



**THE DATASHEET OF
10090929-S154XLF**



D-Subminiature Product Catalog



INTRODUCTION

ABOUT US

Amphenol ICC, a division of Amphenol, is a world leader providing interconnect solutions for the Information, Communications and Commercial electronics markets.

D-SUB CONNECTORS

With a broad array of configurable options, D-Sub connectors are one of the most popular interconnect products in the market today. Suitable for thousands of applications across market segments like Industrial & Instrumentation, Mobile Networks, IT/DataCom, Medical and Mil-Aero, Amphenol's D-Sub family meet all your performance and quality requirements. With advanced engineering and fast prototyping, we assure the shortest lead time for both regular and customized solutions.

Signal, power, hybrid, and rugged, we have the D-Subs that exactly match your design requirements, along with a wide choice of complementing accessories.

Our continuous improvement program is focused on manufacturing through process control, reaching high quality levels with ISO 9001 Certification, and meeting advanced application needs with innovation.

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MDBR Series Rugged D-Subminiature Connectors

| Series | Delta D Solder to board | Delta D Press-fit | Delta D Pin-in-Paste | Mixed Power DW | D series | 8656 series |
|---|---------------------------------------|--------------------------------------|--|--|--------------------------------------|--------------------------------------|
| | 7 - 10 | 44 - 47 | 39 - 42 | 21 & 57 | 11 & 18 | 19 |
| ENVIRONMENTAL CHARACTERISTICS | | | | | | |
| Operating temperature range | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C | -55°C to 105°C |
| Salt spray | 24 hours | 24 hours | 24 hours | 24 hours | 24 hours | 24 hours |
| Damp heat | 21 days | 21 days | 21 days | 21 days | 21 days | 21 days |
| Proof version | no | no | no | no | no | no |
| UL 94 VO | E66906 | E66906 | E66906 | E66906 | E66906 | E66906 |
| NORMES AND APPROVALS | | | | | | |
| NFC 93425 | | | | compliance with HE 507 | | in compliance with |
| DIN 41652 | in compliance with | in compliance with | In compliance with | | in compliance with | in compliance with |
| Others | LNZ 4404 | | | | | |
| MATERIAL | | | | | | |
| Shell | Steel | Steel | Ni | Steel | Steel | Steel |
| Insulator | Thermoplastic | Thermoplastic | Thermoplastic | Thermoplastic | Thermoplastic | Thermoplastic |
| Contacts | Copper alloy | Copper alloy | Copper alloy | Copper alloy | Copper alloy | Copper alloy |
| STANDARD PLATING | | | | | | |
| Shell | Tin | Tin | Tin | Tin | Tin | Tin |
| Contact active area | Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel |
| termination area | Tin over Nickel | Tin over Nickel | Tin over Nickel | Tin over Nickel | Tin over Nickel | Tin over Nickel |
| ELECTRICAL CHARACTERISTICS | | | | | | |
| Max current rating per contact | 5 A | 5 A | 5 A | 7.5 A (signal contact) 40 A (power contact) | 5 A | 5 A |
| Dielectric withstanding voltage (DWW) | 1000 Vrms | 1000 Vrms | 1000 Vrms | 1000 Vrms | 1000 Vrms | 1000 Vrms |
| Rated voltage | 300 Vrms | 300 Vrms | 300 Vrms | 300 Vrms | 300 Vrms | 300 Vrms |
| Insulation resistance | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ |
| Contact resistance | ≤ 10 mΩ * | ≤ 10 mΩ * | ≤ 10 mΩ * | ≤ 7.3 mΩ | ≤ 10 mΩ * | ≤ 10 mΩ * |
| Insertion / Extraction force per contact (N) | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. |
| MECHANICAL AND DIMENSIONAL CHARACTERISTICS | | | | | | |
| Mating / Unmating cycles | 200 min. | 200 min. | 500 min. | 500 min. | 200 min. | 200 min. |
| Contact diameter on active area | 1 mm | 1 mm | 1 mm | 3.6 mm (power contact) 1 mm (signal contact) | 1 mm | 1 mm |
| Removable contacts | no | no | no | yes (cable) | no | yes |
| WIRE | | | | | | |
| Size | | | | AWG 20 Max. (signal contact) other see page 35 | AWG 20 Max. | AWG 20 Max. |
| Max diameter on insulator | | | | — | 2.1 mm | 1.52 mm |
| LAYOUT | | | | | | |
| Number of contacts | 9, 15, 25, 37, 50* Male and Female | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37*, 50* Male and Female | 9, 15, 25, 37, 50* Male and Female | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37, 50 Male and Female |

* Straight version only

| Series | Compact D high density | DP series | DM HE 501 / HE 508 | DMW HE 507 |
|---|--|--------------------------------------|--------------------------------------|--|
| | 32 | 12 | 64 - 67 | 68 |
| ENVIRONMENTAL CHARACTERISTICS | | | | |
| Operating temperature range | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C -55°C to 155°C | -55°C to 125°C |
| Salt spray | 24 hours | 24 hours | 48 hours | 48 hours |
| Damp heat | 21 days | 21 days | 56 days | 56 days |
| Proof version | no | no | no | no |
| UL 94 VO | E66906 | E66906 | E66906 | E66906 |
| NORMES AND APPROVALS | | | | |
| NFC 93425 | | in compliance with | | |
| DIN 41652 | | in compliance with | | — |
| Others | | | LNZ 4404 | |
| Shell | Steel | Steel | Steel | Steel |
| MATERIAL | | | | |
| Insulator | Thermoplastic | Thermoplastic | Thermoplastic/Thermoset | Thermoplastic/Thermoset |
| Contacts | Copper alloy | Copper alloy | Copper alloy | Copper alloy |
| STANDARD PLATING | | | | |
| Shell | Tin | Tin | Cadmium | Cadmium |
| Contact active area | Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel |
| termination area | Tin over Nickel | Tin over Nickel | Tin/Gold over Nickel | Tin/Gold over Nickel |
| ELECTRICAL CHARACTERISTICS | | | | |
| Max current rating per contact | 2.5 A | 7.5 A | 7.5 A | 7.5 A (signal contact) 40 A (power contact) |
| Dielectric withstanding voltage (DWW) | 1000 Vrms | 1000 Vrms | 1000 Vrms | 1000 Vrms |
| Rated voltage | 300 Vrms | 300 Vrms | 300 Vrms | 300 Vrms |
| Insulation resistance | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ |
| Contact resistance | ≤ 25 mΩ * | ≤ 7.3 mΩ | ≤ 7.3 mΩ | ≤ 7.3 mΩ |
| Insertion / Extraction force per contact (N) | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. |
| MECHANICAL AND DIMENSIONAL CHARACTERISTICS | | | | |
| Mating / Unmating cycles | 200 min. | 200 min. | 500 | 500 |
| Contact diameter on active area | 0.76 mm | 1 mm | 1 mm | 1 mm (signal contact) |
| Removable contacts | no | no | no | yes (coax and power) |
| WIRE | | | | |
| Size | | AWG 20 Max. | AWG 20 | AWG 20 (signal contact) (other see page 36) |
| Max diameter on insulator | | 2.1 mm | 2.1 mm | 2.1 mm |
| LAYOUT | | | | |
| Number of contacts | Solder : 15, 26, 44, 62 Press-fit: 62, 78 | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37, 50 Male and Female |

D-Sub Standard Board Mount Connectors

Amphenol's FCI D-Sub connectors are part of an industry standard for applications requiring robust and reliable connectors. These proven D-Sub connectors are one of the most popular Input/Output interconnects, addressing a wide variety of applications in Telecommunications, Data, Consumer Industrial, Military, Instrumentation and Medical. Since many years Amphenol FCI has been offering a wide range of D-Sub connectors to meet various design requirements including those in harsh environment.

The standard density D-Sub series are widely used for numerous applications in many market segments. Amphenol FCI offers Delta-D (single shell design) and Frugal-D (two shell design) under this category. Standard density D-Sub PCB mount connectors available in straight and angled version. They come with a large number of mounting options.



TARGET MARKETS



FEATURES

- A Basic I/O connector comes with five shell size and housing design
- Has a D-shaped shell design
- Meets DIN 41652 and MIL-C-24308 dimensional standards
- Available in Straight, Angle, Wire Wrap terminations
- Delta-D design (1 shell + 1 housing) with stamped & formed contacts
- Various PCB and Panel mounting accessory options available
- Lead-free and RoHS compliant

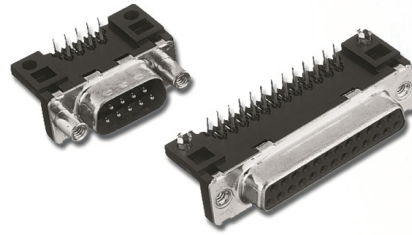
BENEFITS

- Most popular Rugged and sturdy I/O connector
- Supports the need for polarisation
- Interchangeable and intermateable with other makes
- Support different PCB mounting requirements
- Price competitive
- Wide variety of choices for secure connection
- Meets environmental, health and safety requirements

RIGHT ANGLE SOLDER TO BOARD



- In compliance with DIN 41652



ORDERING INFORMATION

| | | | | | | |
|----------|-----------|----------|------------|----------|-----------|-------------|
| D | 25 | P | 13A | 4 | GV | 00LF |
|----------|-----------|----------|------------|----------|-----------|-------------|

Series: **D**

Number of Contacts: 09, 15, 25, 37

Contacts: Pin (P), Socket (S)

RoHS Status: Standard, RoHS compatible | 00LF

| Durability | |
|---|---|
| Standard class (≥200 mating/unmating) | 4 |
| High performance class (≥500 mating/unmating) | 6 |

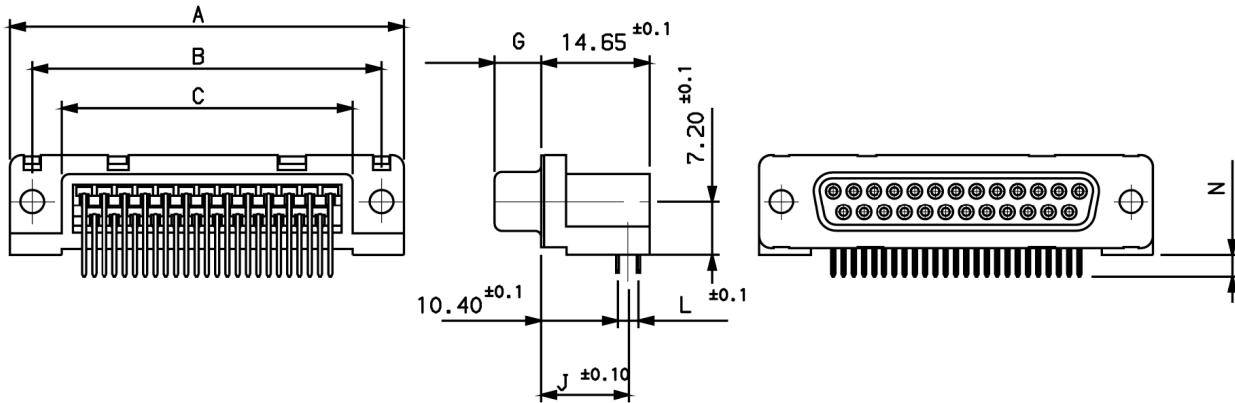
| Termination | | Code | | |
|--------------------------------|-----------------|-----------------------|---------------|-------|
| Type | Footprint/Pitch | Length of Termination | PCB Thickness | Code |
| Right angled – Europe standard | 10.4/2.54mm | 2.90 | 1.6 | 13A ✓ |
| Right angled – Europe standard | 10.4/2.54mm | 3.70 | 2.4 and 1.6 | 13B |
| Right angled – Europe standard | 10.4/2.84mm | 2.90 | 1.6 | 23A |
| Right angled – Europe standard | 10.4/2.84mm | 3.70 | 2.4 and 1.6 | 23B |
| Right angled – US standard | 8.08/2.84mm | 3.18 | 1.6 | 33E ✓ |

| Mouting Options | |
|--|------|
| Standard hole | PA |
| Threaded insert M3 | PL |
| Threaded insert UNC 4–40 | PX |
| Female screw UNC 4–40 | PV |
| Harpoons + insert M3 + elec. continuity | GL |
| Harpoons + insert UNC 4–40 + elec. continuity | GX ✓ |
| Harpoons + female screw UNC 4–40+ elec. continuity | GV ✓ |
| Harpoons + female screw M3 + elec. continuity | GI |
| Elec. continuity | UA |
| Insert M3 + elec. continuity | UL |
| Insert UNC 4–40 + elec. continuity | UX |
| Female screw UNC 4–40 + elec. continuity | UV |

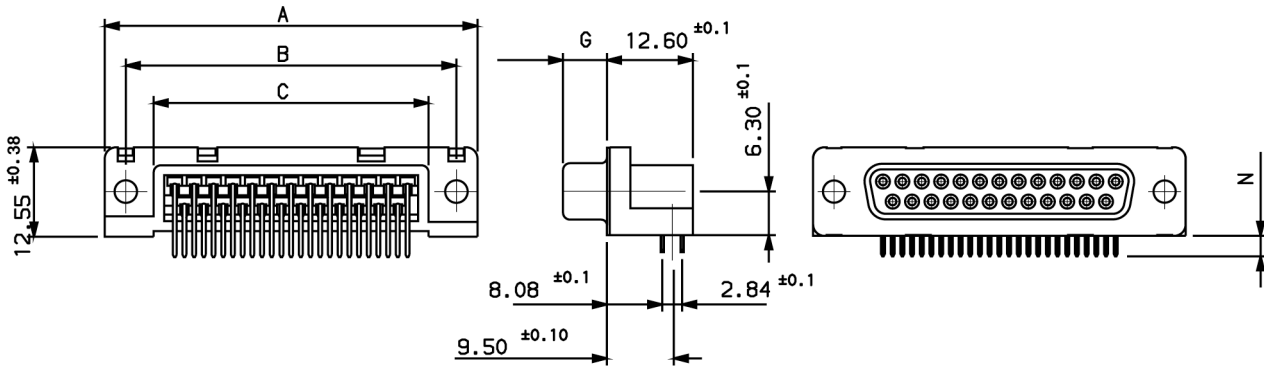
► D-Sub Standard Board Mount Connectors

SPECIFIC DIMENSIONS

EUROPE STANDARD



US STANDARD



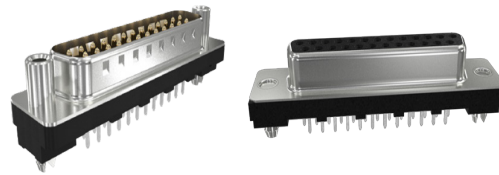
| | | A $\pm 0,38$ | B $\pm 0,12$ | C $\pm 0,10$ | G $-0/+0,25$ | J $\pm 0,10$ | | L $\pm 0,10$ | | N $\pm 0,30$ | | |
|----|---|--------------|--------------|--------------|-----------------|--------------|-------|--------------|------|--------------------|------------|------|
| | | | | | | Termination | | Termination | | Termination Length | | |
| | | | | | | 13 | 23 | 13 | 23 | 13A 23A | 13B 23B | 33E |
| 09 | P | 30.81 | 24.99 | 16.96 | 5.90 $-0/+0,15$ | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 30.81 | 24.99 | 16.96 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| 15 | P | 39.14 | 33.32 | 25.18 | 5.90 $-0/+0,15$ | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 39.14 | 33.32 | 25.18 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| 25 | P | 53.03 | 47.04 | 39.12 | 5.70 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 53.03 | 47.04 | 39.12 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| 37 | P | 69.32 | 63.50 | 55.68 | 5.70 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 69.32 | 63.50 | 55.68 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |

Dimensions in mm

▶ D-Sub Standard Board Mount Connectors

STRAIGHT SOLDER TO BOARD

UL [®] **UL RECOGNISED FILE E66906**



ORDERING INFORMATION

| | | | | | | | |
|----------|-----------|----------|------------|----------|-----------|-------------|----------------------------------|
| D | 25 | P | 24A | 4 | GV | 00LF | Standard series, RoHS compatible |
|----------|-----------|----------|------------|----------|-----------|-------------|----------------------------------|

Serie

| Number of Contacts | |
|--------------------|--|
| 09 | |
| 15 | |
| 25 | |
| 37 | |
| 50 | |

| Contacts | |
|----------|---|
| Pin | P |
| Socket | S |

| Mounting Options | |
|--|------|
| Standard hole | PA |
| Threaded insert M3 | PL |
| Threaded insert UNC 4-40 | PX |
| Female screw UNC 4-40 | PV |
| Harpoons + insert M3 + elec. continuity | GL |
| Harpoons + insert UNC 4-40 + elec. continuity | GX |
| Harpoons + female screw UNC 4-40 + elec. continuit | GV ✓ |

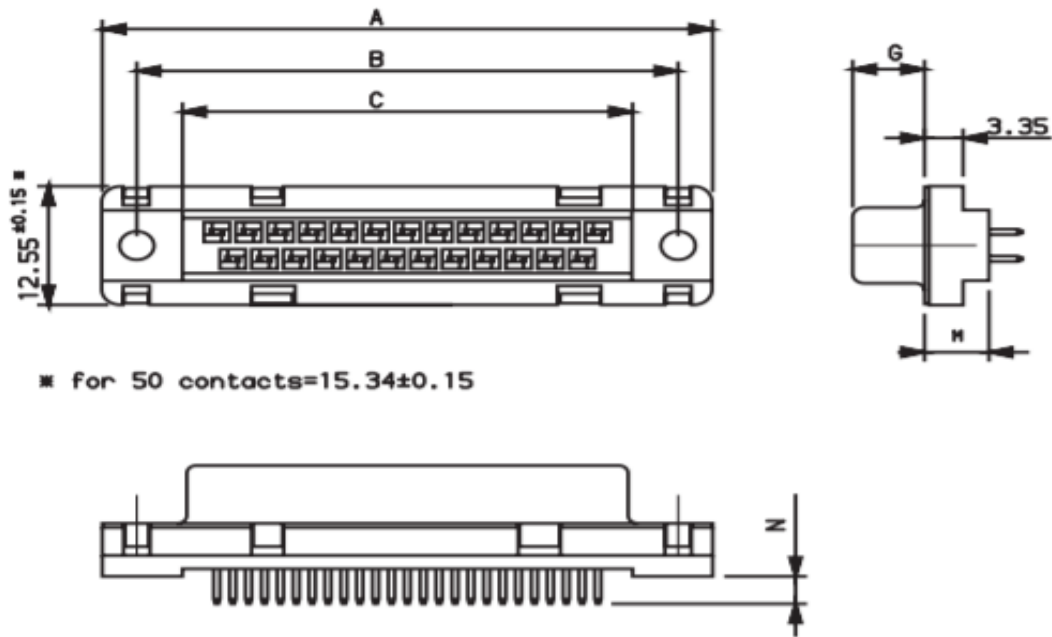
| Durability | |
|---|---|
| Standard class (≥200 mating/unmating) | 4 |
| High performance class (≥500 mating/unmating) | 6 |

| Termination Type | | | | |
|--------------------------------|-----------------|--------------------|---------------|-------|
| Type | Footprint/Pitch | Termination Length | PCB Thickness | Code |
| Straight version (low profile) | 5.6/2.84mm | 2.90 | 1.6mm | 14A |
| Straight version | 6/2.84mm | 2.90 | 1.6mm | 24A ✓ |
| Straight version | 6/2.84mm | 3.70 | 2.4mm | 24B |
| Straight version | 6.9/2.84mm | 2.90 | 1.6mm | 34A |

Preferred Option ✓

► D-Sub Standard Board Mount Connectors

SPECIFIC DIMENSIONS



| Dimensions | | | | | | | | | | |
|------------|---|--------------------|--------------------|--------------------|--------------------------|--------------------|------|------|--------------------|------|
| | | A ^{±0,38} | B ^{±0,12} | C ^{±0,10} | G ^{-0/+0,25} | M ^{±0,10} | | | N ^{±0,30} | |
| | | | | | | Terminal | | | Terminal Length | |
| | | | | | | 14 | 24 | 34 | 14A 24A 34A | 24B |
| 09 | P | 30.81 | 24.99 | 16.96 | 5.90 ^{-0/+0,15} | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 30.81 | 24.99 | 16.96 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 15 | P | 39.14 | 33.32 | 25.18 | 5.90 ^{-0/+0,15} | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 39.14 | 33.32 | 25.18 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 25 | P | 53.03 | 47.04 | 39.12 | 5.70 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 53.03 | 47.04 | 39.12 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 37 | P | 69.32 | 63.50 | 55.68 | 5.70 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 69.32 | 63.50 | 55.68 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 50 | P | 67.10 | 61.11 | 54.11 | 5.70 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 67.10 | 61.11 | 54.11 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |

Dimensions in mm

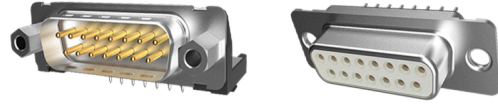
▶ D-Sub Standard Board Mount Connectors

STAMPED AND ROLLED CONTACTS



UL RECOGNISED FILE E 66906

D series is the standard D-Sub full metal shell version with stamped contacts. This design is basically proposed in straight and angled version without accessories



