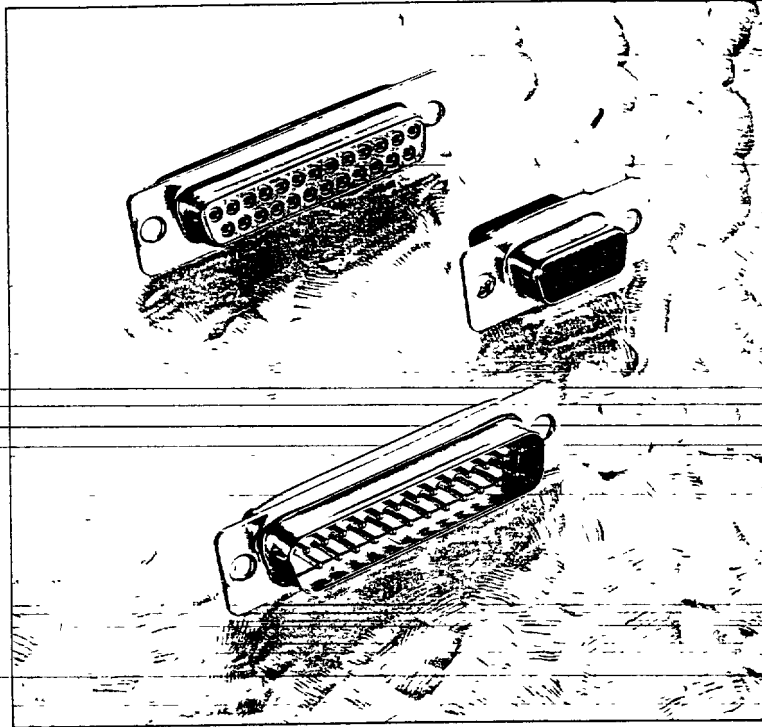


460-060
to
460-217



D Subminiature Connectors

CINCH
Cinch Connectors Ltd

Cinch Connectors forms part of the major worldwide engineering group Labinal, which was created in 1958 by the merger of Labinal and Précision Mécanique. With headquarters at Saint-Quentin-en-Yvelines near Paris, Labinal is divided into seven divisions which manufacture a wide variety of components for the automotive, aerospace, defence and electronics industries.

Cinch Connectors was acquired by Labinal in 1987 and operates in international high tech industries where quality is paramount.

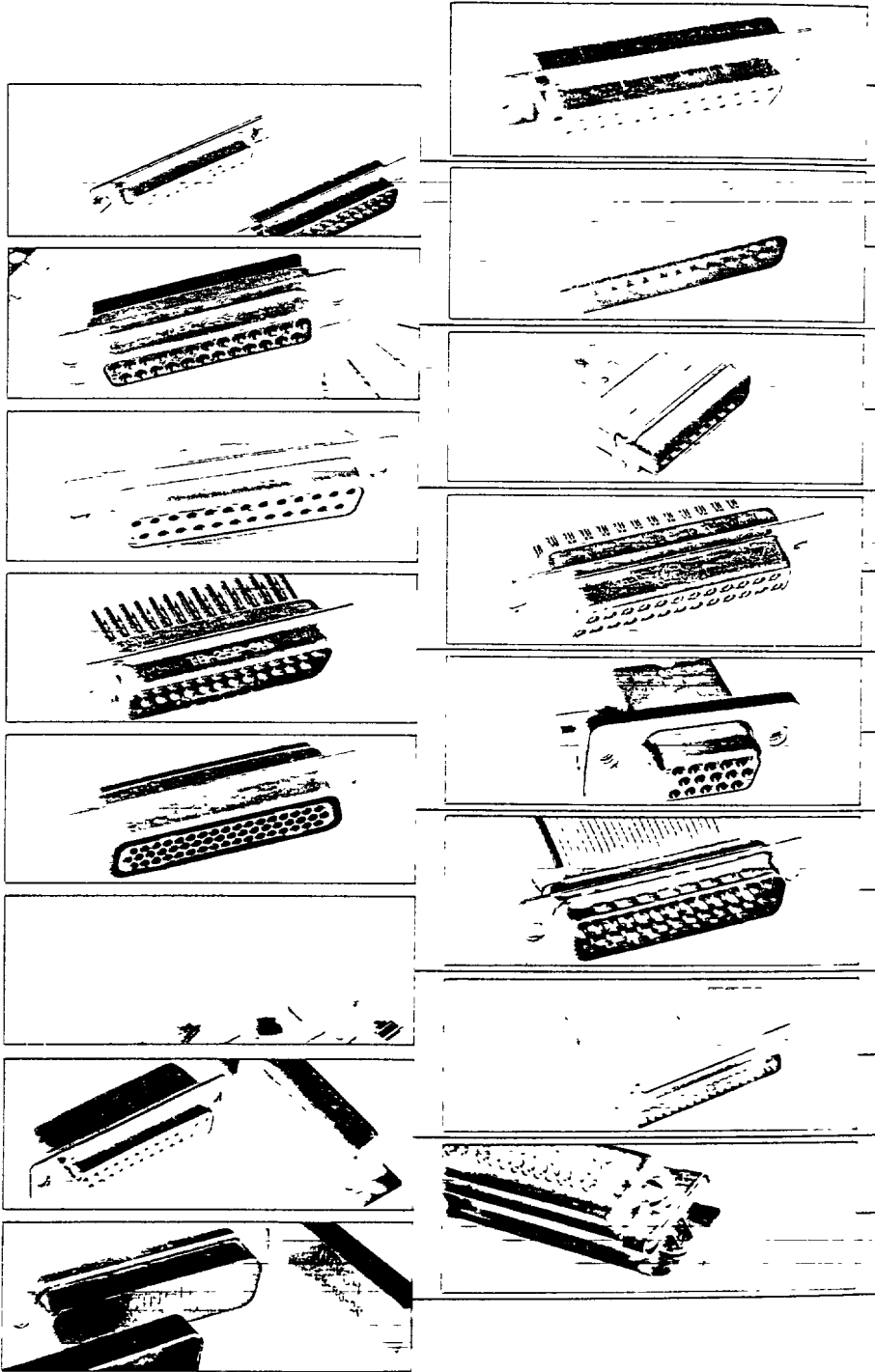
By controlling the complete manufacturing process in-house including product and tool design, design evaluation, metal finishing and assembly, Cinch ensures that important international specifications such as BS9000 and US MIL Specs are met.

This high quality performance allows Cinch to succeed in sophisticated market places such as telecommunications, computers and business equipment, instrumentation and controls, automotive and, increasingly, defence. The product range includes many dedicated designs for specific applications such as anti-magnetic connectors for the military and space fields.

Our comprehensive D Subminiature range comprises 9, 15, 25, 37, and 50 contacts, 'Double Density' up to 100 contacts and Spacesaver 'Density and a Half'. It includes 25 way connectors for standard interface RS232 and 17 combination layouts for high power and coaxial contacts. Also featured is our comprehensive range of filtered connectors.

Cinch D Subminiature Connectors are available for virtually all forms of termination. Not only wire wrap and crimp, insulation displacement and flow solder, but also hand solder.

This catalogue details the complete range of connectors in addition to accessories from locking mechanisms to hoods suitable for EMI/RFI screening requirements where compliance with FCC regulations is important, and a full range of application tooling.



Technical Data

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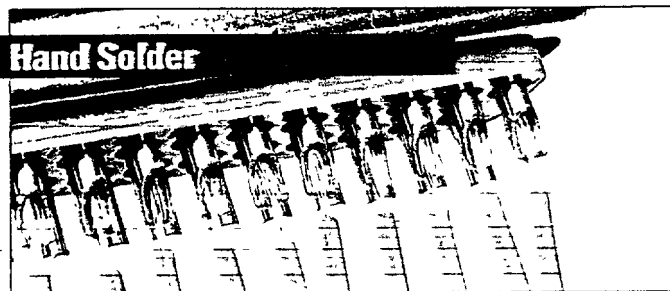
50 - 51

Performance Specifications

All Cinch D Subminiature connectors have gold plated contacts with nickel underplating. The plating specifications have been carefully selected to provide a range of performance levels to suit every possible application.-

| Performance Level | Performance | Comment |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| 1 | 500 Matngs minimum followed by 21 day industrial atmosphere test and 21 day damp heat test to BS 2011 | Exceeds DIN Class 2 as BT 217 |
| 2 | 100 Matngs minimum followed by 21 day damp heat test and 4 day industrial atmosphere test | Meets DIN Class 2 |
| 3 | 250 Matngs minimum followed by 21 day damp heat test at 93% relative humidity to BS 2011, Part 2 1 Ca Net contact resistance will not then exceed 5 milliohms | Exceeds DIN Class 3 |

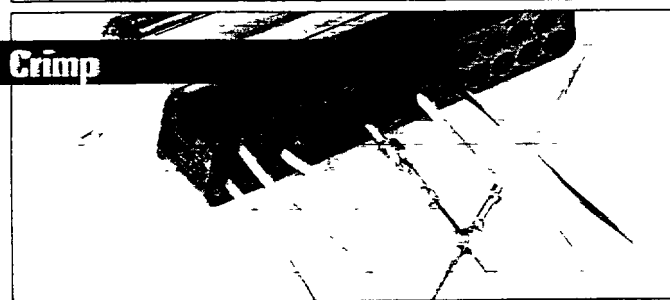
Termination Options



Hand Solder

Standard D, Low Cost D, BS 9523 F0013, MIL-C-24308

- A universal termination system
- Low capital outlay – uses existing soldering equipment



Crimp

Econo DA & C, Series 3, Double Density, Space Saver

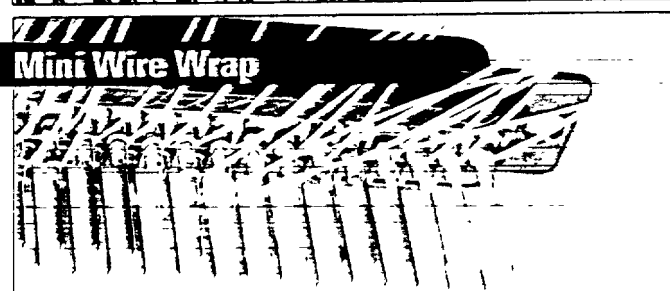
- Avoids the risks associated with soldering – overheating, flux damage
- Consistent high quality crimps achieved using automatic termination equipment
- Wide range of tooling available
- Alternative wire sizes are easily accommodated in the same housing
- Easy relocation of contacts within housings



IDC - Discrete Wire

Metal Shell IDC

- Four point IDC contact
- Separate insulator grip
- Contacts may be re-terminated using hand tooling
- Ideal for high speed high volume production
- Semi or fully-automatic termination equipment



Mini Wire Wrap

Standard D

- Uses standard mini-wrap system
- Accepts up to 3 mini-wraps per contact

Shell Finishes

The traditional finish for D connector shells is zinc plating with a yellow chromate passivation.

However, to meet the requirements of FCC Docket 20780, VDE NORM 0871 and BS 6527 the mated connector shells need to make positive electrical contact. This is achieved by

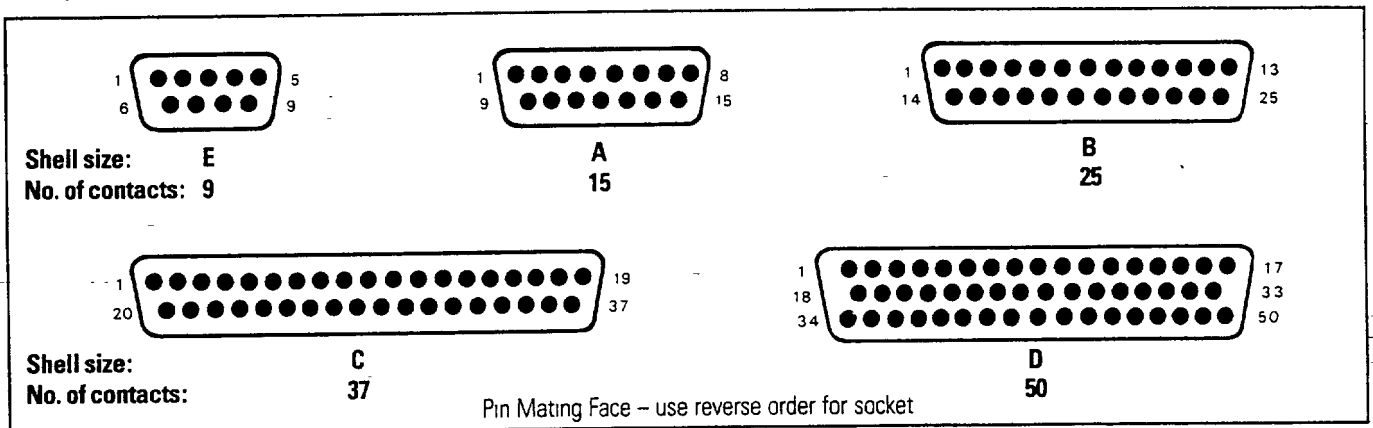
grounding indents on the plug shells and by plating the shells with bright tin.

Alternative shell finishes and materials are available e.g. nickel plated mild steel and gold plated brass. Please contact sales office for specific requirements.

Contact Arrangements

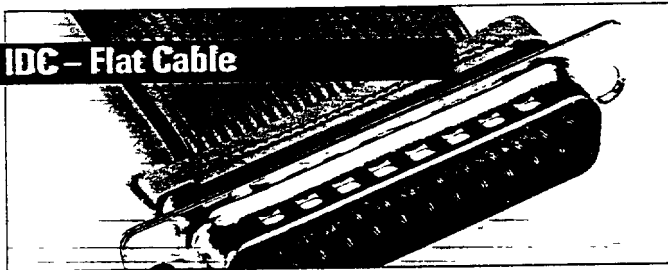
Cinch offer 32 different contact arrangements within the standard D Subminiature shells. Below are the 5 original arrangements:

In addition there are:- Double Density (see page 31). Space Saver 'Density and a Half' (see page 28) & Series 1 Combination Layouts (see page 18).



Termination Options

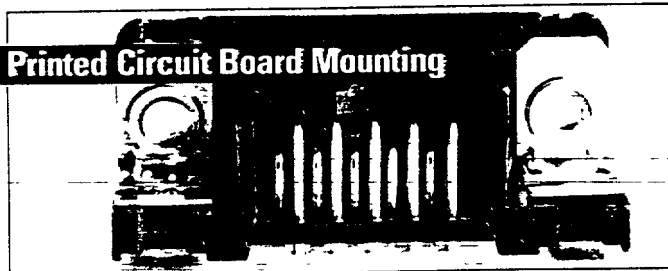
IDC – Flat Cable



Superfast IDC D

- High speed mass termination
- Low profile
- Supplied complete with strain relief
- Cover with jack screws available
- Metal shell for EMI/RFI screening and maximum strength

Printed Circuit Board Mounting

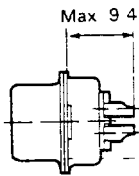


Standard D, Low Cost D, Spacesaver, MIL-C-24308

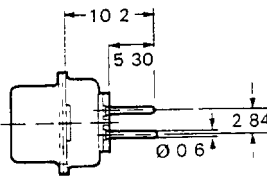
- Easily mounted on the board
- Flow solderable
- All contacts terminated in one operation
- Right angle versions can be supplied with metal or plastic mounting brackets
- European and North American footprints
- Earthing straps and threaded riv-nuts available as standard

Dimensions for Metal Shell D Connectors

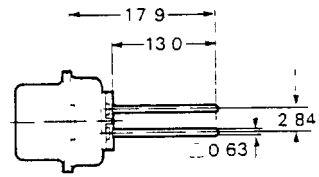
Hand Solder



Straight PCB Mounting

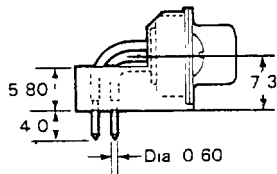


Wire Wrap

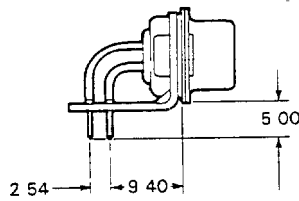


90° Printed Circuit Board Mounting

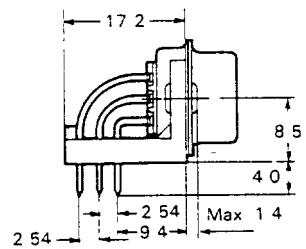
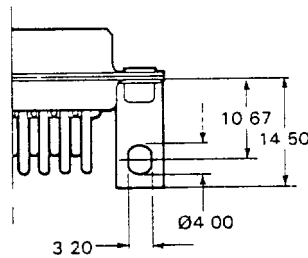
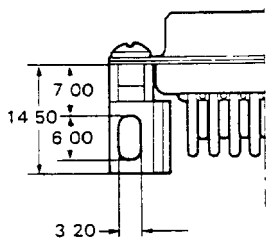
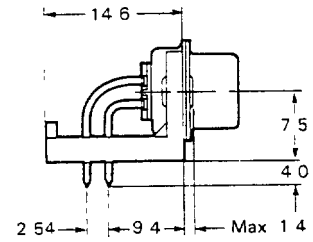
With Plastic Brackets



With Metal Brackets

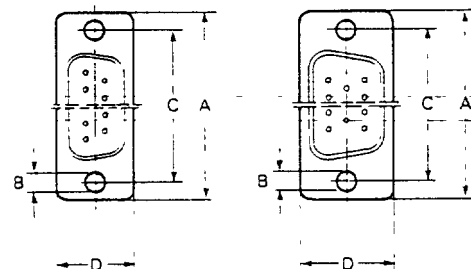
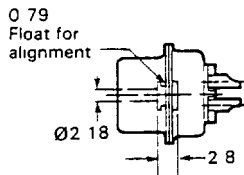


With Plastic Brackets & Keeper Moulding



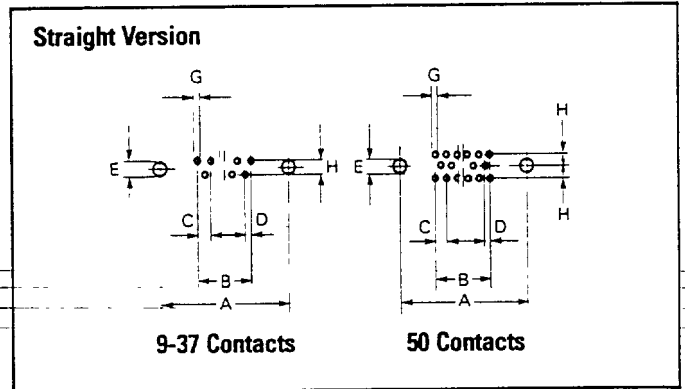
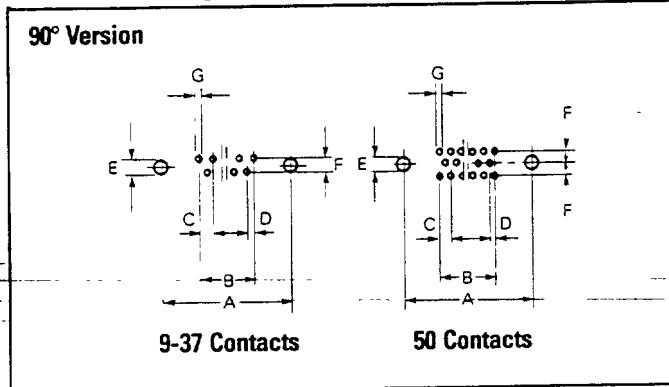
50 Way

Float Mount



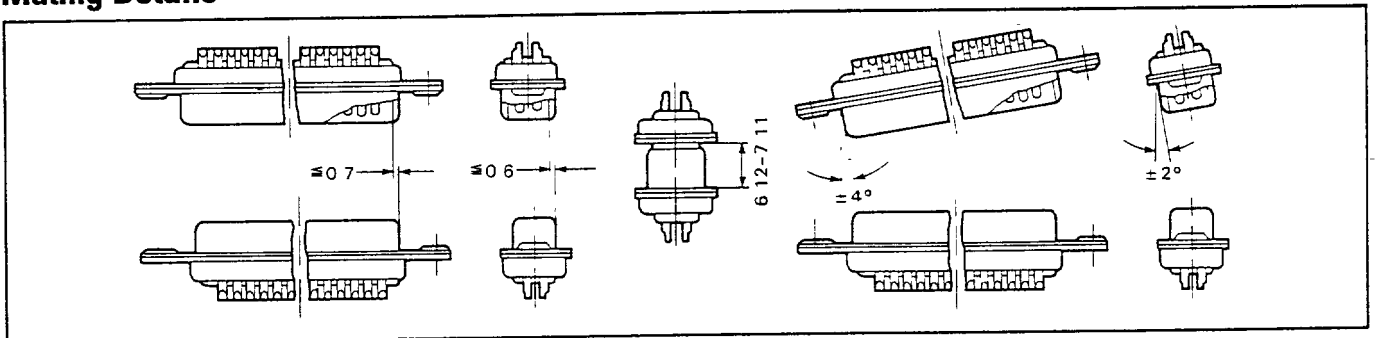
| Number of Contacts | Dimensions (mm) | | | |
|--------------------|-----------------|--------|--------|--------|
| | A±0.38 | B±0.13 | C±0.12 | D±0.38 |
| 9 | 30.81 | 3.05 | 24.99 | 12.55 |
| 15 | 39.14 | 3.05 | 33.32 | 12.55 |
| 25 | 53.04 | 3.05 | 47.04 | 12.55 |
| 37 | 69.32 | 3.05 | 63.50 | 12.55 |
| 50 | 66.93 | 3.05 | 61.11 | 15.37 |

PCB Mounting Details

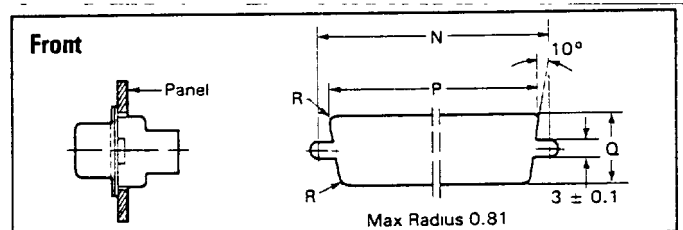
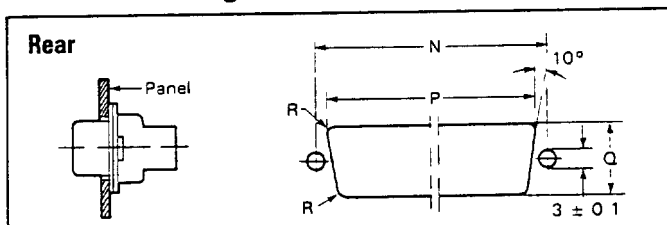


| Number of Contacts | Dimensions (mm) | | | | | | | |
|--------------------|-----------------|-------|------|------|------|--------------|-------|--------------|
| | A ± 0.1 | B | C | D | E | F ± 0.05 | G min | H ± 0.05 |
| 9 | 24.99 | 11.04 | 2.76 | 1.38 | 3.20 | 2.54 | 0.90 | 2.84 |
| 15 | 33.32 | 19.32 | 2.76 | 1.38 | 3.20 | 2.54 | 0.90 | 2.84 |
| 25 | 47.04 | 33.12 | 2.76 | 1.38 | 3.20 | 2.54 | 0.90 | 2.84 |
| 37 | 63.50 | 49.68 | 2.76 | 1.38 | 3.20 | 2.54 | 0.90 | 2.84 |
| 50 | 61.11 | 44.16 | 2.76 | 1.38 | 3.20 | 2.54 | 0.90 | 2.84 |

