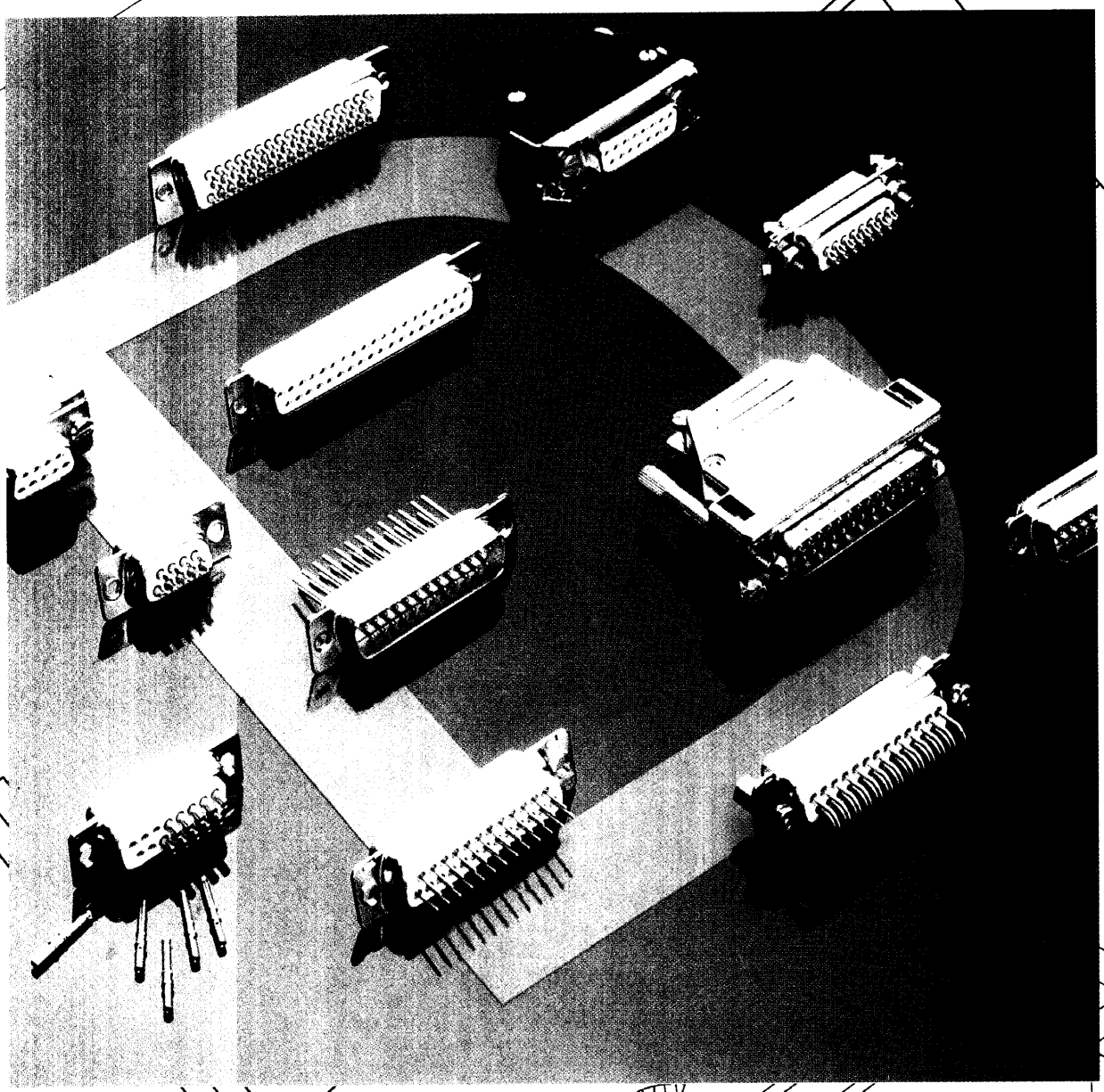
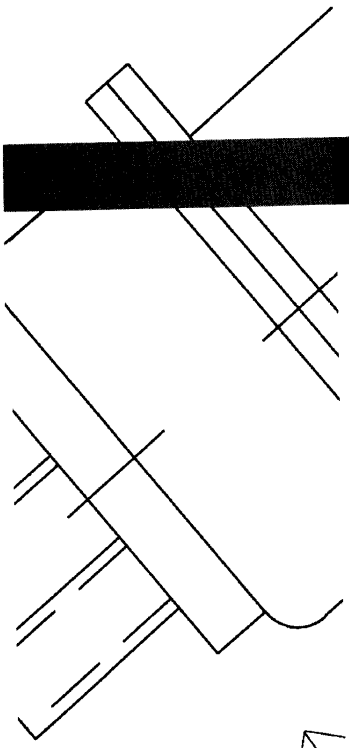
Series D

PROFESSIONAL CONNECTOR PROGRAMME



CEEP

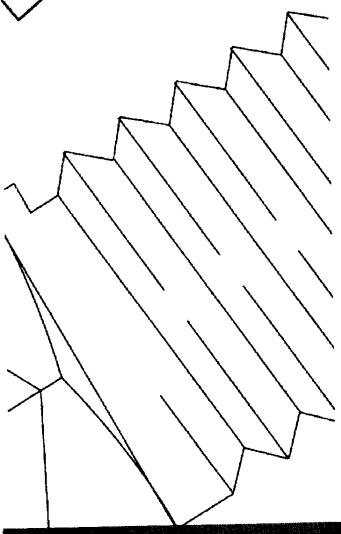


MAKING CONNECTIONS

When it comes to making connections that count, CEEP Ltd certainly has all the right credentials. Established for over 20 years internationally and in the UK for more than 10 years, CEEP Ltd is already well known to its many customers and dealers as a market leader in the design, manufacture and supply of advanced electrical interconnection systems.