PART NUMBER SELECTOR

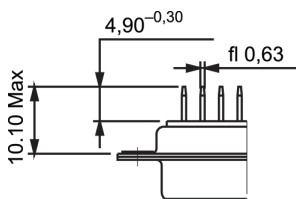
| D | E | 09 | P | 5 | 64 | C | T | X | LF | |
|--------|-----------------------------------|---------------------|----------------|--|------------------|--------------------|------------------|-----------------------------------|---------|-----------|
| SERIES | SHELL SIZE | LOCKING ACCESSORIES | TOTAL CONTACTS | CONTACTS TYPE | TERMINATION TYPE | MATING CYCLES | TERMINATION TYPE | SHELL PLATING | DIMPLES | LEAD-FREE |
| D | | | 09 | Pin P Socket S | | ≥200 64 ≥500 65 | | Standard tin plating T | | LF |
| E | | | 15 | | | | | | | |
| A | | | 25 | | | | | | | |
| B | | | 37 | | | | | | | |
| C | | | 50 | | | | | | | |
| D | | | | | | | | | | |
| Blank | Standard | | | Straight 3 Right Angle (Foot Print/Pitch: 10.40/2.54mm) 5 | Stamped contacts | | | Standard on male connector only X | | |
| L | Threaded Insert M3 | | | | | | | | | |
| O | Threaded Insert UNC 4-40 | | | | | | | | | |
| V | Female screw (Hexagonal) UNC 4-40 | | | | | | | | | |

| Straight Spills | Angled Spills | Index |
|--|-----------------------|-------|
| Without accessory | Two plastic brackets* | - |
| - | Without bracket | C |
| - | Two metal brackets | M |
| Harpoons (Compulsory with option L or V) | Harpoons | G |

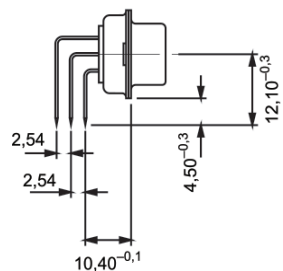
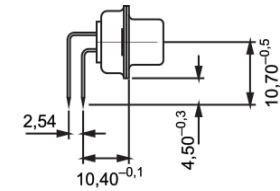
*Except 50 pos with monobloc plastic brackets

SPECIFIC DIMENSIONS

Straight Spills



Right Angle Spills



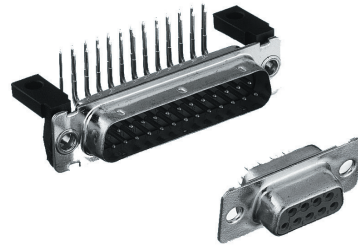
MACHINED CONTACTS



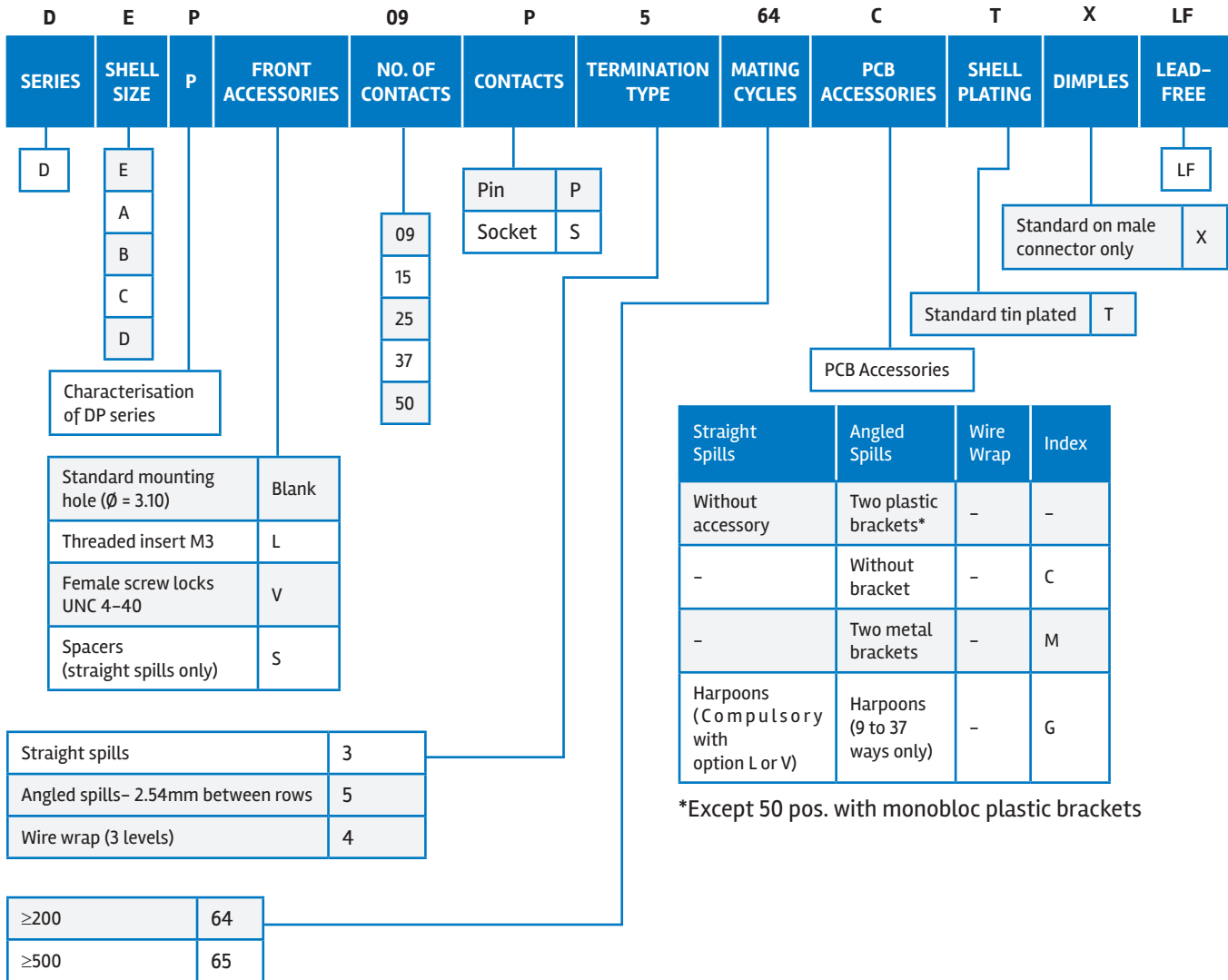
UL RECOGNISED FILE E 66906

• DP series is designed for high performance applications, particularly in the field of telecommunications: data transmission, private automatic branch switching, telecom (LNZ listed)

• It features machined contacts and is available with straight spills, angled spills, and wire wrap terminations



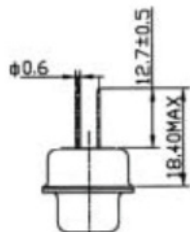
PART NUMBER SELECTOR



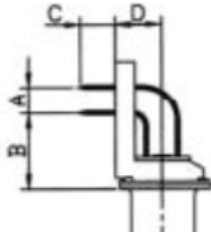
► D-Sub Standard Board Mount Connectors

SPECIFIC DIMENSIONS

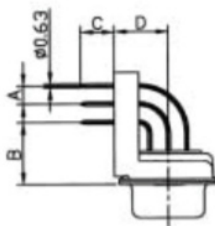
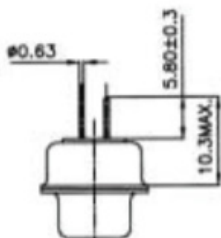
Wire Wrap



Right Angle Spills



Straight Spills



| Dimension | | Termination Code |
|--------------|------------------|------------------|
| | | 5 |
| A | | 2.54 |
| $B \pm 0.1$ | | 10.30 |
| $C \pm 0.5$ | | 4.00 |
| $D \pm 0.19$ | 9 to 37 contacts | 7.20 |
| | 50 contacts | 8.60 |

▶ D-Sub Standard Board Mount Connectors

TARGET MARKETS/APPLICATIONS



Asymmetric Digital Subscriber Line
(ADSL)
Base Station
Switching
Transmission



Set-top Box



Desktop and Laptop
Storage System
Router and Server



Automotive Diagnostics
Control Drives
Energy Meter
Gaming Machine
Test Equipment
Office Automation
POS & Handheld terminal
Power Supplies
Parking Meter
Printer and Copier
Renewable Energy
Robotics
Surveillance Camera
Avionics



Medical Instrument



Military Equipment

D-Sub Slimline

ULTRA SLIM D-SUB CONNECTORS

Amphenol FCI has expanded the D-Sub connectors with a modified ultra slim body with contact alignment in a single row. These are available both in SMT termination suitable for reflow soldering and solder tail version for standard wave soldering. These connectors also feature solderable retention pegs that absorb vibration.

- Ultra slim design saves space
- Automated assembly saves overall process costs
- Better co-planarity ensures higher quality
- Solderable retention pegs absorb vibration
- More seating area of contact surface ensures firm soldering



TARGET MARKETS



FEATURES

- Ultra slim design with single row contacts
- Larger seating area of contact surface to SMT PAD compared to other products
- Co-planarity can be controlled during assembly itself
- Solderable retention pegs
- Unique design for riveting clinch nut to shell with fool proof torque and electrical continuity
- Extra cover to hold contact firm to housing
- SMT connector comes in Tape & Reel packaging
- Mating interface follows DIN 41652 and MIL-C-24308 dimensional standards

BENEFITS

- Saves 66% of PCB board space
- Contact of size 0.45 x 1.4 with firm soldering support
- Ensures better product quality
- Absorb vibration
- Secured grounding
- Strong retention between housing and contact
- Support automated assembly and saves process time
- Intermateable with standard connectors

TECHNICAL INFORMATION

MATERIAL

- Insulator: LCP 30% GF
- Contact: Copper alloy
- Grounding Material: Brass

ELECTRICAL PERFORMANCE

- Maximum Current Rating: 5A for SMT version
- Contact Resistance: <25mΩ
- Rated Voltage: 300V.rms

MECHANICAL PERFORMANCE

- Retention Against Torque: 0.7NM min.
- Insulation Resistance: >5000mΩ
- Creepage & Clearance Length: >1mm

ENVIRONMENTAL

- Operating Temperature Range: -55°C to +125°C

APPROVALS & CERTIFICATION

- UL (pending)






SPECIFICATIONS

- Durability:
 - 500+ mating cycles for SMT version
 - 200 mating cycles for solder tail version

PACKAGING

- Tape & Reel for SMT version
- Tray for solder tail version

TARGET MARKETS/APPLICATIONS

-  Server Switches
-  Smart TV
Smart Meter
-  Router
Power Supply
-  Servo Drives
Controllers
-  Scanner
Ventilator

PART NUMBERS

| Description | Part Numbers |
|--|----------------|
| 9 pin Male R/A SMT Slimline, Harpoons, Standard hole, Tray | D09P71S6GA00LF |
| 9 pin Male R/A SMT Slimline, Harpoons, Standard hole, Tape & Reel | D09P71S6GA12LF |
| 9 pin Male R/A SMT Slimline, Harpoons, UNC 4-40 Threaded insert, Tape & Reel | D09P71S6GX12LF |
| 9 pin Male R/A SMT Slimline, Harpoons, M3 Threaded insert, Tape & Reel | D09P71S6GL12LF |

D-Sub Cable Connectors

Amphenol's FCI D-Sub connectors are part of an industry standard for applications requiring robust and reliable connectors. These proven D-Sub connectors are one of the most popular Input/Output interconnects, addressing a wide variety of applications in telecommunications, data, consumer, industrial, military, instrumentation and medical. Amphenol FCI offers a wide range of D-Sub connectors to meet various design requirements including those in harsh environment.

These cable connectors are designed to act as input output connectors and mate with PCB connectors or another cable connector depending on the application. It comes with solder bucket and crimp terminations. Various associated accessories including Hoods and locking devices help to prevent risks of pulling up and accidental un-mating.



TARGET MARKETS



FEATURES

- A Basic I/O connector comes with five shell size and housing design
- Has a D-shaped shell design
- Meets DIN 41652 and MIL-C-24308 dimensional standards
- Available in Solder Bucket, Crimp terminations
- Frugal- D design (2 shells + 2 housings) with stamped & formed contacts
- Various PCB and Panel mounting accessory options available
- Hoods available in plastic, metalized and metallic form with locking screws
- Lead-free and RoHS compliant

BENEFITS

- Most popular Rugged and sturdy I/O connector
- Supports the need for polarisation
- Interchangeable and intermateable with other makes
- Support all Cable mounting requirements
- Economical solution
- Wide variety of choices for secure connection
- Supports cable connection; Prevents risks of pulling up and accidental un-mating
- Meets environmental, health and safety requirements

CRIMP CONTACTS AND CABLE CONNECTORS



UL RECOGNISED FILE E 66906

- 8656 series is a D connector with removable crimp contacts for AWG 20/24 or 24/28 wires
- It is used for commercial cabling like computer equipment, cash register
- It accepts our standard accessories (hoods, locking devices) and is available with a complete range of crimping tools from hand tools to high volume production equipment



PART NUMBER SELECTOR – CRIMP CONNECTOR HOUSING (W/O CONTACTS)

| SERIES | LOCKING ACCESSORIES | NO. OF CONTACTS | CONTACTS | L | SHELL PLATING | DIMPLES | LEAD-FREE |
|--------|--|----------------------------|-------------|---------------|---|-----------------------------|-----------|
| 8656 | | 09 15 25 37 50 | P L T | | T | X | LF |
| | Standard mounting hole (Ø = 3.10) Threaded insert UNC 4-40 Female screw (Hexagonal) UNC 4-40 | Blank O V | | | Standard tin plated Supplied without contacts (obligatory) | Standard on male shell only | Lead Free |
| | | | | Pin Socket | | | |

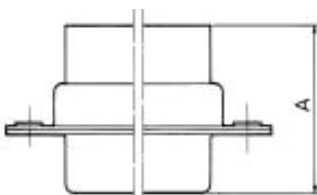
PART NUMBER SELECTOR – CRIMP CONTACTS

| Contact Type | Packaging Type | | |
|------------------|-----------------------|------------------------|-------------------------|
| | Box of 500 Contacts ✓ | Reel of 400 Contacts R | Reel of 5000 Contacts ✓ |
| AWG 24/28 male | 865635006 Δ | 8656300306 Δ | 8656451006 Δ |
| AWG 24/28 female | 865635106 Δ | 8656300406 Δ | 8656651006 Δ |
| AWG 20/24 male | 865635206 Δ | 8656300506 Δ | 8656452006 Δ |
| AWG 20/24 female | 865635306 Δ | 8656300606 Δ | 8656652006 Δ |

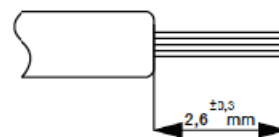
Δ Contact performance code

4LF: ≥200 mating/unmating, RoHS compatible
5LF: ≥500 mating/unmating, RoHS compatible

SPECIFIC DIMENSIONS



CABLE PREPARATION



| Contacts | 09 | 15 | 25 | 37 | 50 |
|-----------------------|-------|-------|-------|-------|-------|
| A _{Max.} Pin | 17.19 | 17.19 | 17.35 | 17.35 | 17.35 |
| Socket | 17.44 | 17.44 | 17.44 | 17.44 | 17.44 |

MIXED AND FULL POWER CABLE CONNECTORS

LAYOUTS

- Male insulator front view

| Shell size | | Layout | |
|------------|------|--------|--|
| E | 5W1 | | |
| | A | 11W1 | |
| | | 7W2 | |
| | | 3W3 | |
| | | 3V3 | |
| B | 21W1 | | |
| | 17W2 | | |
| | 13W3 | | |
| | 9W4 | | |
| | 5W5 | | |

| Shell size | | Layout |
|------------|-------|--------|
| C | 25W3 | |
| | 21WA4 | |
| | 27W2 | |
| | 8W8 | |
| D | 47W1 | |
| | 24W7 | |
| | 36W4 | |

- Standard contacts
- Coaxial and power contacts

MIXED AND FULL POWER CABLE CONNECTORS

UL® **UL RECOGNISED FILE E66906**



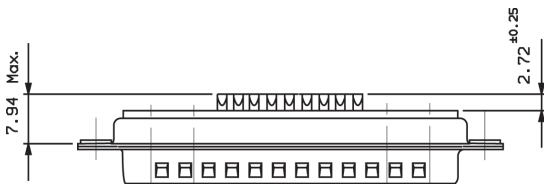
ORDERING INFORMATION

| D | B | L | 13 | W | 3 | P | | | A | 00LF | | | | | | | | | | | | | | | | | | | | | |
|---|---|----------|--------------------|----------|----------|----------|--|--|--------------------------|-----------------|------------------|--|---------------------|-------|---------------------|----|--|-------------|-------|---|---|---|---|---|----------------|---|---|---|---|---|---|
| Series | Shell size (tin plated): E, A, B, C, D | | Layout of contacts | | | Contacts | | | Without accessory on PCB | RoHS compatible | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="7">Mounting Options</th> </tr> <tr> <th>Description</th> <th>Blank</th> <th>L</th> <th>O</th> <th>I</th> <th>V</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>Solder buckets</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table> | | | | | | | | | | | Mounting Options | | | | | | | Description | Blank | L | O | I | V | F | Solder buckets | X | X | X | X | X | X |
| Mounting Options | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | Blank | L | O | I | V | F | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solder buckets | X | X | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Durability</th> </tr> </thead> <tbody> <tr> <td>200 mating/unmating</td> <td>Blank</td> </tr> <tr> <td>500 mating/unmating</td> <td>43</td> </tr> </tbody> </table> | | | | | | | | | | | Durability | | 200 mating/unmating | Blank | 500 mating/unmating | 43 | | | | | | | | | | | | | | | |
| Durability | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 mating/unmating | Blank | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 mating/unmating | 43 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Termination Type</th> </tr> </thead> <tbody> <tr> <td>Solder bucket</td> <td>Blank</td> </tr> </tbody> </table> | | | | | | | | | | | Termination Type | | Solder bucket | Blank | | | | | | | | | | | | | | | | | |
| Termination Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solder bucket | Blank | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

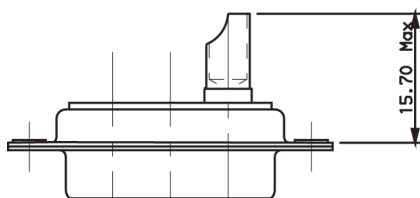
X: Available
 Blank: without accessory
 L: Threaded insert M3
 O: Threaded insert UNC 4-40
 V: Female screw UNC 4-40

SPECIFIC DIMENSIONS

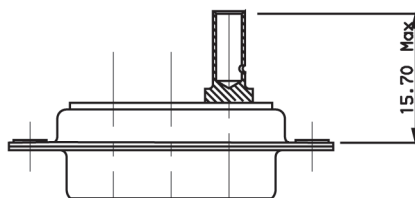
Solder Bucket



Solder version

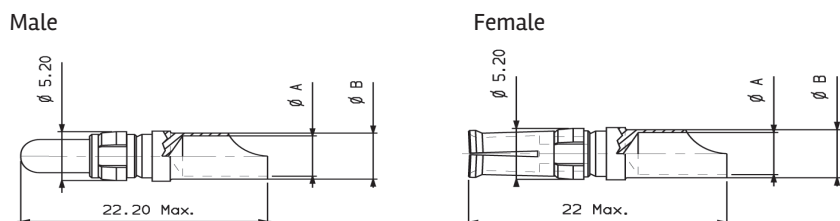


Crimp version



POWER SOLDER AND CRIMP CONTACTS

SOLDER CONTACTS



| Type | Max. Current Rating | Clip Colour | RoHS* Part Number ≥200 mating/ unmating | RoHS* Part Number ≥500 mating/ unmating | Wire | | Strip length mm ^{±0.5} | ø A +0.1 +0 | ø B +0.5 |
|--------|---------------------|-------------|---|---|------|----------------------------|------------------------------------|----------------|----------|
| | | | | | Size | Section mm ² | | | |
| Male | 10A | Black | 8638PPS1005LF | 8638PPS1006LF | 16 | 1.3 | 7 | 1.7 | 2.6 |
| Male | 15A | White | 8638PPS1505LF | 8638PPS1506LF | 14 | 1.9 | 7 | 2.1 | 3 |
| Male | 20A | Red | 8638PPS2005LF | 8638PPS2006LF | 12 | 3.2 | 7 | 2.8 | 3.65 |
| Male | 40A | Blue | 8638PPS4005LF | 8638PPS4006LF | 8 | 9 | 7 | 4.4 | 5 |
| Female | 10A | Black | 8638PSS1005LF | 8638PSS1006LF | 16 | 1.3 | 7 | 1.7 | 2.6 |
| Female | 15A | White | 8638PSS1505LF | 8638PSS1506LF | 14 | 1.9 | 7 | 2.1 | 3 |
| Female | 20A | Red | 8638PSS2005LF | 8638PSS2006LF | 12 | 3.2 | 7 | 2.8 | 3.65 |
| Female | 40A | Blue | 8638PSS4005LF | 8638PSS4006LF | 8 | 9 | 7 | 4.4 | 5 |

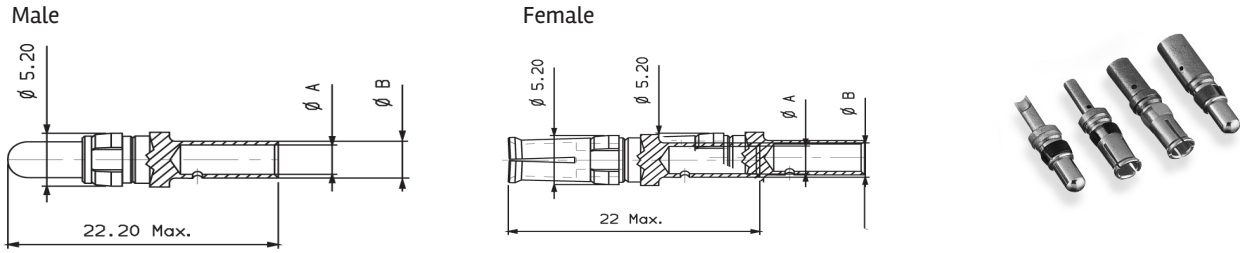
Clip material: Plastic withstanding 125°C