Mating Details

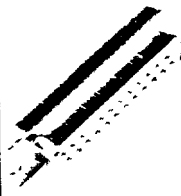

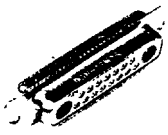




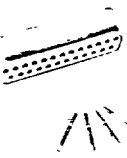

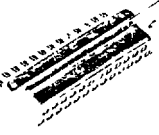


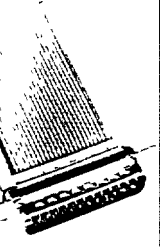
Panel Mounting



| Number of Contacts | Dimensions (mm) | | | | | |
|--------------------|-----------------|--------------------|-------------|--------------------|-------------|----------------|
| | N ± 0.2 | P(± 0.2) Std | Float Mount | Q(± 0.2) Std | Float Mount | R(± 0.2) |
| 9 | 24.99 | 20.32 | 21.16 | 11.30 | 12.09 | 3.50 |
| 15 | 33.32 | 28.70 | 29.49 | 11.30 | 12.09 | 3.50 |
| 25 | 47.04 | 42.42 | 43.20 | 11.30 | 12.09 | 3.50 |
| 37 | 63.50 | 58.93 | 59.77 | 11.30 | 12.09 | 3.50 |
| 50 | 61.11 | 56.26 | 57.02 | 13.97 | 14.78 | 3.50 |

| Number of Contacts | Dimensions (mm) | | | | | |
|--------------------|-----------------|--------------------|-------------|--------------------|-------------|----------------|
| | N ± 0.2 | P(± 0.2) Std | Float Mount | Q(± 0.2) Std | Float Mount | R(± 0.2) |
| 9 | 24.99 | 22.07 | 22.88 | 12.90 | 13.71 | 2.25 |
| 15 | 33.32 | 30.40 | 31.22 | 12.90 | 13.71 | 2.25 |
| 25 | 47.04 | 44.14 | 44.96 | 12.90 | 13.71 | 2.25 |
| 37 | 63.50 | 60.60 | 61.42 | 12.90 | 13.71 | 2.25 |
| 50 | 61.11 | 58.21 | 59.44 | 15.69 | 16.51 | 2.25 |

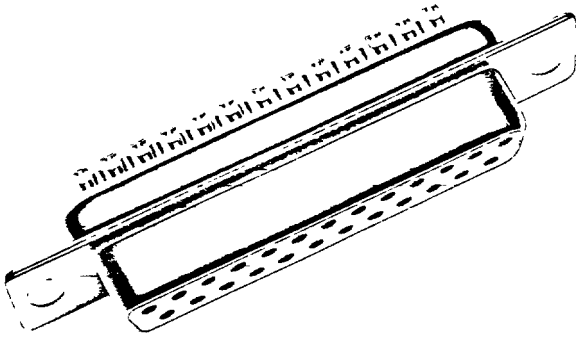
| |  |  |  |  |  |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Type | Low Cost D | Standard D | Series 1, Pattern 110, BS9523 F0013 | Econo D A | Econo C |
| See Page | 10 | 12 | 15 | 19 | 19 |
| Termination Options | Hand Solder Flow Solder | Hand Solder, Flow Solder, Wire Wrap | Hand Solder Flow Solder | Crimp with insulation grip | Crimp |
| Contact Arrangements | 9 15 25 37 50 | 9 15 25 37 50 | 9 15 25 37 50 Plus Combination Layouts | 9 15 25 37 50 | 9 15 25 37 50 |
| Maximum Insertion/ Withdrawal Force | 30, 50, 83, 123, 167N | 30,50,83,123,167N | 30,50,83,123,167N | 30,50,83,123,167N | 30,50,83,123,167N |
| Performance Classification | 2 or 3 | 1, 2 or 3 | BS9523 F0013 or MIL-C-24308 | 1,2 or 3 | 2 or 3 |
| Wire Accommodation | ≤0.5mm ² (20 AWG) | ≤0.5mm ² (20 AWG) | ≤0.5mm ² (20 AWG) | 20-28 AWG | 20-28 AWG |
| Plug Contact Material | Copper Alloy | Copper Alloy | Copper Alloy | Copper Alloy | Copper Alloy |
| Socket Contact Material | Copper Alloy | Copper Alloy | Copper Alloy with Stainless Steel Sleeve | Copper Alloy | Copper Alloy |
| Current Rating | 5A | 7.5A | 5A | 5A | 5A |
| Proof Voltage | 1.05Kv d.c. or a.c. peak | 2.5Kv d.c. or a.c. peak | 2.5Kv d.c. or a.c. peak | - | - |
| Withstanding Voltage | - | - | 1.25 Kv a.c. rms | 1000 V a.c. rms | 1000 V a.c. rms |
| Working Voltage | 350V d.c. or a.c. peak | 750V d.c. or a.c. peak | 750V d.c. or a.c. peak | - | - |
| Contact Resistance | 5 x 10 ⁻³ Ω max | 5 x 10 ⁻³ Ω max | 5 x 10 ⁻³ Ω max | 5 x 10 ⁻³ Ω max | 2.7 x 10 ⁻³ Ω max |
| Insulation Resistance | ≥ 5 x 10 ⁹ Ω | ≥ 5 x 10 ⁹ Ω | ≥ 5 x 10 ⁹ Ω | ≥ 1 x 10 ⁹ Ω | ≥ 5 x 10 ⁹ Ω |
| Insulator Material | GF Polyester or PPS UL 94V-0 Rated | GF Polyester UL 94V-0 Rated | GF Diallyl Phthalate Green UL 94V-0 Rated | GF Nylon UL 94V-0 Rated | GF Nylon UL 94V-0 Rated |
| Shell Materials | Steel-zinc plated with yellow chromate passivation or bright tin finish with grounding indents on plugs | Steel-zinc plated with yellow chromate passivation or bright tin finish with grounding indents on plugs | Steel or brass with tin, zinc, gold or cadmium plating | Steel-zinc plated with yellow chromate passivation or bright tin finish with grounding indents on plugs | Steel-zinc plated with yellow chromate passivation or bright tin finish with grounding indents on plugs |
| Temperature Range C | -55 to +125 | -55 to +125 | -55 to -125 | -55 to -125 | -55 to -125 |

|  |  |  |  |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Series 3 | Double Density DURA-CON | Filter D | Metal Shell IDC | Spacesaver HTD22 | Superfast IDC D |
| 22 | 31 | 24 | 26 | 28 | 32 |
| Crimp | Crimp | Solder Bucket Flow Solder Straight or 90° | IDC (Individual Wires) | Crimp, Hand Solder Flow Solder | IDC (Flat Cable) |
| 9 15 25 37 50 | 19 31 52 79 100 | 9,15,25,37,50 | 9 15 25 37 | 15 26 44 62 78 | 9 15 25 37 |
| 30, 50, 83, 123, 167N | 40, 71, 119, 180, 228N | 30,50,83,123,167N | 30, 50, 83, 123N | 45, 76, 125, 174, 218 | 30, 50, 83,123N |
| MIL-C-24308 | 2 | 1,2 or 3 | 3 | 1,2 or 3 | 2 or 3 |
| 20-24 AWG | 22-26 AWG | 50.5mm ² (20AWG) | 24-26 AWG | 22-32 AWG | 26-28 AWG |
| Copper Alloy | Copper Alloy | Copper Alloy | Copper Alloy | Copper Alloy | Beryllium Copper |
| Copper Alloy with Stainless Steel Sleeve | Copper Alloy | Copper Alloy | Copper Alloy | Copper Alloy | Beryllium Copper |
| 5A | 5A | 5A | 3A | 5A | 1A |
| - | - | 500V d.c. | - | 1.05 Kv d.c. or a.c. peak | 1.05 Kv d.c. or a.c. peak |
| 1.25 Kv a.c. rms | 900 V a.c. rms | 500V d.c. | 1000 V a.c. rms | - | - |
| - | - | 200V d.c. or ac peak | - | 350V d.c. or a.c. peak | 350V d.c. or a.c. peak |
| 2.7 x 10 ³ Ω max | 9 x 10 ³ Ω max | 5x10 ³ Ω max | 5 x 10 ³ Ω max | 12 x 10 ³ Ω max | 15 x 10 ³ Ω max |
| ≥ 5 x 10 ⁴ Ω | ≥ 5 x 10 ⁴ Ω | ≥ 5 x 10 ⁴ Ω | ≥ 5 x 10 ⁴ Ω | ≥ 1 x 10 ⁴ Ω | ≥ 1 x 10 ⁴ Ω |
| GF Drallyl Phthalate per MIL-M-14 UL 94V-0 Rated | GF Polyester UL 94V-0 Rated | G F Polyester UL94V-0 Rated | GF Polyester UL 94V-0 Rated | GF Nylon UL 94V-0 Rated | GF Polyester UL 94V-0 Rated |
| Steel or brass with bright tin, zinc, gold or cadmium plating | Steel-cadmium plated with yellow chromate passivation | Steel with nickel plated finish and grounding indents on plugs | Steel with bright tin finish and grounding indents on plugs | Steel-zinc plated with yellow chromate passivation or bright tin finish with grounding indents on plugs | Steel-zinc plated with yellow chromate passivation or bright tin finish with grounding indents on plugs |
| -55 to - 125 | -55 to + 125 | Application Specific | -55 to - 125 | -55 to + 125 | -55 to + 85 limited by PVC Insulation on Ribbon Cable |

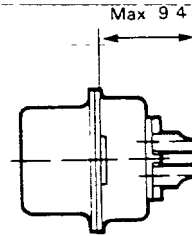


- Bright tin finish & grounding indents as standard
- UL 94V-0 rated insulators
- Compatible with other Cinch D Subminiatures
- Meets relevant dimensional requirements of MIL-C-24308, BS9523 F0013, DIN 41652 and BT 217.
- Screw locks, snap feet & earthing straps supplied as standard on 90° PCB mount versions

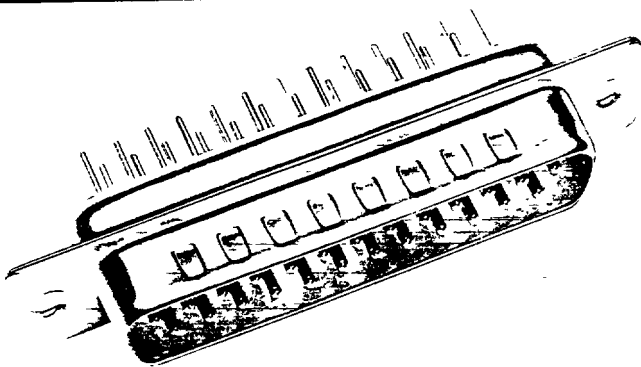
Hand Solder



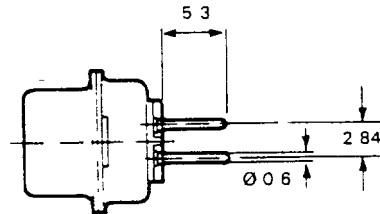
Hand Solder



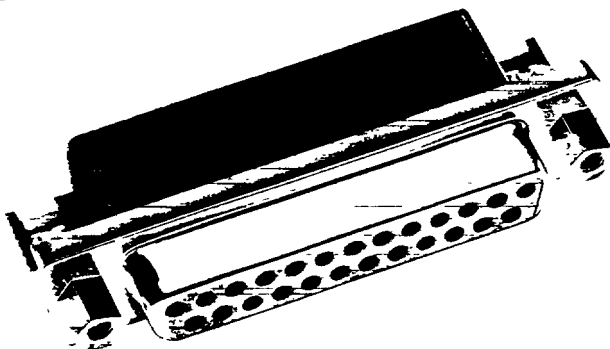
Straight PCB Mounting



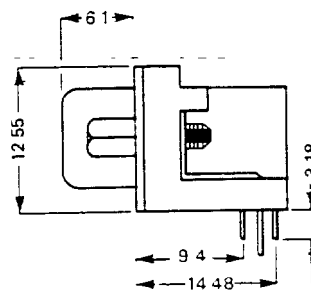
Straight PCB Mounting



90° PCB Mounting



90° PCB mounting

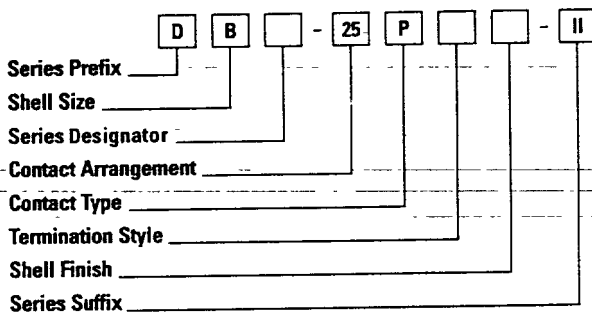


Technical Data

| | | | | | |
|-------------------------------------------------|----------------------------------------------|----|----|-----|------|
| Termination Options | Solder Bucket, Flow Solder Straight & 90° | | | | |
| Number of Contacts | 9 | 15 | 25 | 37 | 50 |
| Maximum Insertion & Extraction Force | 30 | 50 | 83 | 123 | 167N |
| Performance Level | 3 | | | | |
| Wire Accommodation | ≤0.5mm ² (20 AWG) | | | | |
| Plug Contact Material | Copper Alloy | | | | |
| Socket Contact Material | Copper Alloy | | | | |

| | |
|------------------------------|--------------------------------------------------------------------------|
| Current Rating | 5A |
| Proof Voltage | 1.05 Kv d.c. or a.c. peak |
| Working Voltage | 350V d.c. or a.c. peak |
| Contact Resistance | 5 x 10 ⁻³ Ω max |
| Insulation Resistance | ≥5 x 10 ⁸ Ω |
| Temperature Range | -55°C to +125°C |
| Insulator Materials | GF Polyester. UL 94V-0 Rated |
| Shell Materials | Steel - zinc plated or bright tin finish with grounding indents on plugs |

Part Numbering



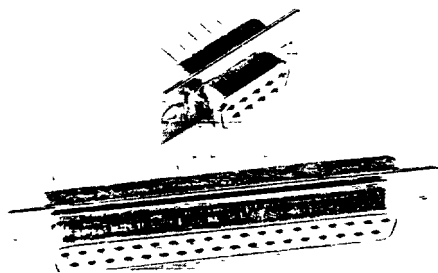
| | | |
|----------------------------|----------------------------|-------------------------------------------------------------------------|
| Series Prefix | D | |
| Shell Size | E, A, B, C or D | |
| Series Designator | LD | -90° PCB Mount Only |
| Contact Arrangement | 9, 15, 25, 37 or 50 | -50 way available in solder bucket and straight PCB mounting only |
| Contact Type | P or S | |
| Termination Style | 1ASN | -90° PCB mounting with bracket, snap-in board locks and earthing straps |
| | OL2 | -Straight PCB mounting |
| | No designation | -Solder bucket |
| Shell Finish | T | -Bright tin |
| | TI | -Bright tin with grounding indents (plugs only) |
| | No designation | -Zinc plated with yellow chromate passivation |
| Series Suffix | II | -Solder bucket & straight PCB mount only |

Solder Backed

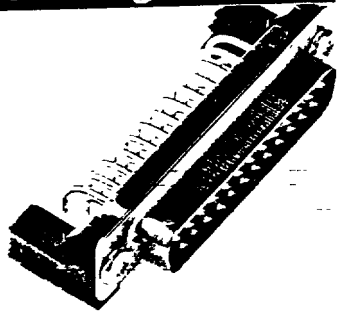


- Performance as BT 217. For approved version see page 14
- Conforms to BS 9523 F0010 and F0018
- Standard RS232 interface
- Bright tin finish & grounding indents available for EMI/RFI shielding
- Meets dimensional requirements of MIL-C-24308, BS9523 F0018 & DIN 41652
- UL 94V-0 rated insulators
- Compatible with all other D Subminiatures

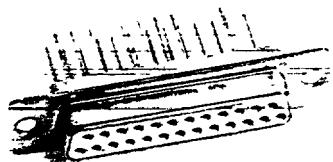
Straight PCB Mount



90° PCB Mounting



Wire Wrap

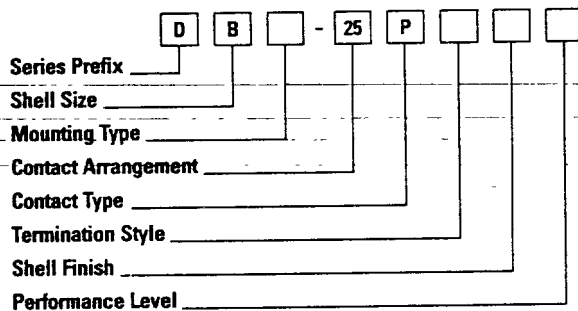


Technical Data

| | |
|-------------------------------------------------|----------------------------------------------------------|
| Termination Options | Solder Bucket Flow Solder Straight & 90° Wire Wrap |
| Number of Contacts | 9 15 25 37 50 |
| Maximum Insertion & Extraction Force | 30 50 83 123 167N |
| Performance Level | 1, 2 or 3 |
| Wire Accommodation | ≤0.5mm ² (20AWG) |
| Plug Contact Material | Copper Alloy |
| Socket Contact Material | Copper Alloy |
| Current Rating | 7.5A |

| | |
|------------------------------|------------------------------------------------------------------------|
| Proof Voltage | 2.5 Kv d.c. or a.c. peak |
| Working Voltage | 750V d.c. or a.c. peak |
| Contact Resistance | 5 x 10 ⁻⁴ Ω max |
| Insulation Resistance | ≥ 5 x 10 ⁹ Ω |
| Temperature Range | -55°C to +125°C |
| Insulator Material | GF Polyester, UL 94V-0 rated |
| Shell Materials | Steel—zinc plated or bright tin finish with grounding indents on plugs |

Part Numbering

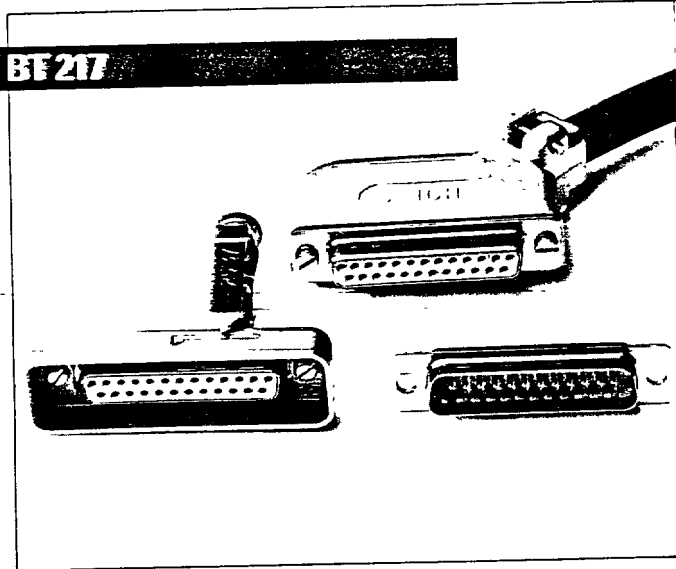


| | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series Prefix | D |
| Shell Size | E, A, B, C or D |
| Mounting Type | B - 4-40 riv-nut for rear panel mounting P - M3 riv-nut for rear panel mounting D - With female screw locks fitted E - 4-40 clinch-nut for rear panel mounting with locking feature for high vibration applications F - Float mount for rear panel mounting Y - Universal float mount No designation - Ø 3.05mm mounting hole 90° Flow Solder versions are not available with float mounts |

| | |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Arrangement | 9, 15, 25, 37 or 50 |
| Contact Type | P or S |
| Termination Style | 90° Flow Solder European Footprint |
| | 1A0N - Without brackets 1A1N - With plastic brackets 1A2N - With plastic brackets and keeper moulding 1A3N - With metal mounting brackets* 1AEN - With earthing straps on plastic brackets with keeper moulding* 1ASN - With board locks, earthing straps, plastic bracket and keeper moulding* |
| | For reverse orientation of contacts relative to shell, replace N with R. *Please specify riv-nuts or screw locks, mounting types B, P, or D 50 Way 90° PCB mounting available as 1A0N and 1A2N only |
| Straight Flow Solder | 0L2 - Termination Ø 0.6mm, 5.3mm long |
| 90° Flow Solder | BL2 - Termination ø 0.6mm |
| Mini Wire Wrap | F179A - 0.61mm square section pins for up to 3 wraps |
| Solder Bucket | No designation required |
| Shell Finish | T - Bright tin TI - Bright tin with grounding indents (plugs only) No designation - Zinc plated with yellow chromate passivation |
| Performance Level | 2 - DIN Class 2 1 - As BT217 No designation - Performance level 3 |

N.B For versions to U.S. standards, please consult Cinch Sales Office

BT 217



- BT specification D2399 pattern 217 has been the most widely used British specification for D Subminiature connectors since its introduction
- Fully approved connectors may be ordered to BT codes
- Ideal for applications involving industrial atmospheres and up to 500 mating cycles
- Connectors ordered to the part numbers below are supplied marked with the BT 217 code and full release is available

Technical Data

| | |
|-------------------------------------------------|----------------------------------------------------------|
| Termination Options | Solder Bucket Flow Solder Straight & 90° Wire Wrap |
| Number of Contacts | 9 15 25 37 50 |
| Maximum Insertion & Extraction Force | 30 50 83 123 167N |
| Performance Level | 1 |
| Wire Accommodation | ≤0.5mm ² (20AWG) |
| Plug Contact Material | Copper Alloy |
| Socket Contact Material | Copper Alloy |
| Current Rating | 5A |

| | |
|------------------------------|---------------------------------------------------------|
| Proof Voltage | 2.5 Kv d.c. or a.c. peak |
| Working Voltage | 750V d.c. or a.c. peak |
| Contact Resistance | 5 x 10 ⁻³ Ω max |
| Insulation Resistance | ≥ 5 x 10 ⁹ Ω |
| Temperature Range | -55°C to +125°C |
| Insulator Material | GF Polyester, UL 94V-0 rated |
| Shell Materials | Steel - zinc plated with yellow chromate passivation |

Part Numbering

Plugs

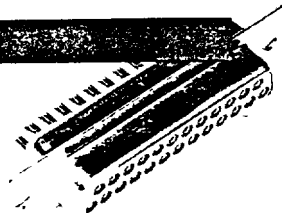
| Number of Contacts | Solder Bucket Connector | Solder Bucket Connector with Die Cast Back Shell | Solder Bucket Connector with Base Retainer |
|--------------------|-------------------------|--------------------------------------------------|--------------------------------------------|
| 9 | 217B09A | 217A09A | 217B09B |
| 15 | 217B15A | 217A15A | 217B15B |
| 25 | 217B25A | 217A25A | 217B25B |
| 37 | 217B37A | 217A37A | 217B37B |
| 50 | 217B50A | 217A50A | 217B50B |

Sockets

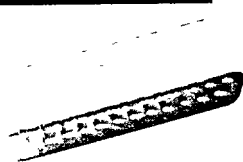
| Number of Contacts | Solder Bucket Connector | Solder Bucket Connector with Die Cast Back Shell | Solder Bucket Connector with Base Retainer |
|--------------------|-------------------------|--------------------------------------------------|--------------------------------------------|
| 9 | 217D09A | 217C09A | 217D09B |
| 15 | 217D15A | 217C15A | 217D15B |
| 25 | 217D25A | 217C25A | 217D25B |
| 37 | 217D37A | 217C37A | 217D37B |
| 50 | 217D50A | 217C50A | 217D50B |

Note: - This specification requires connectors to be suitable for 500 mating cycles followed by a 21 day industrial atmosphere test. Contact resistance will not then exceed 5 milliohms. Conformance to this specification indicates that the connector will perform well in hazardous environments over very long periods.