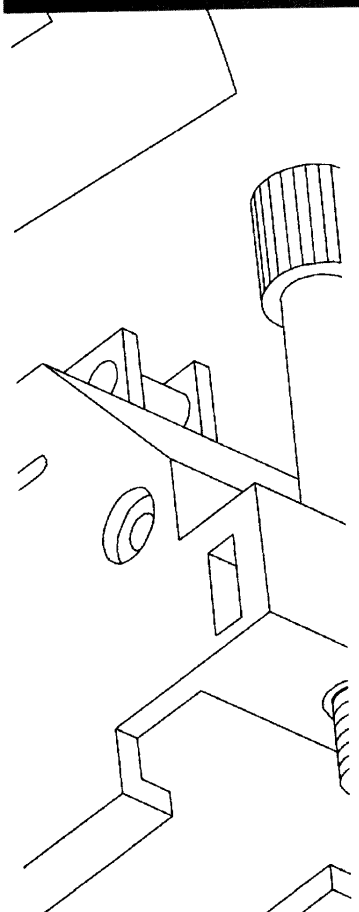
Our product range includes "D" connectors, circular and rectangular connectors, hoods and an extensive range of accessories. The integrity and effectiveness of CEEP components is well established and continually demonstrated, and is subject to an on-going programme of research and development.

By combining our extensive design facilities with considerable experience of all major industrial, commercial and professional sectors, customers can be certain of always making the right connection.



INDEX

Technical Data ____ 3
Shell Dimensions ____ 4
Contact Terminations ____ 4
Contact layout and Identification ____ 5
Part Numbers for DX Connectors ____ 6
Part Numbers for DN Connectors ____ 6
DN Tools ____ 7
Filter D Connectors ____ 8
Hermetic D Connectors ____ 9
Stacked D Connectors ____ 10
Board Drilling Details ____ 11
Screwlock System Hoods ____ 12
Slidelock System Hoods ____ 13
Locking Devices ____ 14
Mounting Systems ____ 15



TECHNICAL DATA

Series D

DX Series

Materials

Connector shell _ _ _ Mild steel
Connector moulding _ Thermoplastic UL94VO

Contacts _ _ _ _ _ _ _ Turned copper alloy

Plating, shells _ _ _ _ Zinc/yellow passivate or electro tin

Contacts _ _ _ _ _ _ _ Hard acid gold on nickel

Performance

Operating temperature _ _ - 55 °C to + 125 °C
Working voltage _ _ _ _ _ _ 500V DC or AC peak at sea level

Proof voltage _ _ _ _ _ _ _ 500V DC or AC peak

Contact resistance _ _ _ _ 10 mohm
Working current _ _ _ _ _ _ 7.5A per contact in isolation
5.0A all contacts simultaneously

Insulation resistance _ _ _ 10^6 Mohm
Mechanical endurance _ _ 500 operations

FDX Series

A filtered version of the DX connector, and dimensionally identical. For performance parameters see page 8.

Materials

Connector shell _ _ _ Mild steel
Connector moulding _ Thermoplastic UL94VO
Contacts _ _ _ _ _ _ _ Turned copper alloy

Plating, shells _ _ _ _ Electro tin on nickel
Contacts _ _ _ _ _ _ _ Hard acid gold on nickel

DN Series

Materials

Connector shell _ _ _ Mild steel
Connector moulding _ Monobloc, Thermoplastic UL 94 VO

Contacts _ _ _ _ _ _ _ Turned copper alloy

Plating, shells _ _ _ _ Zinc/yellow passivate or nickel
Contacts _ _ _ _ _ _ _ Hard acid gold on nickel

Performance

Operating temperature _ -55 °C to + 90 °C
Working voltage _ _ _ _ _ 250V AC rms
Proof voltage _ _ _ _ _ _ 1000V AC rms at sea level

Contact resistance _ _ _ <5 mohm

Working current _ _ _ _ _ 7.5A per contact in isolation
5.0A all contacts simultaneously

Insulation resistance _ _ 10^6 Mohm
Mechanical endurance _ 500 operations

DH Series Hermetic Ds

Materials

Connector shell _ _ _ Steel
Seal _ _ _ _ _ _ _ _ _ Boro silicate glass
Contacts _ _ _ _ _ _ _ Steel, nickel, cobalt alloy

Plating, shells _ _ _ _ 4µ silver tin alloy
Contacts _ _ _ _ _ _ _ Hard acid gold on nickel (or tin on nickel also available on request) (Shells also available zinc/passive or nickel

Performance

Operating temperature _ -55 °C to + 175 °C
Working voltage _ _ _ _ _ 250V AC rms
Proof voltage _ _ _ _ _ _ 750V AC rms

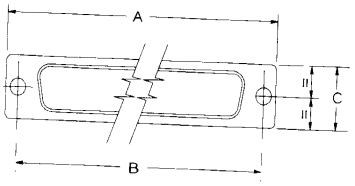
Contact resistance _ _ _ 10mΩ
Working current _ _ _ _ _ 5.0A all contacts simultaneously

Insulation resistance _ _ 5000MΩ at 500v DC

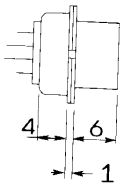
Leakage _ _ $<10^4$ cm³ at 1

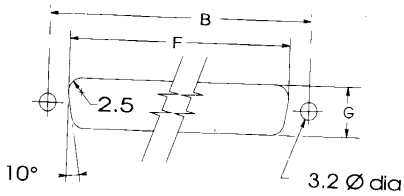
OUTLINE DIMENSIONS

Shell Dimensions

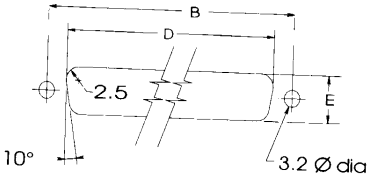


Panel Cut Out

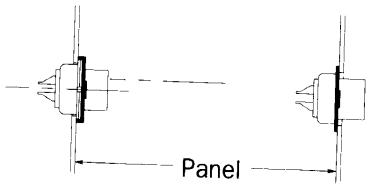




Rear Mounting

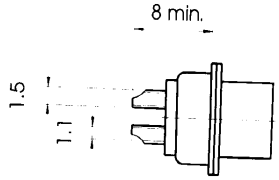


Front Mounting

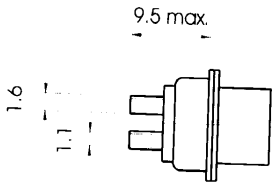


Shell Size	A-0.2	B±0.1	C-0.2	D±0.2	E±0.2	F±0.2	G±0.2
9 way	30.8	25.0	12.4	22.2	13.0	20.5	11.4
15 way	39.2	33.3	12.4	30.5	13.0	28.8	11.4
25 way	53.1	47.0	12.4	44.3	13.0	42.5	11.4
37 way	69.5	63.5	12.4	60.7	13.0	59.1	11.4
50 way	67.0	61.1	15.4	58.3	15.8	56.3	14.1