Termination plating: Matt tin

*RoHS compatible EU directive 2002/95/EC

POWER SOLDER AND CRIMP CONTACTS

CRIMP CONTACTS



| Type | Max. Current Rating | Clip Colour | RoHS* Part Number ≥200 mating/ unmating | RoHS* Part Number ≥500 mating/ unmating | Wire | | Strip length mm ^{±0.5} | ø A +0.1 +0 | ø B +0.5 |
|--------|---------------------|-------------|---|---|----------|----------------------------|------------------------------------|----------------|----------|
| | | | | | Size | Section mm ² | | | |
| Male | 10A | Black | 8638PPC1005LF | 8638PPC1006LF | 16 to 18 | 0.9 to 1.3 | 7 | 1.8 | 2.55 |
| Male | 15A | White | 8638PPC1505LF | 8638PPC1506LF | 12 to 14 | 2 to 3 | 7 | 2.8 | 3.7 |
| Male | 20A | Red | 8638PPC2005LF | 8638PPC2006LF | 9 | 6 | 7 | 3.75 | 4.65 |
| Male | 40A | Blue | 8638PPC4005LF | 8638PPC4006LF | 8 to 10 | 5 to 8 | 7 | 4.8 | 5.5 |
| Female | 10A | Black | 8638PSC1005LF | 8638PSC1006LF | 16 to 18 | 0.9 to 1.3 | 7 | 1.8 | 2.55 |
| Female | 15A | White | 8638PSC1505LF | 8638PSC1506LF | 12 to 14 | 2 to 3 | 7 | 2.8 | 3.7 |
| Female | 20A | Red | 8638PSC2005LF | 8638PSC2006LF | 9 | 6 | 7 | 3.75 | 4.65 |
| Female | 40A | Blue | 8638PSC4005LF | 8638PSC4006LF | 8 to 10 | 5 to 8 | 7 | 4.8 | 5.4 |

Clip material: Plastic withstanding 125°C

Termination plating: Matt tin

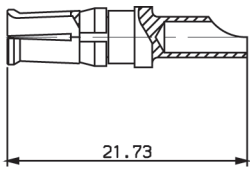
*RoHS compatible EU directive 2002/95/EC

► D-Sub Cable Connectors

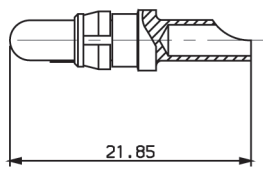
CONTACTS (OTHER VERSIONS)

POWER CONTACTS – METAL CLIP

Female



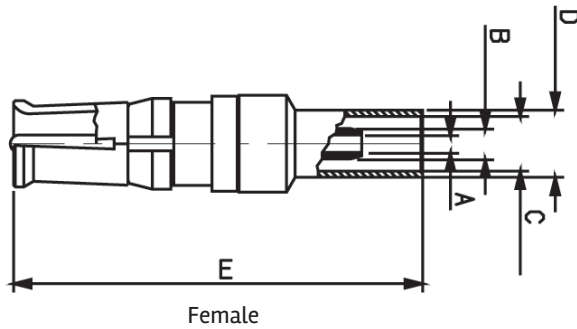
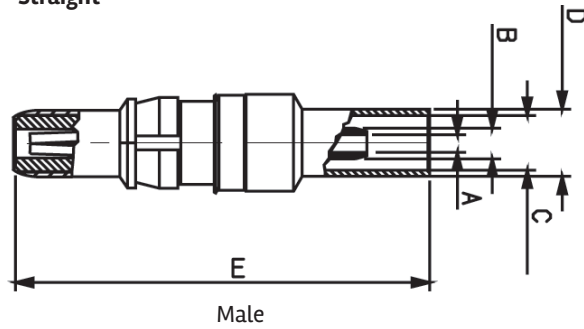
Male



| Wire Size | Max. Current | Part Numbers | |
|-----------|--------------|--------------|-------------|
| | | Male | Female |
| AWG8 | 40A | 86303098NLF | 86303099NLF |
| AWG12 | 20A | 86303056NLF | 86303057NLF |
| AWG14 | 15A | 86303060NLF | 86303061NLF |
| AWG16 | 10A | 86303064NLF | 86303065NLF |

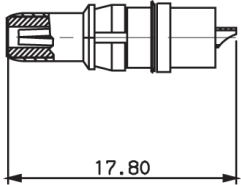
COAXIAL CONTACTS

Straight



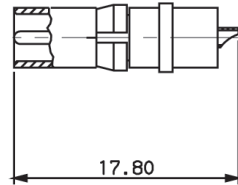
HIGH VOLTAGE CONTACTS

Male 86382000LF



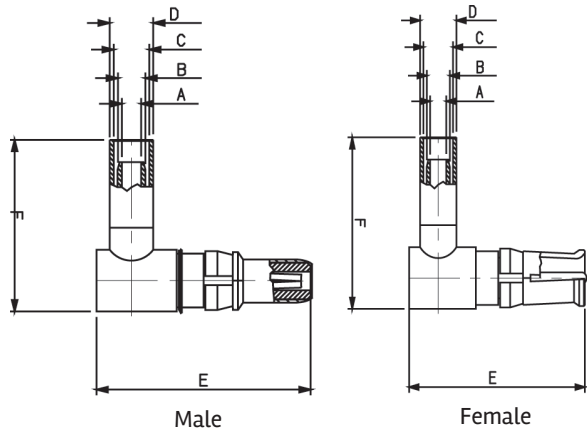
Colors: Blue

Female 86382001LF



White

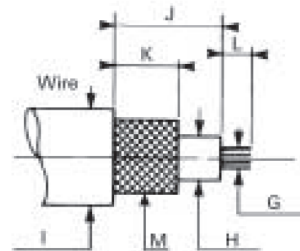
Angled



These removable contacts are suitable for the contact cavities of the DMW series and DW series.

The coaxial contacts are in compliance with:

- NFC 93569
- KMX4 specification



▶ D-Sub Cable Connectors

TECHNICAL INFORMATION

ELECTRICAL PERFORMANCE

- Dielectric Withstanding Voltage: 2800V RMS
- Break Down Voltage: 3200V RMS
- Insulation Resistance: $10^6 M\Omega$
- Contact Resistance: $\leq 5m\Omega$
- Max. Current Rating: 5A
- Material: TEFLON

ENVIRONMENTAL

- Operating temperature range: $-55^{\circ}C$ to $+125^{\circ}C$

MECHANICAL PERFORMANCE

- Mating force per set of contact: 3 N
- Mating endurance: 200

TARGET MARKETS/APPLICATIONS



Asymmetric Digital Subscriber Line (ADSL)
Base Station
Switching
Transmission



Set-top Box



Desktop and Laptop
Storage System
Router and Server



Automotive Diagnostics
Control Drives
Energy Meter
Gaming Machine
Test Equipment
Office Automation
POS & Handheld terminal
Power Supplies
Parking Meter
Printer and Copier
Renewable Energy
Robotics
Surveillance Camera



Medical Instrument



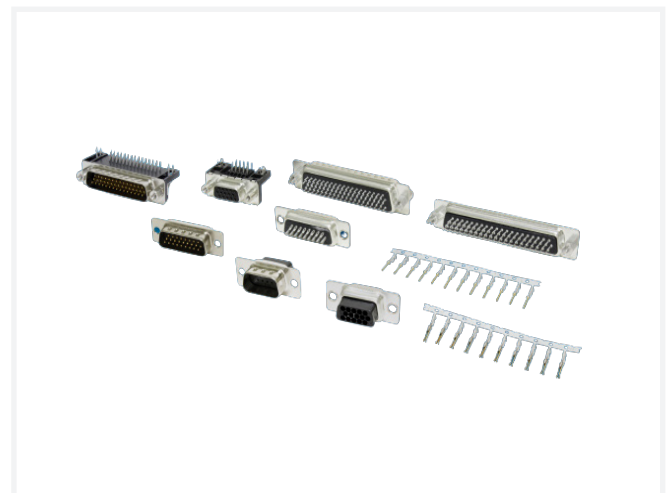
Avionics
Military Equipment

D-Sub High Density Connectors

The new High Density D-Sub range is part of Amphenol's FCI I/O-Connector portfolio which provides customers access to a wide range of industry standard and application specific I/O interconnect solutions. Amphenol's FCI I/O connector solutions complete your board and system designs by providing high-density and high-speed interfaces to enable interconnect technologies for networking, storage and memory and complementary products for power distribution. Our range of standardized I/O solutions enables full compliance to industry standards, such as Ethernet, SFF, Infiniband, USB, PCMCIA or HDMI. Amphenol FCI also has the capability to provide customized I/O solutions optimized to address application specific requirements.

Through Amphenol's FCI high-speed, power, assembly and mechanical packaging expertise, you gain the advantage of getting your signals out of the box at optimal cost and performance. Amphenol's FCI I/O connectors - coupled with Amphenol FCI extensive range of backplane and board-to-board connectors and cable assembly products-enable complete link solutions for your equipment designs.

Amphenol's FCI D-Sub connectors are part of an industry standard for applications requiring robust and reliable connectors. These D-Sub connectors are one of the most popular Input - Output interconnects, addressing a wide variety of applications in Telecommunications, Data, Consumer, Industrial, Military, Instrumentation and Medical markets. Since many years Amphenol FCI offers a wide range of D-Sub connectors to meet all design requirements, and to address increasing needs for high density packaging, Amphenol FCI developed the D-Sub High Density Range.



TARGET MARKETS



FEATURES

- High density Dsub connectors can accommodate more number of contacts in the basic shell sizes
- Selected layouts are also available in Press-fit and Pin-in-Paste versions
- Pin-in-Paste connectors comes in Tape & Reel packaging
- Various PCB and Panel mounting accessory options available
- Hoods available in plastic, metalized and metallic form with locking screws
- Lead-free and RoHS compliant

BENEFITS

- Answer to the increasing need for higher density packaging
- Meets different termination needs
- Time saving as it can be automatically positioned on the board using pick and place processes
- Wide variety of choices for secure connection
- Supports cable connection; Prevents risks of pulling up and accidental un-mating
- Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- Insulator: Glass filled thermoplastic (UL94V-0) black
- Contact: Copper alloy
- Shell: SPCC steel

ELECTRICAL PERFORMANCE

- Current Rating: Rated current: 2.5A
- Rated Voltage: 250V
- Contact Resistance: 25mΩ max. Initial and 40mΩmax. after
- Insulation Resistance: 5000mΩ min. at 500V DC
- Dielectric Strength: 750V RMS
- Operating Temperature Range: 55°C to +105°C

MECHANICAL PERFORMANCE

- Mating/Un-mating Cycles: 200/500
- Insertion/Extraction Force per contact: 5N max. / 0.2N min.

TARGET MARKETS/APPLICATIONS



Asymmetric Digital Subscriber Line (ADSL)
Base Station
Switching
Transmission



Set-top Box



Desktop and Laptop
Storage System
Router and Server



Automotive Diagnostics
Control Drives
Energy Meter
Gaming Machine
Test Equipment
Office Automation
POS & Handheld terminal
Power Supplies
Parking Meter
Printer and Copier
Renewable Energy
Robotics
Surveillance Camera
Avionics



Medical Instrument



Military Equipment

HIGH DENSITY D-SUB STRAIGHT

ORDERING INFORMATION

| | | | | | | |
|---------------|----------|-----------|----------|----------|-----------|--------------------|
| SERIES | P | YY | 4 | X | LF | RoHS status |
| | | | | | | RoHS compliant |

| Gender | |
|--------|---|
| Pin | P |
| Socket | S |

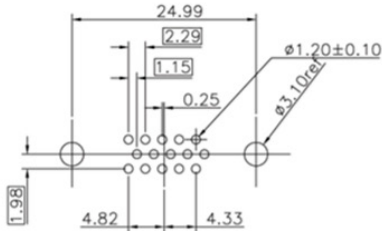
| No Of Contacts | |
|----------------|----|
| | 15 |
| | 26 |
| | 44 |

| Mounting Options | |
|---------------------------------------|---|
| UNC 4-40 Screw locks with Board locks | V |
| UNC 4-40 Clinch nuts with Board locks | X |
| M3 Clinch nuts with Board locks | L |

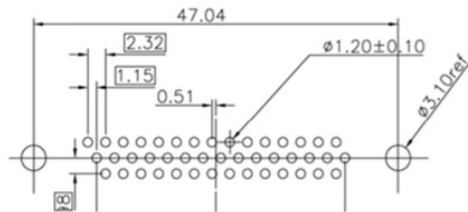
| Durability | |
|-------------------|---|
| 200 mating cycles | 4 |
| 500 mating cycles | 6 |

| Series | Part Number |
|-----------------|-------------|
| Male straight | 10090928 |
| Female straight | 10090929 |

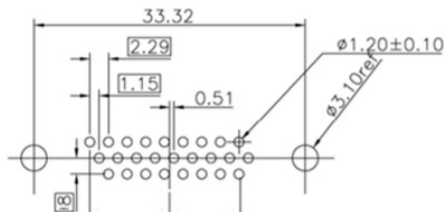
PCB LAYOUT



P.C.B LAYOUT (FOR 15P)



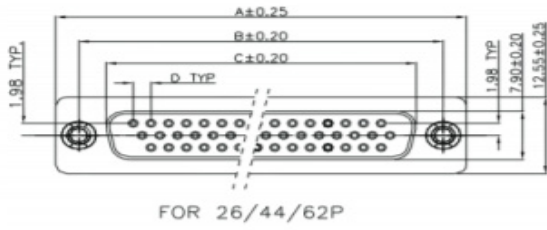
P.C.B LAYOUT (FOR 44P)



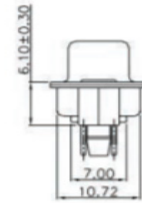
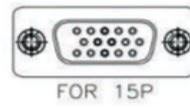
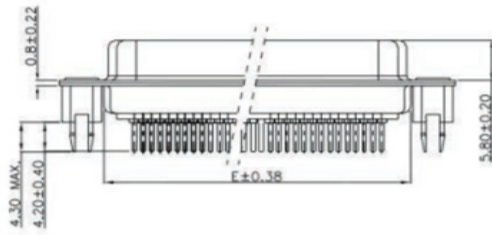
P.C.B LAYOUT (FOR 26P)

▶ D-Sub High Density Connectors

DIMENSION FOR MOUNTING OPTION 'X/L'

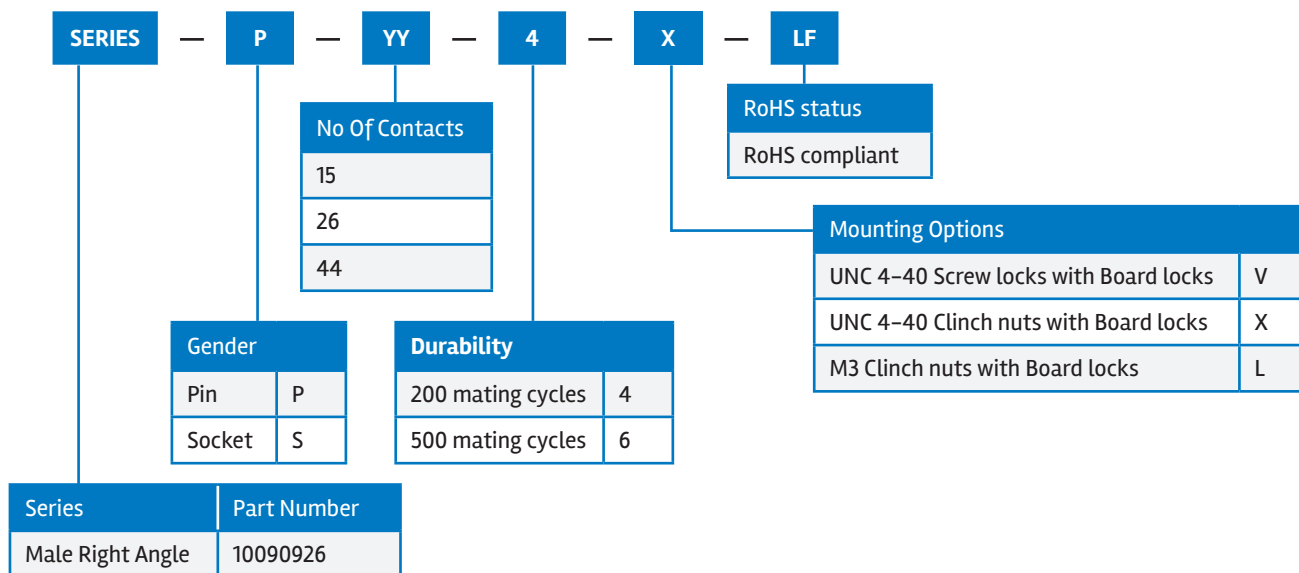


| Pos. | Part Number | A | B | C | D | E |
|------|------------------|-------|-------|-------|------|-------|
| 15P | 10090929-S15**LF | 30.81 | 24.99 | 16.33 | 2.29 | 19.10 |
| 26P | 10090929-S26**LF | 39.24 | 33.32 | 24.66 | 2.29 | 27.75 |
| 44P | 10090929-S44**LF | 53.04 | 47.04 | 38.38 | 2.29 | 41.30 |

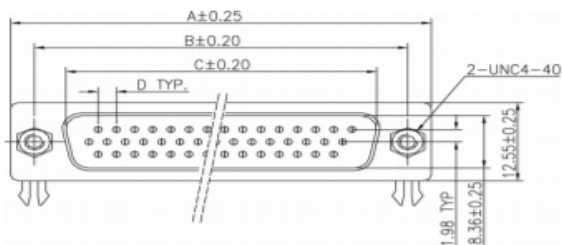


HIGH DENSITY D-SUB RIGHT ANGLE

ORDERING INFORMATION

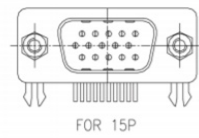
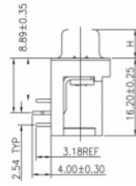
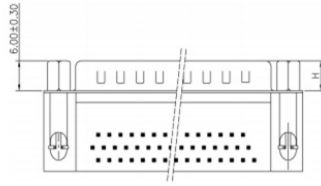


DIMENSION FOR MOUNTING OPTION 'V'

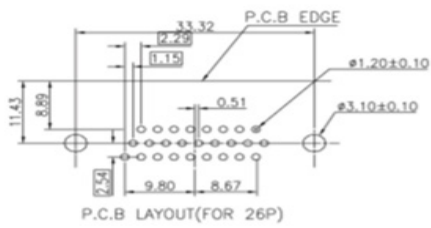
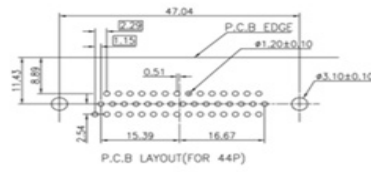
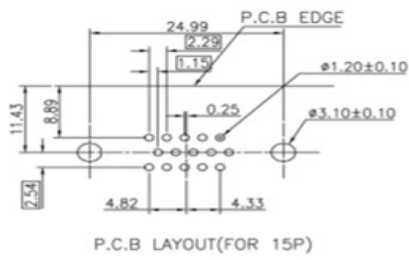


| Pos. | Part Number | A | B | C | D | E | F | H |
|------|------------------|-------|-------|-------|------|------|------|-----------------|
| 15P | 10090926-P15*VLF | 30.81 | 24.99 | 16.92 | 2.29 | 8.19 | 7.68 | 5.9 +0.25 -0 |
| 26P | 10090926-P26*VLF | 39.24 | 33.32 | 25.25 | 2.29 | 8.01 | 7.02 | 5.9 +0.25 -0 |
| 44P | 10090926-P44*VLF | 53.04 | 47.04 | 38.96 | 2.29 | 8.02 | 7.01 | 5.9 +0.25 -0 |

▶ D-Sub High Density Connectors

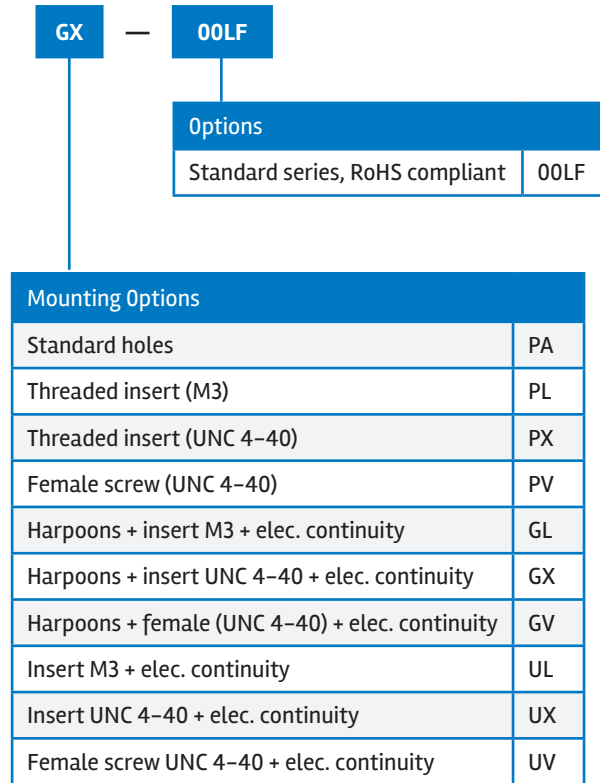
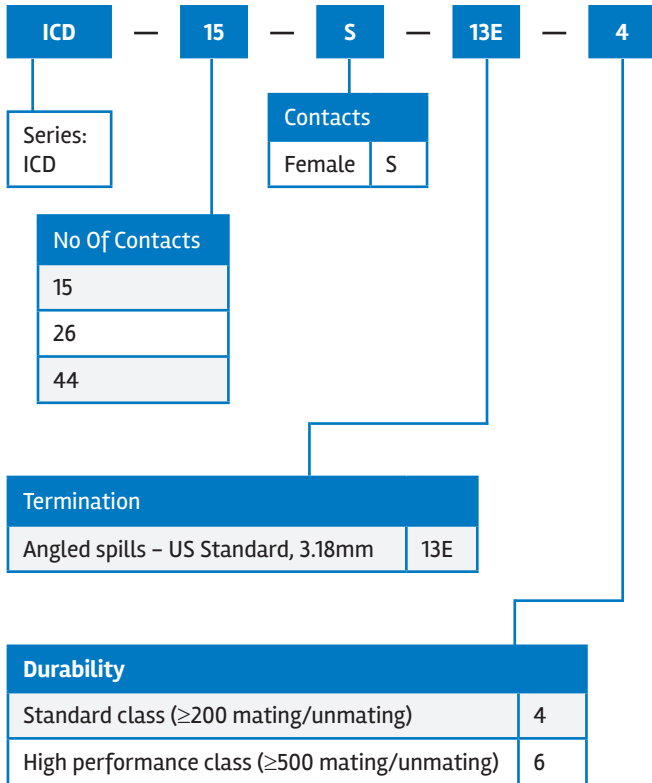