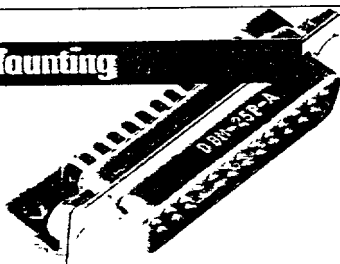
Solder Bucket



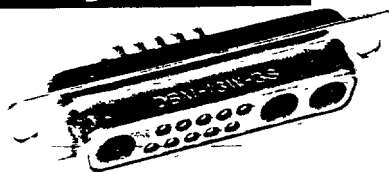
Straight PCB Mounting



90° PCB Mounting

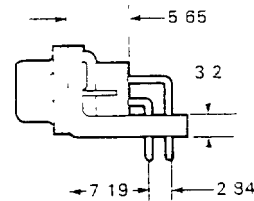


Combination Layouts

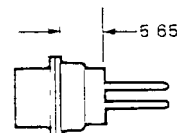


- Full release available to pattern 110, BS 9523 F0013 & MIL-C-24308
- Probe proof sleeved socket contacts
- Combination layouts with high voltage/high power/coaxial contacts
- Combination layouts are supplied with fixed solder bucket contacts
- Intermateable with other D Subminiatures
- Bright tin, zinc, gold or cadmium plating available on shells
- Low residual magnetism/high-reliability/space application versions available. Please consult factory
- EMI/RFI shielded versions available
- Environmentally-sealed versions available. Please contact factory for part numbers
- UL 94V-0 rated insulators

Termination Styles A & L



Termination Styles B & H



Technical Data

| | | |
|-------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Termination Options | Solder Bucket 90° Flow Solder Straight Flow Solder | |
| Number of Contacts | 9 15 25 37 50 | |
| Maximum Insertion & Extraction Force | 30 50 83 123 167N | |
| Release Available | Pattern 110 BS9523 F0013 MIL-C-24308 | |
| Wire Accommodation (Size 20 Contact) | ≤0.5mm ² (20 AWG) | |
| Plug Contact Material | Copper Alloy | |
| Socket Contact Material | Copper Alloy with stainless steel sleeve | |
| Current Rating | 5A | |
| Proof Voltage | | 2.5 Kv d.c. or a.c. peak |
| Withstanding Voltage | | 1.25 Kv a.c. rms |
| Working Voltage | | 750V d.c. or a.c. peak |
| Contact Resistance | | 5 x 10 ⁻³ Ω max |
| Insulation Resistance | | ≥ 5 x 10 ⁹ Ω |
| Insulator Material | | GF Diallyl Phthalate Green UL 94V-0 rated |
| Temperature Range | | -55°C to +125°C |
| Shell Materials | | Steel:- BS9523 F0013 – zinc plated with yellow chromate passivation MIL-C-24308 – Cadmium plated with yellow chromate passivation. Bright tin finish is available as a commercial version of the BS style. For other versions, e.g. gold plated/brass non magnetic shells, please consult factory |

For release to BS9523 F0013, please order to NATO stock numbers Class MM connectors will be supplied to

MIL-C-24308 performance levels. Please order to MIL-C-24308 part numbers if MIL specification release is required.

Solder Bucket - Plugs

| Number of Contacts | Description | NATO Stock Number | | MIL-C-24308 | |
|--------------------|-------------|-------------------|-------------------|-----------------|-------------------|
| | | Normal Mounting | With Float Mounts | Normal Mounting | With Float Mounts |
| 9 | DEM9P | 5935-99-014-1442 | 5935-99-014-7491 | M24308/3-1 | M24308/3-12 |
| 15 | DAM15P | 5935-99-014-1443 | 5935-99-014-7493 | M24308/3-2 | M24308/3-13 |
| 25 | DBM25P | 5935-99-014-1444 | 5935-99-014-7495 | M24308/3-3 | M24308/3-14 |
| 37 | DCM37P | 5935-99-014-1445 | 5935-99-014-7497 | M24308/3-4 | M24308/3-15 |
| 50 | DDM50P | 5935-99-014-1446 | 5935-99-014-7499 | M24308/3-5 | M24308/3-16 |

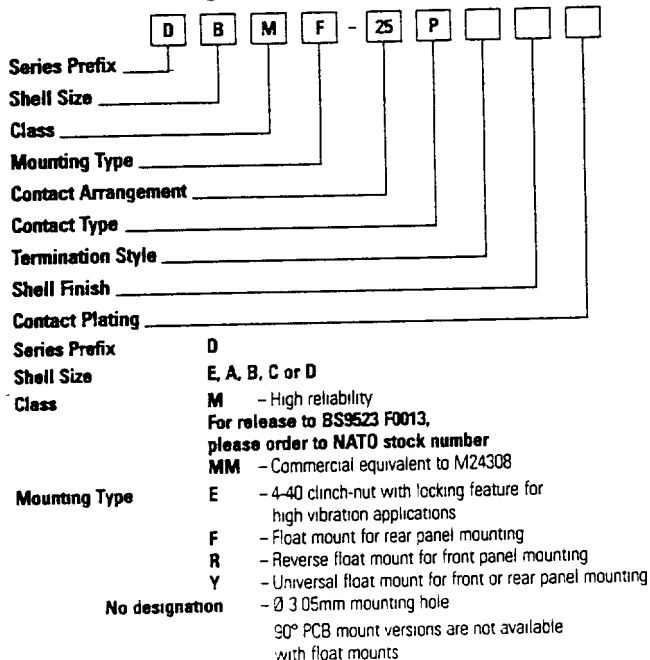
Solder Bucket - Sockets

| Number of Contacts | Description | NATO Stock Number | | MIL-C-24308 | |
|--------------------|-------------|-------------------|-------------------|-----------------|-------------------|
| | | Normal Mounting | With Float Mounts | Normal Mounting | With Float Mounts |
| 9 | DEM9S | 5935-99-014-9583 | 5935-99-014-7492 | M24308/1-1 | M24308/1-12 |
| 15 | DAM15S | 5935-99-014-9585 | 5935-99-014-7494 | M24308/1-2 | M24308/1-13 |
| 25 | DBM25S | 5935-99-014-9587 | 5935-99-014-7496 | M24308/1-3 | M24308/1-14 |
| 37 | DCM37S | 5935-99-014-9589 | 5935-99-014-7498 | M24308/1-4 | M24308/1-15 |
| 50 | DDM50S | 5935-99-014-9591 | 5935-99-014-7500 | M24308/1-5 | M24308/1-16 |



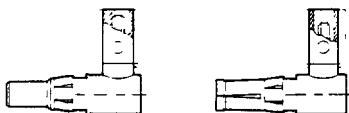
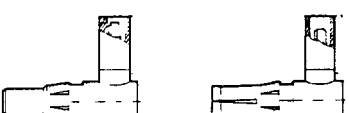
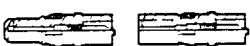

PCB Mounting - Plugs and Sockets

| Number of Contacts | 90° Flow Solder Tails | | Straight Flow Solder Tails | | |
|--------------------|---------------------------------------|---------------------------------------|-------------------------------------|-------------|-------------------------------------|
| | Plugs to MIL-C-24308 | | Plugs and Sockets to MIL-C-24308 | | |
| | 2.36mm Tail Length 0.76mm Diameter | 2.36mm Tail Length 1.02mm Diameter | 3.96mm Tail Length 0.76 Diameter | | 4.67mm Tail Length 0.76 Diameter |
| | | | Plugs | Sockets | Sockets |
| 9 | M24308/24-25 | M24308/24-37 | M24308/24-1 | M24308/23-1 | M24308/23-7 |
| 15 | M24308/24-26 | M24308/24-38 | M24308/24-2 | M24308/23-2 | M24308/23-8 |
| 25 | M24308/24-27 | M24308/24-39 | M24308/24-3 | M24308/23-3 | M24308/23-9 |
| 37 | M24308/24-28 | M24308/24-40 | M24308/24-4 | M24308/23-4 | M24308/23-10 |
| 50 | - | - | M24308/24-5 | M24308/23-5 | M24308/23-11 |

Part Numbering



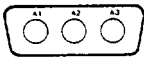
- Contact Arrangement** 9, 15, 25, 37 or 50
 5W1, 3W3, 7W2, 11W1, 9W4, 13W3, 17W2, 21W1, 13W6, 8W8, 17W5, 21W4A, 25W3, 27W2, 24W7, 36W4, 43W2
- Contact Type** P or S
- Termination Style**
 90° Flow Solder
1A2N - European Footprint with 30° mounting bracket and keeper moulding
A - 2.63mm tail length U.S. footprint 9, 15, 25 & 37 way available
L - 3.96mm tail length 9, 15, 25 & 37 way plugs available
- Straight Flow Solder**
OL3 - European standard Ø 0.76mm, 4mm long
B - U.S. standard Ø 1mm, 3.18mm long
H - U.S. standard Ø 1mm, 3.96mm long
- Solder Bucket** **No designation required**
 Combination layouts available with solder buckets. For other termination styles, please consult Sales Office
- Shell Finish**
T - Bright tin
TI - Bright tin with grounding indents (plugs only) (not applicable for Series MM)
No designation - Zinc plated with yellow chromate passivation
 Class MM - Cadmium plated with yellow chromate passivation
 For gold plated brass, non-magnetic shells, please consult Sales Office
- Contact Plating** **A156**
No designation - 1.25µ gold (standard for Series MM)
 - Standard plating - 0.75µ gold

| Plug | Socket | Part Number Standard Finish | Part Number Military Finish | Use with R.G. Cable or Equivalent | |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------|--------------------------------|--------------------------------------|---------------|
| Straight Crimp Braid Coax Contacts  | | Plug | DM53740 | DM53740-17 | 178B/U |
| | | Plug | DM53740-1 | DM53740-15 | 179B/U |
| | | Plug | DM53740-3 | DM53740-16 | 180B/U |
| | | Plug | DM53740-5 | DM53740-18 | 58B/U |
| | | Socket | DM53742 | DM53742-18 | 178B/U |
| | | Socket | DM53742-1 | DM53742-16 | 179B/U |
| | | Socket | DM58742-3 | DM53742-17 | 180B/U |
| | | Socket | DM53742-5 | DM53742-19 | 58B/U |
| Straight Solder Braid Coax Contacts  | | Plug | DM53740-5008 | DM53740-5105 | 178B/U |
| | | Plug | DM53740-5001 | DM53740-5099 | 179B/U |
| | | Plug | DM53740-5002 | DM53740-5104 | 180B/U |
| | | Plug | DM53740-5005 | DM53740-5101 | 58B/U |
| | | Socket | DM53742-5006 | DM53742-5092 | 178B/U |
| | | Socket | DM53742-5001 | DM53742-5089 | 179B/U |
| | | Socket | DM53742-5002 | DM53742-5091 | 180B/U |
| | | Socket | DM53742-5004 | DM53742-5086 | 58B/U |
| | | Plug (Short) | DM53740-5000 | DM53740-5100 | 178B/U |
| Socket (Short) | DM53742-5000 | DM53742-5085 | 178B/U | | |
| Right Angle Crimp Braid Contacts  | | Plug | DM53741 | DM53741-12 | 178B/U |
| | | Plug | DM53741-1 | DM53741-11 | 179B/U |
| | | Plug | DM53741-3 | DM53741-10 | 180B/U |
| | | Plug | DM53741-4 | DM53741-13 | 58B/U |
| | | Socket | DM53743-2 | DM53743-18 | 178B/U |
| | | Socket | DM53743-3 | DM53743-16 | 179B/U |
| | | Socket | DM53743-5 | DM53743-17 | 180B/U |
| | | Socket | DM53743-6 | DM53743-19 | 58B/U |
| Right Angle Solder Braid Coax Contacts  | | Plug | DM53741-5000 | DM53741-5059 | 178B/U |
| | | Plug | DM53741-5001 | DM53741-5062 | 179B/U |
| | | Plug | DM53741-5003 | DM53741-5063 | 180B/U |
| | | Plug | DM53741-5004 | DM53741-5060 | 58B/U |
| | | Socket | DM53743-5000 | DM53743-5073 | 178B/U |
| | | Socket | DM53743-5001 | DM53743-5076 | 179B/U |
| | | Socket | DM53743-5003 | DM53743-5077 | 180B/U |
| | | Socket | DM53743-5004 | DM53743-5074 | 58B/U |
| Straight High Voltage Contacts  | | | | | Wire Size AWG |
| | | Plug | DM51157 | DM51157-8 | # 20 |
| High Power Solder Contacts  | | Socket | DM51155 | DM51155-7 | # 20 |
| | | Plug - 40 amp | DM53745-1 | DM53745-28 | # 8 |
| | | Plug - 20 amp | DM53745-7 | DM53745-27 | # 12 |
| | | Plug - 10 amp | DM53745-8 | DM53745-25 | # 16 |
| | | Socket - 40 amp | DM53744-1 | DM53744-21 | # 8 |
| | | Socket - 20 amp | DM53744-6 | DM53744-25 | # 12 |
| Socket - 10 amp | DM53744-24 | DM53744-24 | # 16 | | |

Combination Layouts:- Coaxial, High Voltage, High Power & Solder Bucket



E
DEM-5W1P
DEM-5W1S



A
DAM-3W3P
DAM-3W3S



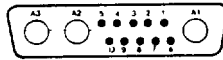
A
DAM-7W2P
DAM-7W2S



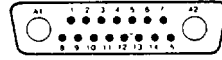
A
DAM-11W1P
DAM-11W1S



B
DBM-9W4P
DBM-9W4S



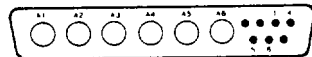
B
DBM-13W3P
DBM-13W3S



B
DBM-17W2P
DBM-17W2S



B
DBM-21W1P
DBM-21W1S



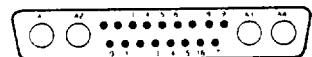
C
DCM-13W6P
DCM-13W6S



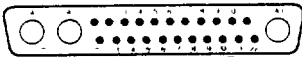
C
DCM-8W8P
DCM-8W8S



C
DCM-17W5P
DCM-17W5S



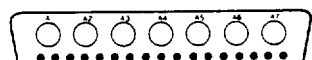
C
DCM-21WA4P
DCM-21WA4S



C
DCM-25W3P
DCM-25W3S



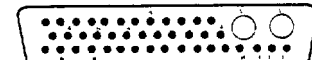
C
DCM-27W2P
DCM-27W2S



D
DDM-24W7P
DDM-24W7S

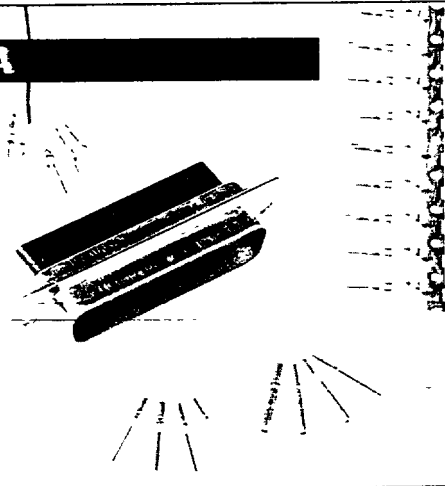


D
DDM-36W4P
DDM-36W4S

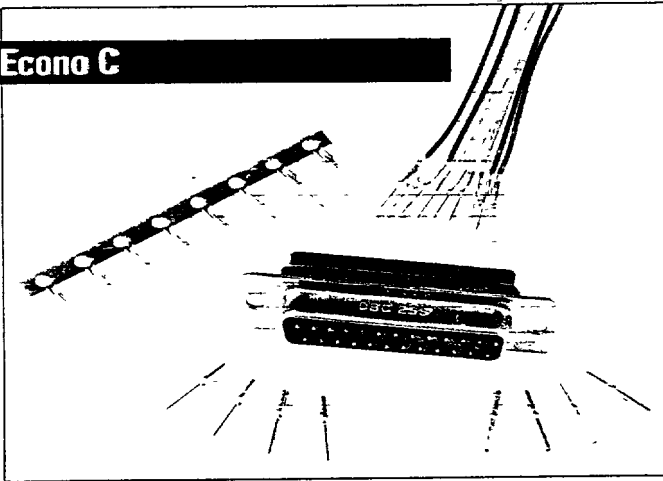


D
DDM-43W2P
DDM-43W2S

Econo DA



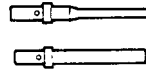
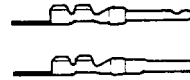
Econo C



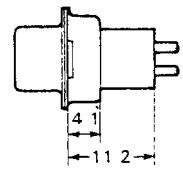
- High speed automatic termination
- Low cost
- UL 94V-0 rated insulator materials
- Part loading by user guarantees total flexibility
- Contacts available in a range of performance levels
- A full range of termination tooling is available (see page 47)
- Automatic stripping/crimping eliminates the variability of hand soldering
- Econo DA offers the security of insulation grip contacts
- Econo C has low-profile rear insulator
- Contacts are removable and replaceable

Econo DA

Contacts supplied on reels for high speed crimping



Housings

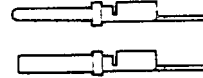


Machined contacts for higher reliability applications

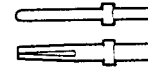
Socket contacts have stainless steel sleeves to prevent damage by probes

Econo C

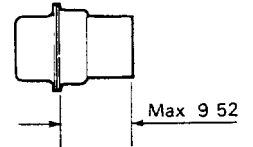
Contacts supplied on reels for high speed crimping



Machined contacts



Housings



Technical Data

| | Econo DA | | | | | Econo C | | | | |
|--------------------------------------|--------------------------------------------------------------------------|----|----|-----|------|--------------------------------------------------------------------------|----|----|-----|------|
| Termination Style | Crimp with insulation grip | | | | | Crimp | | | | |
| Number of Contacts | 9 | 15 | 25 | 37 | 50 | 9 | 15 | 25 | 37 | 50 |
| Maximum Insertion & Extraction Force | 30 | 50 | 83 | 123 | 167N | 30 | 50 | 83 | 123 | 167N |
| Performance Levels | 1, 2 or 3 | | | | | 2 or 3 | | | | |
| Wire Accommodation | 20-28 AWG | | | | | 20-28 AWG | | | | |
| Socket Contact Material | Copper Alloy | | | | | Copper Alloy | | | | |
| Plug Contact Material | Copper Alloy | | | | | Copper Alloy | | | | |
| Current Rating | 5A | | | | | 5A | | | | |
| Withstanding Voltage | 1000V a.c. rms | | | | | 1000V a.c. rms | | | | |
| Insulation Resistance | $\geq 1 \times 10^8 \Omega$ | | | | | $\geq 5 \times 10^8 \Omega$ | | | | |
| Contact Resistance | $5 \times 10^{-3} \Omega$ max | | | | | $2.7 \times 10^{-3} \Omega$ max | | | | |
| Operating Temperature | -55°C to $+125^\circ\text{C}$ | | | | | -55°C to $+125^\circ\text{C}$ | | | | |
| Insulator Material | GF Nylon UL94V-0 rated | | | | | GF Nylon UL94V-0 rated | | | | |
| Shell Materials | Steel - zinc plated or bright tin finish with grounding indents on plugs | | | | | Steel - zinc plated or bright tin finish with grounding indents on plugs | | | | |

Econo DA Contacts

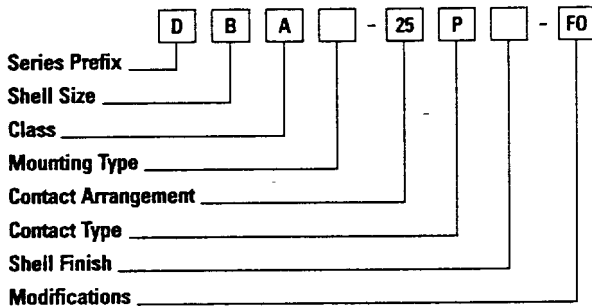
| Version | Performance Level | Pin Contacts | Socket Contacts |
|----------------------------------|-------------------|----------------------|----------------------|
| 15,000 Reels 20 - 24 AWG | 3 | RO6 00003 RH 000 GFA | RO6 00004 RH 000 GFA |
| 15,000 Reels 24 - 28 AWG | 3 | RO6 00001 RH 000 GFA | RO6 00002 RH 000 GFA |
| 300 Reels 20 - 24 AWG | 3 | RO6 00003 RC 300 GFA | RO6 00004 RC 300 GFA |
| 300 Reels 24 - 28 AWG | 3 | RO6 00001 RC 300 GFA | RO6 00002 RC 300 GFA |
| Strips of 10 Contacts 20-24 | 3 | RO6 00017 00 000 GFA | RO6 00018 00 000 GFA |
| Series 3 Commercial (turned) | 3 | 330-5291-000 | 031-1007-000 |
| Series 3 to MIL-C-24308 (turned) | Military | M39029/64-369 | M39029/63-368 |

For additional plating variations please contact the factory

Econo C Contacts

| Description | Machined Contacts For 20 - 24 AWG | Stamped Contacts on Reels Performance Level 3 | Stamped Contacts on Reels Performance Level 2 | Stamped Contacts Supplied Loose |
|-------------|-----------------------------------|-----------------------------------------------|-----------------------------------------------|---------------------------------|
| Pin | 030-1952-000 | BCL-1964-20P | D110238-034 | 030-1960-005 |
| Socket | 030-1953-000 | BCL-1963-20S | D110238-035 | 030-1957-005 |

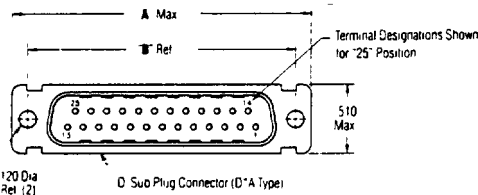
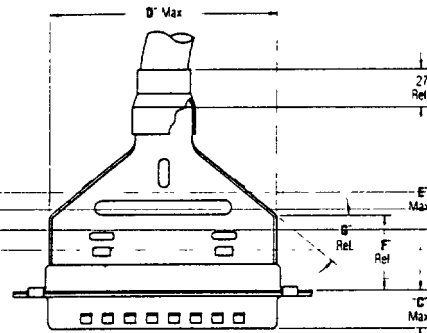
Part Numbering



| | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series Prefix | D |
| Shell Size | E, A, B, C or D |
| Class | A - Econo DA U - Econo C |
| Mounting Type | B - 4-40 riv-nut for rear panel mounting P - M3 riv-nut for rear panel mounting Y - Universal float mount for front or rear panel mounting No designation - Ø 3.05mm mounting hole |
| Contact Arrangement | 9, 15, 25, 37 or 50 |
| Contact Type | P or S |
| Shell Finish | T - Bright tin TI - Bright tin with grounding indents (plugs only) No designation - Zinc plating with yellow chromate passivation |
| Modifications | FO - Supplied without contacts (The modification code is not marked on the connector) No designation - Supplied with machined contacts (Econo C only) |