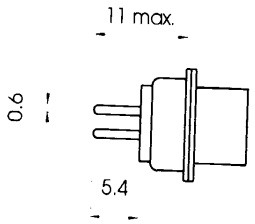
Contact Terminations



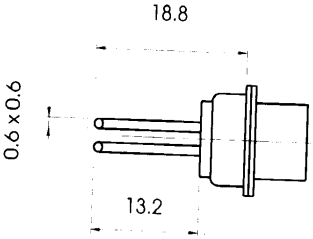
Z
Solder Bucket



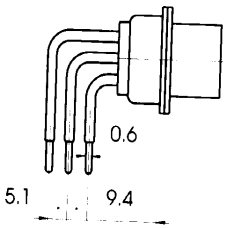
X
Crimp DN Series



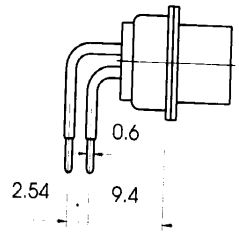
Y
Straight Flow Solder



W3
Wire Wrap



YC
Right Angle Flow Solder



YC

CONTACT LAYOUT & IDENTIFICATION

Series D

Board Drilling Detail

Dimensions shown in mm

AA' = reference axis.

Positional tolerance of holes is 0.1mm from theoretical.

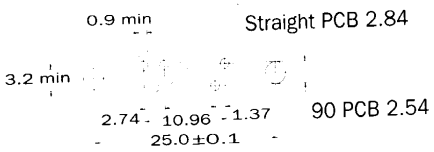
*Recommended hole: 0.8 to 1mm.

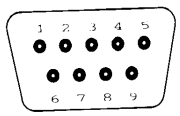
Pitch between rows is 2.54mm for YC termination connectors.

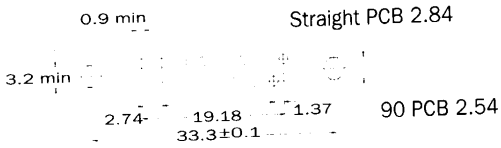
Contact Identification

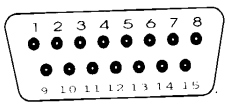
Male Connectors mating face.

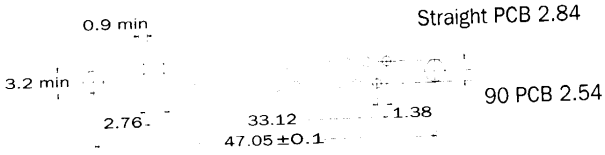
Female Connectors wiring face.