PCB LAYOUT

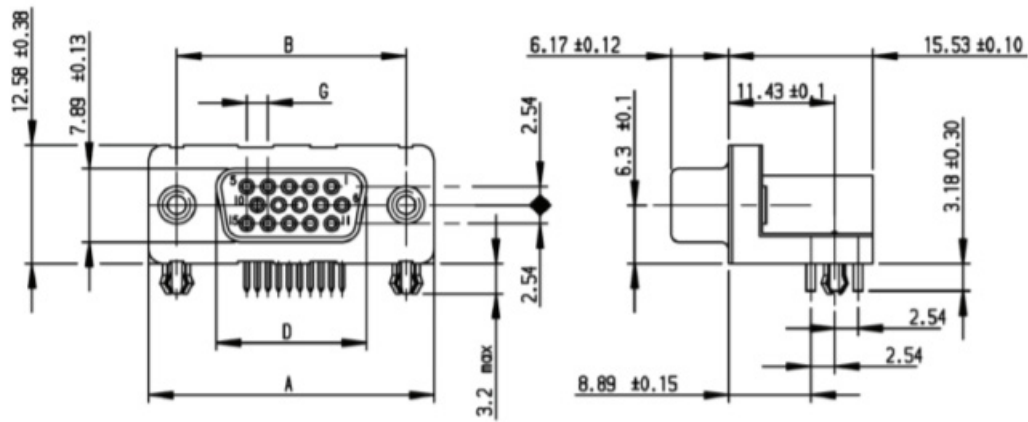


HIGH DENSITY D-SUB RIGHT ANGLE FEMALE

UL RECOGNISED FILE E 118235 (R)

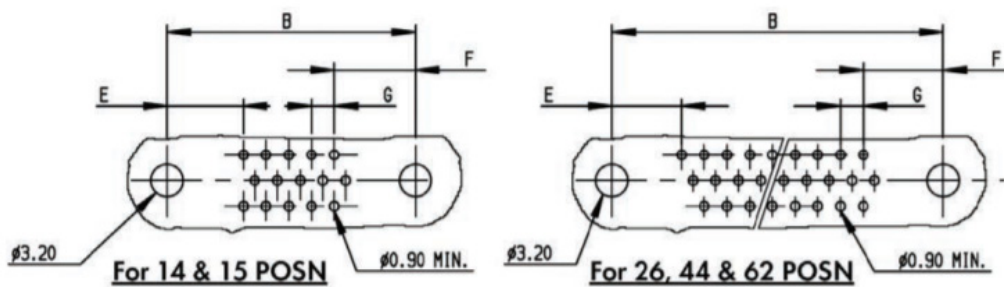


HIGH DENSITY D-SUB 3 ROWS (15/26/44 POS)



| Size | Dimensions | | | | | | |
|------|------------|----------|----------|----------|------|------|-------|
| | A + 0.38 | B + 0.12 | C + 0.10 | D + 0.25 | E | F | G |
| 15 | 30,81 | 24,99 | 16,96 | 16,21 | 7,68 | 8,19 | 2,285 |
| 26 | 39,14 | 33,32 | 25,18 | 24,54 | 7,02 | 8,01 | 2,285 |
| 44 | 53,03 | 47,04 | 39,12 | 38,25 | 7,01 | 8,02 | 2,285 |

PCB DRILLING DIMENSIONS



HIGH DENSITY D-SUB SOLDER BUCKET

ORDERING INFORMATION

| | | | | | |
|---------------|----------|-----------|----------|----------|-----------|
| SERIES | P | YY | 4 | A | LF |
|---------------|----------|-----------|----------|----------|-----------|

| | |
|-----------------------|--|
| No Of Contacts | |
| 15 | |
| 26 | |
| 44 | |

| | |
|---------------|---|
| Gender | |
| Pin | P |
| Socket | S |

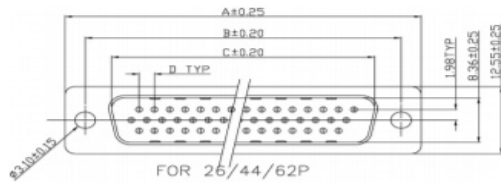
| | |
|-------------------|---|
| Durability | |
| 200 mating cycles | 4 |
| 500 mating cycles | 6 |

| | |
|--------------------|--|
| RoHS status | |
| RoHS compliant | |

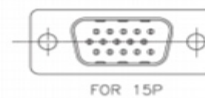
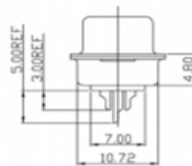
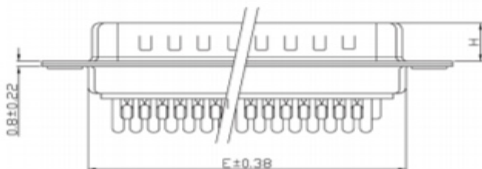
| | |
|-------------------------|---|
| Mounting Options | |
| Standard Hole | A |

| Description | Series |
|----------------------|----------|
| Male Solder Bucket | 10090769 |
| Female Solder Bucket | 10090770 |

DIMENSION



| Pos. | Part Number | A | B | C | D | E | H |
|------|------------------|-------|-------|-------|-------|------|-----------------|
| 15P | 10090769-P15*ALF | 30.81 | 24.99 | 16.92 | 19.10 | 2.29 | 5.9 +0.25 -0 |
| 26P | 10090769-P26*ALF | 39.24 | 33.32 | 25.25 | 27.75 | 2.29 | 5.9 +0.25 -0 |
| 44P | 10090769-P44*ALF | 53.04 | 47.04 | 38.96 | 41.30 | 2.29 | 5.9 +0.25 -0 |



ACCESSORIES (HOODS)

| Plastic: Core Range PNs | Metalised: Core Range PNs | Metallic: Core Range PNs |
|-------------------------|---------------------------|--------------------------|
| 86303637BLF | 863093C09MLF | 8655MH0901BLF |
| 86303638BLF | 863093C15MLF | 8655MH1501BLF |
| 86303639BLF | 863093C25MLF | 8655MH2501BLF |

| Part Description | Part Number |
|--|------------------|
| Dsub High density straight 15 way solder pin | 10090928-P154VLF |
| Dsub High density straight 26 way solder pin | 10090928-P264VLF |
| Dsub High density straight 44 way solder pin | 10090928-P444VLF |
| Dsub High density straight 15 way solder socket | 10090929-S154VLF |
| Dsub High density straight 26 way solder socket | 10090929-S264VLF |
| Dsub High density straight 44 way solder socket | 10090929-S444VLF |
| Dsub High density straight 15 way solder pin | 10090928-P154XLF |
| Dsub High density straight 26 way solder pin | 10090928-P264XLF |
| Dsub High density straight 44 way solder pin | 10090928-P444XLF |
| Dsub High density straight 15 way solder socket | 10090929-S154XLF |
| Dsub High density straight 26 way solder socket | 10090929-S264XLF |
| Dsub High density straight 44 way solder socket | 10090929-S444XLF |
| Dsub High density right angle 15 way solder pin | 10090926-P154VLF |
| Dsub High density right angle 26 way solder pin | 10090926-P264VLF |
| Dsub High density right angle 44 way solder pin | 10090926-P444VLF |
| Dsub High density right angle 15 way solder socket | ICD15S13E4GV00LF |
| Dsub High density right angle 26 way solder socket | ICD26S13E4GV00LF |
| Dsub High density right angle 44 way solder socket | ICD44S13E4GV00LF |
| Dsub High density right angle 15 way solder pin | 10090926-P154XLF |
| Dsub High density right angle 26 way solder pin | 10090926-P264XLF |
| Dsub High density right angle 44 way solder pin | 10090926-P444XLF |

PART NUMBER LIST

| Part Description | Part Number |
|--|------------------|
| Dsub High density right angle 15 way solder socket | ICD15S13E4GX00LF |
| Dsub High density right angle 26 way solder socket | ICD26S13E4GX00LF |
| Dsub High density right angle 44 way solder socket | ICD44S13E4GX00LF |
| Dsub High density 15 way solder bucket pin | 10090769-P154ALF |
| Dsub High density 26 way solder bucket pin | 10090769-P264ALF |
| Dsub High density 44 way solder bucket pin | 10090769-P444ALF |
| Dsub High density 15 way solder bucket socket | 10090770-S154ALF |
| Dsub High density 26 way solder bucket socket | 10090770-S264ALF |
| Dsub High density 44 way solder bucket socket | 10090770-S444ALF |

D-Sub Pin-in-Paste Connectors

The D-Sub connectors are one of the most popular I/O solutions, addressing segments such as Telecommunications, Industrial, Instrumentation and Medical. Thanks to this very complete D-Sub range, Amphenol FCI is one of the most experienced suppliers. Now we are at the forefront once again in bringing you Pin-in-Paste (Through Hole Reflow) versions.

Pin-in-Paste technology (PiP) allows the use of Through Hole product in SMT manufacturing processes. The connectors are automatically or manually placed on the board, and then soldered in the same operation as the SMT components.

Thanks to the Pin-in-Paste technology, the mechanical strengths of the Through Hole Technology soldering is maintained – still an important requirement for connectors nowadays in many industrial or telecom applications.



FEATURES

- Through hole pins, HT insulator and metal pegs design followed in PiP
- Unlike SMT, PiP requires no specific and complex design in order to achieve co-planarity
- Pin-in-Paste connectors can be automatically positioned on the board using automatic pick and place processes (vacuum nozzle or gripper) thanks to an improved true positioning
- Less control time after reflow process and less re-work time for repairing
- Same PCB layouts and hole diameters of signal hole contacts are maintained
- Pin-in-Paste connector has a more stable process than wave soldering as it does not need constant adjust once set up
- Thorough hole technology is maintained in Pin-in-Paste

BENEFITS

- Supports Reflow soldering
- 20% lower price compared to SMT
- Time-saving
- Time-saving
- Fast and easy switchover from a wave soldering to a reflow process
- Higher quality
- Higher robustness in Pin-in-Paste than SMT

CONNECTOR DESIGN

OVERVIEW

In order to achieve optimum soldering results, Amphenol FCI launches dedicated Pin-in-Paste connectors. These connectors are fully adapted to Pin-in-Paste processing in all aspects, including plastic material, metal peg, housing design, pin length, and packaging.

PLASTIC MATERIAL

The Amphenol's FCI D-Sub Pin-in-Paste connectors are molded in high temperature plastic able to withstand a temperature exposure up to 260°C peak for 10 to 30 seconds in a convection infrared or vapor-phase reflow oven.

METAL PEG

To ensure electrical continuity and low insertion forces, a specific metal peg has been designed. These metal pegs significantly increase the connection robustness after soldering.

HOUSING DESIGN

Standoffs are specifically designed around the metal pegs to avoid any paste interaction between the back housing and the PCB. Consequently, the paste can spread around the metal peg, keeping the connector in its correct and original position.

PIN LENGTH

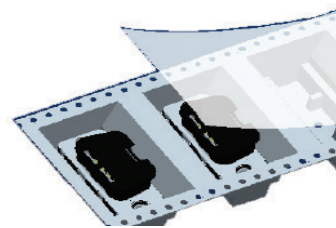
The termination length beyond the bottom of the PCB is shorter than traditional solder-to-board products. Thus, the risk of pushing out the solder paste when setting the pin into the PCB hole is very much limited. The solder paste will not stick on the pin tip or even fall off completely, but stays around the pin for free flow during soldering. Amphenol FCI uses pin lengths corresponding to the PCB thickness +0.4mm. For a 1.6mm PCB thickness, the pin length is 2.0mm.



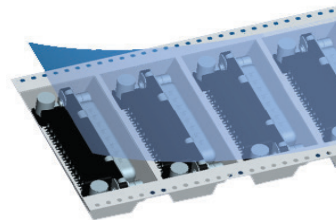
PLASTIC MATERIAL

The Amphenol's FCI D-Sub connectors can be packaged in different ways depending on existing installed processes.

- Tray Packaging
 - Ideal for manual placing and low volume applications



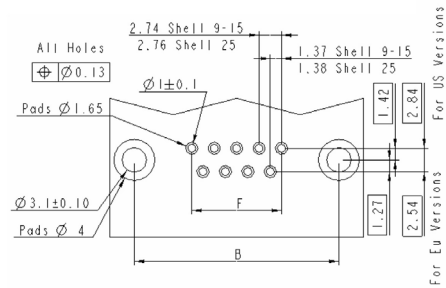
- Tape and Reel packaging
 - With or without pick-up caps: fully compatible with automatic pick and place processes like grippers or vacuum nozzles, for medium and high volume applications



ADDITIONAL INFORMATION

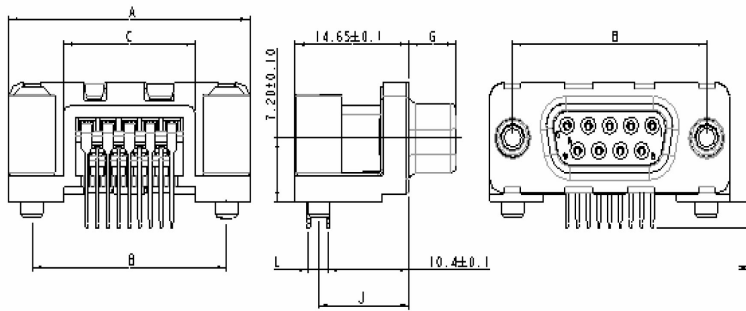
RECOMMENDED LAYOUTS AND PAD DIMENSIONS

| Contacts | B ^{±0.10} | F | G |
|----------|--------------------|-------|-------|
| 09 | 24.99 | 10.96 | 8.22 |
| 15 | 33.32 | 19.18 | 16.44 |
| 25 | 47.04 | 33.12 | 30.36 |
| 37 | 63.50 | 49.68 | 46.92 |

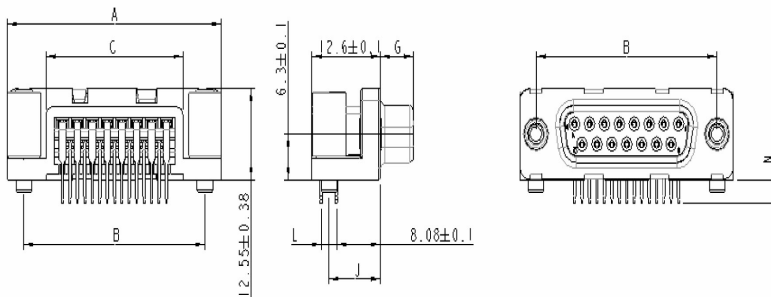


SPECIFIC DIMENSIONS

Europe Style



US Style



| Contacts | | A ^{±0.38} | B ^{±0.12} | C ^{±0.10} | G ^{-0/+0.25} | J ^{±0.10} | | L ^{±0.10} | | N ^{±0.30} | |
|----------|---|--------------------|--------------------|--------------------|--------------------------|--------------------|-----------------|--------------------|-----------------|--------------------|------|
| | | | | | | Termination 13A | Termination 33E | Termination 13A | Termination 33E | Termination 13 | |
| | | | | | | | | | | 13A/33E | 13B |
| 09 | P | 30.81 | 24.99 | 16.96 | 5.90 ^{-0/+0.15} | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| | S | 30.81 | 24.99 | 16.96 | 6.05 | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| 15 | P | 39.14 | 33.32 | 25.18 | 5.90 ^{-0/+0.15} | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| | S | 39.14 | 33.32 | 25.18 | 6.05 | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| 25 | P | 53.03 | 47.04 | 39.12 | 5.70 | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| | S | 53.03 | 47.04 | 39.12 | 6.05 | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| 37 | P | 69.32 | 63.50 | 55.68 | 5.70 | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |
| | S | 69.32 | 63.50 | 55.68 | 6.05 | 11.67 | 9.50 | 2.54 | 2.84 | 2.00 | 2.90 |

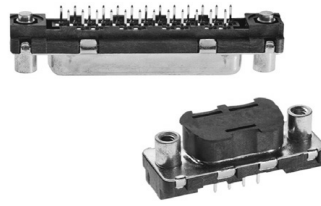
Dimensions in mm

▶ D-Sub Pin-in-Paste Connectors

DELTA D SIGNAL STRAIGHT PIN-IN-PASTE

In compliance with DIN 41652:

- Reflow type: JSTD-020C
- Packaging: IEA-481-B
- Plating: BELLCORE CO GR-1217



TECHNICAL INFORMATION

MATERIALS

- Shell: Steel, nickel plated
- Housing: Thermoplastic HT UL94V-0
- Contacts: Copper alloy
- Active Part: Gold over nickel
- Termination: Matt tin over nickel
- Accessories: Brass, bright tin over nickel

MECHANICAL PERFORMANCE

- Mating/unmating cycles: 500 min.

ELECTRICAL PERFORMANCE

- Current rating: 5A
- Insulation resistance: $\geq 5000M\Omega$
- Contact resistance: $< 10m\Omega$
- Dielectric withstanding voltage: 1000V RMS

SPECIFICATIONS

- Product lead free in accordance to RoHS 2002/EC/95

ENVIRONMENTAL

- Operating Temperature Range: $-55^{\circ}C$ to $125^{\circ}C$

BASE PART NUMBER

D **09** **P** **24A** **6** **RV** **12** **LF** RoHS compatible
EU directive 2002/95/EC

Series

| Number of Contacts | |
|--------------------|--|
| 09 | |
| 15 | |
| 25 | |
| 37 | |
| 50 | |

| Contacts | X |
|----------|---|
| Pin | P |
| Socket | S |

High performance class
(> 500 mating/unmating)

| Packaging | XX |
|--|----|
| Tray for manual positioning | 09 |
| Tape and Reel for automatic pick and place | 12 |
| Tape and Reel and pick-up cap for vacuum nozzle device (not available in 37 and 50 ways) | 22 |

| Termination | | | | |
|------------------|-----------------|--------------------|---------------|-----|
| Type | Footprint/Pitch | Termination Length | PCB Thickness | XXX |
| Straight version | 6.0/2.84mm | 2.0mm | 1.6mm | 24A |
| Straight version | 6.0/2.84mm | 2.9mm | 2.4mm | 24B |

| Mounting Options | | XX |
|---|----|----|
| Insert M3 + metal peg + electrical continuity | RL | RL |
| Insert UNC 4-40 + metal peg + electrical continuity | RX | RX |
| Female screw UNC 4-40 + metal peg + electrical continuity | RV | RV |

RL
RX

RV

D-Sub Pressfit Connectors

Amphenol’s FCI D-Sub connectors are part of an industry standard for applications requiring robust and reliable connectors. These proven D-Sub connectors are one of the most popular Input/Output interconnects, addressing a wide variety of applications in Telecommunications, Data, Consumer Industrial, Military, Instrumentation and Medical. Since many years Amphenol FCI has been offering a wide range of D-Sub connectors to meet various design requirements including those in harsh environment.

Amphenol FCI offers Standard density and Mixed power connectors in press fit termination. In SMT (Surface Mount Technology) manufacturing process, this Press-fit series connectors help to save the cost of an additional wave soldering. The “eye of the needle” termination combined with a special flat rock design (easy application by pressure on insulator) make this product line very attractive.