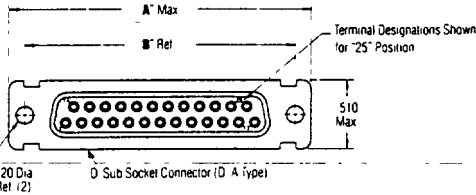
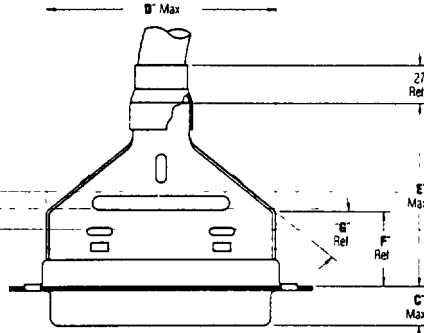
Overmouldable Shielding Kit

Plug

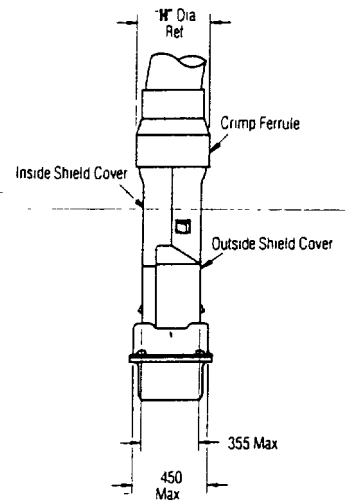


120 Dia Ref (2)
D Sub Plug Connector (D'A Type)

Socket



120 Dia Ref (2)
D Sub Socket Connector (D'A Type)



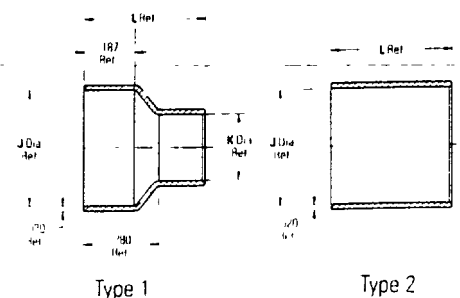
Dimensions-Shielding Kits (Comprising connector & 2 piece screening can)

| No. of Contacts | Part Number | A | | B | | C | | D | | E | | F | | G Deg. | H | |
|-----------------|---------------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| | | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | | in | mm |
| 9 Plug | 234-09-24-131 | 1.228 | 31.19 | 0.984 | 24.99 | 0.270 | 6.86 | 0.705 | 17.91 | 1.320 | 33.53 | 0.520 | 13.21 | 75° | 0.440 | 11.18 |
| 9 Socket | 233-09-22-131 | 1.228 | 31.19 | 0.984 | 24.99 | 0.285 | 7.24 | 0.705 | 17.91 | 1.320 | 33.53 | 0.520 | 13.21 | 75° | 0.440 | 11.18 |
| 15 Plug | 234-15-24-131 | 1.556 | 39.52 | 1.312 | 33.33 | 0.270 | 6.86 | 1.050 | 26.67 | 1.320 | 33.53 | 0.520 | 13.21 | 58° | 0.440 | 11.18 |
| 15 Socket | 233-15-22-131 | 1.556 | 39.52 | 1.312 | 33.33 | 0.285 | 7.24 | 1.050 | 26.67 | 1.320 | 33.53 | 0.520 | 13.21 | 58° | 0.440 | 11.18 |
| 25 Plug | 234-25-24-131 | 2.103 | 53.42 | 1.852 | 47.04 | 0.275 | 6.99 | 1.590 | 40.39 | 1.320 | 33.53 | 0.520 | 13.21 | 40° | 0.440 | 11.18 |
| 25 Socket | 233-25-22-131 | 2.103 | 53.42 | 1.852 | 47.04 | 0.285 | 7.24 | 1.590 | 40.39 | 1.320 | 33.53 | 0.520 | 13.21 | 40° | 0.440 | 11.18 |
| 37 Plug | 234-37-24-131 | 2.744 | 69.70 | 2.500 | 63.50 | 0.275 | 6.99 | 2.240 | 56.90 | 1.620 | 41.15 | 0.750 | 19.05 | 32° | 0.520 | 13.21 |
| 37 Socket | 233-37-22-131 | 2.744 | 69.70 | 2.500 | 63.50 | 0.285 | 7.24 | 2.240 | 56.90 | 1.620 | 41.15 | 0.750 | 19.05 | 32° | 0.520 | 13.21 |

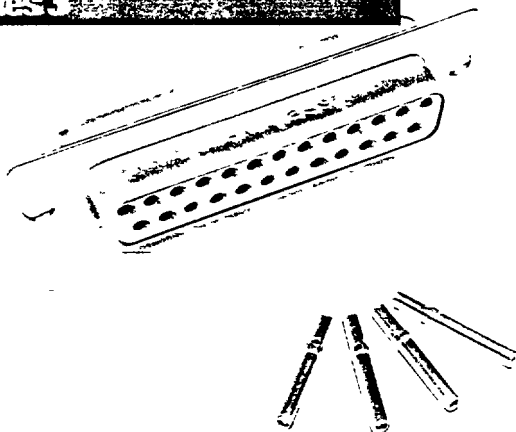
Dimensions-Crimp Ferrule (Order separately)

| Part Number | Type | J | | K | | L | | Crimp Die Part No. |
|---------------|------|------|-------|------|-------|------|-------|--------------------|
| | | in | mm | in | mm | in | mm | |
| 462-44-22-451 | 1 | .437 | 11.10 | .200 | 5.08 | .450 | 11.43 | 598-98-97-607 |
| 462-44-22-442 | 1 | .437 | 11.10 | .235 | 5.97 | .450 | 11.43 | 598-98-97-600 |
| 462-44-22-443 | 1 | .437 | 11.10 | .250 | 6.35 | .450 | 11.43 | 598-98-97-601 |
| 462-44-22-444 | 1 | .437 | 11.10 | .325 | 8.26 | .450 | 11.43 | 598-98-97-602 |
| 462-44-22-445 | 1 | .437 | 11.10 | .350 | 8.89 | .450 | 11.43 | 598-98-97-603 |
| 462-44-22-446 | 1 | .437 | 11.10 | .375 | 9.53 | .450 | 11.43 | 598-98-97-604 |
| 462-44-22-447 | 2 | .437 | 11.10 | .437 | 11.10 | .450 | 11.43 | 598-98-97-605 |
| 462-44-22-450 | 2 | .460 | 11.68 | .460 | 11.68 | .450 | 11.43 | 598-98-97-606 |

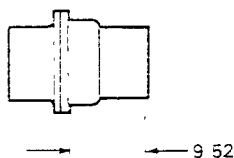
Crimp Ferrule



Series 3



Dimensions (mm)



- Approved to MIL-C-24308
- Probe-proof socket contacts
- Intermateable with other D Subminiature connectors
- Complete flexibility of contact loading
- Superb contact retention by metal clip
- Ideal for high temperature applications
- UL 94V-0 rated G.F. Diallyl Phthalate insulators for maximum electrical performance
- Choice of shell plating
- Low residual magnetism versions available

Machined contacts for higher reliability applications



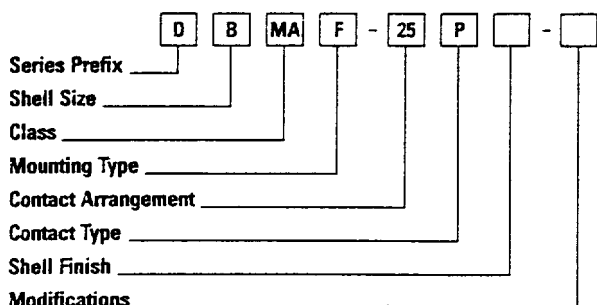
Socket contacts have stainless steel sleeves to prevent damage by probes

Technical Data

| | |
|--------------------------------------|------------------------------------------|
| Termination Style | Crimp |
| Number of Contacts | 9 15 25 37 50 |
| Maximum Insertion & Extraction Force | 30 50 83 123 167N |
| Performance Level | Military to MIL-C-24308 |
| Wire Accommodation | 20 - 24 AWG |
| Plug Contact Material | Copper Alloy |
| Socket Contact Material | Copper Alloy with Stainless Steel Sleeve |

| | |
|-----------------------|---------------------------------------------------------------|
| Current Rating | 5A |
| Withstanding Voltage | 1.25 Kv a.c. rms |
| Contact Resistance | $2.7m \times 10^{-3} \Omega$ max |
| Insulation Resistance | $\geq 5 \times 10^9 \Omega$ |
| Temperature Range | -55°C to +125°C |
| Insulator Material | GF Diallyl Phthalate per MIL-M-14 UL 94V-0 rated |
| Shell Materials | Steel or brass with zinc, bright tin, gold or cadmium plating |

Part Numbering



| | |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series Prefix | D |
| Shell Size | E, A, B, C or D |
| Class | MA - Series 3 MAM - Commercial equivalent to M24308 |
| Mounting Type | E - 4-40 clinch-nut for rear panel mounting with locking feature for high vibration applications F - Float mount for rear panel mounting R - Reverse float mount for front panel mounting Y - Universal float mount for front or rear panel mounting No designation - $\varnothing 3.05$ mm mounting hole |
| Contact Arrangement | 9, 15, 25, 37 or 50 |
| Contact Type | P or S |
| Shell Finish | T - Bright tin TI - Bright tin with grounding indents (plugs only) No designation - Zinc plated with yellow chromate passivation Class MAM - Cadmium plated with yellow chromate passivation |
| Modifications | FO - Supplied without contacts (The modification code is not marked on the connector) No designation - Supplied with turned contacts For other shell materials or finishes, please consult the Sales Office |

Part Numbering for Connectors to MIL-C-24308

Plugs

| Number of Contacts | With Contacts | | | | Without Contacts | | | |
|--------------------|------------------------|--------------------------------------------|--------------------------|----------------------------------------------|------------------------|--------------------------------------------|--------------------------|----------------------------------------------|
| | Steel Passivated Shell | Steel Passivated Shell (with Float Mounts) | Brass Non Magnetic Shell | Brass Non Magnetic Shell (with Float Mounts) | Steel Passivated Shell | Steel Passivated Shell (with Float Mounts) | Brass Non Magnetic Shell | Brass Non Magnetic Shell (with Float Mounts) |
| 9 | M24308/4-1 | M24308/4-302 | M24308/8-1 | M24308/8-302 | M24308/4-259 | M24308/4-324 | M24308/8-259 | M24308/8-324 |
| 15 | M24308/4-2 | M24308/4-303 | M24308/8-2 | M24308/8-303 | M24308/4-260 | M24308/4-325 | M24308/8-260 | M24308/8-325 |
| 25 | M24308/4-3 | M24308/4-304 | M24308/8-3 | M24308/8-304 | M24308/4-261 | M24308/4-326 | M24308/8-261 | M24308/8-326 |
| 37 | M24308/4-4 | M24308/4-305 | M24308/8-4 | M24308/8-305 | M24308/4-262 | M24308/4-327 | M24308/8-262 | M24308/8-327 |
| 50 | M24308/4-5 | M24308/4-306 | M24308/8-5 | M24308/8-306 | M24308/4-263 | M24308/4-328 | M24308/8-263 | M24308/8-328 |

Sockets

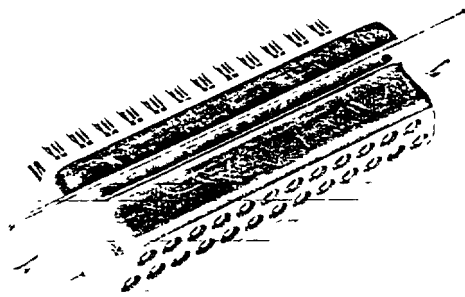
| Number of Contacts | With Contacts | | | | Without Contacts | | | |
|--------------------|------------------------|--------------------------------------------|--------------------------|----------------------------------------------|------------------------|--------------------------------------------|--------------------------|----------------------------------------------|
| | Steel Passivated Shell | Steel Passivated Shell (with Float Mounts) | Brass Non Magnetic Shell | Brass Non Magnetic Shell (with Float Mounts) | Steel Passivated Shell | Steel Passivated Shell (with Float Mounts) | Brass Non Magnetic Shell | Brass Non Magnetic Shell (with Float Mounts) |
| 9 | M24308/2-1 | M24308/2-23 | M24308/6-1 | M24308/6-259 | M24308/2-281 | M24308/2-292 | M24308/6-281 | M24308/6-324 |
| 15 | M24308/2-2 | M24308/2-24 | M24308/6-2 | M24308/6-260 | M24308/2-282 | M24308/2-293 | M24308/6-282 | M24308/6-325 |
| 25 | M24308/2-3 | M24308/2-25 | M24308/6-3 | M24308/6-261 | M24308/2-283 | M24308/2-294 | M24308/6-283 | M24308/6-326 |
| 37 | M24308/2-4 | M24308/2-26 | M24308/6-4 | M24308/6-262 | M24308/2-284 | M24308/2-295 | M24308/6-284 | M24308/6-327 |
| 50 | M24308/2-5 | M24308/2-27 | M24308/6-5 | M24308/6-263 | M24308/2-285 | M24308/2-296 | M24308/6-285 | M24308/6-328 |

Contact Part Numbers

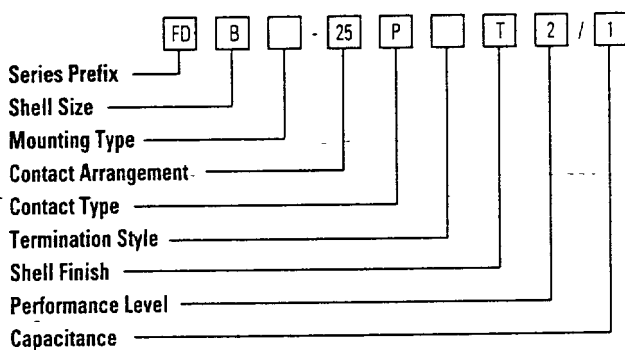
| Description | To MIL-C-24308 | Commercial | |
|-------------|----------------|---------------------|---------------------|
| | | Performance Level 3 | Performance Level 1 |
| Plug | M39029/64-369 | 330-5291-000 | 330-5291-050 |
| Socket | M39029/63-368 | 031-1007-000 | 031-1007-050 |

Note All the socket contacts above have an external stainless steel sleeve to prevent damage by probes

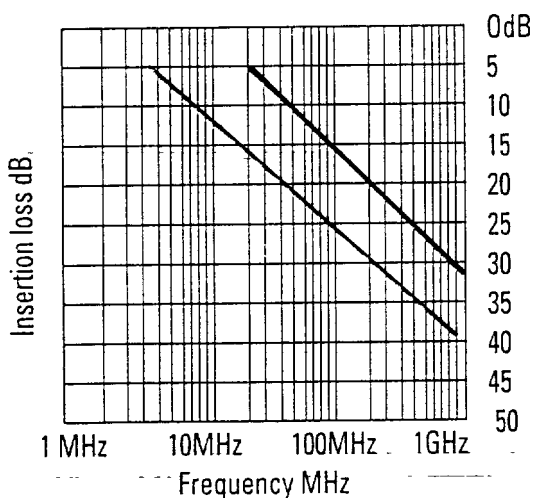
Filter D



- Filters interference from signals
- Low loss at signal frequencies
- Helps make equipment compatible with FCC & FTZ regulations
- Fully potted construction for maximum resistance to hazardous environments
- The same size & footprint as standard Cinch D Connectors
- Standard European footprint - can be fitted straight onto existing PCBs
- Meets relevant dimensional requirements of BS9523 F0013, MIL-C-24308, DIN 41652 & BT217
- Bright tin finish & grounding indents for EMI/RFI shielding
- Nickel plated shells for EMI/RFI shielding.



Capacitive Filter



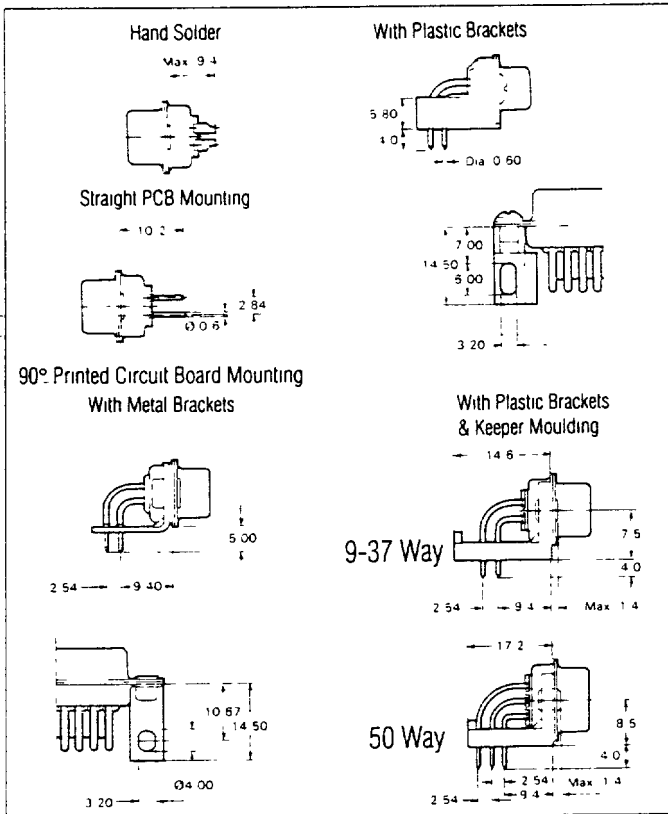
Typical performance relates to 50Ω system Mil - Std. - 220
Capacitance - 330pF and 1 nF nominal at 1 KHz 0.1 rms

— 330 pF

— 1 nF

| Termination Options | Solder Bucket, Flow Solder Straight & 90° | | | | |
|--------------------------------------|----------------------------------------------|----|----|-----|------|
| Number of Contacts | 9 | 15 | 25 | 37 | 50 |
| Maximum Insertion & Extraction Force | 30 | 50 | 83 | 123 | 167N |
| Performance Level | 1, 2 & 3 | | | | |
| Wire Accommodation | ≤ 0.5mm ² (20AWG) | | | | |
| Plug Contact Material | Copper Alloy | | | | |
| Socket Contact Material | Copper Alloy | | | | |

| | |
|-----------------------|---------------------------------------------------------------------------------------------------------|
| Current Rating | 5A |
| Capacitance | 1nF and 330 pF Tol -80% -20% |
| Working Voltage | 200V d.c. or a.c. peak |
| Contact Resistance | 5 x 10 ³ Ω max |
| Insulation Resistance | ≥ 5 x 10 ⁸ Ω |
| Insulator Materials | High impact Epoxy & GF Polyester UL 94V-0 Rated |
| Shell Materials | Front - Steel - Bright tin finish with grounding indents on plugs Rear - Steel - Electrolytic nickel |

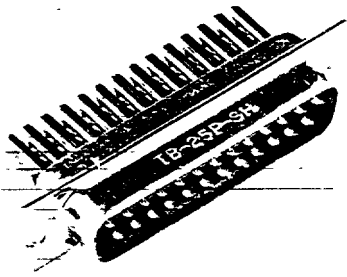


| | |
|-----------------------------|-----------------------------------------------------------------------------------------------------------|
| Series Prefix | FD -Filtered D (Standard Prefix) |
| Shell Size | E, A, B, C or D (All Standard) |
| Mounting Type | B -4-40 riv-nut for rear panel mounting (Standard) |
| | P -M3 riv-nut for rear panel mounting |
| | D - With female screw locks fitted |
| | E -4-40 clinch-nut for rear panel mounting with locking feature for high vibration applications |
| | F -Float mount for rear panel mounting |
| | Y -Universal float mount |
| | No designation - \varnothing 3.05mm mounting hole (Standard) |
| | 90° Flow Solder versions are not available with float mounts |
| Contact Arrangement | 9, 15, 25, 37, or 50 (All Standard) |
| Contact Type | P or S (Both Standard) |
| Termination Style | |
| 90° Flow Solder | 1A0N -Without brackets (Standard) |
| European Footprint | 1A1N -With plastic brackets |
| | 1A2N -With plastic brackets and keeper moulding |
| | 1A3N -With metal mounting brackets* |
| | 1AEN -With earthing straps on plastic brackets (Standard) with keeper moulding* |
| | 1ASN - With board locks, earthing straps, plastic (Standard) bracket and keeper-moulding* |
| | For reverse orientation of contacts relative to shell, replace N with R |
| | *Please specify riv-nuts or screw locks. |
| | mounting types B, P, or D (riv-nuts Standard) |
| | 50 Way 90° PCB mounting available as 1A0N and 1A2N only |
| Straight Flow Solder | OL2 -Termination \varnothing 0.6mm, 5.3mm long (Standard) |
| | BL2 -Termination \varnothing 0.6mm, 5.3mm long with board locks |
| Mini Wire Wrap | F179A - 0.61mm square section pins for up to 3 wraps |
| Solder Bucket | No designation required (Standard) |
| Shell Finish | T Nickel plated (Standard) |
| | TI Nickel plated with grounding indents (plugs only) (Standard) |
| Performance Level | 1 -As BT 217 |
| | 2 -DIN Class 2 (Standard) |
| | 3 -Exceeds DIN Class 3 |
| Capacitance | 1 -1 nF (Standard) |
| | 3 -330 pF |

Plating Specification

| Performance Level | Performance | Comment |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 1 | 500 Matngs minimum followed by 21 day industrial atmosphere test and 21 day damp heat test to BS 2011 | Meets BT 217 exceeds DIN Class 2 |
| 2 | 100 Matngs minimum followed by 21 day damp heat test and 4 day industrial atmosphere test | Meets DIN Class 2 |
| 3 | 250 Matngs minimum followed by 21 day damp heat test at 93% relative humidity to BS 2011, Part 2, 1 Ca. Net contact resistance will not then exceed 5 milliohms | Exceeds DIN Class 3 |

Metal Shell IDC



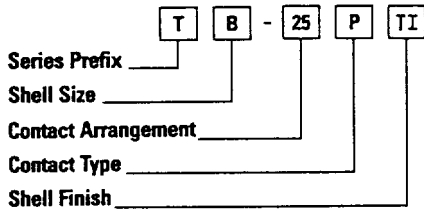
- High speed termination
- Insulator materials are UL 94V-0 rated
- Standard RS 232 interface
- Bright tin finish and grounding indents available for EMI/RFI screening
- Compatible with all other D Subminiatures
- Four point IDC termination with strain relief
- Complete system with hoods

Technical Data

| | | | | |
|-------------------------------------------------|-----------------------------------------------------|----|----|------|
| Termination Options | Individual Conductor Insulation Displacement | | | |
| Number of Contacts | 9 | 15 | 25 | 37 |
| Maximum Insertion & Extraction Force | 30 | 50 | 83 | 123N |
| Performance Level | 3 | | | |
| Wire Accommodation | 24-26 AWG solid/stranded wire | | | |
| Plug Contact Material | Copper Alloy | | | |
| Socket Contact Material | Copper Alloy | | | |

| | |
|------------------------------|-------------------------------------------------------------|
| Current Rating | 3A |
| Withstanding Voltage | 1,000 V a c rms |
| Contact Resistance | $5 \times 10^{-3} \Omega$ max |
| Insulation Resistance | $\geq 5 \times 10^9 \Omega$ |
| Temperature Range | -55°C to + 125°C |
| Insulator Material | GF Polyester UL 94V-0 Rated |
| Shell Materials | Steel with bright tin finish and grounding indents on plugs |