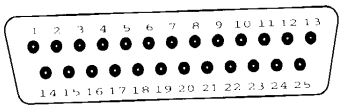


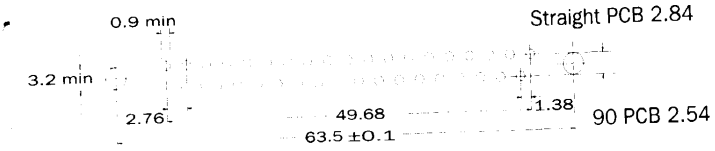


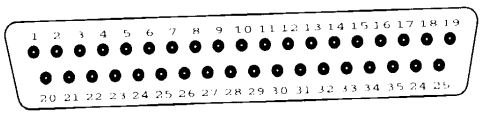


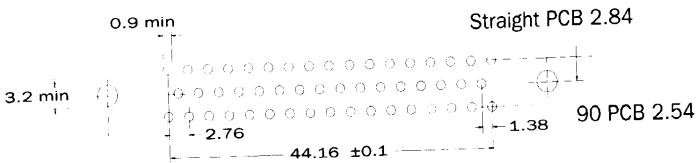


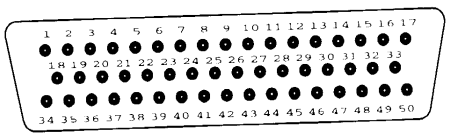


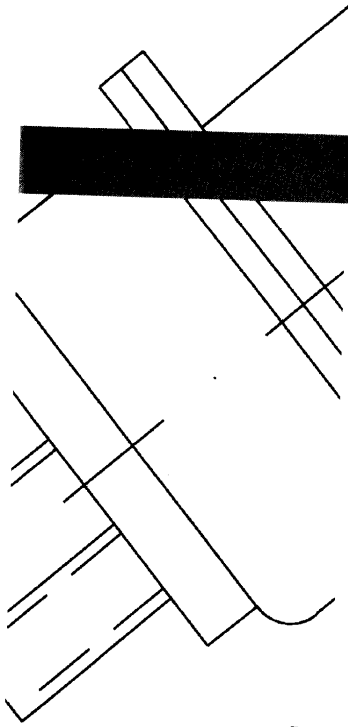






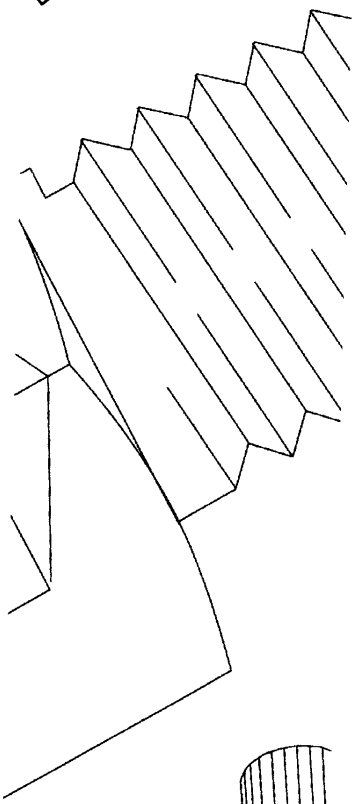






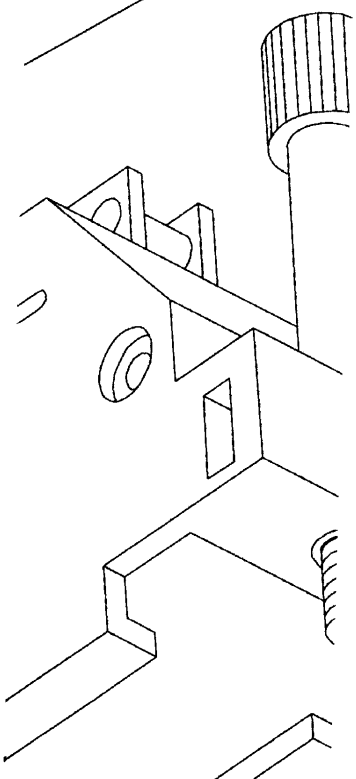
Part Numbers for DX Connectors

		DX	09	P	Z	TD	00
Series DX							
No. of ways	09, 15, 25, 37, or 50						
Gender	P = plug						
	S = socket						
Contract style	Z = solder bucket						
	Y = straight pcb						
	YC = right angled pcb						
	W3 = wire wrap						
Shell finish	TD = tin/dimple (plug)						
	T = tin finish (socket)						
	Omitted = standard zinc passivate						
* Customer variant - Please consult office							



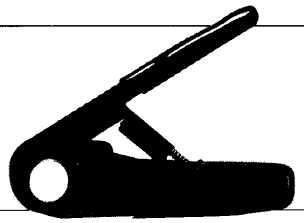
Part Numbers for DN Connectors

		DN	T	25	S	X	00
Series DN							
Shell finish	T = Tin plated (socket)						
	D = Tin (dimpled), plug only						
	(-) = Plain						
No. of ways	9, 15, 25, 37 or 50						
Gender	P = Plug						
	S = Socket						
	No Contacts						
* Customer variant - Please consult office							



Order connector and crimp contacts separately ie. DN25PX = 25 plug housing
PX/100 = male crimp pins (supplied in bags of 100)
SX/100 = female crimp pins (supplied in bags of 100)

DN TOOLS

Ref. 701	Insertion tool for male and female contacts. Maximum cable Ø including insulation .049 (1.25)	
Ref. 702/3	Removal tool with replaceable head for male and female contacts	
Ref. C202	Replacement tip for contact removal tool	
Ref. 2613-1	Fixed crimp tool for wire gauges 20, 22 and 24 AWG	

Crimp Tool Information

Crimp contacts (insertable and removable) for thermoplastic insulators (DN) only

Type X crimp contacts (insertable and removable) part numbers:

Ref: male contacts PX

Ref: female contacts SX

Both for crimping wire sizes 20, 22, 24, AWG

Crimp bucket in accordance with MS 18281

Crimp tools conform to MIL -T -22520

SX

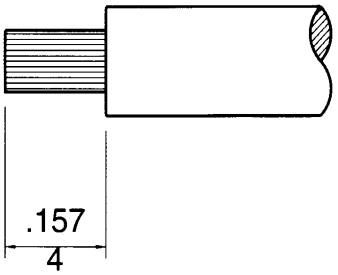
PX

Order code: PX/100-pin
SX/100-socket

Preparing for Crimp Contacts

Wire stripping.

Strip cable insulation as shown in the illustration.

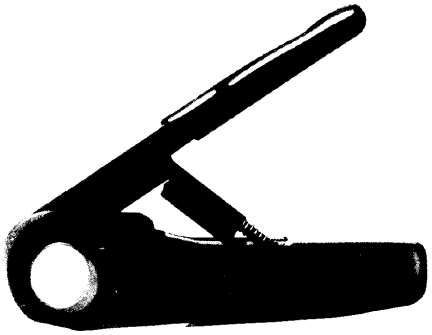


Contact Crimping

Insert crimp contact (SX or PX) into the tool and push stripped cable into the contact bucket.

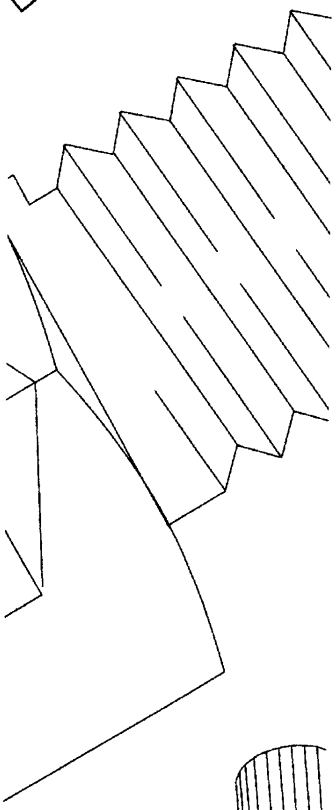
Close the crimp tool fully.

The tool will only release when the crimp is completed.



FILTER D CONNECTORS

Designed to meet all current regulations concerned with EMI/RFI protection.
Connectors are a direct replacement for existing Ds, offering a range of filter values to specific requirements or conditions.
Can be supplied with planar array or tubular filtering of individual contacts.
Connectors meet dimensional requirements of MIL-C-24308 and mate with all industry standard D sub miniature connectors.
Supplied in both tin and dimpled version as standard. Mouldings are thermoplastic, self extinguishing to UL 94 VO.

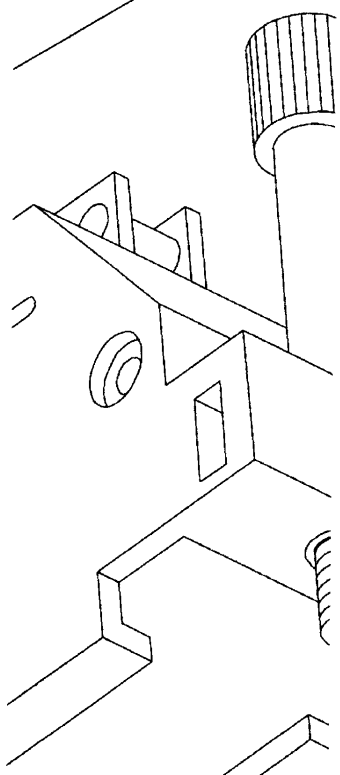


Part Numbers for FDX Connectors

FDX 25 P Z A A 00

Series FDX	
Number of ways 9, 15, 25 or 37	
Gender	P = plug
	S = socket
Contact termination	Z = solder bucket
	Y = straight pcb
	YC = right angle pcb
	W = wire wrap
Filter type	A = planar
	B = individual tubular filters
Filter value	A = 330 pF
	B = 1000 pF (1.0 nF)
	C = 1500 pF (1.5 nF)
Customer variant	(-) = standard

For contact terminations and layouts please refer to Standard DX series on page 4.



