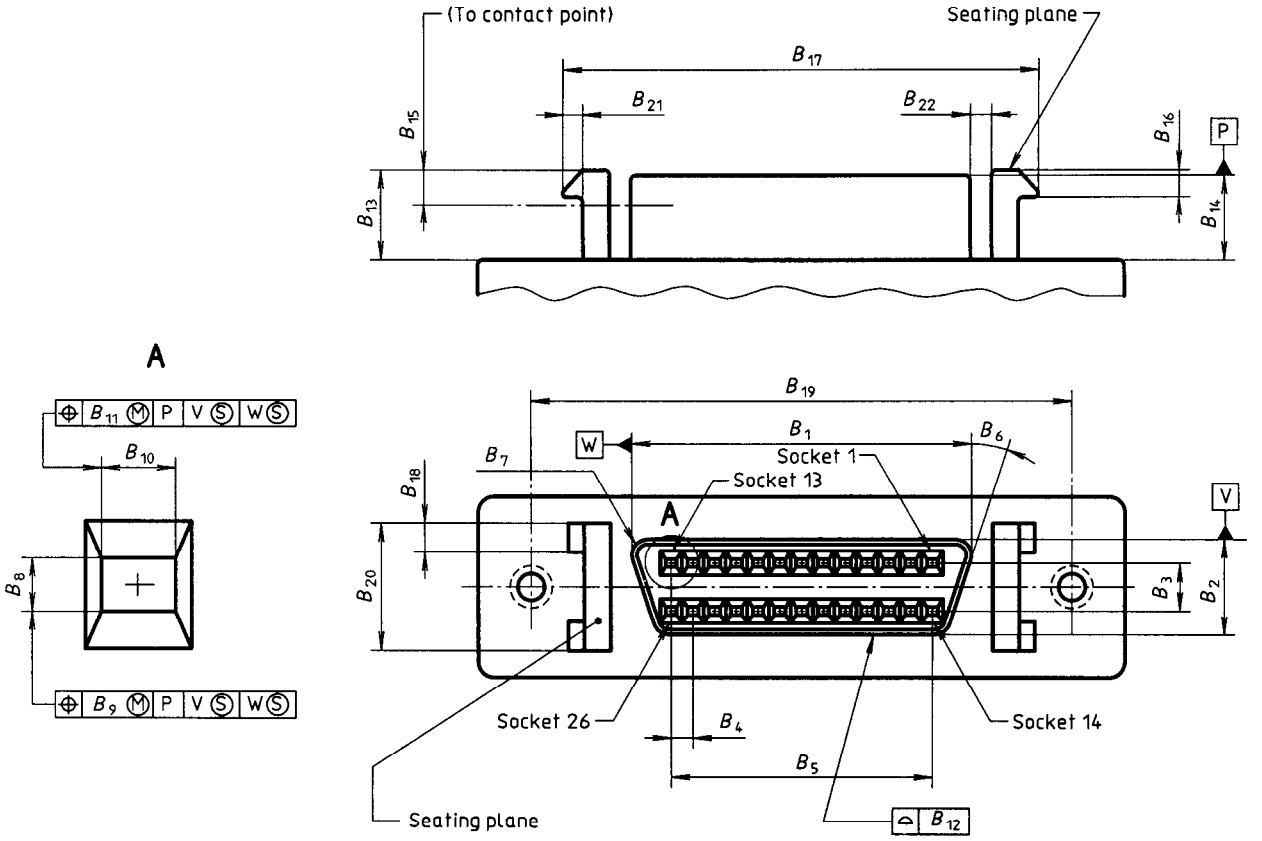
Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale



DIMENSIONS	26 POSITION	
	mm	in
A_1	19,61	0,772
A_2	5,69	0,224
A_3	2,54	0,100
A_4	1,27	0,050
A_5	15,24	0,600
A_6	15°	15°
A_7	*R*1,04	*R*0,041
A_8	0,40 ± 0,01	0,156 ± 0,0004
A_9	0,23	0,009
A_{10}	0,60 ± 0,03	0,24 ± 0,001
A_{11}	0,23	0,009
A_{12}	0,05	0,002
A_{13}	4,90 ± 0,10	0,193 ± 0,004
A_{14}	4,27 max.	0,68 max.
A_{15}	2,64 min.	0,104 min.
A_{16}	0,38 max.	0,015 max.

Figure 3 - Mating dimensions (cable connector)

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale



DIMENSIONS	26 POSITION	
	mm	in
B_1	19,46	0,766
B_2	5,54	0,218
B_3	2,54	0,100
B_4	1,27	0,050
B_5	15,24	0,600
B_6	15°	15°
B_7	R1,00	R0,039
B_8	0,61 ± 0,05	0,24 ± 0,002
B_9	0,15	0,005
B_{10}	0,86 ± 1,0	0,34 ± 0,004
B_{11}	0,15	0,006
B_{12}	0,05	0,002
B_{13}	5,10 ± 0,05	0,201 ± 0,002
B_{14}	5,00 ± 0,13	0,197 ± 0,005
B_{15}	1,85 max.	0,073 max.
B_{16}	1,50 max.	0,059 ± 0,001
B_{17}	27,05 ± 1,0	1,065 ± 0,004
B_{18}	1,52 min.	0,060 min.
B_{19}	31,24 ± 0,13	1,230 ± 0,005
B_{20}	5,99 ± 0,8	0,275 ± 0,003
B_{21}	0,88 min.	0,035 min.
B_{22}	1,27 min.	0,050 min.

Figure 4 - Mating dimensions (equipment connector)

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

Annex A
(informative)

Interoperation with other interfaces

A.1 Interoperation with ISO 2110

This interface is designed to directly interwork with an interface using ISO 2110, either through the use of a passive adapter, or a cable with the connector specified in this International Standard at one end and one conforming to ISO 2110 at the other end. The contact assignments in both connectors are one-for-one mapped.

A.2 Interoperation with interfaces specified in CCITT Recommendations V.36 or V.37

See ISO 2110 :1989/ Amd. 1:1991 for guidance.

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

UDC 681.327.18:621.316.541

Descriptors: data processing, information interchange, telecommunications, data transmission, data terminal equipment, computer interfaces, connecting equipment, electric connectors, multi-contact connectors, connector pins, specifications, dimensions, position (location), numbering.

Price based on 8 pages

Copyright International Organization for Standardization
Provided by IHS under license with ISO
No reproduction or networking permitted without license from IHS

Not for Resale