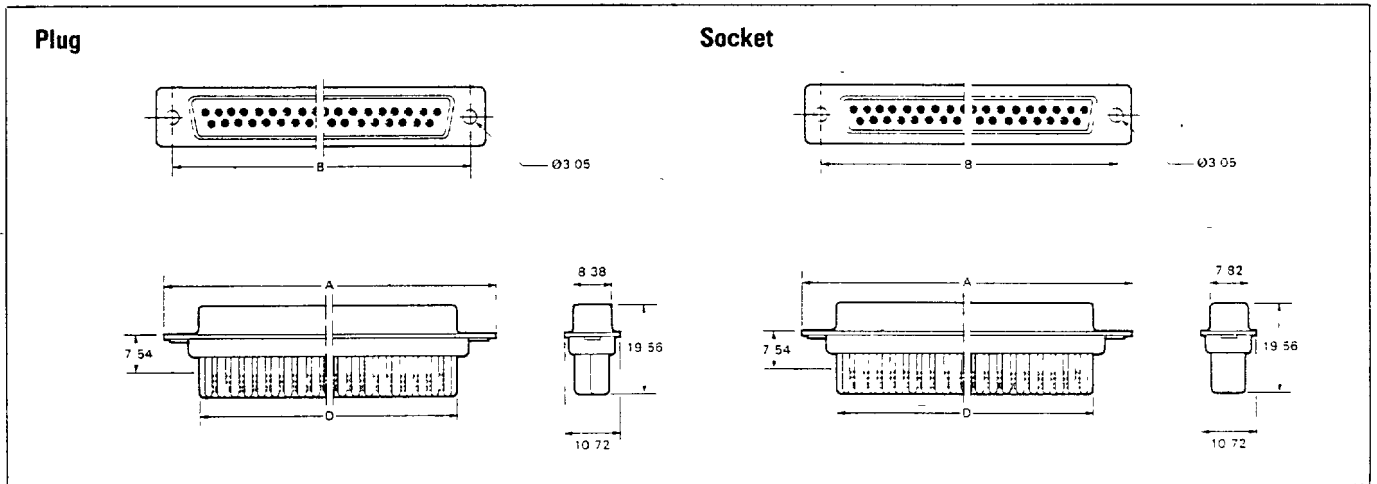
Part Numbering



| | |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Series Prefix | T |
| Shell Size | E, A, B or C |
| Contact Arrangement | 9, 15, 25 or 37 |
| Contact Type | P or S |
| Shell Finish | T - Bright tin TI - Bright tin with grounding indents (plugs only) SH - Zinc plated with yellow chromate passivation |
| No designation | For bright tin plated versions with notched shells, add -1 suffix to part number - Zinc plated shell |

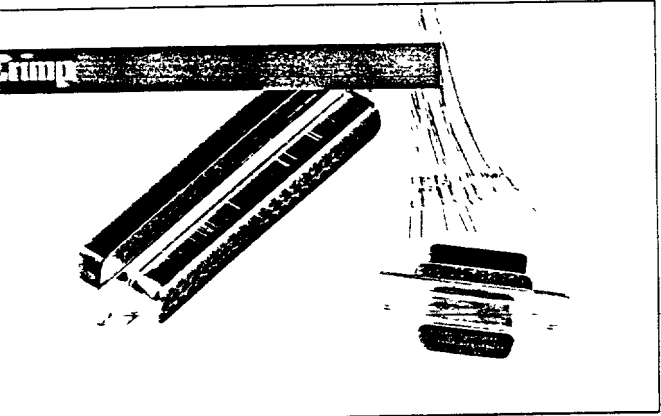
For Flat Cable IDC, please see page 31

Metal Shell IDC

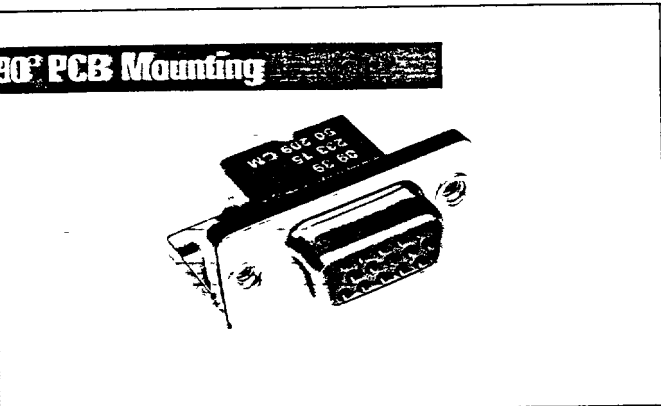


Connector Dimensions

| Number of Contacts | Dimensions (mm) | | | | |
|--------------------|-----------------|-------|-------|-------|-------|
| | A | B | C | D | E |
| 9 | 22.86 | 24.99 | 33.25 | 15.04 | 30.71 |
| 15 | 30.53 | 33.32 | 41.55 | 23.31 | 39.01 |
| 25 | 44.27 | 47.04 | 55.35 | 37.13 | 52.81 |
| 37 | 60.73 | 63.50 | 71.73 | 53.70 | 69.19 |

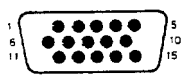


- Higher contact density to save space
- Specially designed for high volume commercial applications where cost is critical
- Accepts standard Cinch D Subminiature accessories
- UL 94V-0 rated insulators
- EMI/RFI grounded versions available
- Full termination tooling available Please (see page 47)
- Solder contacts available for service and other low volume applications
- 90° flow solder versions have integral earthing straps and board locks

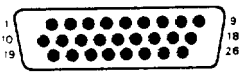


Contact Arrangements

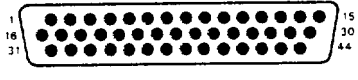
(PIN mating face – use reverse order for socket)



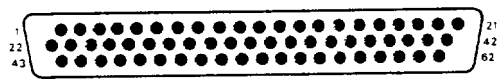
E
15



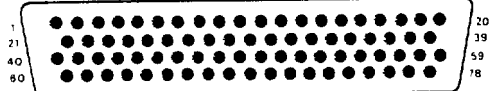
A
26



B
44



C
62



D
78

SHELL SIZE
No of contacts

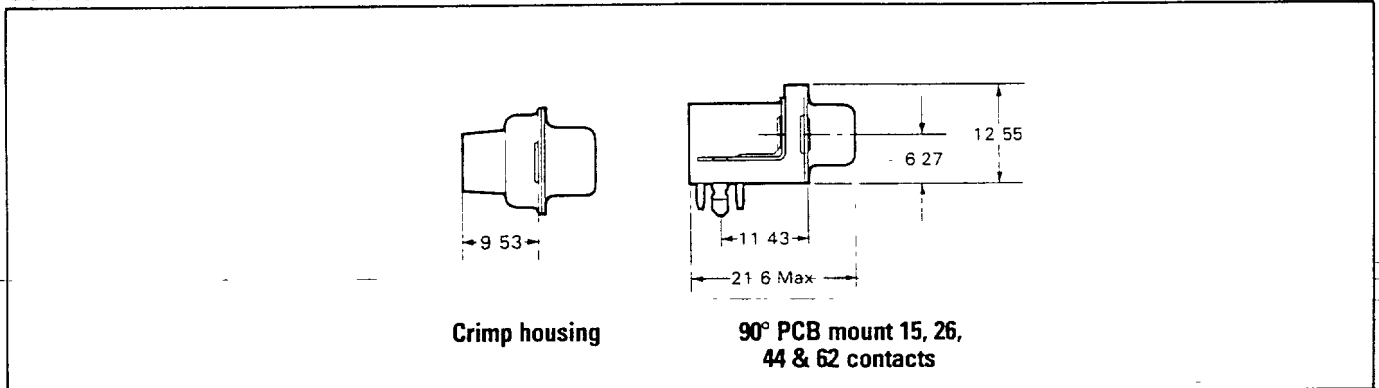
SHELL SIZE
No of contacts

Technical Data

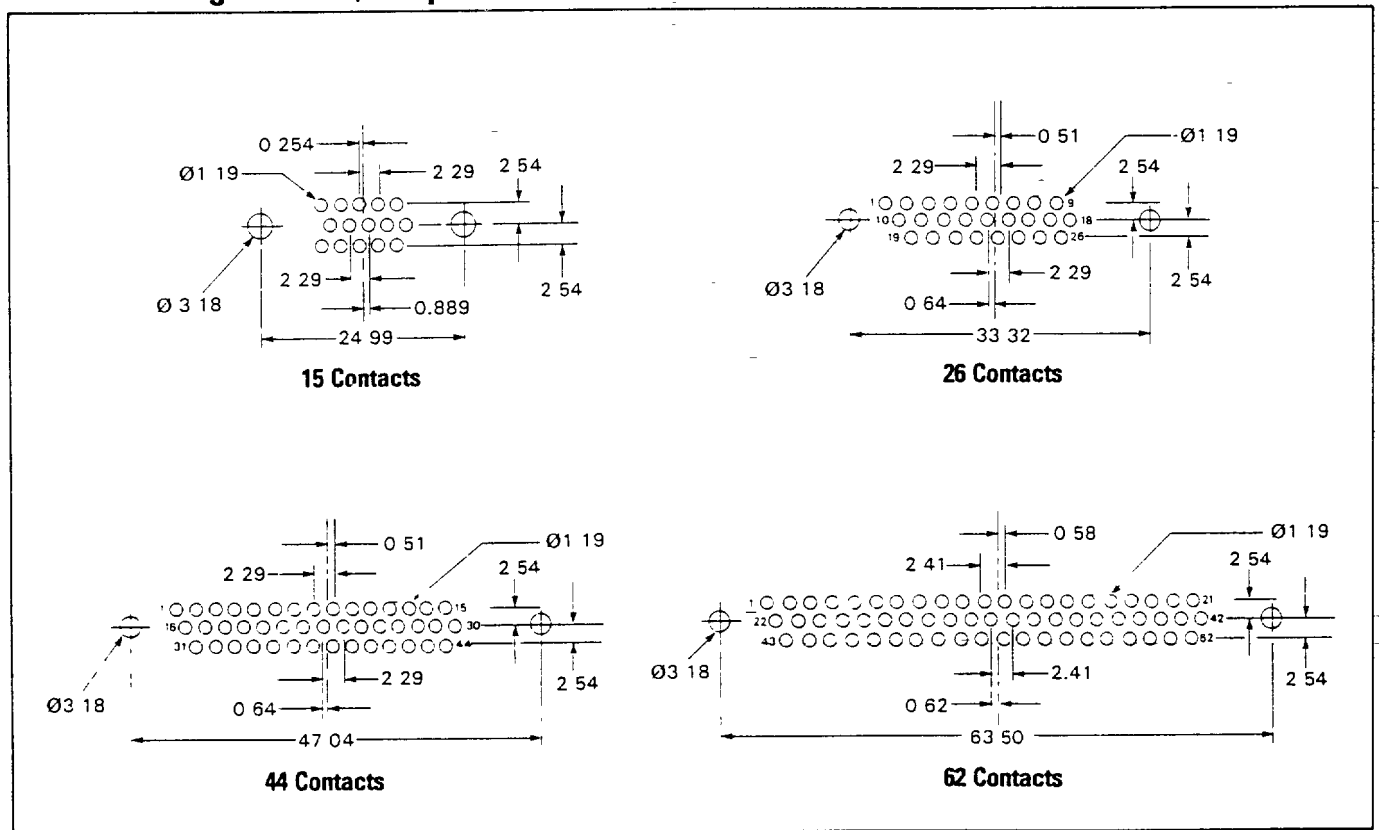
| | | | | | |
|-------------------------------------------------|------------------------------|----|-----|-----|------|
| Termination Options | Crimp & Hand 90° Flow Solder | | | | |
| Number of Contacts | 15 | 26 | 44 | 62 | 78 |
| Maximum Insertion & Extraction Force | 45 | 76 | 125 | 174 | 218N |
| Performance Levels | 1, 2 or 3 | | | | |
| Wire Accommodation | 22-32 AWG | | | | |
| Plug Contact Material | Copper Alloy | | | | |
| Socket Contact Material | Copper Alloy | | | | |

| | |
|------------------------------|--------------------------------------------------------------------------|
| Current Rating | 5A |
| Proof Voltage | 1 05 Kv d.c. or a.c. peak |
| Working Voltage | 350V d.c. or a.c. peak |
| Contact Resistance | 12 x 10 ⁻¹ Ω max |
| Insulation Resistance | ≥ 1 x 10 ⁸ Ω |
| Temperature Range | -55°C to +125°C |
| Insulator Material | GF Nylon UL 94V-0 rated |
| Shell Materials | Steel – zinc plated or bright tin finish with grounding indents on plugs |

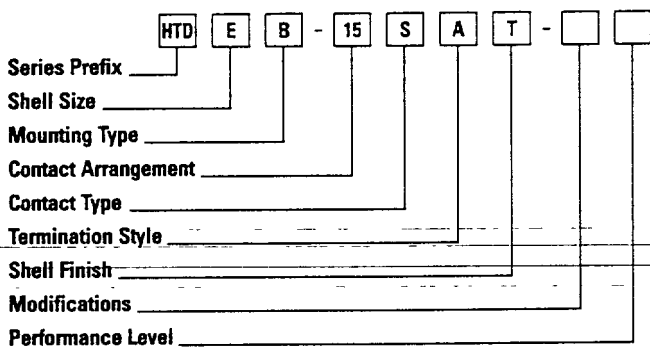
Connector Dimensions



PCB Mounting Details (component side shown)



Part Numbering



| | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series Prefix | HTD |
| Shell Size | E, A, B, C or D |
| Mounting Type | B - 4-40 riv-nut for rear panel mounting No designation - Ø 3.05mm mounting hole (90° PCB mount always supplied with riv-nuts) |
| Contact Arrangement | 15, 26, 44, 62 or 78 |
| Contact Type | P or S |
| Termination Style | A - 90° PCB mount OL2 - Straight flow solder No designation - Crimp housing supplied without contacts (also accepts solder contacts) |
| Shell Finish | T - Bright tin TI - Bright tin with grounding indents (plugs only) No designation - Zinc plating with yellow chromate passivation |
| Modifications | FO - Crimp or solder version signifies contacts are supplied separately (not marked on connector) |
| Performance Level | 2 - DIN Class 2 1 - As BT217 No designation - Performance level 3 |

Crimp Contact Part Numbers

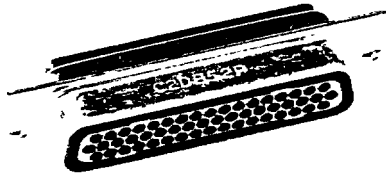
| Version | Performance Level | Pin Contacts | Socket Contacts |
|------------------------|-------------------|--------------|-----------------|
| 15,000 Reels 22-28 AWG | 3 | HTDCP9-15000 | HTDCS9-15000 |
| 300 Reels 22-28 AWG | 3 | HTDCP9-300 | HTDCS9-300 |

Solder Contact Part Numbers

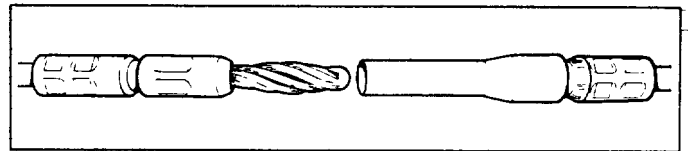
| Version | Performance Level | Pin Contacts | Socket Contacts |
|-----------------------|-------------------|--------------|-----------------|
| Strips of 10 contacts | 3 | HTDSP9-10L | HTDSS9-10L |

Solder contacts are supplied in strips of 10 for hand soldering and insertion into crimp style housings
For additional plating variations and wire accommodations, please consult the factory

Double Density

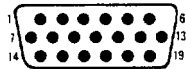


- Very high contact density – up to 100 Ways
- High reliability twist pin contacts
- Conventional D Subminiature accessories can be used
- Superb shock and vibration resistance
- Retains electrical continuity under most arduous conditions
- Crimp contacts
- Part loading possible
- Contacts are removable/replaceable
- Not interchangeable with standard D Subminiatures
- UL 94V-0 rated insulators

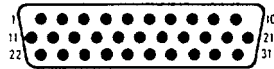


Contact Arrangements

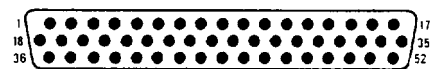
(Pin Mating Face – use reverse order for socket)



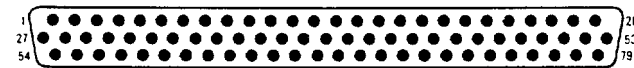
SHELL SIZE **E**
No of contacts **19**



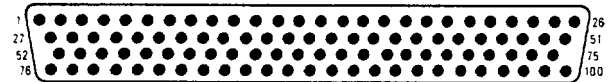
SHELL SIZE **A**
No of contacts **31**



SHELL SIZE **B**
No of contacts **52**



SHELL SIZE **C**
No of contacts **79**



SHELL SIZE **D**
No of contacts **100**

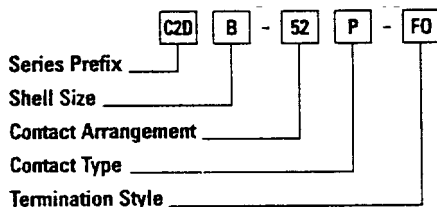
Contact I.D. numbers are for reference only and not marked on connector.

Technical Data

| | |
|--------------------------------------------------|--------------------|
| Termination Style | Crimp |
| Number of Contacts | 19 31 52 79 100 |
| Maximum Insertion & Extraction Forces | 40 71 119 180 228N |
| Wire Accommodation | 22-26 AWG |
| Plug Contact Material | Copper Alloy |
| Socket Contact Material | Copper Alloy |

| | |
|------------------------------|---------------------------------------------------------|
| Current Rating | 5A |
| Withstanding Voltage | 900 V a.c. rms |
| Contact Resistance | $9 \times 10^{-3} \Omega$ max |
| Insulation Resistance | $\geq 5 \times 10^8 \Omega$ |
| Operating Temperature | -55°C to +125°C |
| Insulator Material | GF Polyester UL94V-0 Rated |
| Shell Materials | Steel – cadmium plated with yellow chromate passivation |

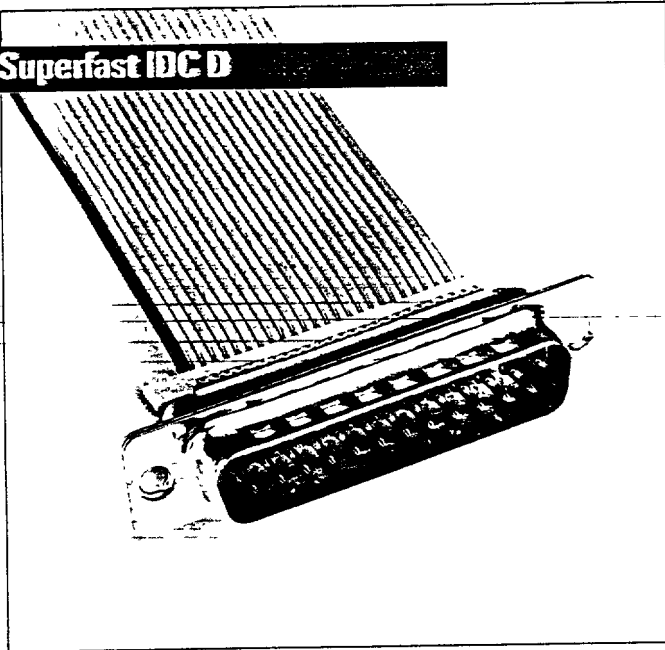
Part Numbering



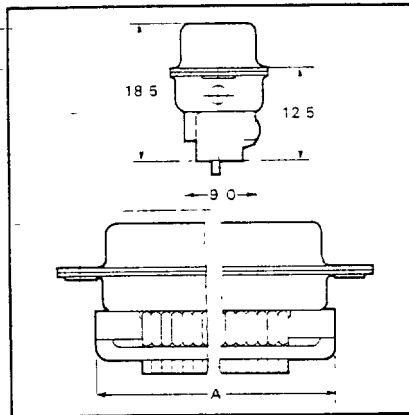
| | |
|----------------------------|--------------------------------------------------------------------------------------------|
| Series Prefix | C2D |
| Shell Size | E, A, B, C or D |
| Contact Arrangement | 19, 31, 52, 79 or 100 |
| Contact Type | P or S |
| Termination Style | FO – Crimp supplied without contacts (The termination code is not marked on the connector) |

| Description | Part Number |
|-------------------|-------------|
| Twist Pin Contact | C2-22-M |
| Socket Contact | C2-22-F |

Superfast IDC D



- High speed mass termination
- Low profile
- Steel shell for maximum strength
- Strain relief included
- Standard RS 232 interface
- UL 94V-0 rated insulators & strain relief
- Bright tin finish & grounding indents for EMI/RFI shielding
- Compatible with all other D Subminiatures
- Backshell & jack screws available (see page 44)



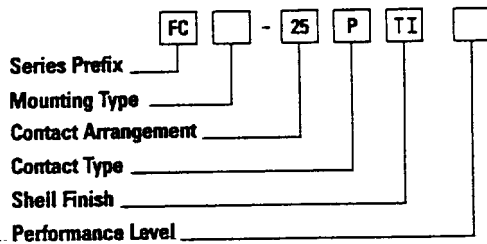
| Number of Contacts | A |
|--------------------|------|
| 9 | 20.2 |
| 15 | 28.6 |
| 25 | 42.3 |
| 37 | 58.8 |

Technical Data










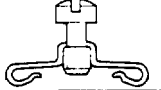

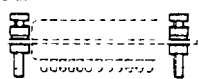
| | |
|---------------------------------------|-------------------------|
| Termination Style | Insulation Displacement |
| Number of Contacts | 9 15 25 37 |
| Maximum Insertion & Extraction Forces | 30 50 83 123N |
| Performance Levels | 2 or 3 |
| Wire Accommodation | 26-28 AWG |
| Plug Contact Material | Phosphor Bronze |
| Socket Contact Material | Phosphor Bronze |









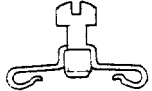

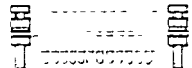
| | |
|-----------------------|--------------------------------------------------------------------------|
| Current Rating | 1A |
| Proof Voltage | 1.05 Kv d.c. or a.c. peak |
| Working Voltage | 350V d.c. or a.c. peak |
| Contact Resistance | $15 \times 10^{-3} \Omega$ max |
| Insulation Resistance | $\geq 1 \times 10^9 \Omega$ |
| Temperature Range | -55°C to +85°C Limited by PVC insulation on ribbon cable |
| Insulator Material | GF Polyester UL 94V-0 rated |
| Shell Materials | Steel - zinc plated or bright tin finish with grounding indents on plugs |