Technical data

Contact: _____ Turned copper alloy
Plating: _____ Gold over nickel
Shell: _____ Mild steel, tin plated
Contact resistance: ____ 10 mohm max
Current rating: _____ 5A
Working voltage: _____ 100V dc
Capacitor tolerance: ___ - 20/+80%
Temperature rating: ____ - 55°C +85°C
Mechanical endurance: __ 500 operations

HERMETIC D CONNECTORS

Series D

Hermetic connectors are used where it is necessary to transmit electrical signals through a panel which has a partial vacuum on one side, and standard atmospheric pressure on the other.

Hermetic connectors are only available with male contacts.

Part Numbers for DH Connectors

DH 15 Z 2 0 0

(*) DH series
(Max leakage rate 10^{-6})

DHA series
(Max leakage rate 10^{-9})

DHB series
(Max leakage rate 10^{-3})

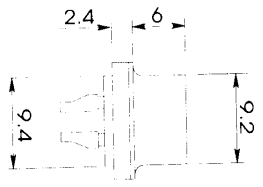
No. of ways 9, 15, 25 or 37

Z- solder contacts

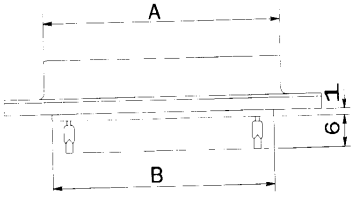
(*) 2- contacts with bucket
3- contacts with hole

0- gold plating 1, 27 u Au
1- gold plating 0, 7 u Au
2- gold plating 0, 2 u Au
4- tin plated contacts
(*) 5- nickelled contacts

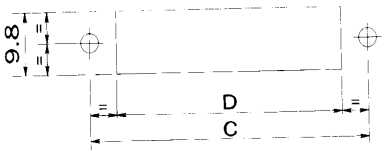
0- tin plated shell
1- yellow bicromated shell
(*) 2- nickel shell



Rigid Mounting Connectors



Rigid Mounting Connectors



Panel Cut-Out

Number of contacts	A	B	C	D
9	17.8	18.4	2.5	18.9
15	26.1	23.8	33.3	24.3
25	40	37.5	4.7	38
37	55.5	54	63.5	54.5

STACKED D CONNECTORS

A variant of the DN series, this series is designed to offer space reduction and reduced assembly costs.

Made to the same high quality and performance specification, this range also offers removable contacts, giving greater maintenance flexibility.

Available in 9, 15, 25 and 37 way variants.

Alternative heights/contact pitches can be considered.

Part Number for SAC Connectors

Upper Connector

SAC B N - 25 P 2

Lower Connector

25 S 2

Options are the same as for the upper connector

Series

Type B

Insulator
(N) Thermoplastic

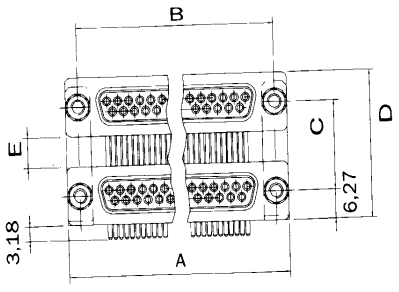
Shell
(-) Standard
(T) Tin plated
(D) Dimpled (tin plated)

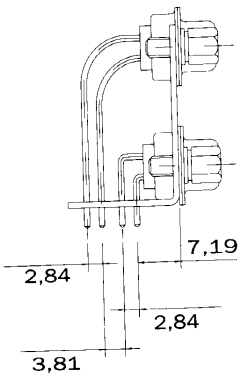
Number of contacts
9, 15, 25, 37

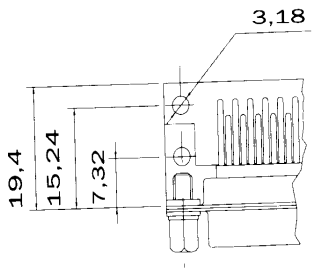
Contact ref
(P) Male
(S) Female

Locking devices
(2) Fixed jackpost TB 25 (M03)
(3) Fixed screw (M04)
(4) Fixed swaged with diam. 125 (3.2) hole (M05)
(5) Fixed swaged with 4.40 NC thread (M06)
(6) Fixed swaged with spacers (S-2)

Dimensional Details





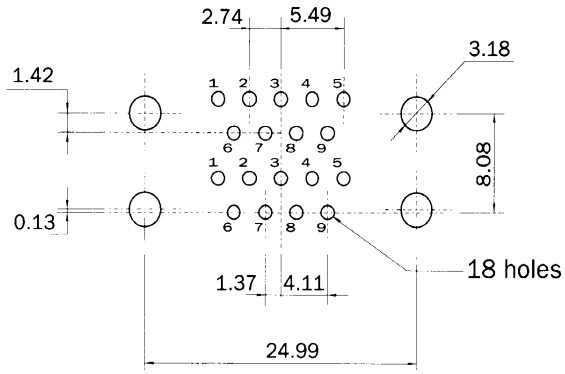


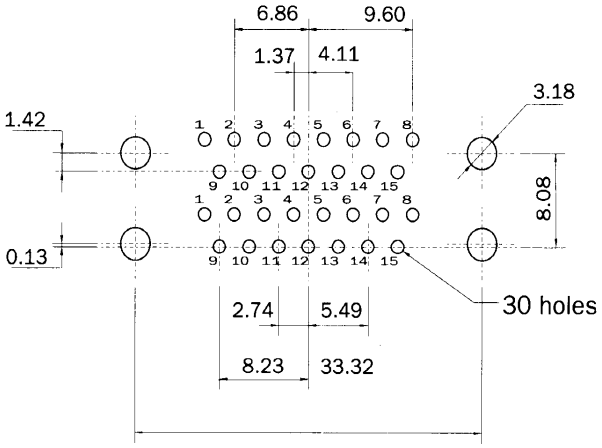
Ref	Connector type	No. contacts	A	B	C	D	E
SAC-B9	9	18	30.8	25	19	31.4	6.6
SAC-B15	15	30	39.15	33.3	19	31.4	6.6
SAC-B25	25	50	52.9	47	19	31.4	6.6
SAC-B37	37	74	69.4	63.5	19	31.4	6.6