TARGET MARKETS



FEATURES

- Connectors are press-fitted into the PCB
- Flat rock contact design
- Eye of the needle termination
- Same connectors are compatible with PCB thicknesses of 1.6mm and 2.4mm
- Solder less board locking
- Press-fit boardlocks

BENEFITS

- Saves wave soldering cost
- Easy to mount
- Ensures retention in PCB
- Flexibility in application
- Solder less grounding
- Provides additional mechanical strength

RIGHT ANGLE PRESS FIT

UL® **UL RECOGNISED FILE E66906**



ORDERING INFORMATION

| | | | | | | |
|----------|-----------|----------|------------|----------|-----------|-------------|
| D | 25 | P | 82C | 4 | PA | 00LF |
|----------|-----------|----------|------------|----------|-----------|-------------|

Series:

| Number of Contacts | |
|--------------------|--|
| 09 | |
| 15 | |
| 25 | |
| 37 | |
| 50* | |

| Contacts | |
|----------|---|
| Pin | P |
| Socket | S |

| Durability | |
|---|---|
| Standard class (≥200 mating/unmating) | 4 |
| High performance class (≥500 mating/unmating) | 6 |

| RoHS Status | |
|---------------------------|------|
| Standard, RoHS compatible | 00LF |

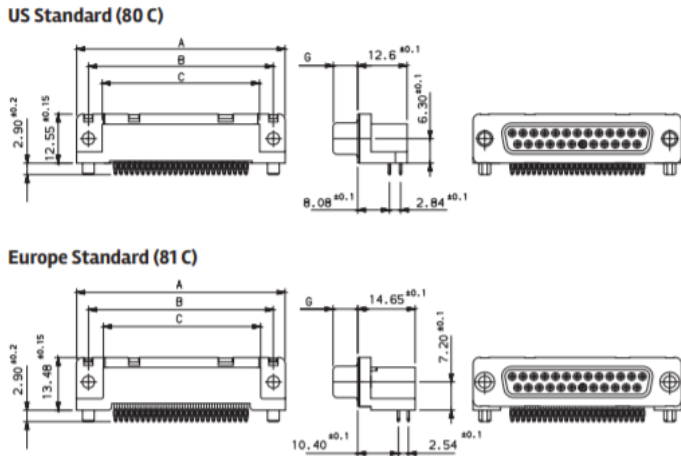
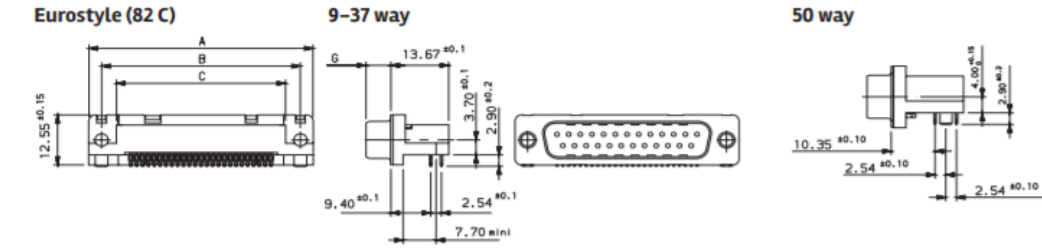
| Mounting Options | |
|----------------------------------|----|
| Standard hole | PA |
| Threaded insert M3 | PL |
| Threaded insert UNC 4-40 | PX |
| Female screw UNC 4-40 | PV |
| Harpoons + insert M3 | GL |
| Harpoons + insert UNC 4-40 | GX |
| Harpoons + female screw UNC 4-40 | GV |

| Termination | | |
|------------------|--|------|
| Type | Footprint/Pitch | Code |
| Eurostyle | 9.4/2.54 – 9 to 37 way 10.3/2.54 – 50 way | 82C |
| US standard | 8.08/2.84 – 9 to 37 way | 80C |
| Europe standard* | 10.4/2.54 – 9 to 37 way | 81C |

*Only for Eurostyle version Preferred Option

D-Sub Pressfit Connectors

SPECIFIC DIMENSIONS



| | | A±0,38 | B±0,12 | C±0,10 | G-0/+0,25 |
|-----|---|--------|--------|--------|---------------|
| 09 | P | 30.81 | 24.99 | 16.96 | 5.90 -0/+0.15 |
| | S | 30.81 | 24.99 | 16.96 | 6.05 |
| 15 | P | 39.14 | 33.32 | 25.18 | 5.90 -0/+0.15 |
| | S | 39.14 | 33.32 | 25.18 | 6.05 |
| 27 | P | 53.03 | 47.04 | 39.12 | 5.70 |
| | S | 53.03 | 47.04 | 39.12 | 6.05 |
| 37 | P | 69.32 | 63.50 | 55.68 | 5.70 |
| | S | 69.32 | 63.50 | 55.68 | 6.05 |
| 50* | P | 67.10 | 61.11 | 54.10 | 5.70 |
| | S | 67.10 | 61.11 | 54.10 | 6.05 |

*Only for Eurostyle version Preferred Option

SPECIFIC DIMENSIONS

- Application by pressure on insulator
- D-Sub insertion kit: 8646 3064 01
- Eye of the needle design

METALLIZED HOLE DIMENSIONS

| | | | Press-fit Contacts | Press-fit Harpoons |
|------------------------------------|----------|----------------------------|----------------------------------|----------------------------------|
| PCB hole definition (note 1 and 2) | | Drill diameter | Ø 1.15 ref (note 3) | Ø 3.22 ref (note 3) |
| | | Drilled hole | Ø 1.18 - 1.2 | Ø 3.19 - 3.25 |
| | | Copper plating | 25µm min. (recommended 50µ max.) | 25µm min. (recommended 50µ max.) |
| | non RoHS | Tin-lead plating | 15µm max. (recommended 5µ min.) | 15µm max. (recommended 5µ min.) |
| | | Finish hole (after reflow) | Ø 0.94 - 1.09 | Ø 3.02- 3.20 |
| | RoHS | Tin plating | 0.8 to 1.2µm | 0.8 to 1.2µm |
| | | Finish hole (after reflow) | Ø 1.00 - 1.09 | Ø 3.08 - 3.20 |

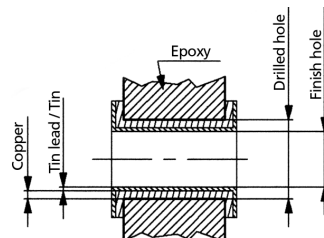
Note 1: These dimensions must be respected to ensure press-fit pin performance

Note 2: According to IEC-352-S specification

Note 3: Vital requirement for press-fit pin performance

PRESS-FIT PERFORMANCE

| | Press-fit Contacts | Press-fit Harpoons |
|------------------|--------------------|--------------------|
| Insertion force | ≤100 N | ≤120 N |
| Extraction force | ≥30 N | ≥30 N |



▶ D-Sub Pressfit Connectors

STRAIGHT PRESS-FIT



UL RECOGNISED FILE E E66906

- This new Press-fit connectors eliminate soldering process and saves cost
- Compatible with PCB thicknesses of 1.60 mm & 2.40 mm
- The “eye of the needle” termination combined with a special flat rock design (easy application by pressure on insulator) make this product line very attractive



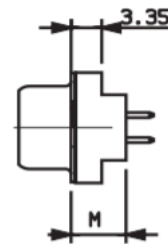
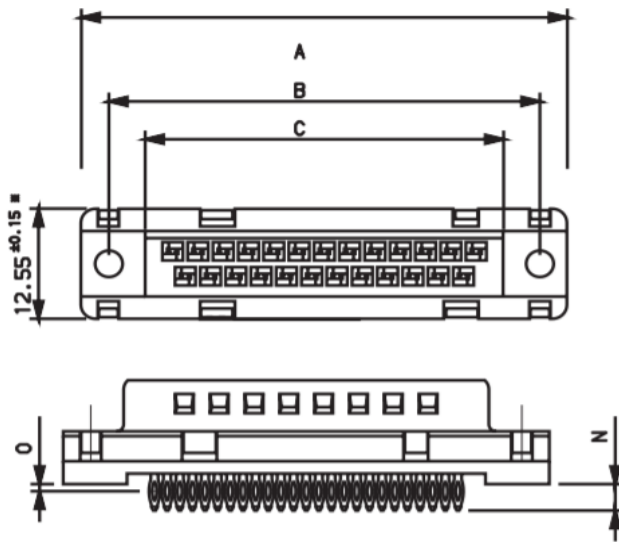
ORDERING INFORMATION

| | | | | | | | | |
|--|-----------|----------|------------|--------------------------------------|-----------|---|---------------------------|--------|
| D | 25 | P | 91C | 4 | PA | 00LF | RoHS Status | |
| Series | | | | | | | Standard, RoHS compatible | 00LF ✓ |
| Number of Contacts | | | | | | Mounting Options | | |
| 09 | | | | | | Standard hole | PA | |
| 15 | | | | | | Threaded insert M3 | PL | |
| 25 | | | | | | Threaded insert UNC 4-40 | PX ✓ | |
| 37 | | | | | | Female screw UNC 4-40 | PV ✓ | |
| 50 | | | | | | Harpoons + insert M3 + elec. continuity | GL | |
| | | | | | | Harpoons + insert UNC 4-40 + elec. continuity | GX | |
| | | | | | | Harpoons + female screw UNC 4-40 + elec. continuity | GV | |
| | | Contacts | | Durability | | | | |
| | | Pin P | | Standard class ≥200 mating/ unmating | | 4 | | |
| | | Socket S | | High performance mating/unmating) | | 6 | | |
| Termination Type | | | | | | | | |
| Type | | | | | | | Code | |
| Press-fit suitable for PCB thickness 1.6mm & 2.4mm – Europe Standard | | | | | | | 91C | |
| Press-fit suitable for PCB thickness 1.6mm & 2.4mm – Low Profile | | | | | | | 90C | |

Preferred Option ✓

► D-Sub Pressfit Connectors

SPECIFIC DIMENSIONS



*For 50 contacts: 15.34 ± 0.15
For other dimensions, consult us

| Size | A ± 0.38 | B ± 0.12 | C ± 0.10 |
|------|--------------|--------------|--------------|
| 09 | 30.81 | 24.99 | 16.96 |
| 15 | 39.14 | 33.32 | 25.18 |
| 25 | 53.03 | 47.04 | 39.12 |
| 37 | 69.32 | 63.50 | 55.68 |
| 50 | 66.93 | 61.11 | 53.11 |

| Termination Type | M ± 0.3 | N ± 0.3 | O ± 0.2 |
|------------------|-------------|-------------|-------------|
| 90C | 5.60 | 3.40 | 1.20 |
| 91C | 6.00 | 3.00 | 0.80 |

PRESS-FIT FEATURES

- Application by pressure on insulator
- D-Sub insertion kit: 8646 3064 01
- Eye of the needle design

METALLIZED HOLE DIMENSIONS

| | | Press-fit Contacts | Press-fit Harpoons |
|--------------------------------------|----------|----------------------------|----------------------------------|
| P.C.B hole definition (note 1 and 2) | | Drill diameter | Ø 1.15 ref (note 3) |
| | | Drilled hole | Ø 1.18 - 1.2 |
| | | Copper plating | 25µm min. (recommended 50µ max.) |
| | non RoHS | Tin-lead plating | 15µm max. (recommended 5µ min.) |
| | | Finish hole (after reflow) | Ø 0.94 - 1.09 |
| | RoHS | Tin plating | 0.8 to 1.2µm |
| Finish hole (after reflow) | | Ø 1.00 - 1.09 | |

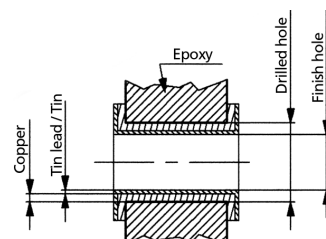
Note 1: These dimensions must be respected to ensure press-fit pin performance

Note 2: According to IEC-352-S specification

Note 3: Vital requirement for press-fit pin performance

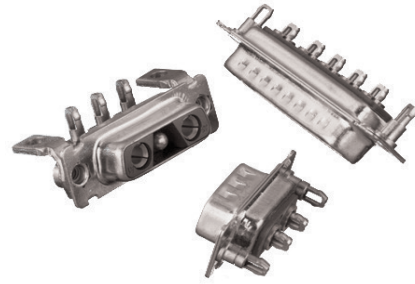
PRESS-FIT PERFORMANCE

| | Press-fit Contacts | Press-fit Harpoons |
|------------------|--------------------|--------------------|
| Insertion force | ≤100 N | ≤120 N |
| Extraction force | ≥30 N | ≥30 N |



▶ D-Sub FULL POWER DW SERIES

FULL POWER RIGHT ANGLE AND STRAIGHT PRESS-FIT



ORDERING INFORMATION

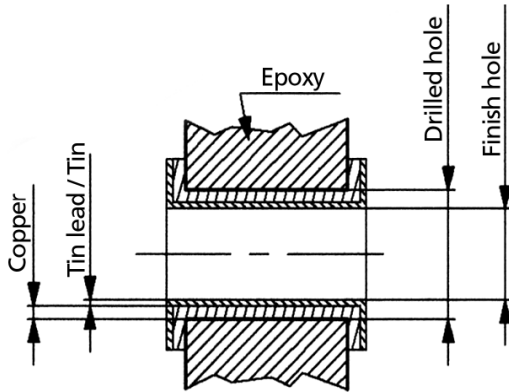
| | | | | | | | | | | | | | |
|------------------|-------------------------------------|----------|----------|----------|----------|---|------------|--|----------|-------------|-----------------------------------|---|---|
| D | E | L | 2 | V | 2 | P | 93C | 5 | G | 40LF | | | |
| Series | Shell Size (tin plated): E, A, B, C | | 2 | V | 2 | | | | | | | | |
| | | | 3 | V | 3 | | | | | | | | |
| | | | 3 | W | 3 | | | | | | | | |
| | | | 5 | W | 5 | | | | | | | | |
| | | | 8 | W | 8 | | | | | | | | |
| Front Accessory | | | Layouts | | | Contacts | | Power Contacts | | | | | |
| | Blank | L | O | I | V | Pin | P | Fitted with power contacts 30A RoHS compatible | | 30LF | | | |
| Straight version | | X | X | | X | Socket | S | Fitted with power contacts 40A RoHS compatible | | 40LF | | | |
| Right angled | X | X | X | | X | Termination Type | | PCB Accessory | | | | | |
| | | | | | | Straight version | | M | | | G | A | |
| | | | | | | Right angled / Europe standard | | Straight version | | | | X | |
| | | | | | | Right angled / US standard (5W1, 9W4 non available) | | Right angled | | | X | | X |
| | | | | | | Durability | | X: Available | | | A: Without accessory | | |
| | | | | | | 200 mating/unmating | | G: Harpoon used for PCB thickness from 1.6mm | | | M: Metal brackets without harpoon | | |
| | | | | | | 500 mating/unmating | | M | | | A | | |
| | | | | | | | | G | | | M | | |

X: Available
 Blank: without accessory
 L: Threaded insert M3
 O: Threaded insert UNC 4-40
 I: Female screw UNC M3
 V: Female screw UNC 4-40

► D-Sub Pressfit Connectors

SPECIFIC DIMENSIONS

METALIZED HOLE DIMENSIONS



| Termination Type | | Press-fit Contacts | Press-fit Harpoons | | |
|--------------------------------------|----------|----------------------------|---|---|-----------------------------|
| P.C.B hole definition (note 1 and 2) | | Drill diameter | $\varnothing 3.22^{+0.03}$ | $\varnothing 3.22^{+0.03}$ | $\varnothing 3.22 \pm 0.03$ |
| | | Drilled hole | $\varnothing 3.19 - 3.25$ | $\varnothing 3.19 - 3.25$ | |
| | | Copper plating | 25 μ m min. (recommended 50 μ max.) | 25 μ m min. (recommended 50 μ max.) | |
| | non RoHS | Tin-lead plating | 15 μ m max. (recommended 5 μ min.) | 15 μ m max. (recommended 5 μ min.) | |
| | | Finish hole (after reflow) | $\varnothing 3.02 - 3.20$ | $\varnothing 3.02 - 3.20$ | |
| | RoHS | Tin plating | 0.8 to 1.2 μ m | 0.8 to 1.2 μ m | |
| | | Finish hole (after reflow) | $\varnothing 3.08 - 3.20$ | $\varnothing 3.08 - 3.20$ | |

Note 1: These dimensions must be respected to ensure press-fit pin performance

Note 2: According to IEC-352-S specification

Note 3: Vital requirement for press-fit pin performance

PRESS-FIT PERFORMANCE

| | Press-fit Contacts | Press-fit Harpoons |
|------------------|--|--|
| Insertion force | ≤ 200 N (average insertion 160 N) | ≤ 200 N (average insertion 160 N) |
| Extraction force | ≥ 30 N | ≥ 30 N |

► D-Sub Pressfit Connectors

TECHNICAL INFORMATION

PHYSICAL CHARACTERISTICS

- Insulator Material: PBT color black
- Contact Material: Phosphor bronze
- Grounding Device Material: Brass
- Accessories: Brass

ELECTRICAL CHARACTERISTICS

- Maximum Rating Current: 5A at 20°C / 2.5A at 70°C
- Nominal Current: 5A (Standard conditions)
- Contact Resistance:
 - Straight terminations: <10mΩ
 - Right Angled Termination:
 - <25mΩ for 9 To 37 way
 - <35mΩ for 50 way
- Voltage Proof: >1000 V.r.m.s.
- Rated Voltage: 300 V.r.m.s.
- Insulation Resistance: >5000mΩ
- Creepage and Clearance Distance: >1mm
- Average Wiping Length: 2mm

MECHANICAL CHARACTERISTICS

- RETENTION AGAINST TORQUE:
 - Threaded insert: 0.7 N.m Maximum from front side
 - Threaded insert: 0.3 N.m maximum from rear side
0.25N.m minimum from rear side
 - Insert L: Threaded M3
 - Insert X: Threaded UNC 4.40
 - Female Screw Lock: 0.5 N.m max. from front side
 - Female Screw V Threaded UNC 4.40
 - Female Screw I Threaded M3
- Insertion and Withdrawal Force: <n x 3.40 N (n number of cts)
- Gauge Retention Force: >0.20 N (Gauge PM)
- Thickness Gauge Ø: 0.99±0.005 / Surface Roughness: Ra=0.10µ
mini- 0.25µ maxi
- Contact Retention In Insulator:
 - Mini 16N for straight contact
 - Mini 20N for right angled contact
- Vibrations: 10-2000Hz / 1.5 mm - 20g / 3 x 2 HRS
- Interruption: <1µs (Not applicable for PL3)
- Shock: ACC. HALF SINE 50g- 11m.s-6x3 Shocks
- Interruption: <1µs

PACKAGING

- Tray & Bulk pack (jack connectors, plug connector components)
- Tape & Reel (right angle Pin-in-Paste jack connectors)
- Single Kit (plug connector components)
- Carton (cable assemblies)

TARGET MARKETS/APPLICATIONS



Asymmetric Digital Subscriber Line (ADSL)
Base Station
Switching
Transmission



Set-top Box



Desktop and Laptop
Storage System
Router and Server



Automotive Diagnostics
Control Drives
Energy Meter
Gaming Machine
Test Equipment
Office Automation
POS & Handheld terminal
Power Supplies
Parking Meter
Printer and Copier
Renewable Energy
Robotics
Surveillance Camera
Avionics



Medical Instrument



Military Equipment

INODSUBPFC092IEA4

D-Sub Mixed and Full Power DW Series

Amphenol's FCI D-Sub connectors are part of an industry standard for applications requiring robust and reliable connectors. These proven D-Sub connectors are one of the most popular Input/Output interconnects, addressing a wide variety of applications in Telecommunications, Data, Consumer, Industrial, Military, Instrumentation and Medical. Since many years Amphenol FCI has been offering a wide range of D-Sub connectors to meet various design requirements including those in harsh environment.

Amphenol FCI offers full power and mixed power versions which has been specifically developed for power applications in industrial and telecom market segment. PC board connectors are delivered with preloaded power contacts (10 - 40A). Cable crimp and solder power contacts are delivered with colour code plastic clips for an easy wire gauge identification.