Part Numbering



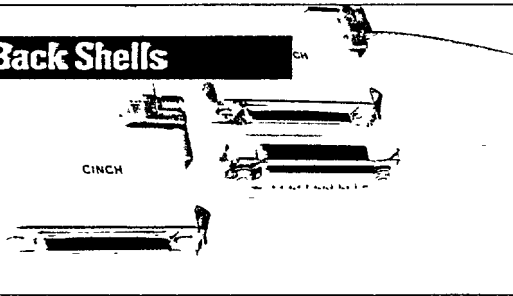
| | |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series Prefix | FC |
| Shell Size | E A B C |
| Mounting Type | B - 4-40 nv-nut for rear panel mounting F - Float mount bushes P - M3 nv-nut for rear panel mounting No designation - Ø 3.05mm mounting hole |
| Contact Arrangement | 9, 15, 25 or 37 |
| Contact Type | P or S |
| Shell Finish | T - Bright tin TI - Bright tin with grounding indents (plugs only) No designation - Zinc plating with yellow chromate passivation |
| Performance Level | 2 - DIN Class 2 1 - DIN Class 1 No designation - Performance level 3 |

| |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| For further details please See Page No. | 35 | 35 | 36 | 36 | 37 | 39 | 40 | 40 |
| Sizes available | E A B C | E A B C D | A B | B | E A B C | E A B C D | E A B C D | E B |
| Straight Cable Outlet | ● | ● | ● | ● | ● | ● | | ● |
| 90° Cable Outlet | ● | ● | | | ● | | | |
| 45° Cable Outlet | | | | | | | ● | |
| Incorporates Cable Clamping | ● | ● | ● | ● | ● | ● | ● | ● |
| Incorporates Locking System | ● | | ● | ● | ● | ● | ● | ● |
| For Use With | Low Cost D | ● | ● | ● | ● | ● | ● | ● |
| | Standard D | ● | ● | ● | ● | ● | ● | ● |
| | Econo DA & Econo C | ● | ● | ● | ● | ● | ● | ● |
| | Metal Shell IDC | ● | ● | ● | ● | ● | ● | ● |
| | Superfast IDC D | | | | | | | |
| | Series 1 | ● | ● | ● | ● | ● | ● | ● |
| | Series 3 | ● | ● | ● | ● | ● | ● | ● |
| | Spacesaver HTD22 | ● | ● | ● | ● | ● | ● | ● |
| | Double Density | ● | ● | ● | ● | ● | ● | ● |
|  | | | ● | ● | ● | ● | | ● |
|  | | | | | | | | |
|  | ● | ● | | | | | ● | |
|  | ● | ● | | | | | ● | |

| |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| For further details please See Page No. | 41 | 42 | 42 | 43 | 43 | 44 | 44 |
| Sizes available | EABCD | EABCD | AB | ABCD | EABCD | ABCD | EABC |
| Straight Cable Outlet | ● | ● | ● | ● | | | ● |
| 90° Cable Outlet | ● | | | | ● | | |
| 45° Cable Outlet | | | | | | | |
| Incorporates Cable Clamping | ● | ● | ● | ● | ● | | ● |
| Incorporates Locking System | | | | | | | ● |
| For Use With | Low Cost D | ● | ● | ● | ● | ● | |
| | Standard D | ● | ● | ● | ● | ● | |
| | Econo DA & Econo C | ● | ● | ● | ● | ● | |
| | Metal Shell IDC | ● | ● | ● | ● | ● | |
| | Superfast IDC D | ● | | | | | ● |
| | Series 1 | ● | ● | ● | ● | ● | |
| | Series 3 | ● | ● | ● | ● | ● | |
| | Spacesaver HTD22 | ● | ● | ● | ● | ● | |
| | Double Density | ● | ● | ● | ● | ● | |
|  | ● | ● | ● | ● | | ● | ● |
|  | ● | ● | ● | ● | | ● | |
|  | ● | ● | ● | ● | ● | ● | |
|  | ● | ● | ● | ● | ● | ● | |

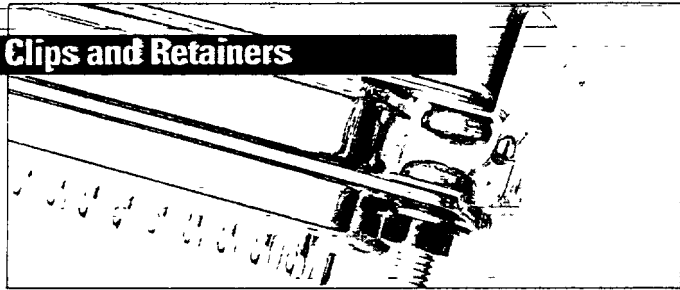
N.B
Accessories
shown are not
necessarily
supplied with
connectors

Universal Back Shells

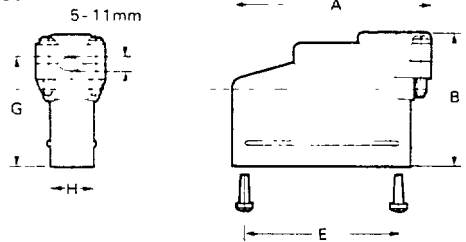


- Universal fitting straight & 90° outlet
- Extra strong cable clamp
- Suitable for use with slide locks
- Supplied complete with clips and retainers
- UL 94V-0 rated moulded parts

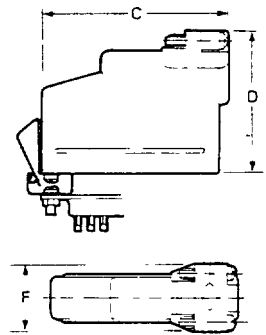
Clips and Retainers



90° Outlet

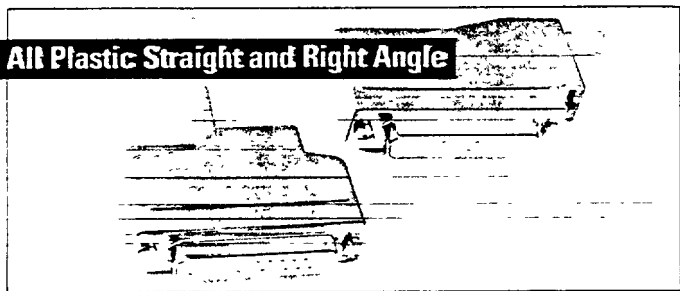


Straight Outlet



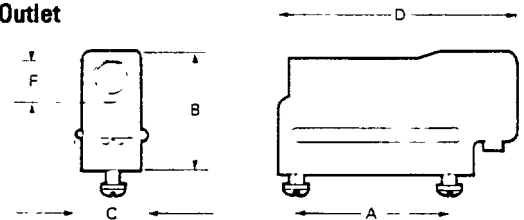
| Shell Size | Part Number | Dimensions (mm) | | | | | | | |
|------------|----------------------|-----------------|------|------|------|-------|------|-------|------|
| | | A | B | C | D | E | F | G min | H |
| E | R43 00097 00 0A0 000 | 37.2 | 33.5 | 34.1 | 36.6 | 25.0 | 20.0 | 27.3 | 12.7 |
| A | R43 00098 00 0A0 000 | 45.6 | 33.5 | 42.5 | 36.6 | 33.3 | 20.0 | 27.3 | 12.7 |
| B | R43 00099 00 0A0 000 | 59.2 | 39.5 | 56.1 | 42.6 | 47.05 | 20.0 | 33.3 | 12.7 |
| C | R43 00100 00 0A0 000 | 75.6 | 39.5 | 72.5 | 42.6 | 63.50 | 20.0 | 33.3 | 12.7 |

All Plastic Straight and Right Angle

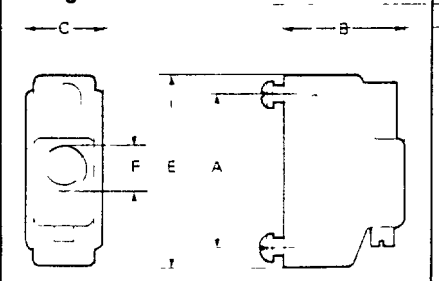


- Straight or 90° outlet
- Minimum width for applications where packing density is important
- Suitable for use with slide locks

90° Outlet

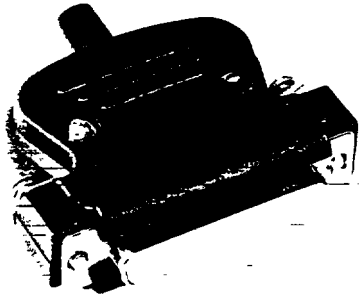


Straight Outlet



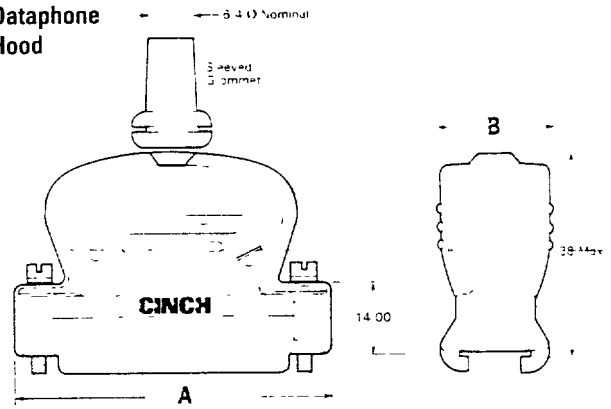
| Shell Size | Outlet Orientation | Part Number | Dimensions (mm) | | | | | |
|------------|--------------------|-------------|-----------------|------|------|------|------|------|
| | | | A | B | C | D | E | F |
| E | 90° | DE51219-1 | 25.0 | 25.4 | 14.3 | 38.1 | | 7.1 |
| | Straight | DE51218-1 | 25.0 | 25.4 | 14.3 | | 30.9 | 7.1 |
| A | 90° | DA51211-1 | 33.3 | 25.4 | 14.3 | 46.3 | | 9.1 |
| | Straight | DA51210-1 | 33.3 | 25.4 | 14.3 | | 39.3 | 9.1 |
| B | 90° | DB51213-1 | 47.05 | 31.7 | 14.3 | 60.1 | | 12.5 |
| | Straight | DB51212-1 | 47.05 | 31.7 | 14.3 | | 53.2 | 12.5 |
| C | 90° | DC51215-1 | 63.5 | 38.1 | 14.3 | 76.4 | | 17.6 |
| | Straight | DC51214-1 | 63.5 | 38.1 | 14.3 | | 69.4 | 17.6 |
| D | 90° | DD51217-1 | 61.1 | 38.1 | 17.0 | 74.0 | | 18.6 |
| | Straight | DD51216-1 | 61.1 | 38.1 | 17.0 | | 67.1 | 18.6 |

Dataphone Hood



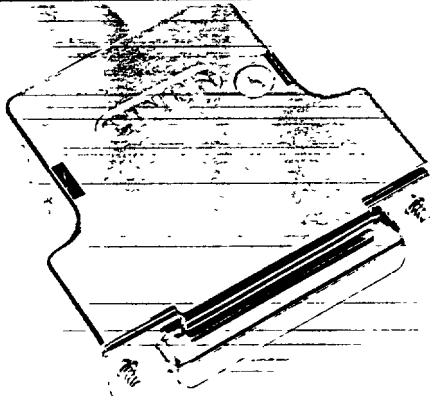
- Low cost
- Supplied complete with jack screws

Dataphone Hood



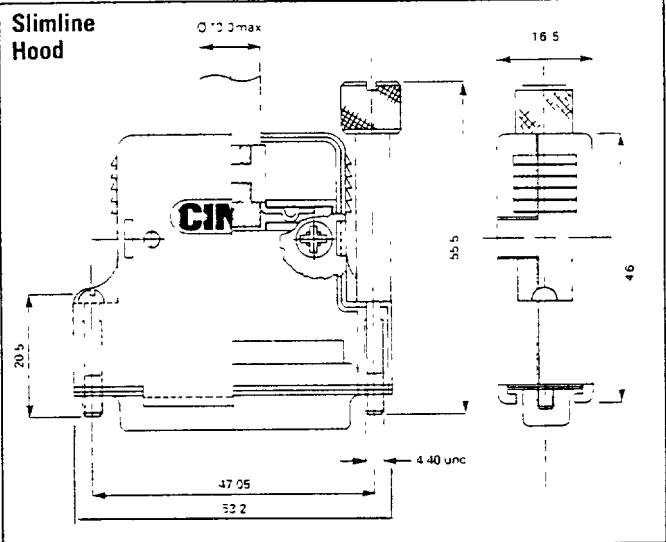
| Shell Size | Part Number | Dimensions (mm) | |
|------------|-------------|-----------------|-------|
| | | A | B |
| A | DA 51225-1 | 32.94 | 19.84 |
| B | DB 51226-1 | 57.00 | 22.00 |

Slimline Hood



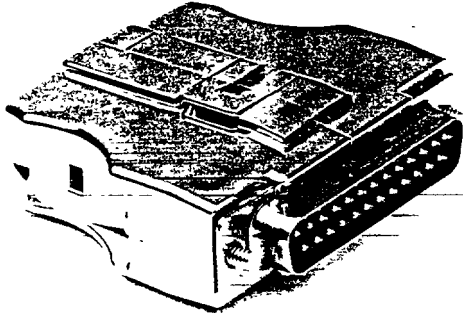
- Slim to accommodate high packing density
- Robust cable clamp
- Metalised for E.M.I./R.F.I. shielding
- Supplied complete with jack screws or finger screws

Slimline Hood



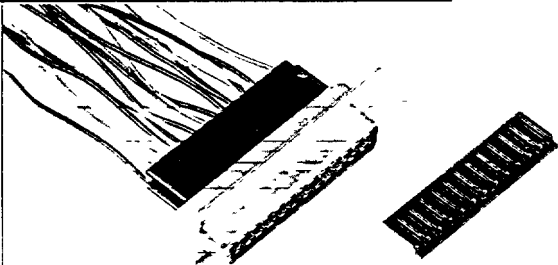
| Shell Size | Part Number | | |
|------------|-----------------------|------------------------|----------------------|
| | with long jack screws | with short jack screws | without jack screws |
| B | R10 00016 00 00A 000 | R10 00016 00B 000 000 | R10 00016 00 000 000 |

Straight Super D Hood



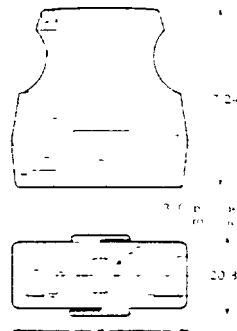
- Available with jack screws
- Metallised versions available for EMI/RFI screening (see page 39)
- Snap-together design for high speed assembly
- Stay band gives maximum strain relief
- Choice of cable openings
- Straight and right angle styles available
- UL 94V-0 rated moulded parts

Metal Shell IDC with Strain Relief



| Shell Size | Dimensions (mm) | | | | |
|------------|-----------------|------|-------|-------|-------|
| | A | B | C | D | E |
| E | 37.34 | 7.87 | — | 49.21 | 31.75 |
| A | 45.72 | 7.87 | 10.41 | 57.15 | 34.13 |
| B | 59.69 | 8.40 | 11.94 | 74.61 | 38.10 |
| C | 75.95 | 9.40 | 12.70 | 91.28 | 38.89 |

Hood for use with Screw Locks.



Materials

Standard Hood Material Modified Phenylene Oxide
 Latching Block Material Zinc die cast
 Screw Material Steel
 Screw Plating Nickel

Hoods for use with Metal Shell Connectors

Straight Hoods – Standard Cable Opening

| Shell Size | With Latches | With Plain Mounting Holes | With Two Captivated 4-40 Screws |
|------------|--------------|---------------------------|---------------------------------|
| E | SDH-9BL | SDH-9BF | SDH-9BFCS |
| A | SDH-15BL | SDH-15BF | SDH-15BFCS |
| B | SDH-25BL | SDH-25BF | SDH-25BFCS |
| C | SDH-37BL | SDH-37BF | SDH-37BFCS |

Stay Bands & Wire Covers (Strain Reliefs)

| Shell Size | Stay Bands | Wire Covers/Strain Reliefs |
|------------|-------------|--------------------------------|
| | | For Metal Shell IDC Connectors |
| E | SD-9-15-SB | SSD-WC9 |
| A | SD-9-15-SB | SSD-WC15 |
| B | SD-25-37-SB | SSD-WC25 |
| C | SD-25-37-SB | SSD-WC37 |

Straight Hoods – Large Cable Opening

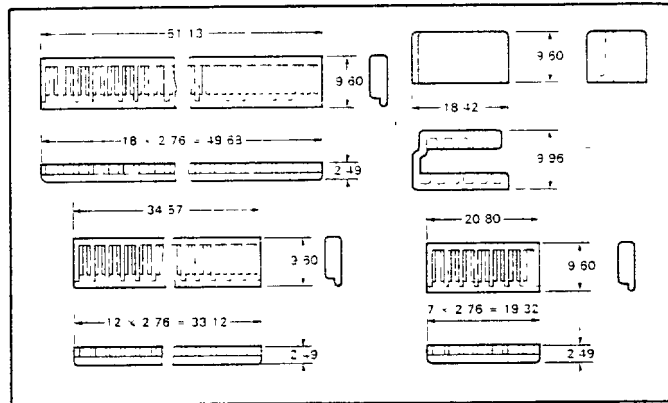
| Shell Size | With Latches | With Plain Mounting Holes | With Two Captivated 4-40 Screws |
|------------|--------------|---------------------------|---------------------------------|
| A | SDH-15BLL | SDH-15BFL | SDH-15BLCS |
| B | SDH-25BLL | SDH-25BFL | SDH-25BLCS |
| C | SDH-37BLL | SDH-37BFL | SDH-37BLCS |

Right Angle Hoods

| Shell Size | Standard Cable Opening | Large Cable Opening |
|------------|------------------------|---------------------|
| E | SDH-9RBL | - |
| A | SDH-15RBL | SDH-15RBLL |
| B | SDH-25RBL | SDH-25RBLL |
| C | SDH-37RBL | SDH-37RBLL |

Screws

Screws for Screw Locking Connector Assembly. Two required per Hood.
Part No 4-40-UNC2AX3/4

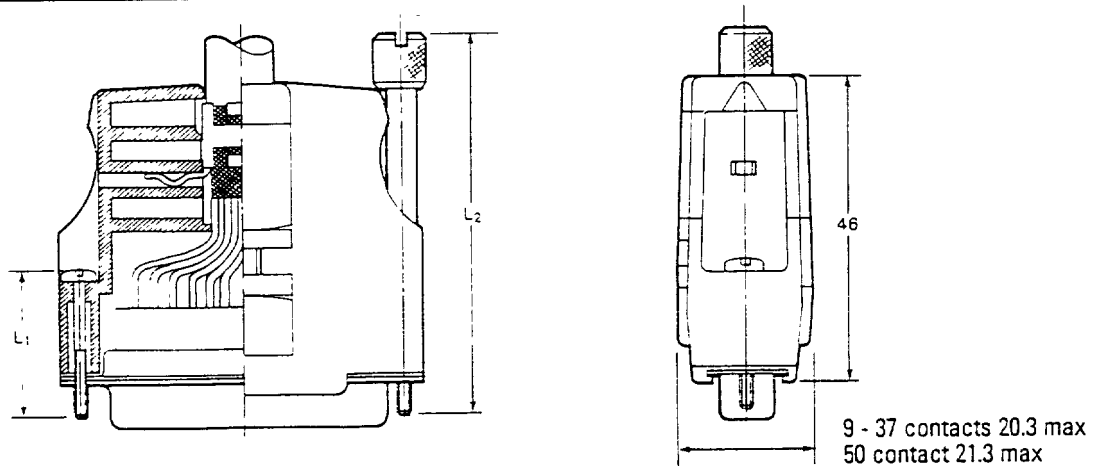


Wire covers fit both plugs and sockets. For the 9 contact size, the cover is in one piece – for all others 2 pieces are required.

Snap-together Hoods

- Snap together for high speed assembly
- Metallised versions available for applications where screening is important – meets the applicable requirements of FCC Part 15 for Class A devices.
- Two styles of locking screws available
- Incorporates stay band for maximum strain relief

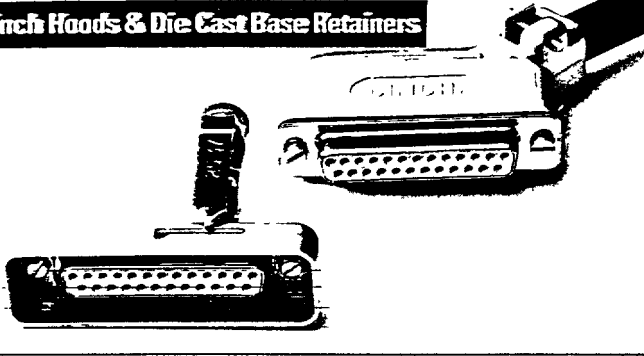
| Shell Size | Metallised Hood | Unmetallised Hood | Stay Bands | | | Jack Screws | |
|------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------|--------------------------|
| | | | Ø 4.5-6.5 mm Cable | Ø 7.0-10.0 mm Cable | Ø 10.5-13.0 mm Cable | L ₁ = 20.5 mm | L ₂ = 55.5 mm |
| E | R10 60248 09 225 000 | R10 60248 09 214 000 | R10 60248 02 393 000 | - | - | R10 60248 00 206 000 | R10 60248 02 406 000 |
| A | R10 60248 15 227 000 | R10 60248 15 216 000 | R10 60248 02 393 000 | R10 60248 00 364 000 | - | R10 60248 00 206 000 | R10 60248 02 406 000 |
| B | R10 60248 25 221 000 | R10 60248 25 210 000 | R10 60248 00 353 000 | R10 60248 00 364 000 | - | R10 60248 00 206 000 | R10 60248 02 406 000 |
| C | R10 60248 37 221 000 | R10 60248 37 210 000 | R10 60248 00 353 000 | R10 60248 00 364 000 | R10 60248 02 462 000 | R10 60248 00 206 000 | R10 60248 02 406 000 |
| D | R10 60248 50 228 000 | R10 60248 50 217 000 | R10 60248 00 353 000 | R10 60248 00 364 000 | R10 60248 02 462 000 | R10 60248 00 206 000 | R10 60248 02 406 000 |