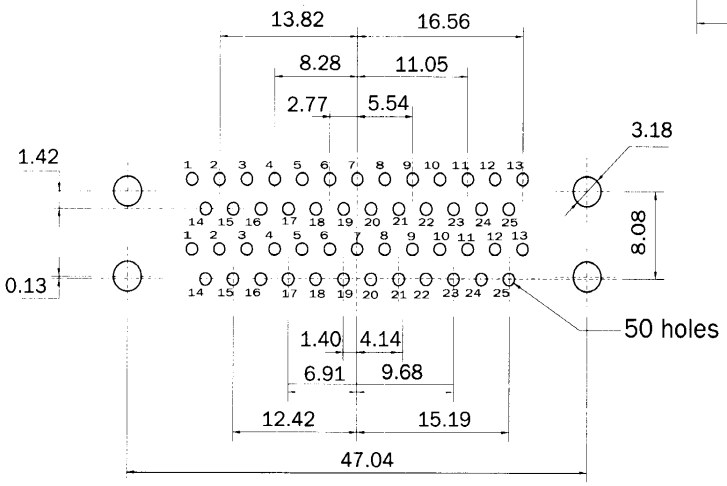
Series D

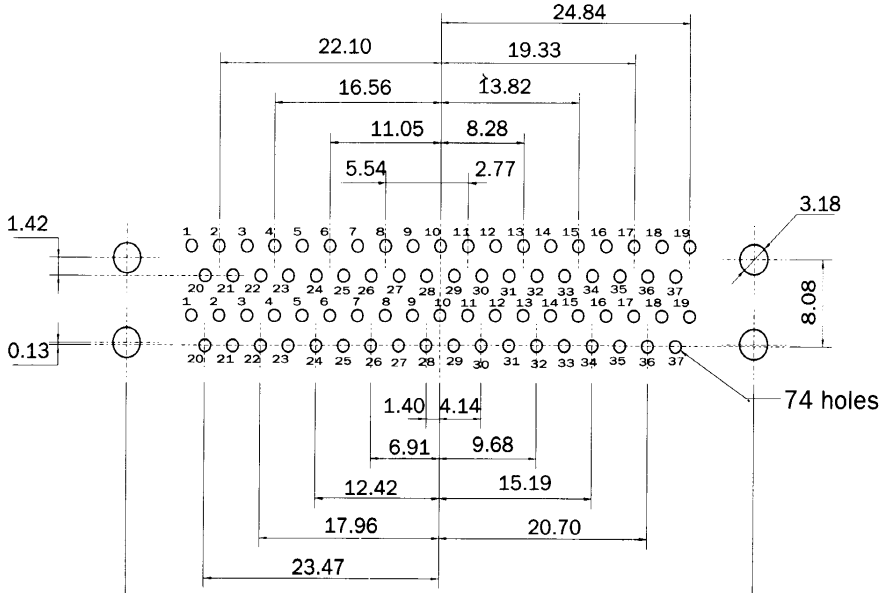
BOARD DRILLING DETAILS

Mount connector with mating face positioned to follow direction of arrow. Dimensions are shown in mm.









Screwlock System

The industry standard screwlock system. CEEP hoods feature long shank screwlocks for finger or screwdriver operation. Available in both cable-to-panel and cable-to-cable configurations. Hoods can be fitted after the connector has been wired, avoiding time-consuming assembly errors and making it easier for inspection and maintenance.

4-40 UNC thread as standard, while the body is manufactured from tough ABS - UL 94 VO rated.

Part Number for CT Hoods

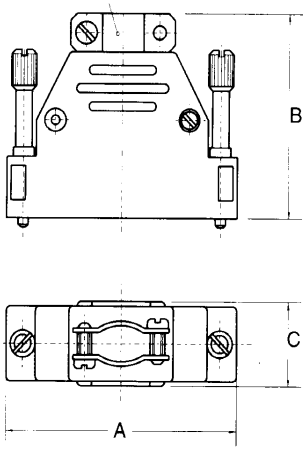
CT I 25 M

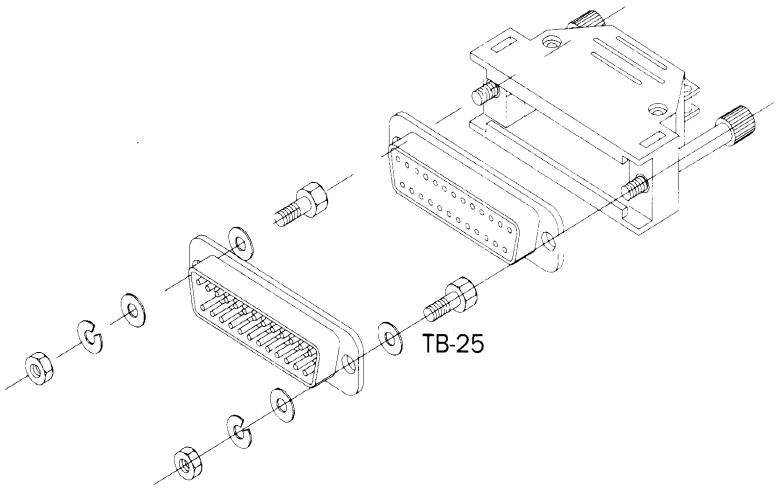
CT = Male screwlock
PCT = Female screwlock

(-) = External cable clamp
I = Internal cable clamp (9, 15 + 25 way only)

Shell size (9, 15, 25, 37 & 50 way)

(-) = Plain
M = Metallised (Metallised and internal cable clamp for EMI/RFI protection)





Dimensions

Number of contacts	Designation		Dimensions				
	Male screwlock	*Female screwlock	A	B	C	Cable Ø Max	Cable Ø Min
9	CT.09	PCT.09	31.5	30.5	18.2	6	4
15	CT.15	PCT.15	42.0	38.0	18.5	7	5
25	CT.25	PCT.25	55.5	44.0	18.2	8	6
**37	CT.37	PCT.37	72.0	46.0	18.2	7 x 16	5 x 16
**50	CT.50	PCT.50	62.0	46.0	21.5	10 x 16	5 x 16

** For 37 and 50 way cable size based on rectangular cable.

* PCT: Extension cable hood for Screwlock system.