TARGET MARKETS



FEATURES

- Power connectors available in various layouts from 2V2 to 36W4
- Power connectors available in full power and in mixed layout (signal + power)
- Contacts available from 10A to 75A
- Available in Straight, Angle, Solder Bucket, Crimp terminations
- Various PCB and Panel mounting accessory options available
- Hoods available in plastic, metalized and metallic form with locking screws
- Lead-free and RoHS compliant

BENEFITS

- Various layout options with in the standards shell size
- Can meet both standard and Power connector requirements
- Can meet medium to high power requirements
- Support both PCB & Cable mounting requirements
- Wide variety of choices for secure connection
- Supports cable connection; Prevents risks of pulling up and accidental un-mating
- Meets environmental, health and safety requirements

GENERAL CHARACTERISTICS

LAYOUTS

- Male insulator front view

| Shell size | | Layout |
|------------|------|--------|
| E | 5W1 | |
| | 11W1 | |
| A | 7W2 | |
| | 3W3 | |
| | 3V3 | |
| B | 21W1 | |
| | 17W2 | |
| | 13W3 | |
| | 9W4 | |
| | 5W5 | |

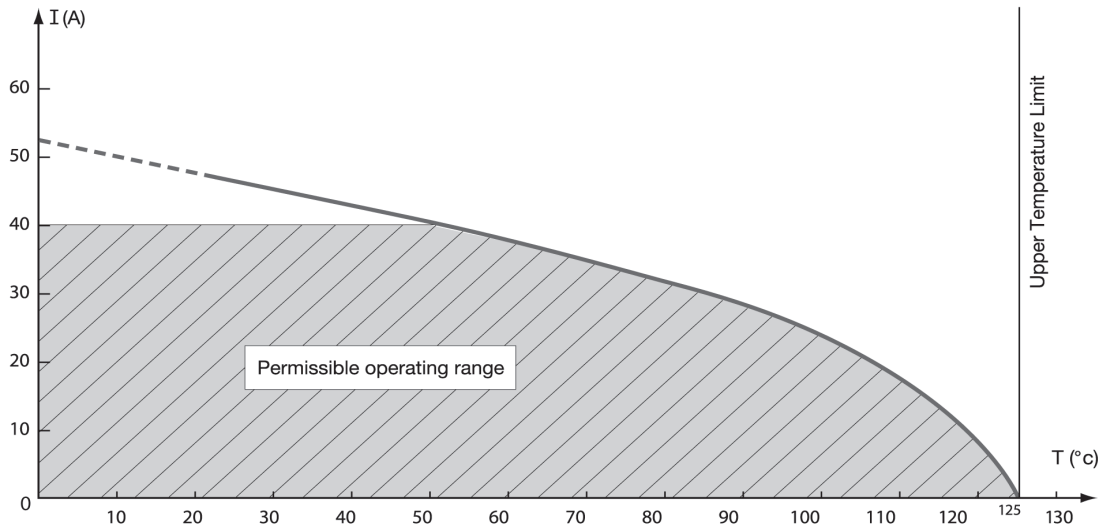
| Shell size | | Layout |
|------------|-------|--------|
| C | 25W3 | |
| | 21WA4 | |
| | 27W2 | |
| | 8W8 | |
| D | 47W1 | |
| | 24W7 | |
| | 36W4 | |

- Standard contacts
- Coaxial and power contacts

DERATING CURVES

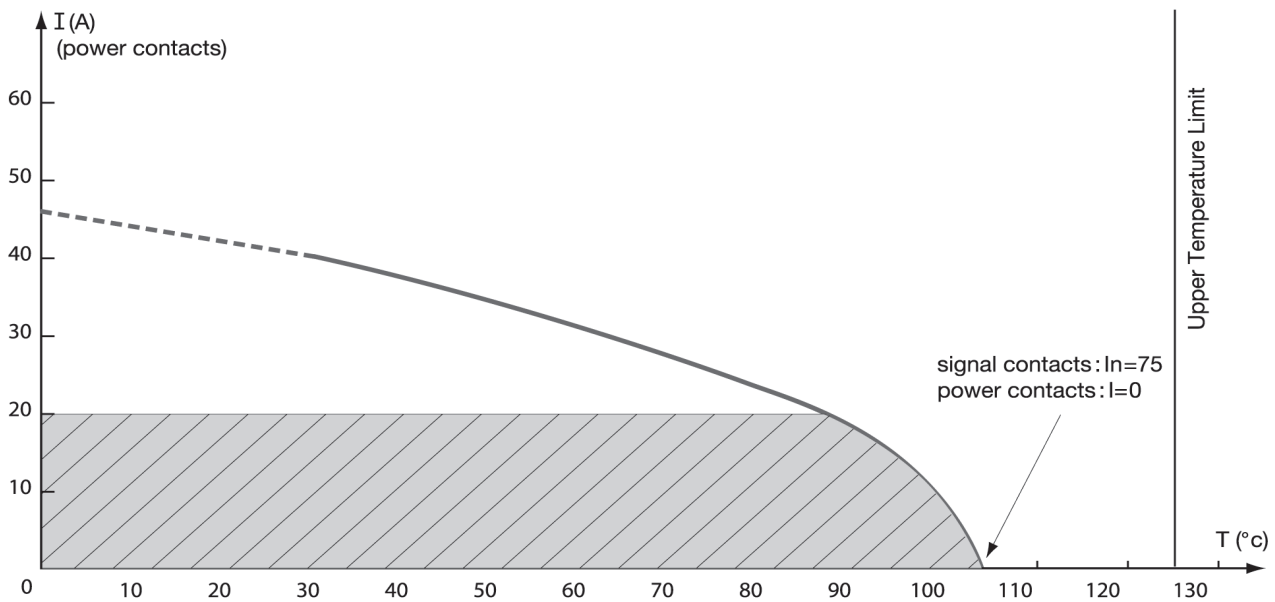
DERATING CURVE ON CONNECTOR DC8W8SA00LF

- Fitted with contacts 8638PSC4005LF (female) (I=40A)



DERATING CURVE ON CONNECTOR DB13W3PA00LF

- Fitted with power contacts 8638PPS2005LF (I=20A)
(I signal contacts=7,5A)

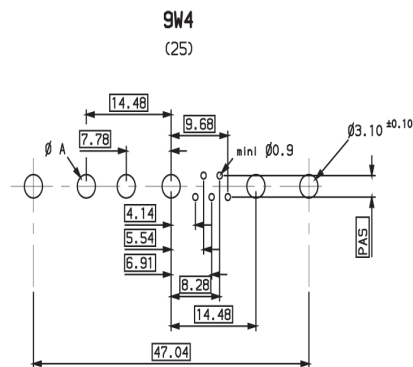
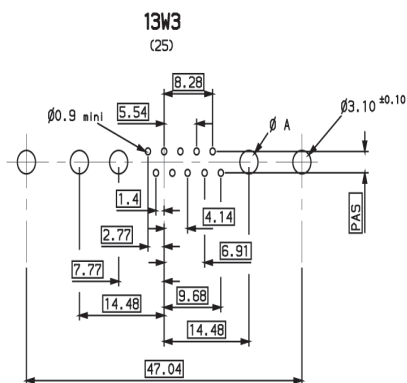
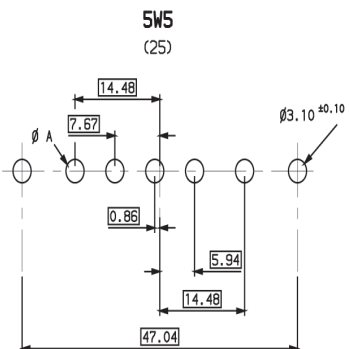
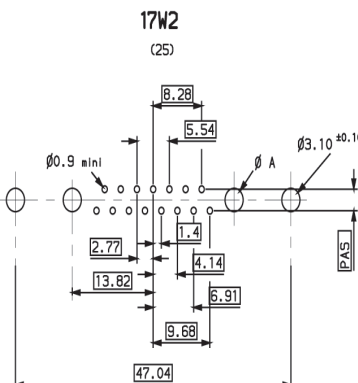
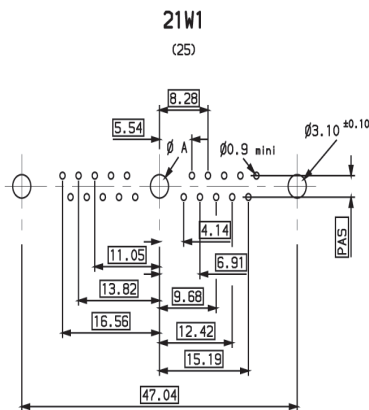
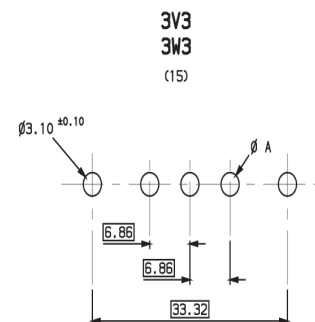
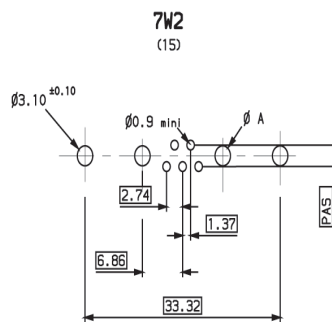
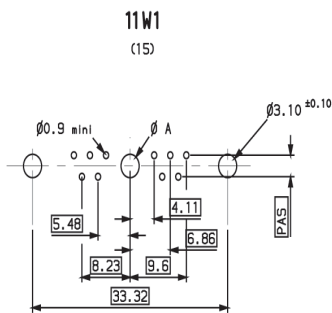
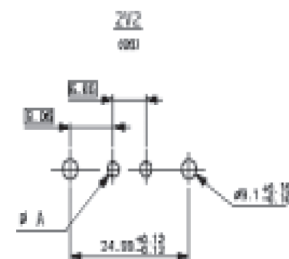
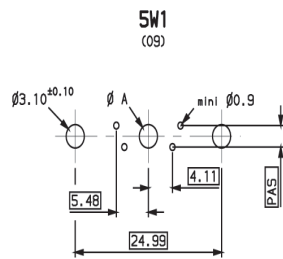


D-Sub Mixed and Full Power DW Series

DIMENSIONS

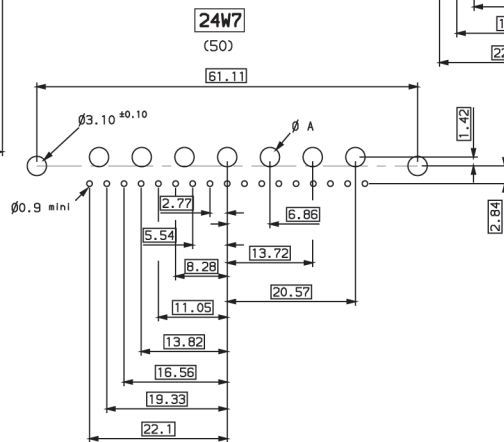
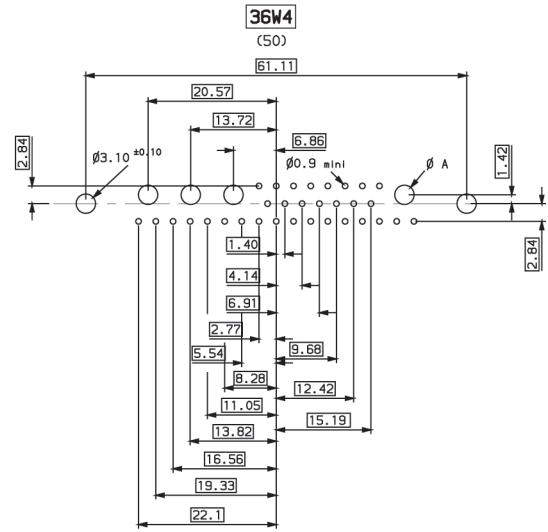
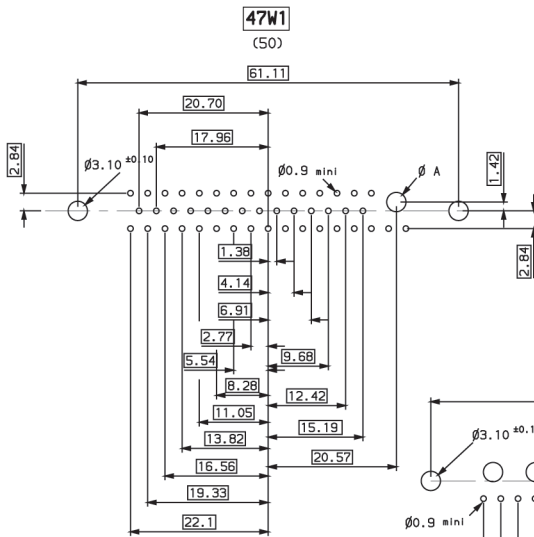
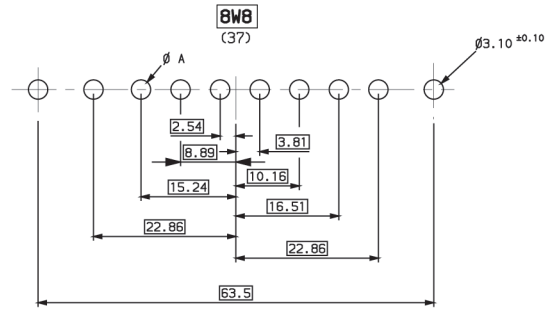
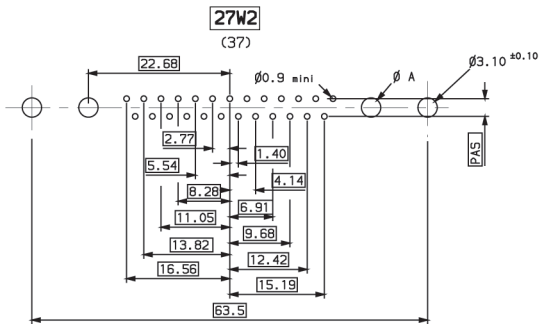
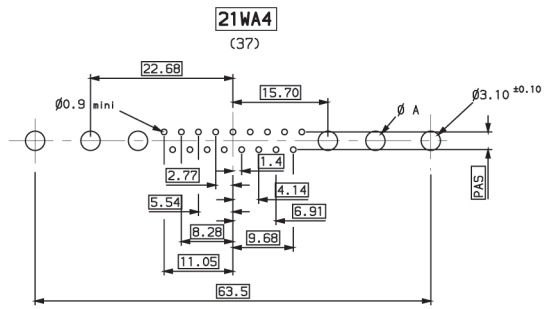
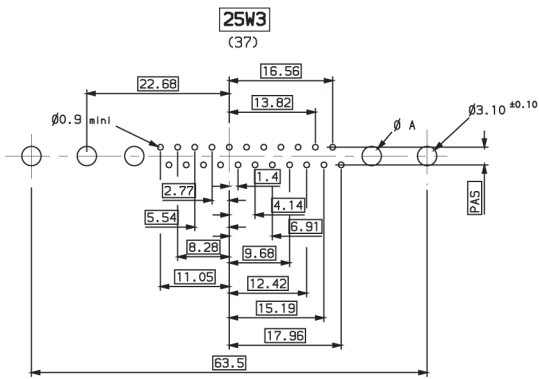
PC BOARD DRILLING

| SOLDER TERMINATION | | | |
|--------------------|------|------------------------|------------------------|
| VERSION | STEP | 30A | 40A |
| | | ϕA | |
| 3 | 2.84 | $\phi 2.40^{\pm 0.10}$ | $\phi 3.10^{\pm 0.10}$ |
| 7 | 2.84 | $\phi 2.40^{\pm 0.10}$ | |
| 5 | 2.84 | $\phi 2.40^{\pm 0.10}$ | $\phi 3.10^{\pm 0.10}$ |



DIMENSIONS

PC BOARD DRILLING



▶ D-Sub Mixed and Full Power DW Series

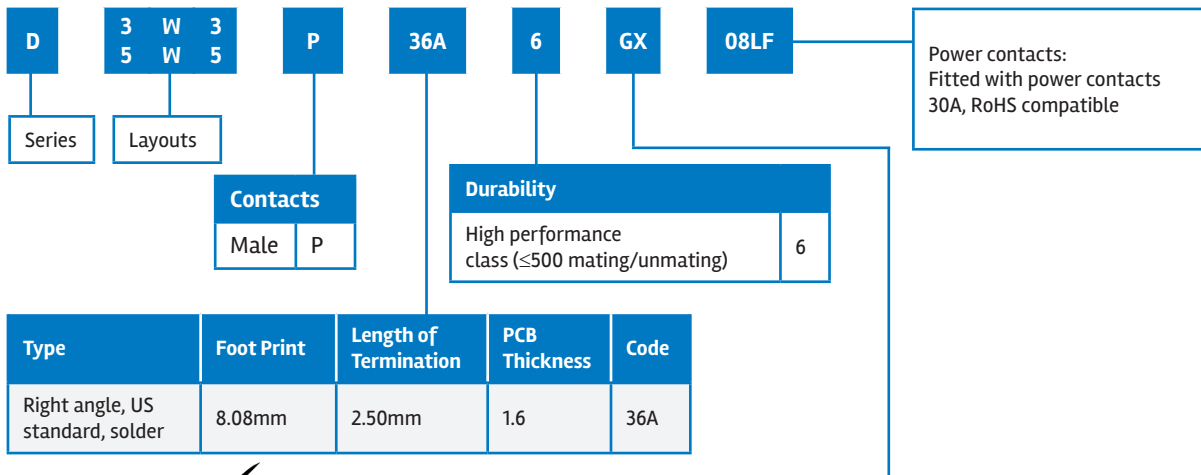
FULL POWER RIGHT ANGLE SOLDER TO BOARD

UL **UL RECOGNISED FILE E66906 (R)**

• This monobloc insulator design with stamped and formed signal contacts combines performance and cost effectiveness



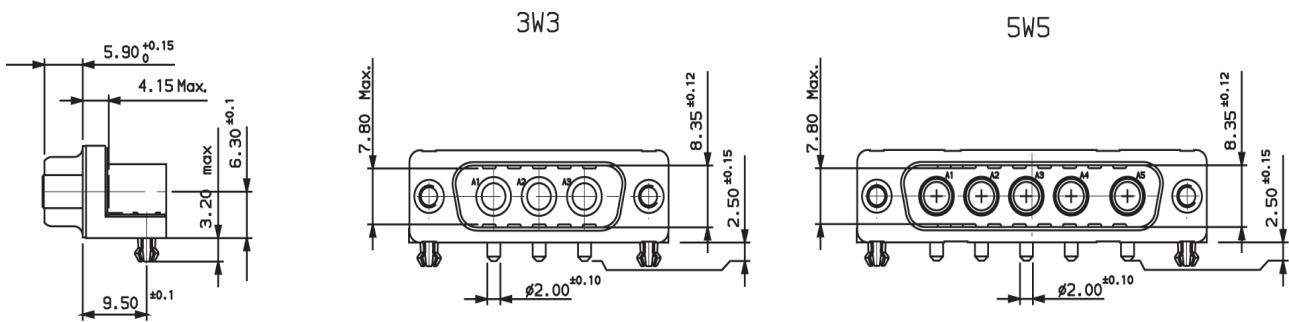
ORDERING INFORMATION



Preferred Option ✓

| Mounting Options | |
|---|------|
| Harpoons + insert M3 + elec. continuity | GL |
| Harpoons + insert UNC 4-40 + elec. continuity | GX ✓ |
| Harpoons + female screw UNC 4-40 + elec. continuity | GV ✓ |

SPECIFIC DIMENSIONS

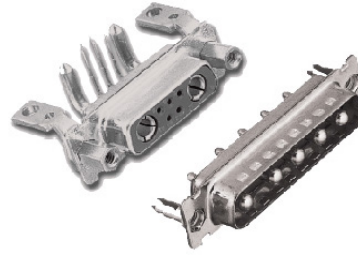


▶ D-Sub Mixed and Full Power DW Series

STRAIGHT AND RIGHT ANGLE PC BOARD VERSIONS



UL RECOGNISED FILE E66906



ORDERING INFORMATION

D **B** **L** **13** **W** **3** **P** **3** **00** **G** **30LF**

Series

Shell size (tin plated): E, A, B, C, D (only straight version)

Layout of contacts for right angled versions, 47W1, 24W7, 36W4 non available

| Option 1 | Blank | L | O | I | V |
|------------------|-------|---|---|---|---|
| Straight version | | X | X | X | X |
| Right angled | X | X | X | X | X |

X: Available
Blank: without accessory
L: Threaded insert M3
O: Threaded insert UNC 4-40
I: Female screw UNC M3
V: Female screw UNC 4-40

| Contacts | |
|----------|---|
| Pin | P |
| Socket | S |

| Termination Type | |
|---|---|
| Straight version | 3 |
| Right angled / Europe standard | 5 |
| Right angled / US standard (5W1, 9W4 non available) | 7 |

| Durability | |
|---------------------|----|
| 200 mating/unmating | 00 |
| 500 mating/unmating | 43 |

| Power Contacts | |
|--|------|
| Fitted with power contacts 30A RoHS compatible | 30LF |
| Fitted with power contacts 40A RoHS compatible | 40LF |
| Without power contacts, RoHS compatible | 00LF |

| Option 2 | | | | |
|------------------|---|---|---|---|
| | A | H | G | M |
| Straight version | X | X | X | |
| Right angled | X | X | X | X |

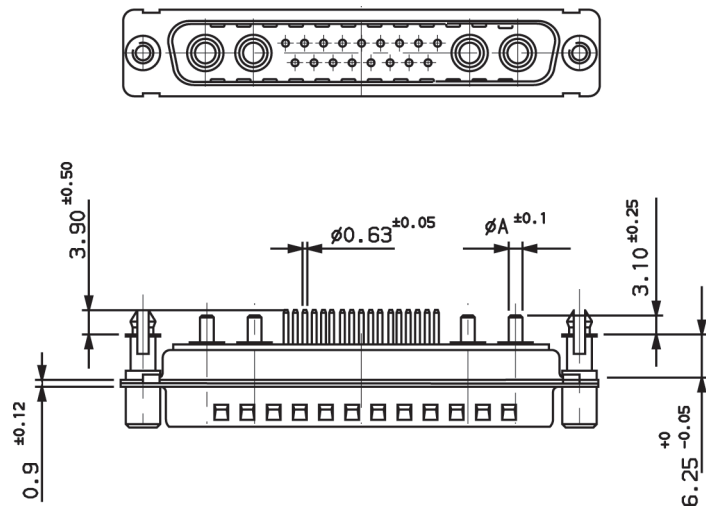
X: Available
A: Without accessory on PCB
H: Locking device used for PCB thickness 2.4mm
G: Locking device used for PCB thickness 1.6mm
M: Metal bracket

► D-Sub Mixed and Full Power DW Series

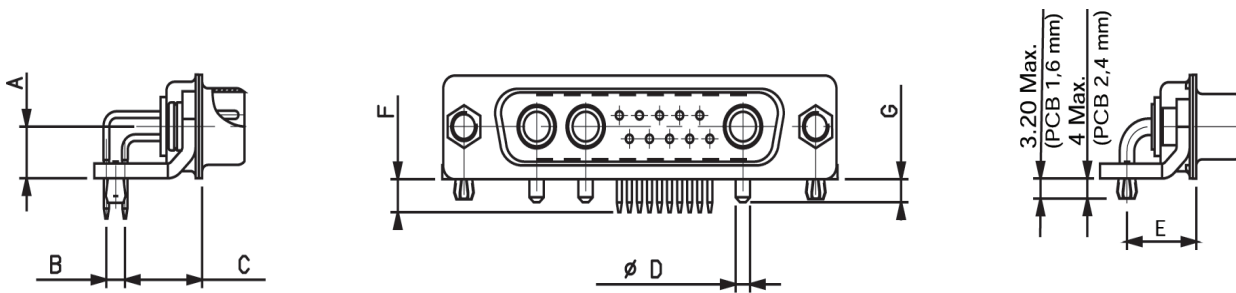
SPECIFIC DIMENSIONS

STRAIGHT VERSION

| I | 30A | 40A |
|-----|-----|-----|
| ∅ A | 2.0 | 2.8 |



RIGHT ANGLE VERSION



| | Termination Type | Amp. | A ^{±0.10} | B ^{±0.20} | C ^{±0.20} | D ^{±0.10} | E ^{±0.20} | F ^{±0.50} | G ^{±0.30} |
|--------|------------------|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Europe | 5... | 30A | 7.20 | 2.54 | 10.30 | 2.00 | 11.65 | 4.00 | 3.60 |
| | | 40A | 7.20 | 2.54 | 10.30 | 2.80 | 11.65 | 4.00 | 3.60 |
| U.S | 7... | 30A | 6.30 | 2.84 | 8.08 | 2.00 | 9.50 | 3.90 | 3.60 |

μTCA – HIGH POWER I/O PCB CONNECTORS

OVERVIEW

This power module I/O connectors for 48V applications are designed in accordance with μTCA specifications. The robust D-Sub concept based on simplified and cost effective Delta D design combines power contacts able to handle up to 24A with signal contacts. PCB connectors are proposed in traditional solder-to-board and Pin-in-Paste versions for optimized applied cost. Specific to the design of Amphenol FCI is the fact that the connector's compact footprint allows for more space on the PCB for other components.