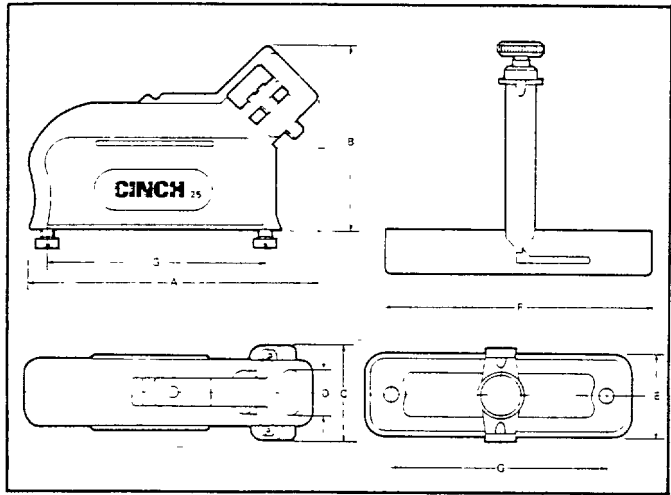
Part Numbering for Kits with Stay Band and Short Jack Screws

| Shell Size | Part Number | Metallised | Grey Unmetallised | Ø 4.5 - 6.5 mm Cable | Ø 7.0 - 10.0 mm Cable | Ø 10.5 - 13.00 mm Cable | Jack Screws 4-40 UNC | |
|------------|----------------------|------------|-------------------|----------------------|-----------------------|-------------------------|--------------------------|--------------------------|
| | | | | | | | L ₁ = 20.5 mm | L ₂ = 55.5 mm |
| E | R10 60248 09 907 000 | ● | ● | ● | | | ● | Please Order Separately |
| | R10 60248 09 913 000 | ● | ● | ● | | | ● | |
| A | R10 60248 15 909 000 | ● | ● | ● | ● | | ● | |
| | R10 60248 15 910 000 | ● | ● | ● | ● | | ● | |
| B | R10 60248 25 903 000 | ● | ● | ● | ● | | ● | |
| | R10 60248 25 914 000 | ● | ● | ● | ● | | ● | |
| C | R10 60248 37 903 000 | ● | ● | ● | ● | ● | ● | |
| | R10 60248 37 914 000 | ● | ● | ● | ● | ● | ● | |
| D | R10 60248 50 900 000 | ● | ● | ● | ● | ● | ● | |
| | R10 60248 50 911 000 | ● | ● | ● | ● | ● | ● | |

Cinch Hoods & Die Cast Base Retainers



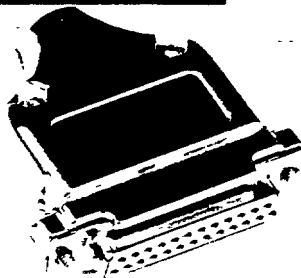
- BT 217 approved
- Solid die cast construction
- Positive termination of screen using pre-tapped hole
- Cover may be used with slide locks or base retainer



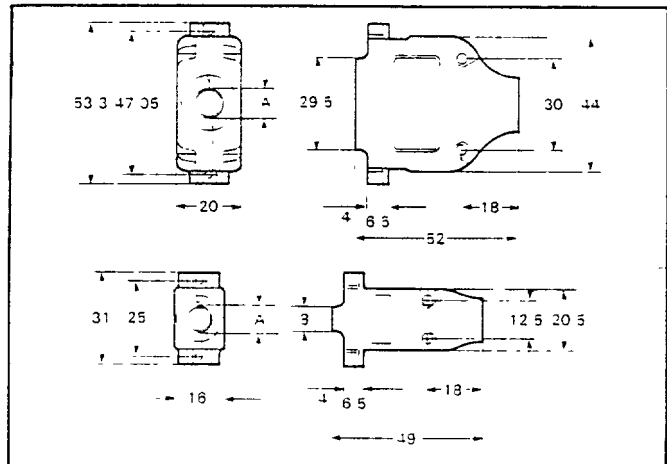
| Shell Size | Dimensions (mm) | | | | | | |
|------------|-----------------|------|------|-------|------|------|-------|
| | A | B | C | D max | E | F | G |
| E | 40.4 | 33.5 | 20.6 | 9.52 | 18.0 | 35.7 | 24.99 |
| A | 48.4 | 33.5 | 20.6 | 9.52 | 18.0 | 44.4 | 33.32 |
| B | 60.0 | 39.5 | 20.6 | 9.52 | 18.0 | 58.0 | 47.04 |
| C | 76.4 | 39.5 | 20.6 | 9.52 | 18.0 | 74.6 | 63.50 |
| D | 74.9 | 39.9 | 23.4 | 12.70 | 20.8 | 72.0 | 61.11 |

| Shell Size | Standard Hoods with 6BA Screws | Hoods with Mounting Holes Tapped 4-40 UNC for use with Slide Locks | Base Retainer Part Number | BT Code for Hood complete with Connector | | BT Code for Base Retainer complete with Connector | |
|------------|--------------------------------|--------------------------------------------------------------------|---------------------------|------------------------------------------|----------|---------------------------------------------------|----------|
| | | | | Plug | Socket | Plug | Socket |
| E | R43 81960 00 000 000 | R43 81960 00 00A 000 | R43 00020 00 000 000 | 217A 09A | 217C 09A | 217B 09B | 217D 09B |
| A | R43 81962 00 000 000 | R43 81962 00 00A 000 | R43 00021 00 000 000 | 217A 15A | 217C 15A | 217B 15B | 217D 15B |
| B | R43 81964 00 000 000 | R43 81964 00 00A 000 | R43 00022 00 000 000 | 217A 25A | 217C 25A | 217B 25B | 217D 25B |
| C | R43 81966 00 000 000 | R43 81966 00 00A 000 | R43 00023 00 000 000 | 217A 37A | 217C 37A | 217B 37B | 217D 37B |
| D | R43 81968 00 000 000 | R43 81968 00 00A 000 | R43 00024 00 000 000 | 217A 50A | 217C 50A | 217B 50B | 217D 50B |

Die Cast Split Hood

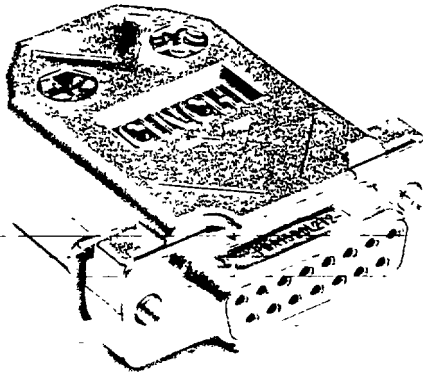


- Excellent EMI/RFI screening
- Supplied complete with jack screws
- Split for fitting after connectors are terminated



| Shell Size | Part Number | Cable Diameter A (mm) |
|------------|----------------------|-----------------------|
| E | R10 60248 09 372 000 | 8.5 |
| B | R10 00009 00 000 000 | 7.0 |
| B | R10 60248 25 732 000 | 8.0 |
| B | R10 60248 25 594 000 | 9.5 |

Two-piece Backshells



- Available in plastic, metallized plastic or diecast zinc
- Diecast or metallized plastic hoods provide EMI/RFI shielding
- Easy to assemble two-piece construction
- Reduces inventory through a range of compression inserts for different cable diameters packaged with each hood
- Fits both standard and 1.5 density D-Subminiature connectors
- Ethernet hoods available in standard 15-size configuration
- Packaged individually or bulk packed

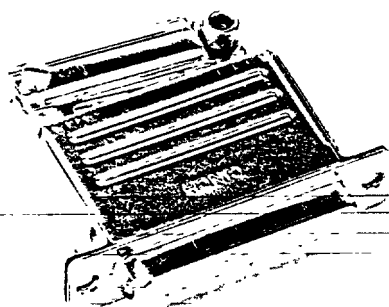
Ordering Information

| Shell Size | Contacts Std. Density | Contacts 1.5 Density | Type | Part No. | Catalogue Part No. | A | B | C | D | E | F | Packaging |
|------------|-----------------------|----------------------|------------|---------------|--------------------|-------|-------|-----|-----|-----|-------|------------|
| E | 9 | 15 | Metallized | 239-13-99-308 | DCH-E-001 | 1 225 | 1 397 | 640 | 640 | 400 | 984 | Individual |
| | | | Plastic | 239-13-99-313 | DCH-E-002 | | | | | | | Bulk |
| | | | Plastic | 239-13-99-300 | DPH-E-001 | | | | | | | Individual |
| | | | Plastic | 239-13-99-304 | DPH-E-002 | | | | | | | Bulk |
| A | 15 | 26 | Metallized | 239-13-99-309 | DCH-A-001 | 1 540 | 1 526 | 640 | 640 | 400 | 1 312 | Individual |
| | | | Plastic | 239-13-99-314 | DCH-A-002 | | | | | | | Bulk |
| | | | Plastic | 239-13-99-301 | DPH-A-001 | | | | | | | Individual |
| | | | Plastic | 239-13-99-305 | DPH-A-002 | | | | | | | Bulk |
| B | 25 | 44 | Metallized | 239-13-99-310 | DCH-B-001 | 2 090 | 1 655 | 710 | 640 | 522 | 1 857 | Individual |
| | | | Plastic | 239-13-99-315 | DCH-B-002 | | | | | | | Bulk |
| | | | Plastic | 239-13-99-302 | DPH-B-001 | | | | | | | Individual |
| | | | Plastic | 239-13-99-306 | DPH-B-002 | | | | | | | Bulk |
| C | 37 | 62 | Metallized | 239-13-99-311 | DCH-C-001 | 2 730 | 1 830 | 906 | 640 | 725 | 2 500 | Individual |
| | | | Plastic | 239-13-99-316 | DCH-C-002 | | | | | | | Bulk |
| | | | Plastic | 239-13-99-303 | DPH-C-001 | | | | | | | Individual |
| | | | Plastic | 239-13-99-307 | DPH-C-002 | | | | | | | Bulk |
| D | 50 | 78 | Metallized | 239-13-99-312 | DCH-D-001 | 2 645 | 1 855 | 940 | 750 | 725 | 2 406 | Individual |
| | | | Plastic | 239-13-99-317 | DCH-D-002 | | | | | | | Bulk |
| | | | Plastic | 239-13-99-334 | DPH-D-001 | | | | | | | Individual |
| | | | Plastic | 239-13-99-335 | DPH-D-002 | | | | | | | Bulk |

Tools Required: Slot screwdriver, cutters

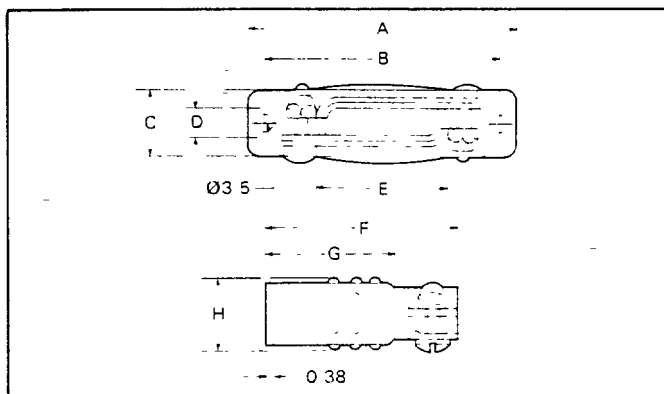
- Slide tightest fitting compression insert over cable.
- Fold braid or foil back over insert and trim excess with cutters.
- Install connector and close cover using slot screwdriver.

Deep Straight Clamp

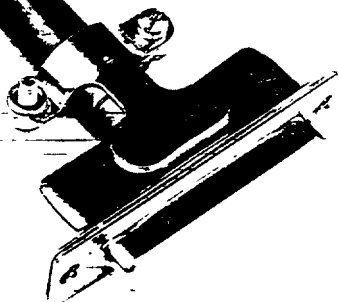


- Suitable for use with screw locks and slide locks
- Large cable opening
- Robust cable clamp
- Finished in yellow chromate to match the connectors

| Shell Size | Part Number | Dimensions (mm) | | | | | | | |
|------------|-------------|-----------------|-------|------|------|------|------|------|------|
| | | A | B | C | D | E | F | G | H |
| E | DE-24657 | 30.6 | 24.99 | 12.3 | 9.5 | 9.5 | 31.0 | 19.1 | 14.7 |
| A | DA-24658 | 38.9 | 33.32 | 12.3 | 7.9 | 18.1 | 31.8 | 19.1 | 14.7 |
| B | DB-24659 | 52.8 | 47.04 | 12.3 | 7.9 | 25.4 | 38.9 | 25.4 | 14.7 |
| C | DC-24660 | 69.0 | 63.50 | 12.3 | 7.9 | 34.9 | 38.9 | 25.4 | 14.7 |
| D | DD-24661 | 66.7 | 61.11 | 15.1 | 10.3 | 35.7 | 42.1 | 28.6 | 17.5 |



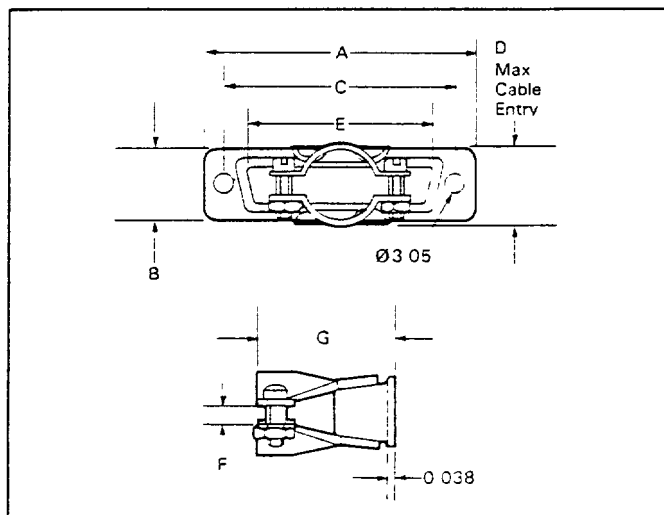
Round Clamp



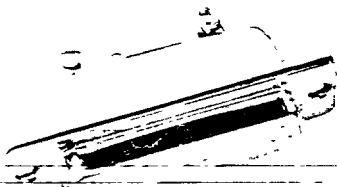
- Robust shell accepts round cables
- May be used with screw locks
- Zinc plated steel shell matches connectors

Dimensions

| Shell Size | Part Number | Dimensions (mm) | | | | | | |
|------------|-------------|-----------------|-------|-------|-------|-------|------|-------|
| | | A | B | C | D | E | F | G |
| A | DA-20961 | 38.89 | 12.70 | 33.32 | 10.31 | 23.72 | 3.18 | 26.19 |
| B | DB-20962 | 52.78 | 12.70 | 47.04 | 15.06 | 38.48 | 4.75 | 26.97 |

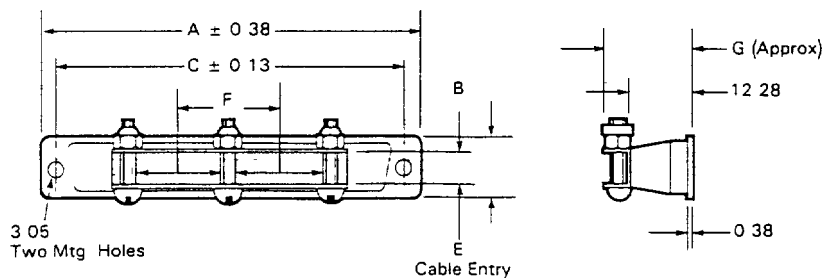


Straight Clamp

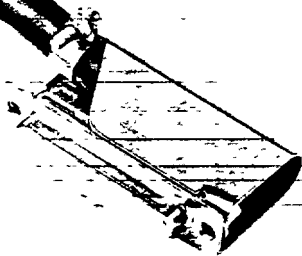


- Ideal for loose wire bundles
- Low profile
- Zinc plated steel shell matches connectors
- May be used with screw locks

| Shell Size | Part Number | No. of Locking Screws Required | Dimensions (mm) | | | | | |
|------------|-------------|--------------------------------|-----------------|-------|-------|------|-------|-------|
| | | | A | B | C | E | F | G |
| A | DA-19678-1 | 2 | 38.89 | 12.70 | 33.32 | 7.52 | 7.92 | 16.26 |
| B | DB-19678-2 | 2 | 52.78 | 12.70 | 47.04 | 7.52 | 20.22 | 16.26 |
| C | DC-19678-3 | 3 | 69.04 | 12.70 | 63.50 | 7.52 | 17.45 | 16.26 |
| D | DD-19678-4 | 3 | 66.68 | 15.47 | 61.11 | 9.91 | 17.45 | 17.86 |

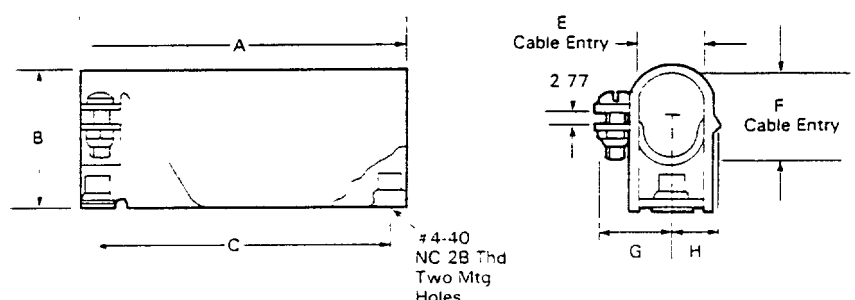


Right Angle Clamp

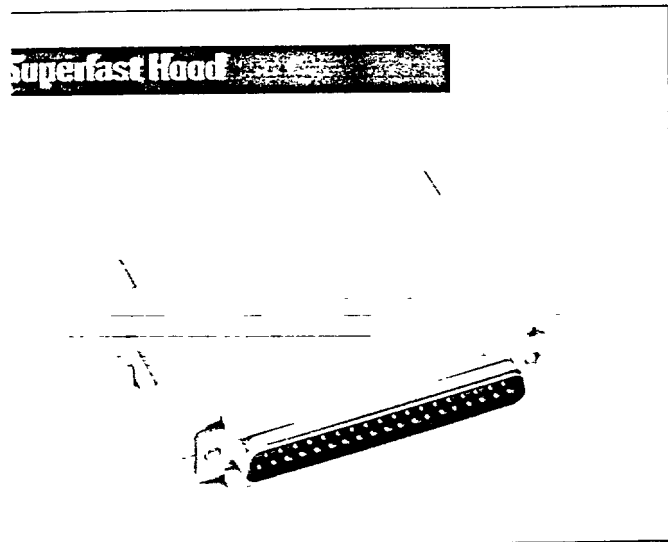


- Right angle outlet
- Cable clamp accepts a wide range of cable sizes
- Robust construction
- Yellow chromate plating on steel shell matches connectors

| Shell Size | Part Number | Dimensions (mm) | | | | | | |
|------------|-------------|-----------------|-------|-------|-------|-------|-------|------|
| | | A | B | C | E | F | G | H |
| E | DE-19977-5 | 30.56 | 18.24 | 24.99 | 11.10 | 11.10 | 11.89 | 7.14 |
| A | DA-19977-1 | 38.89 | 18.24 | 33.32 | 11.10 | 11.10 | 11.89 | 7.14 |
| B | DB-19977-2 | 52.78 | 24.59 | 47.04 | 11.10 | 15.88 | 11.89 | 7.14 |
| C | DC-19977-3 | 69.04 | 30.15 | 63.50 | 11.10 | 20.62 | 11.89 | 7.14 |
| D | DD-19977-4 | 66.68 | 31.75 | 61.11 | 14.27 | 23.01 | 13.49 | 8.71 |

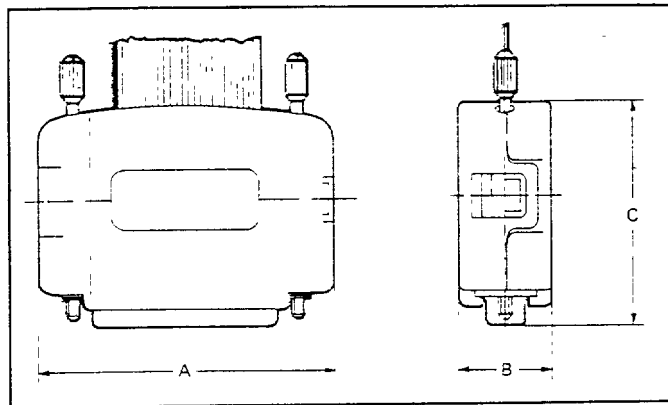


Superfast Hood

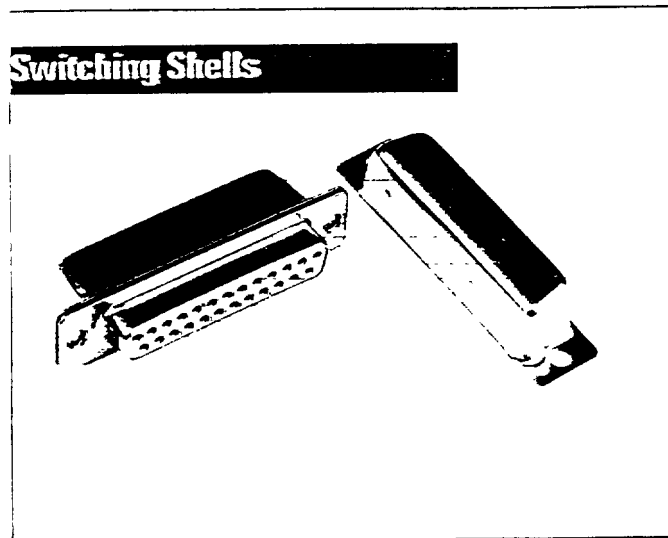


- Jack screws included
- Snap together hood for high speed assembly
- Integral strain relief
- High volume users may have their logo moulded in

| Shell Size | Part Number | Dimensions (mm) | | |
|------------|----------------------|-----------------|------|------|
| | | A | B | C |
| E | F08 00298 00 000 000 | 38.6 | 20.0 | 48.0 |
| A | F08 00299 00 000 000 | 48.3 | 20.0 | 48.0 |
| B | F08 00300 00 000 000 | 62.0 | 20.0 | 48.0 |
| C | F08 00301 00 000 000 | 78.5 | 20.0 | 48.0 |

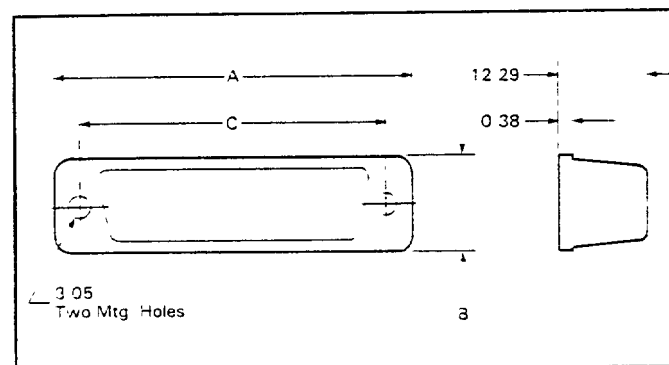


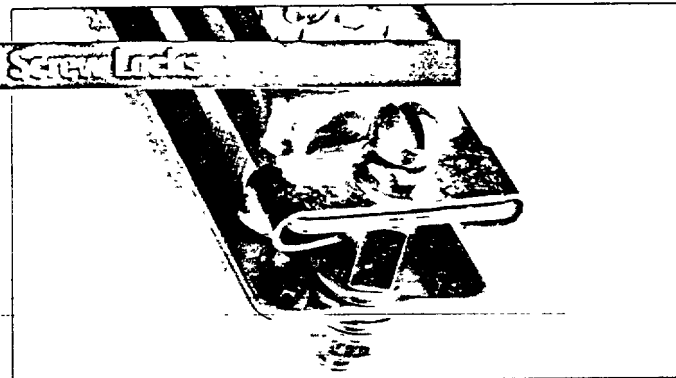
Switching Shells



- Finished in yellow chromate to match the connectors
- May be used with screw locks

| Shell Size | Part Number | Dimensions (mm) | | |
|------------|-------------|-----------------|-------|-------|
| | | A | B | C |
| A | DA-19678-6 | 38.89 | 12.70 | 33.32 |
| B | DB-19678-7 | 52.78 | 12.70 | 47.04 |
| C | DC-19678-8 | 69.04 | 12.70 | 63.50 |
| D | DD-19678-9 | 66.68 | 15.47 | 61.11 |

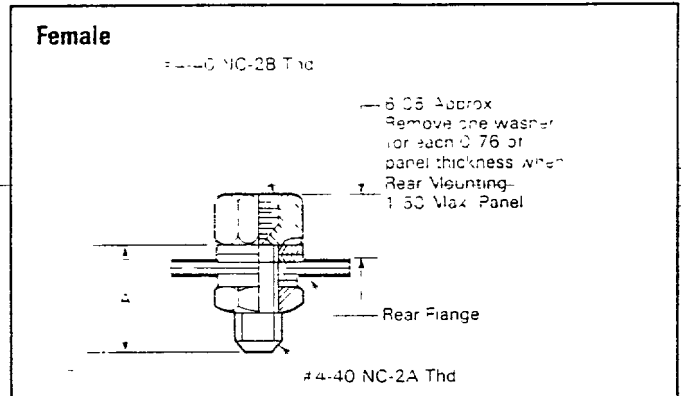




- Simple to use
- Robust
- Industry standard
- Zinc and yellow chromate plated

Female

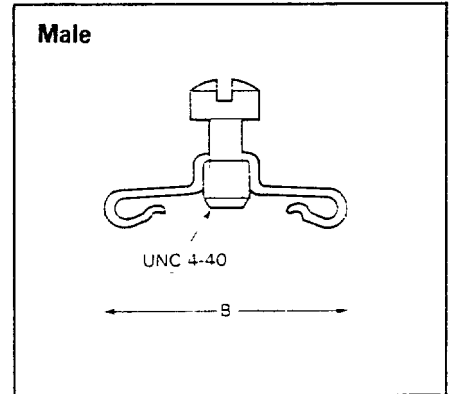
| Part Number Commercial | Part Number to MIL-C-24308 | Dimension A |
|------------------------|----------------------------|-------------|
| D20418-2 | M24308/26-1 | 7.92 mm |
| D20418-39 | M24308/26-2 | 15.88 mm |



Both items are suitable for all shell sizes. D20418-2 is used in all applications except for those where the extra thread length of D20418-39 is needed.