HOODS

Slidelock System

The unique CEEP patented Slidelock system features a push-home-to-lock, push-button-to-release system. Secure mounting is assured by four point locking.
Available in cable-to-panel and cable-to-cable configurations. Hoods can be fitted after the connector has been wired, avoiding time consuming assembly errors and making it easier for inspection and maintenance.
The body is manufactured from tough ABS, self extinguishing to UL 94 VO.

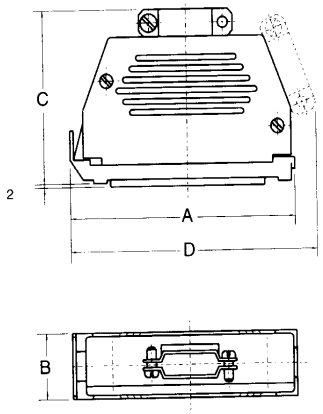
Part Number for CE Hoods

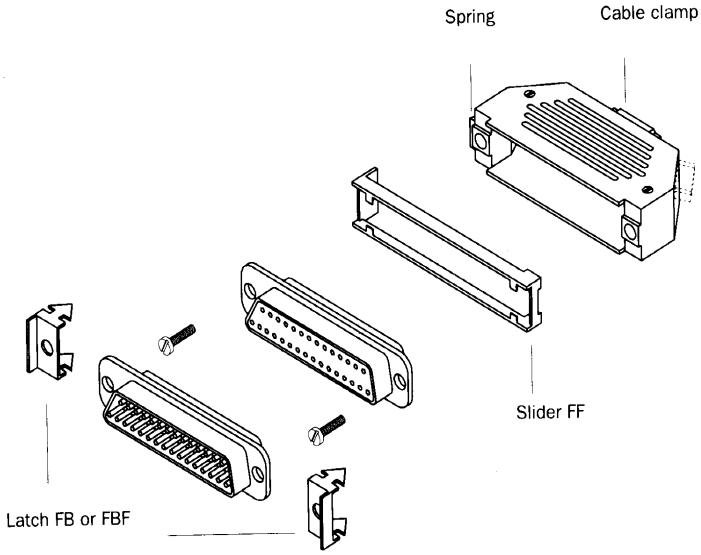
CE 25 M

Series
CE = with slidelock
C = without slidelock
CPE = with slidelock for ribbon cable (25 way only)
CP = as CPE - without slidelock

Shell size 9, 15, 25, 37 & 50

(-) = Plain plastic
M = Metallised





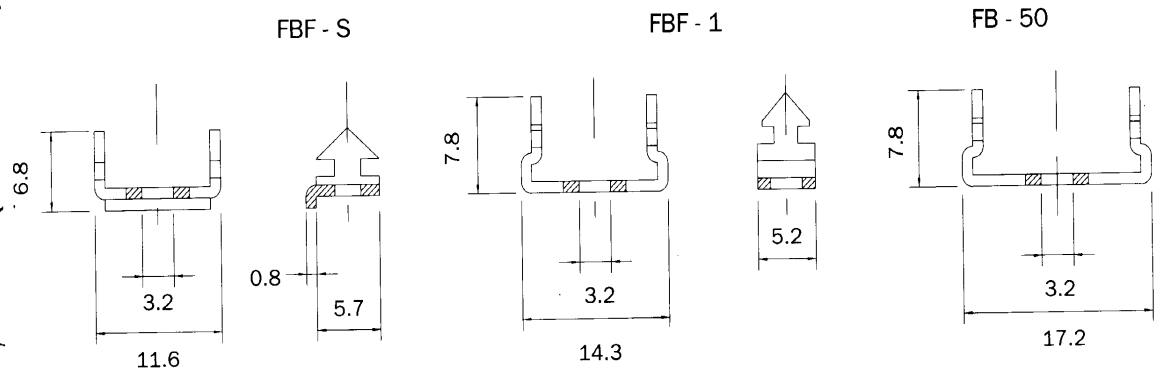
Dimensions

Number of contacts	Hood part numbers		Dimensions							
	With locking system	Without locking system	Hoods				Cable entry			
							Round		Rectangular	
			A	B	C	D	max	min	max	min
*9	CE.09	C.09	37	15	34	43	6	4	-	-
*15	CE.15	C.15	45	15	40	53	7	5	-	-
*25	CE.25	C.25	60	15	44	68	8	6	-	-
*37	CE.37	C.37	77	15	52	84	-	-	7.16	5.16
*50	CE.50	C.50	74	18	52	81	-	-	10.16	5.16
**25	CPE.25	CP.25	60	15	36	-	-	-	-	-

PCE/PC: Extension cable hood for Sidelock system.
** Type CPE for flat cable, with quick release slidelock.

Latches for CE Hoods

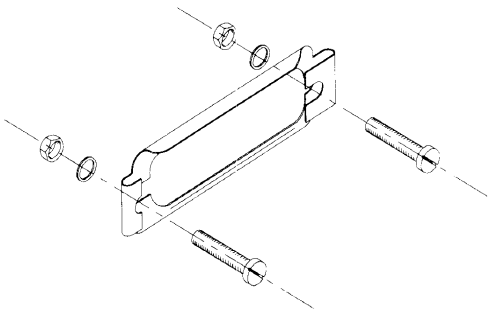
Supplied in pairs. Material/finish = nickel plated steel.



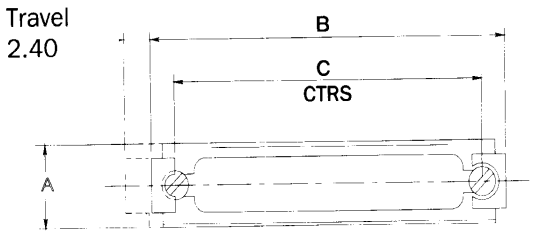
Slidelock Assembly for Plain Hood CPS

An inexpensive slidelock assembly that can be fitted to most designs of plain hoods to convert them into an effective latching assembly when used in conjunction with the slidelock post type CD53.

Kit comprises one retaining plate, two screws, two washers and two nuts.