FEATURES

- 48V / 24A (shell size A)
- FMLB (First Mate Last Brake) functionality for hot plugging
- Field repairable

ORDERING INFORMATION

10070158 002 12 X LF

μTCA 48V / 24A power board connector

RoHS compatible, EU directive 2002/95/EC

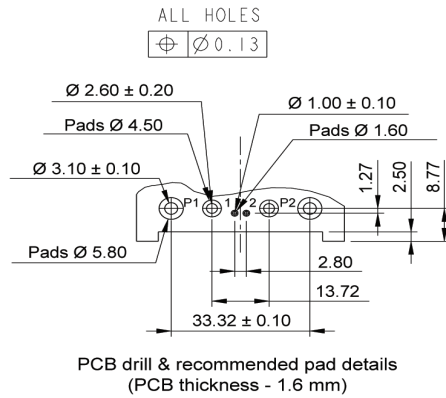
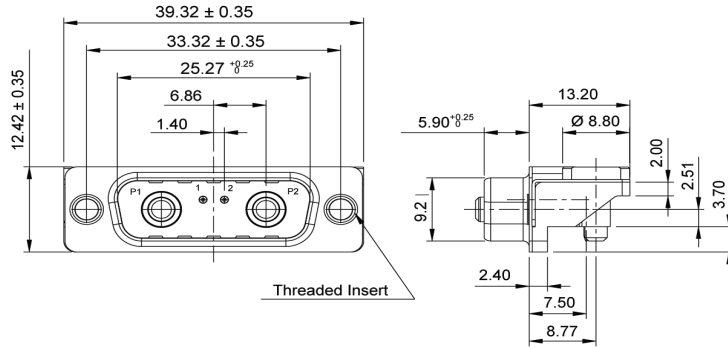
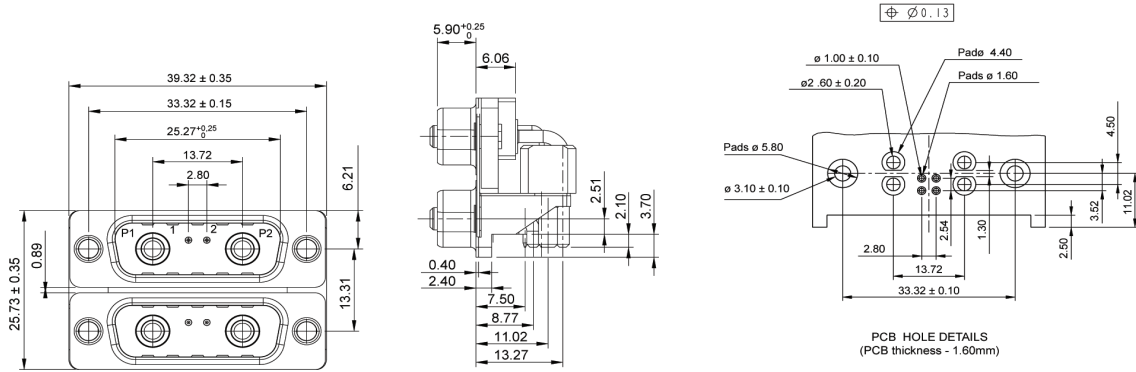
| Description | |
|------------------------|-----|
| Dual solder-to-board | 001 |
| Dual Pin-in-Paste | 002 |
| Single solder-to-board | 003 |
| Single Pin-in-Paste | 004 |

| Mounting Options | |
|--------------------------|---|
| M3 threaded insert | L |
| UNC 4-40 threaded insert | X |

| Packaging | |
|-----------------------|----|
| Tape and Reel packing | 12 |
| Card box packing | 19 |

μTCA – HIGH POWER I/O PCB CONNECTORS

PRODUCT DRAWING



μTCA – HIGH POWER I/O CABLE CONNECTORS

FEATURES

- Field repairable
- Touch proof
- Stackable hoods with high retention devices
- Cost saving jumper option for signal contacts



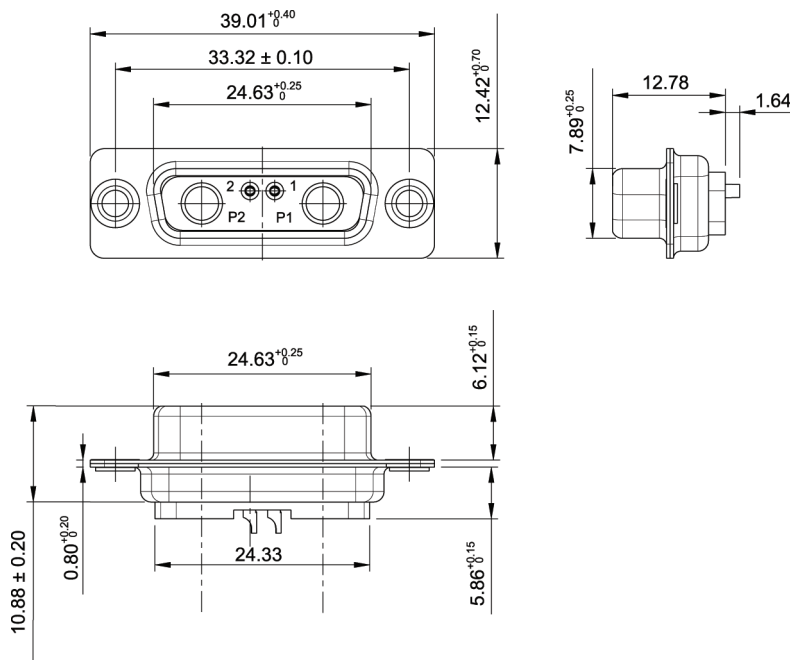
ORDERING INFORMATION

| | | |
|---|--------------------|-------|
| 10070165 | 001 | 19ALF |
| μTCA 48V / 24A power board connector | Description | |
| | Without jumper | 001 |
| | With jumper option | 002 |
| | Packaging | |
| | Card box packing | |

POWER CONTACTS

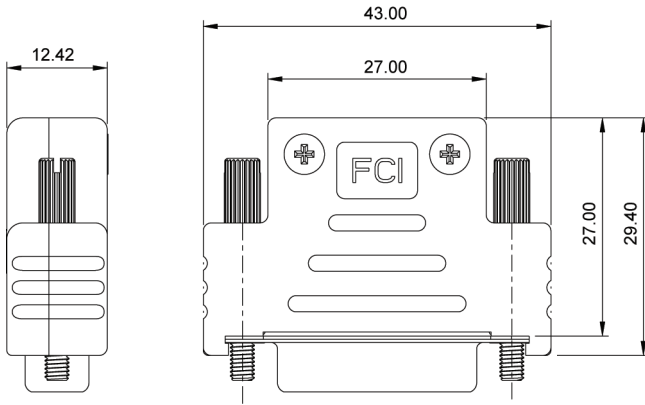
| Description | Part Number |
|----------------------------|---------------|
| 30A crimp contacts | 8638PSC3005LF |
| 40A solder bucket contacts | 8638PSS4005LF |

PRODUCT DRAWING



μTCA – HIGH POWER I/O CABLE CONNECTORS

HOOD (STACKABLE HOOD AND SLIM DESIGN)



| Description | Part Number |
|---------------------------------------|------------------|
| HOOD (stackable hood and slim design) | 10070163 - 001LF |

D-Sub Military Products – DM Series

Amphenol's FCI D-Sub connectors are part of an industry standard for applications requiring robust and reliable connectors. These proven D-Sub connectors are one of the most popular Input/Output interconnects, addressing a wide variety of applications in Telecommunications, Data, Consumer, Industrial, Military, Instrumentation and Medical. Since many years Amphenol FCI has been offering a wide range of D-Sub connectors to meet various design requirements including those in harsh environment.

These high performance connectors are designed for severe environment applications in the field of Telecommunications - data transmission, private automatic branch switching... Connectors for Aerospace, military (125°C) class and for particularly severe applications, especially high temperature (+155°C) class available. It features machined contacts and is available with solder bucket, straight spills, angled spills and wire wrap terminations.



TARGET MARKETS



FEATURES

- Military grade machined contact connectors
- Available in Straight, Angle, Wire Wrap, Solder Bucket, Crimp terminations
- Various PCB and Panel mounting accessory options available
- Cadmium plated shells, Green insulators & colour coded Crimp contacts
- Hoods available in plastic, metalized and metallic form with locking screws

BENEFITS

- Suitable for high performance Aero-Mil applications
- Support both PCB & Cable mounting requirements
- Wide variety of choices for secure connection
- Comply with MIL-C-24308 standard
- Supports cable connection; Prevents risks of pulling up and accidental un-mating

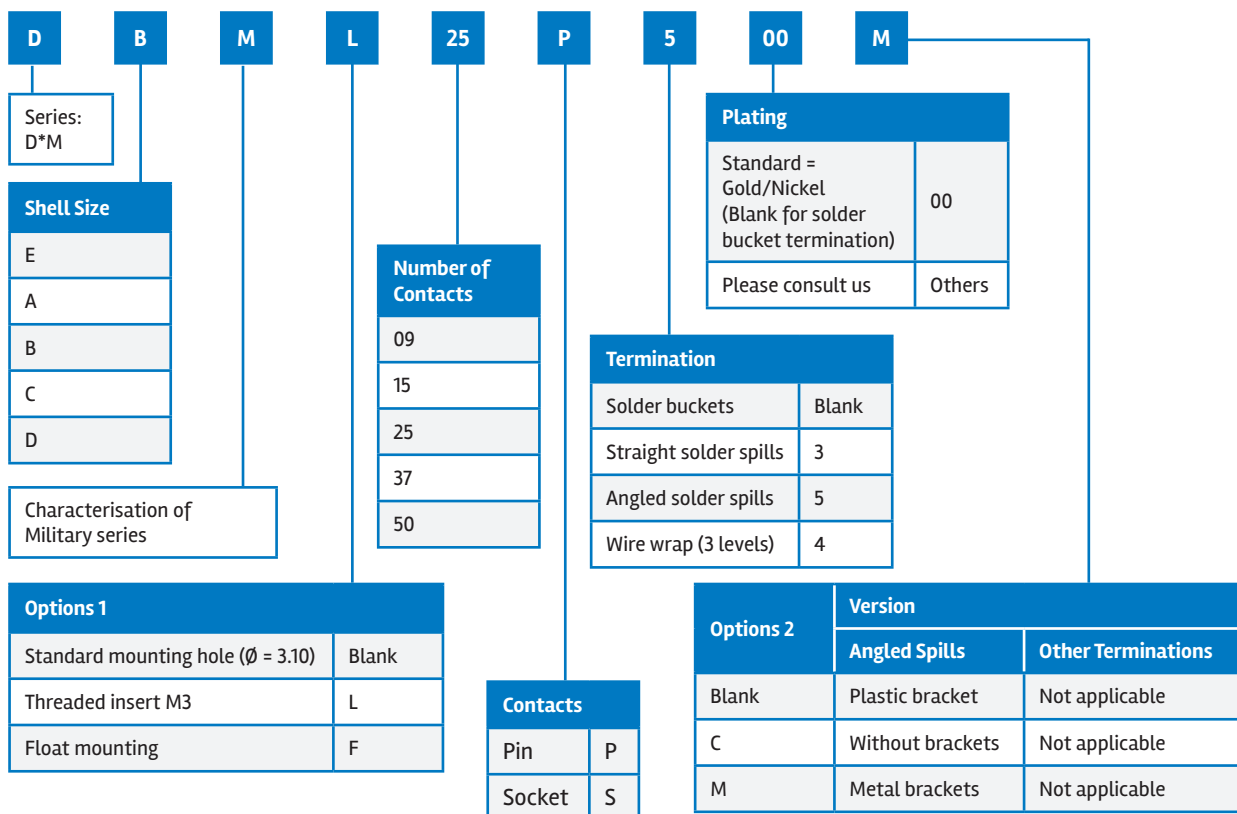
DM SERIES HE 501



- For aerospace, military 125° class–European standard in compliance with NFC 93425/HE 501
- Shell plating: Cadmium
- Military and Aero applications



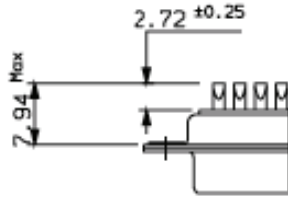
ORDERING INFORMATION



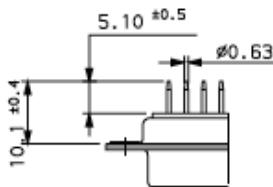
DM SERIES HE 501

SPECIFIC DIMENSIONS

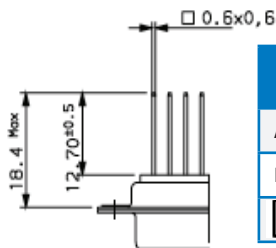
SOLDER BUCKETS



STRAIGHT SPILLS

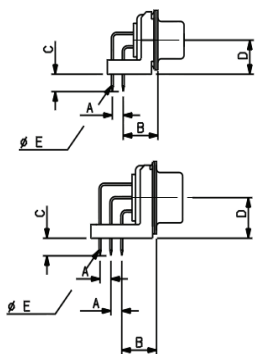


WIRE WRAP



| | Amphenol FCI |
|---|--------------|
| A | 12.70 ±0.5 |
| B | 18.40 max. |
| | 0.79 x 0.87 |

RIGHT ANGLE SPILLS



CROSS REFERENCE LIST FOR THE MAIN HE 501 AND AMPHENOL FCI

| Connector Type | | | HE 501 | Amphenol FCI |
|----------------|----------------|---|---------------|--------------|
| Solder Buckets | Standard | M | HE 501 N..AP3 | D.M..P |
| | | F | HE 501 N..AS3 | D.M..S |
| | Float mounting | M | HE 501 F..AP3 | D.M..P |
| | | F | HE 501 F..AS3 | D.M..S |

| Connector Type | | | HE 501 | Amphenol FCI |
|-----------------|----------------|---|-----------------|--------------|
| Straight spills | Standard | M | HE 501 N..YP4.3 | D.M..P 300 |
| | | F | HE 501 N..YS4.3 | D.M..S 300 |
| | Float mounting | M | HE 501 F..YP4.3 | D.MF..P 300 |
| | | F | HE 501 F..YS4.3 | D.MF..S 300 |

| Connector Type | | | HE 501 | Amphenol FCI |
|--------------------|----------------|---|-----------------|--------------|
| Wire wrap 3 levels | Standard | M | HE 501 N..KP3.3 | D.M..P 400 |
| | | F | HE 501 N..KS3.3 | D.M..S 400 |
| | Float mounting | M | HE 501 F..KP3.3 | D.MF..P 400 |
| | | F | HE 501 F..KS3.3 | D.MF..S 400 |

| Connector Type | | | HE 501 | Amphenol FCI |
|-------------------|----------------|---|-----------------|--------------|
| Angled spills 500 | Standard | M | HE 501 P..VP6.3 | D.M..P 500 |
| | | F | HE 501 P..VS6.3 | D.M..S 500 |
| | Metal brackets | M | HE 501 M..VP6.3 | D.M..P 500M |
| | | F | HE 501 M..VS6.3 | D.M..S 500M |

| Dimension | Termination |
|------------------------------------|-------------|
| | 5 |
| A | 2.54 |
| B ^{±0.1} | 10.30 |
| C ^{±0.5} | 4.00 |
| D ^{±0.1} 9 to 37 contacts | 7.20 |
| 50 contacts | 8.60 |
| Ø E | 0.63 |

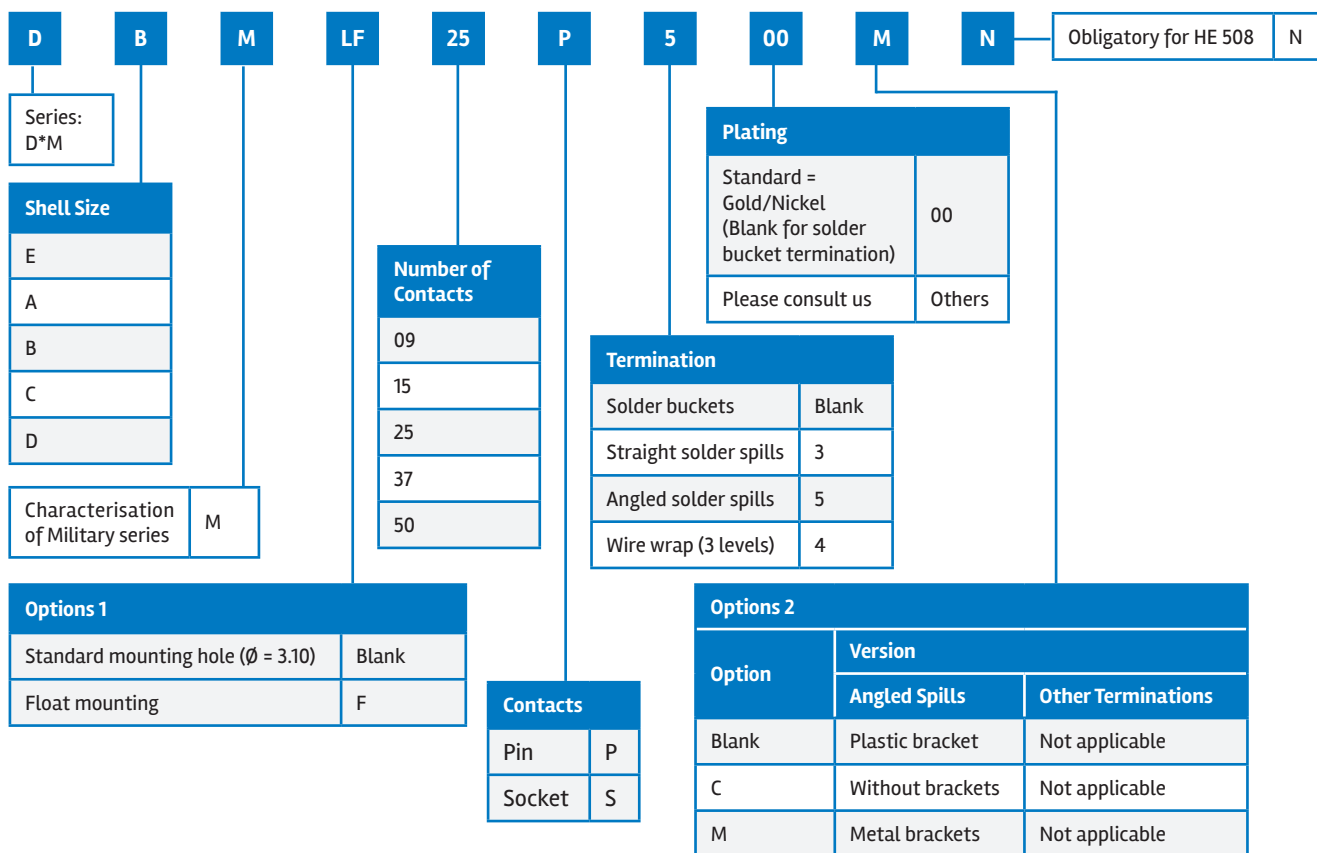
DM SERIES HE 508



- For particularly severe applications, especially high temperatures class + 155°C in compliance with NFC 93425 / HE 508
- Shell plating: Cadmium
- Military and Aero applications