Male

| Shell Size | Plugs | | Sockets | | Dimension B (mm) |
|------------|------------------------------|------------------------------|-----------------------------|------------------------------|------------------|
| | Plug | Plug with Junction Shell | Socket | Socket with Junction Shell | |
| E | D20419-0 (M24308/25-9)* | D20419-16 (M24308/25-9)* | D20419-0 (M24308/25-9)* | D20419-16 (M24308/25-9)* | 13.89 |
| A | D20419-0 (M24308/25-9)* | D20419-16 (M24308/25-9)* | D20419-0 (M24308/25-9)* | D20419-16 (M24308/25-9)* | 13.89 |
| B | D20419-18 (M24308/25-9)* | D20419-21 (M24308/25-9)* | D20419-0 (M24308/25-9)* | D20419-16 (M24308/25-9)* | 13.89 |
| C | D20419-18 (M24308/25-9)* | D20419-21 (M24308/25-9)* | D20419-0 (M24308/25-9)* | D20419-16 (M24308/25-9)* | 13.89 |
| D | D20420-15 (M24308/25-10)* | D20420-15 (M24308/25-10)* | D20420-0 (M24308/25-10)* | D20420-12 (M24308/26-10)* | 16.66 |



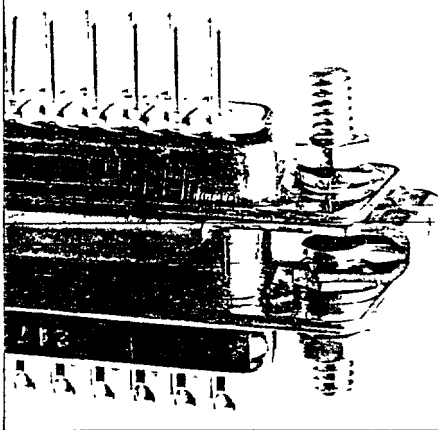
*Military version These are dimensionally identical to the commercial items

Note:- Two screw lock assemblies are required per connector

For steel screw lock assemblies the maximum recommended assembly torques are:-

Assembly of Female to Panel 0.9Nm
Fixing of Male to Female 0.45Nm

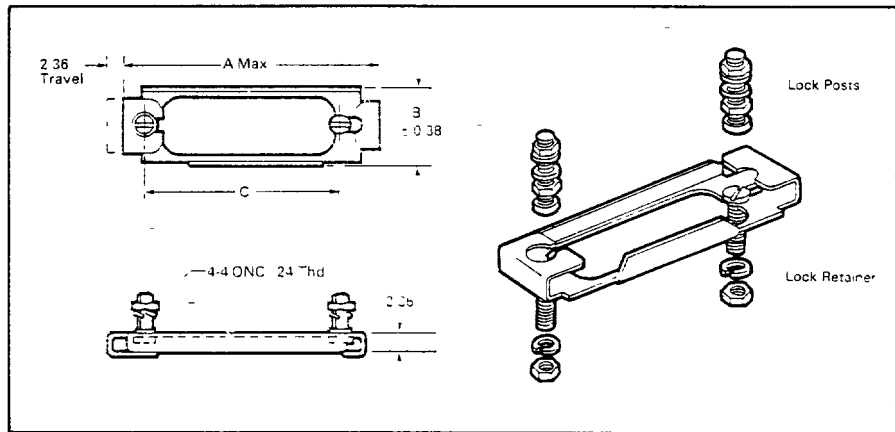
Slide Locks



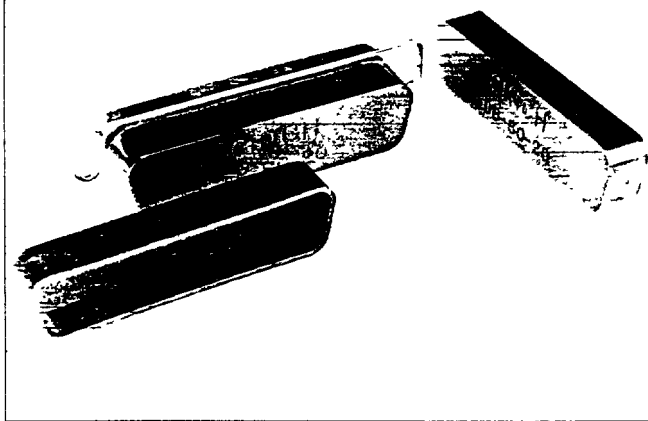
- Industry standard locking system
- No tools needed
- Easily used with 90° & straight outlets
- All parts are securely retained on the connector

| Shell Size | Part Numbers | | Dimensions (mm) | | |
|------------|---------------|-----------|-----------------|-------|-------|
| | Lock Retainer | Lock Post | A | B | C |
| E | DE-51224-1 | D53018 | 36.63 | 12.70 | 24.99 |
| A | DA-51220-1 | D53018 | 44.96 | 12.70 | 33.32 |
| B | DB-51221-1 | D53018 | 58.24 | 12.70 | 47.04 |
| C | DC-51222-1 | D53018 | 75.13 | 12.70 | 63.50 |
| D | DD-51223-1 | D53018 | 72.31 | 15.47 | 61.11 |

Note - Two lock post assemblies are required per connector



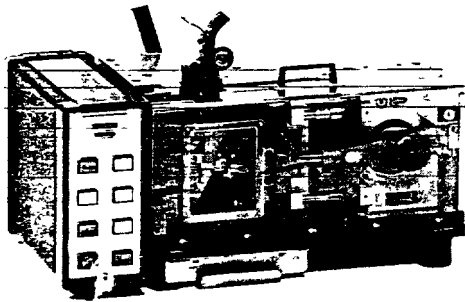
Dust Caps



- Protects connector contacts
- Made from polyvinyl chloride for maximum performance

| Shell Size | Part Number |
|------------|-------------|
| E Plug | DE-60-20 |
| E Socket | DE-59-20 |
| A Plug | DA-60-20 |
| A Socket | DA-59-20 |
| B Plug | DB-60-20 |
| B Socket | DB-59-20 |
| C Plug | DC-60-20 |
| C Socket | DC-59-20 |
| D Plug | DD-60-20 |
| D Socket | DD-59-20 |

Semi Automatic Strip & Crimp Tool

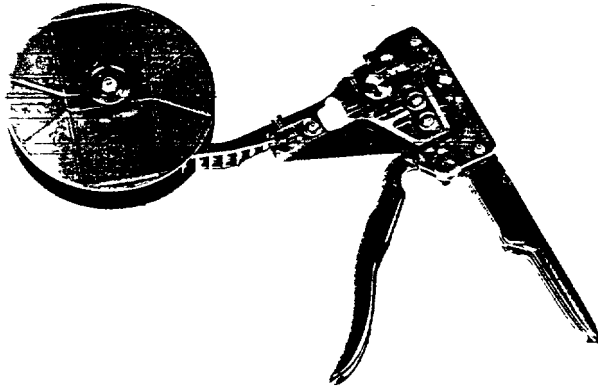


- Strips and crimps in one cycle
- Quiet operation
- Accepts wire gauges 20 - 32 AWG
- Easy setting
- Rapid reel change
- Contacts fed vertically to avoid stripping products falling into crimp area
- Fully electrically operated (no airline required)

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Part Number for Fully Equipped Machine |
|------------|------------------|----------------------------------------|
| Econo DA | 20 - 24 | W01 00001 00 000 000 |
| Econo DA | 24 - 28 | W01 00002 00 000 000 |
| Econo C | 20 - 28 | W01 00003 00 000 000 |
| Spacesaver | 22 - 28 | W01 00004 00 000 000 |
| Spacesaver | 28 - 32 | W01 00005 00 000 000 |

Hand Crimp Tool Reel Fed

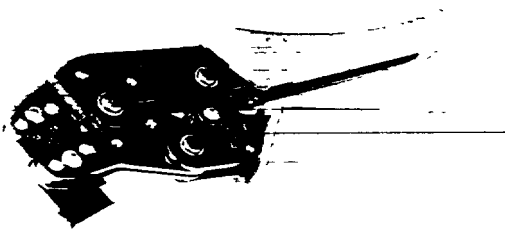


- Accepts contacts on carrier strip or reels of 300
- Contacts are automatically clipped from the carrier strip
- Convenient to use – contacts are held throughout the crimping operation
- Crimps both conductor and insulation in one operation

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Part Number for Hand Tool |
|------------|------------------|---------------------------|
| Econo DA | 20 - 28 | W04 00001 00 000 000 |
| Spacesaver | 22 - 32 | W04 00002 00 000 000 |

Hand Crimp Tool – Individual Contacts

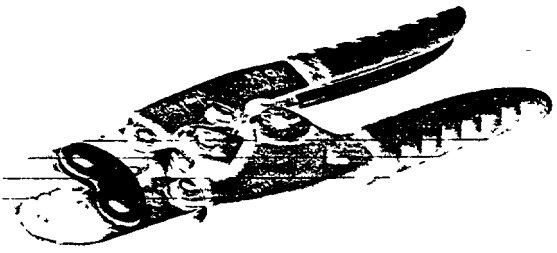


- Low cost
- Robust
- Easy to use
- Ideal for repairs

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Part Number for Hand Tool |
|------------|------------------|---------------------------|
| Econo DA | 20 - 28 | W04 00003 00 000 000 |
| Spacesaver | 24 - 28 | W04 00003 00 000 000 |

Hand Crimp Tool - Long Tinned Contacts

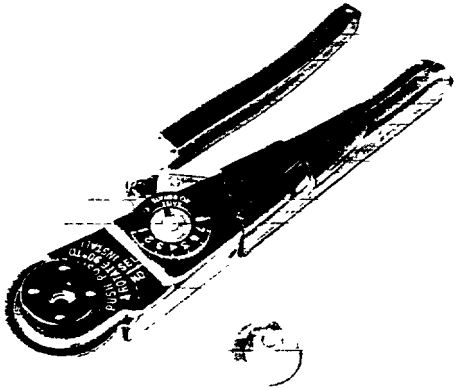


- Robust
- Easy to use

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Part Number for Hand Tool |
|-----------|------------------|---------------------------|
| Econo C | 20 - 28 | W04 59911 11 189 000 |

Hand Crimp Tool - Turned Contacts

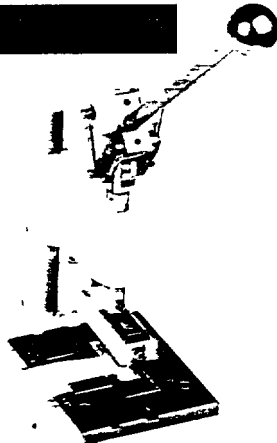


- Available to MIL spec
- For use with turned contacts

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Part Number for Tool Without Locator | Locator Part Number | |
|-------------------------|------------------|--------------------------------------|---------------------|--------|
| | | | Pin | Socket |
| Econo C | 20 - 24 | W04 59911 11 190 000 | K155 | |
| Series 3 | 20 - 24 | W04 59911 11 190 000 | K13-1 | |
| Double Density DURA-CON | 22 - 26 | W04 59911 11 190 000 | K154 | K156 |

Superfast Press

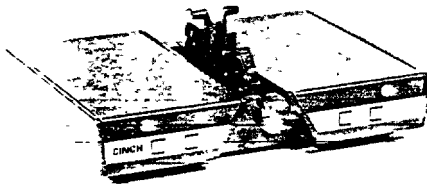


- High speed mass termination
- Quick tool change
- Rapid change of shell sizes

Suitable for use with:-

| Connector | Tool Part Number | Description |
|---------------------------------|----------------------|---------------------------------|
| Superfast IDC D | W03 00003 00 000 000 | Complete Tool Set without Press |
| All Cinch flat cable connectors | W03 00004 00 000 000 | Press with Base Plate. |

Auto Clinch

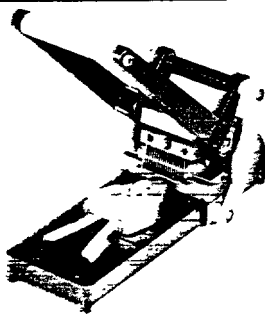


- Very high speed termination
- Can be equipped for metal or plastic shelled Super D
- Optional programming to load wires in required positions
- Colour code display available for accurate wire sequencing
- Common nest accommodates all four connector sizes
- Wires may be omitted where required
- Eliminates stripping
- Automatically cuts wire to length
- Other options available. Please consult factory

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Auto Clinch Part Number |
|-----------|------------------|-------------------------|
| Super D | 24 - 26 | W02 59911 11 432 000 |

Certi Clinch



- Mass termination of individual wires
- High speed termination
- Eliminates wire stripping
- Automatically trims wires to length
- Fully portable
- One nest is suitable for 9, 15, 25 & 37 way connectors

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Certi Clinch Part Number |
|-----------------|------------------|--------------------------|
| Metal Shell IDC | 24 - 26 | W03 59911 11 451 000 |
| Super D | 24 - 26 | W03 59911 11 431 000 |

Conversion nest for converting metal shell type to all plastic W04 59898 99 100 000

Uni Clinch

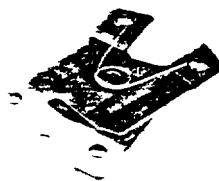


- Low cost
- Robust
- Ideal for field repairs
- Inserts single wires

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Uni Clinch Part Number |
|-----------------|------------------|------------------------|
| Metal Shell IDC | 24 - 26 | W04 59911 11 430 000 |
| Super D | 24 - 26 | W04 59911 11 430 000 |

Super D Stay Band Crimping Tool

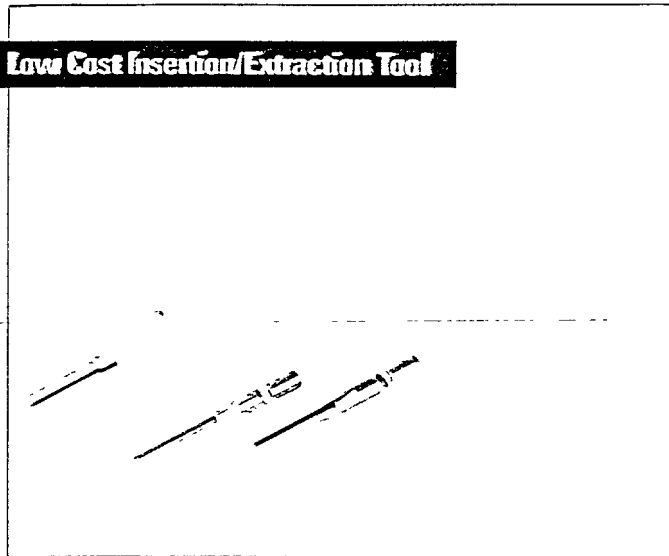


- Accommodates all Super D Stay Bands
- Easy to use

Suitable for use with:-

| Connector | Tool Part Number |
|-----------------------------------|----------------------|
| All Super D & Snap Together Hoods | W04 59911 11 434 000 |

Low Cost Insertion/Extraction Tool

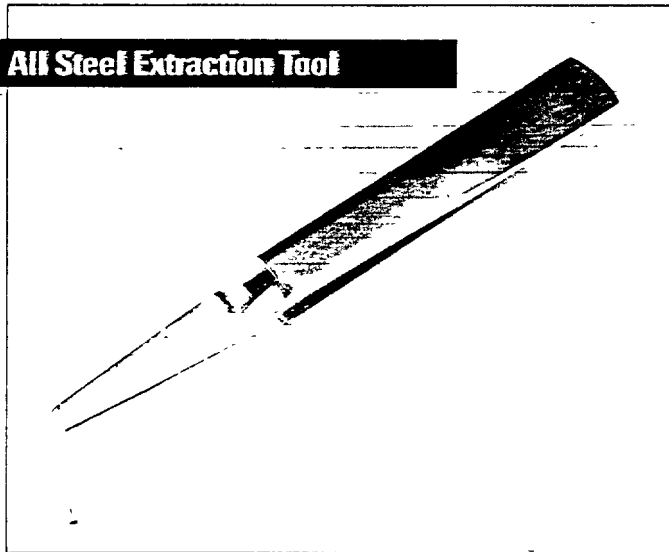


- Interchangeable inserts for various wire sizes
- Spare inserts may be stored in the handle

Suitable for use with:-

| Connector | Wire Sizes (AWG) | Tool Part Number |
|---------------|------------------|----------------------|
| Econo DA | 20 - 28 | W04 50240 19 060 000 |
| Econo C | 20 - 28 | W04 50240 19 060 000 |
| Series 3 | 20 - 24 | W04 50240 19 060 000 |
| Spacesaver | 22 - 32 | W04 50240-19 117 000 |
| All the Above | 20 - 32 | W04 00004 00 000 000 |

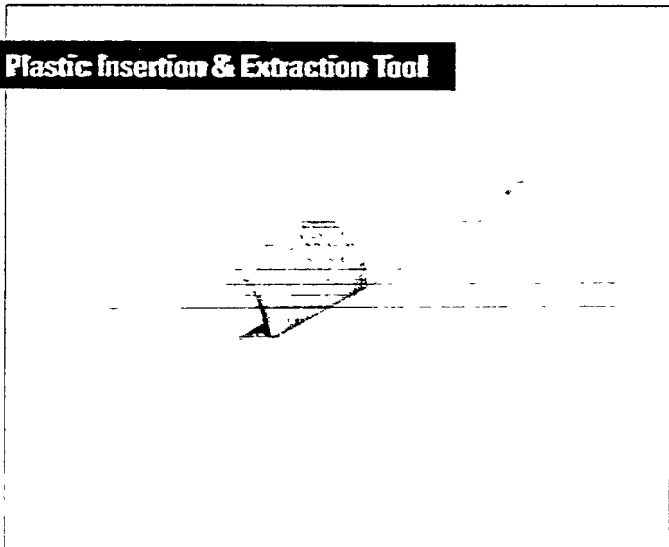
All Steel Extraction Tool



Suitable for use with:-

| Connector | Wire Sizes (AWG) | Tool Part Number |
|-----------|------------------|----------------------|
| Econo DA | 20 - 28 | W04 50240 15 002 000 |
| Econo C | 20 - 28 | W04 50240 15 002 000 |
| Series 3 | 20 - 24 | W04 50240 15 002 000 |

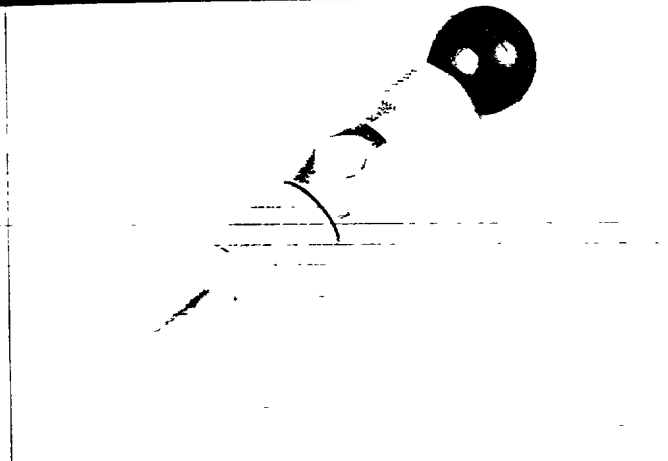
Plastic Insertion & Extraction Tool



Suitable for use with:-

| Connector | Wire Sizes (AWG) | Tool Part Number |
|---------------------------|------------------|----------------------|
| Econo C | 20 - 28 | W04 59911 11 176 000 |
| Series 3 (MIL-C-24308) | 20 - 24 | W04 59911 11 165 000 |
| Series 3 | 20 - 24 | W04 59911 11 150 000 |

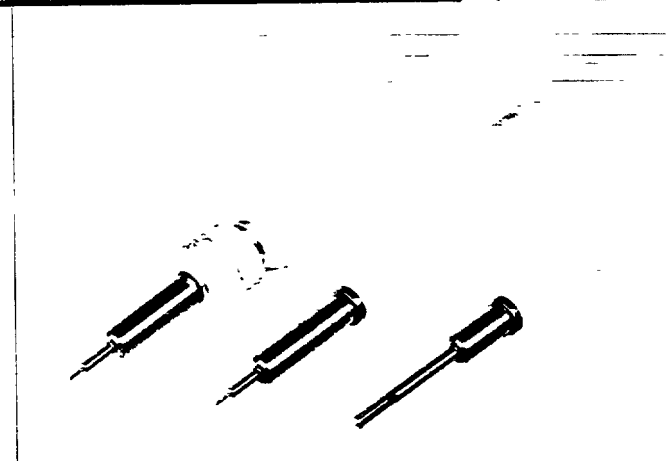
Coaxial & High Voltage Extraction Tool



Suitable for use with:-

| Connector | Tool Part Number |
|-------------------------------------------------|----------------------|
| All Series 1 Coaxial & High Voltage Contacts | W04 59911 11 114 000 |

Double Density DURA-CON Tools



| Description | Part Number |
|---------------------------------------------|----------------------|
| Kit: Handle, Insertion and Extraction Tools | W04 59911 11 386 000 |
| Handle | W04 59898 99 054 000 |
| Insertion Tool for Pin and Socket Contact | W04 59898 99 055 000 |
| Extraction Tool for Pin Contact | W04 59898 99 056 000 |
| Extraction Tool for Socket Contact | W04 59898 99 057 000 |