Shell size	Part Number	Dimensions		
		A	B	C
9	CDS 09	12.7	34.8	25.0
15	CDS 15	12.7	43.7	33.3
25	CDS 25	12.7	57.4	47.0
37	CDS 37	12.7	73.9	63.5
50	CDS 50	15.5	71.5	61.1



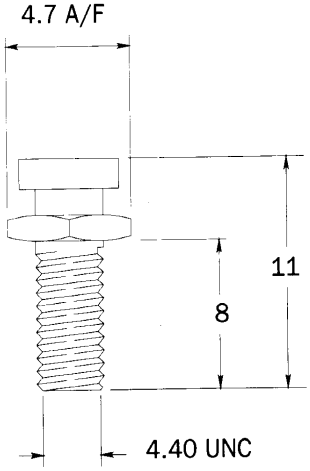
Slidelock Post CD53

When used in conjunction with slidelock type CDS, provides an inexpensive method of converting a variety of plain hoods into effective latching devices.

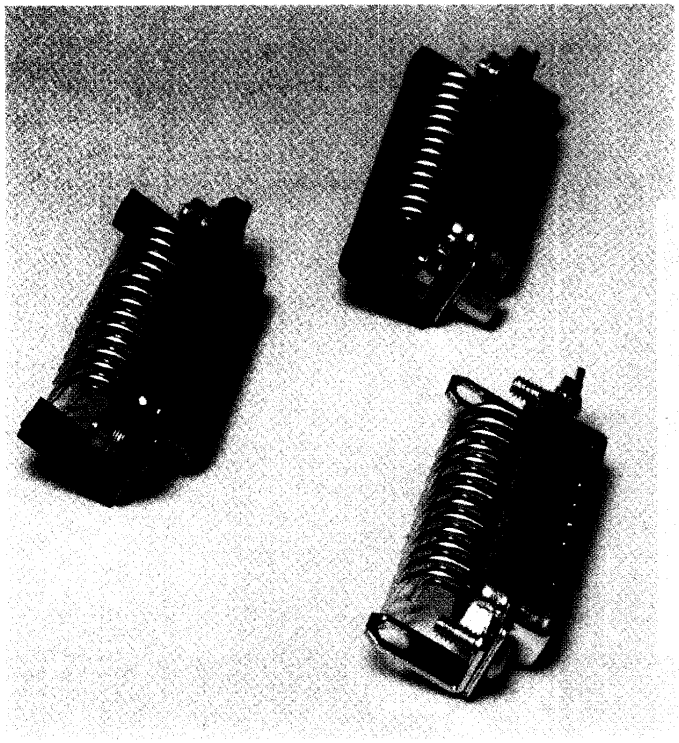
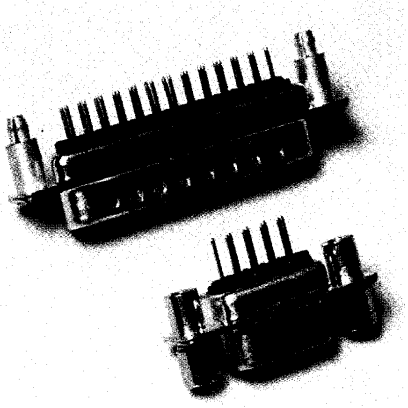
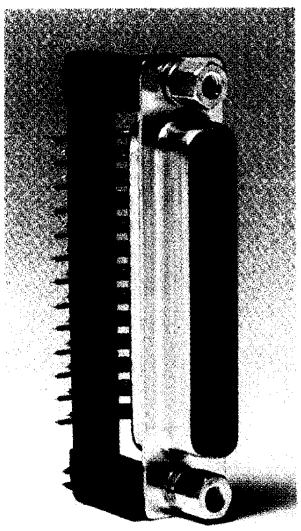
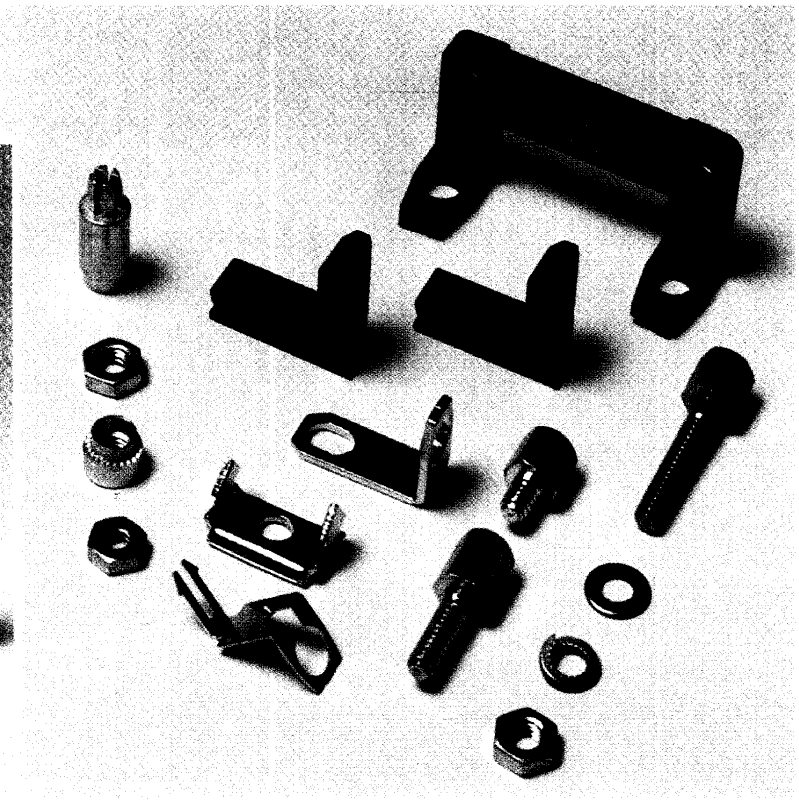
Effective on all shell sizes.

Kit comprises two posts, two spring washers two plain washers and two nuts.

Part Number CD53-PR (Bagged Pairs)



Series D

MOUNTING SYSTEMS

In addition to the extensive range of D connections shown in this brochure, a variety of mounting hardware is available, either fitted to connectors, or supplied as discrete components. Connectors can be supplied fitted with mounting brackets, earthing tags, boardlocks, and threaded spacers. If you have a specific requirement, please discuss it with our Sales Office staff.