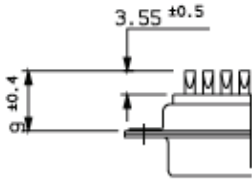
ORDERING INFORMATION



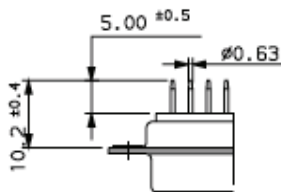
DM SERIES HE 508

SPECIFIC DIMENSIONS

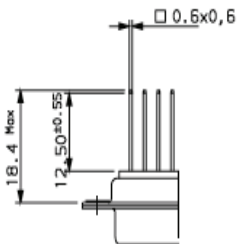
SOLDER BUCKETS



STRAIGHT SPILLS

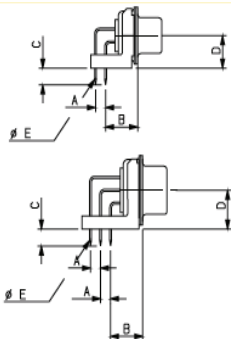


WIRE WRAP



3 Levels
Diagonale 0.79 – 0.87

RIGHT ANGLE SPILLS



CROSS REFERENCE LIST FOR THE MAIN HE 501 AND AMPHENOL FCI

| Connector Type | | | HE 508 | Amphenol FCI |
|----------------|----------------|---|--------------|--------------|
| Solder Buckets | Standard | M | HE 508 N..AP | D.M..PN |
| | | F | HE 508 N..AS | D.M..SN |
| | Float mounting | M | HE 508 F..AP | D.MF..PN |
| | | F | HE 508 F..AS | D.MF..SN |

| Connector Type | | | HE 508 | Amphenol FCI |
|-----------------|----------------|---|---------------|--------------|
| Straight spills | Standard | M | HE 508 N..YP4 | D.M..P 300N |
| | | F | HE 508 N..YS4 | D.M..S 300N |
| | Float mounting | M | HE 508 F..YP4 | D.MF..P 300N |
| | | F | HE 508 F..YS4 | D.MF..S 300N |

| Connector Type | | | HE 508 | Amphenol FCI |
|--------------------|----------------|---|---------------|--------------|
| Wire wrap 3 levels | Standard | M | HE 508 N..KP3 | D.M..P 400N |
| | | F | HE 508 N..KS3 | D.M..S 400N |
| | Float mounting | M | HE 508 F..KP3 | D.MF..P 400N |
| | | F | HE 508 F..KS3 | D.MF..S 400N |

| Connector Type | | | HE 508 | Amphenol FCI |
|-------------------|----------|---|---------------|--------------|
| Angled spills 500 | Standard | M | HE 508 P..VP6 | D.M..P 500N |
| | | F | HE 508 P..VS6 | D.M..S 500N |
| | Metal | M | HE 508 M..VP6 | D.M..P 500MN |
| | | F | HE 508 M..VS6 | D.M..S 500MN |

| Dimension | Termination |
|------------------------------------|-------------|
| | 5 |
| A | 2.54 |
| B ^{±0.1} | 10.30 |
| C ^{±0.5} | 4.00 |
| D ^{±0.1} 9 to 37 contacts | 7.20 |
| 50 contacts | 8.60 |
| Ø E | 0.63 |

DM SERIES HE 507

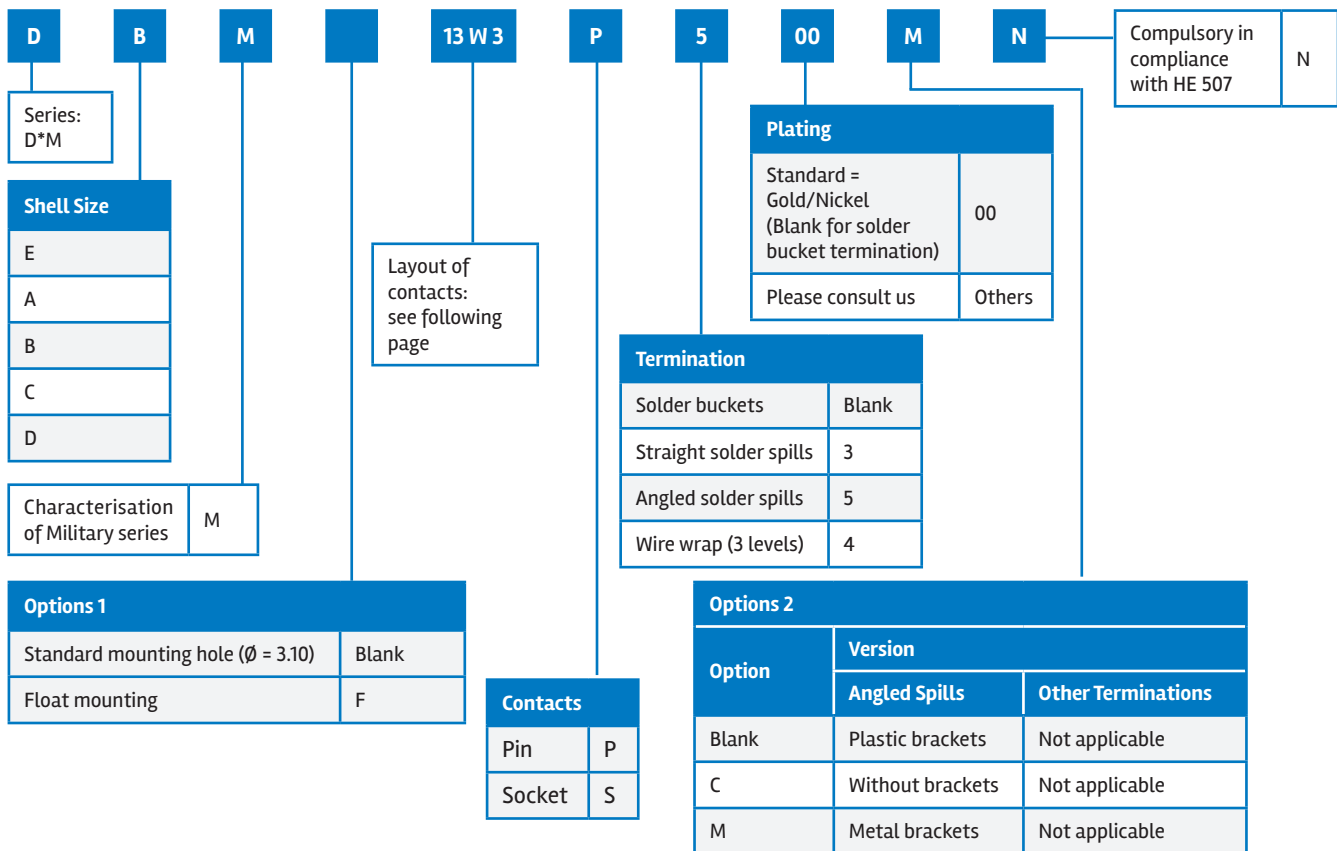


UL RECOGNISED FILE E66906

- Connectors drawn from DM series. Composed of mixed arrangements of standard signal and size 8 cavities housing, coax, power, high voltage and optical removable contacts
- Shell plating: Cadmium
- Military and Aero applications



ORDERING INFORMATION



LAYOUTS

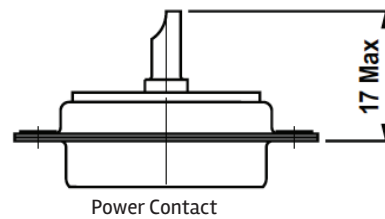
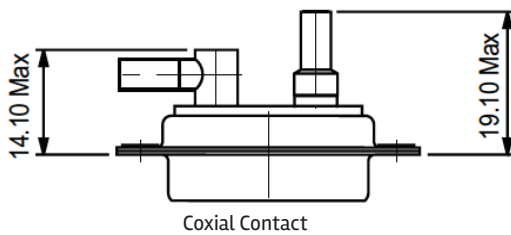
MALE INSULATOR FRONT VIEW

| Shell size | Layout | |
|------------|--------|--|
| E | 5W1 | |
| A | 11W1 | |
| | 7W2 | |
| | 3W3 | |
| | 3V3 | |
| B | 21W1 | |
| | 17W2 | |
| | 13W3 | |
| | 9W4 | |
| | 5W5 | |

| Shell size | Layout | |
|------------|--------|--|
| C | 25W3 | |
| | 21WA4 | |
| | 27W2 | |
| | 8W8 | |
| D | 47W1 | |
| | 24W7 | |
| | 36W4 | |

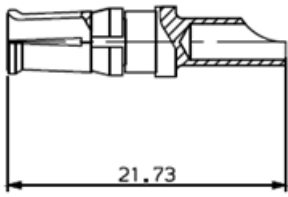
- Standard contacts
- Coaxial and power contacts

SPECIFIC DIMENSION

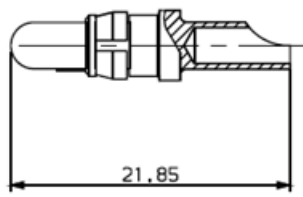


POWER CONTACTS

Female



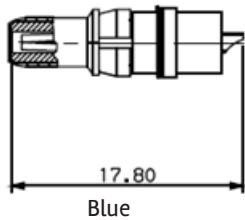
Male



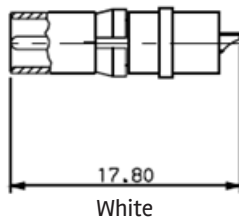
| Wire Size | Max. Current | Part Numbers | |
|-----------|--------------|--------------|--------------|
| | | Male | Female |
| AWG8 | 40A | 8630-3098NLF | 8630-3099NLF |
| AWG12 | 20A | 8630-3056NLF | 8630-3057NLF |
| AWG14 | 15A | 8630-3060NLF | 8630-3061NLF |
| AWG16 | 10A | 8630-3064NLF | 8630-3065NLF |

HIGH VOLTAGE CONTACTS

Male 8638.2000



Female 8638.2001



These removable contacts are suitable for the contact cavities of the DMW series and DW series. The coaxial contacts are in compliance with:

- NFC 93569
- KMX4 specification

MECHANICAL PERFORMANCE

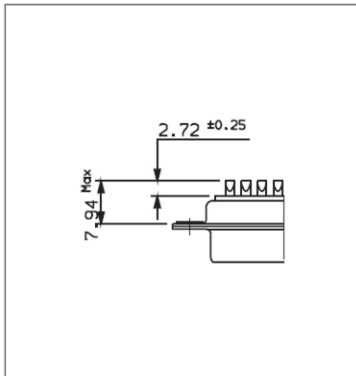
- Mating Force Per Set of Contact: 3N
- Mating Endurance: 200
- Temperature: -55°C to + 125°C

ELECTRICAL PERFORMANCE

- Dielectric Withstanding Voltage: 2800 V.r.m.s
- Break Down Voltage: 3200 V.r.m.s
- Insulation Resistance: 10⁶ MΩ
- Contact Resistance: ≤ 5 MΩ
- Max Current Rating: 5A
- Material: TEFLON

SPECIFIC DIMENSIONS

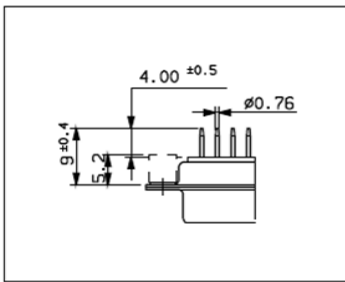
Solder Buckets



STANDARD P/N LIST

| |
|------------|
| DEM09P032N |
| DEM09S032N |
| DAM15P032N |
| DAM15S032N |
| DBM25P032N |
| DBM25S032N |
| DCM37P032N |
| DCM37S032N |
| DDM50P032N |
| DDM50S032N |

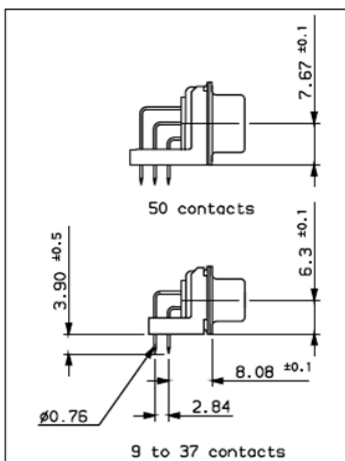
Straight Spills



STANDARD P/N LIST

| |
|------------|
| DEM09P332N |
| DEM09S332N |
| DAM15P332N |
| DAM15S332N |
| DBM25P332N |
| DBM25S332N |
| DCM37P332N |
| DCM37S332N |
| DDM50P332N |
| DDM50S332N |

Angled Spills



STANDARD P/N LIST

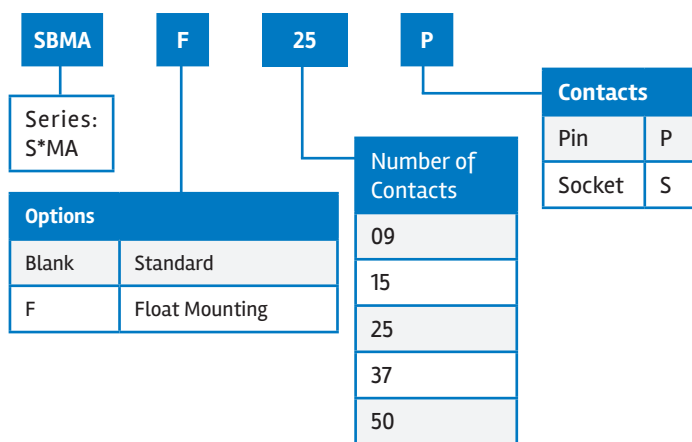
| |
|------------|
| DEM09P732N |
| DEM09S732N |
| DAM15P732N |
| DAM15S732N |
| DBM25P732N |
| DBM25S732N |
| DCM37P732N |
| DCM37S732N |
| DDM50P732N |
| DDM50S732N |

SMA SERIES – HIGH DURABILITY, MILITARY GRADE CRIMP CONNECTORS

- For particularly high durability, Military grade applications
- 1.27µ Gold plating
- Shell plating: Cadmium
- Crimp housing with Mil grade colour coded contacts packed separately

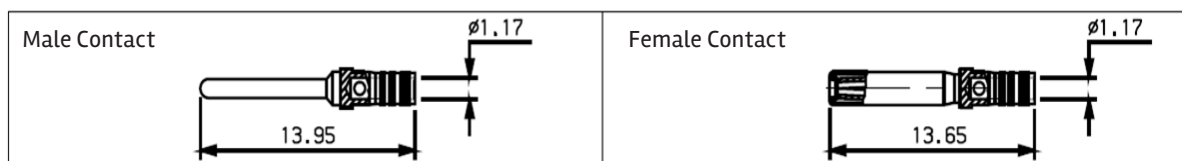


ORDERING INFORMATION



| STANDARD P/N LIST |
|-------------------|
| SEMA09P |
| SEMA09S |
| SAMA15P |
| SAMA15S |
| SBMA25P |
| SBMA25S |
| SCMA37P |
| SCMA37S |
| SDMA50P |
| SDMA50S |

CONTACTS CRIMP TYPE 20/24 AWG WIRES



| Wire size for cable | Contact | Part Number |
|---------------------|---------|-------------|
| AWG 20/24 wire size | Male | 86303020A |
| | Female | 86303022A |

IN05SUBMPDM092IEA4

D-Sub Accessories

WIDE RANGE OF ACCESSORIES FOR SECURE CONNECTION

Amphenol's FCI D-Sub connectors are part of industry standard and are one of the most popular Input/Output interconnects, addressing a wide variety of applications including telecommunications, industrial and medical.

- Prevents accidental mismatching
- Hoods available in 9 to 50 positions for different connector pin configurations
- Metal hoods available in straight and angled terminations for EMI/RFI shielding
- Dust caps available in metal and plastic versions
- Locking screws comes with UNC 4-40 and M3 thread options



TARGET MARKETS



FEATURES

- Hoods available in plastic, metalized and metallic form with locking screws
- Hoods available in 9 to 50 positions
- Metal hoods available in straight and angled terminations
- Hoods available with cable clamps and jackscrews
- Hoods available in different orientations and locking options
- Range includes different locking devices like screw locks and lever locks
- Screws available in both UNC 4-40 and M3 thread options
- Metal and plastic dust caps

BENEFITS

- Supports cable connection and prevents risks of pulling up and accidental mismatching
- Suitable for different connector pin configurations including high density series
- Suitable for EMI/RFI shielding
- Assures secure connection with required strain relief
- Supports various customization need
- Ensures secure and reliable connection
- Ensures connector intermateability
- Safeguards connector from dust and dirt when kept in unmated condition

TECHNICAL INFORMATION

TARGET MARKETS/APPLICATIONS



Asymmetric Digital Subscriber Line (ADSL)
Base Station
Switching
Transmission



Set-top Box



Desktop and Laptop
Storage System
Router and Server



Automotive Diagnostics
Control Drives
Energy Meter
Gaming Machine
Test Equipment
Office Automation
POS & Handheld terminal
Power Supplies
Parking Meter
Printer and Copier
Renewable Energy
Robotics
Surveillance Camera
Avionics



Medical Instrument



Military Equipment

► D-Sub Accessories

PLASTIC HOODS

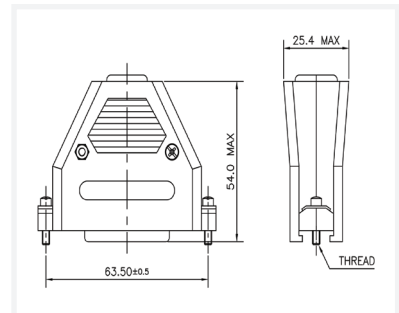
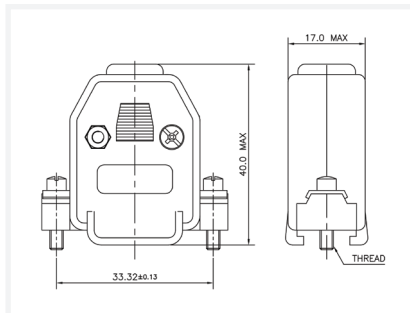
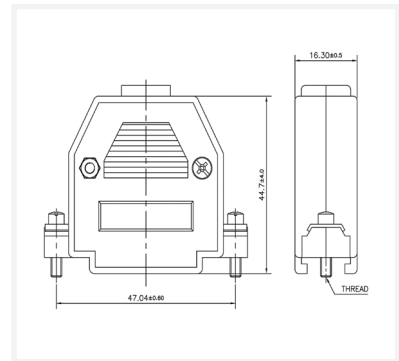
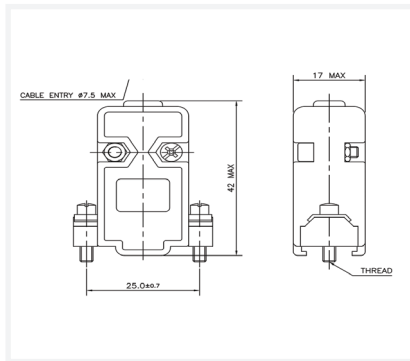
1 • STRAIGHT EXIT PLASTIC HOOD WITH INTEGRATED LOCKING – ECONOMICAL SERIES



- Material: Self-extinguishing UL 94 HB Thermoplastic
- Color: Grey
- Temperature Range: -55°C +105°C
- Locking Screws: UNC 4-40 thread

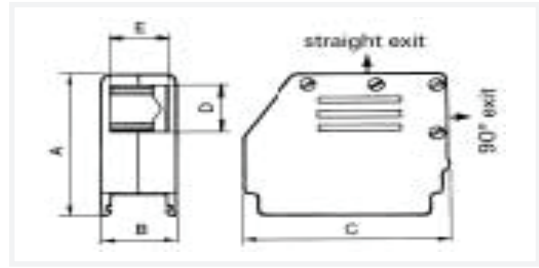
STRAIGHT EXIT HOOD-PLASTIC

| Description | Part Numbers |
|-----------------------|---------------|
| Screw Thread UNC 4-40 | 8630CH09UNCLF |
| | 8630CH15UNCLF |
| | 8630CH25UNCLF |
| | 8630CH37UNCLF |
| Screw Thread M3 | 8630CH09M3LF |
| | 8630CH15M3LF |
| | 8630CH25M3LF |
| | 8630CH37M3LF |



► D-Sub Accessories

2• UNIVERSAL PLASTIC HOOD WITH METAL CLAMP FOR STRAIN RELIEF – ECONOMICAL SERIES

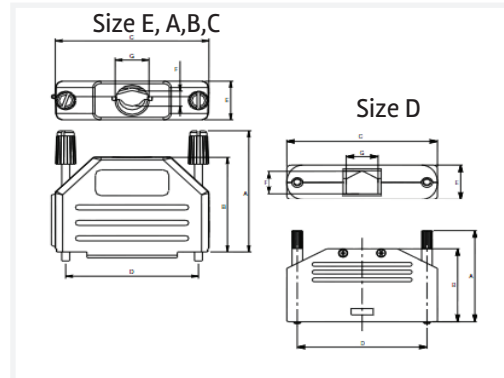


| Shell Size | Part Numbers (Black Hood) | Part Numbers (Metalized Hood) | A | B | C | With Clamp | | | Without Clamp | |
|------------|------------------------------|----------------------------------|-------|-------|-------|------------|------|-------|---------------|-------|
| | | | | | | D | E | | D | E |
| | | | | | | | min. | max. | | |
| E | 863093C09ALF | 863093C09MLF | 29.75 | 15.50 | 24.25 | 6 | 1.90 | 0.10 | 8 | 11.50 |
| A | 863093C15ALF | 863093C15MLF | 29.75 | 15.50 | 32.50 | 6 | 1.90 | 0.10 | 8 | 11.50 |
| B | 863093C25ALF | 863093C25MLF | 46.50 | 15.50 | 46.00 | 13.50 | 2.60 | 0.10 | 16 | 11.50 |
| C | 863093C37ALF | 863093C37MLF | 46.50 | 15.50 | 60.50 | 13.50 | 2.60 | 0.10 | 16 | 11.50 |
| D | 863093C50ALF | 863093C50MLF | 46.50 | 18.00 | 56.50 | 15.50 | 4.40 | 12.60 | 18 | 14.00 |

- Material (black hood): Self-extinguishing UL94V-0 thermoplastic
- Material (metalized): Thermoplastic
- Temperature Range: -55°C +125°C
- Packaging: Individual sets

All dimensions in mm.

3• STRAIGHT EXIT “SNAP TOGETHER” PLASTIC HOOD



| Shell Size | Part Numbers | A | B | C | D | E | With Clamp | | Without Clamp | | |
|------------|--------------|------|------|------|-------|----|------------|------|---------------|----|------|
| | | | | | | | F | G | F | G | |
| | | | | | | | | | | | min. |
| E (9) | 86303637BLF | 31.0 | 36.2 | 32.4 | 24.99 | 15 | 1 | 5.5 | 8.5 | 7 | 8.5 |
| A (15) | 86303638BLF | 39.5 | 40.2 | 40.7 | 33.32 | 15 | 4 | 7 | 12 | 11 | 12 |
| B (25) | 86303639BLF | 53.2 | 40.2 | 54.4 | 47.04 | 15 | 4 | 7 | 12 | 11 | 12 |
| C (37) | 86303640BLF | 69.7 | 40.2 | 70.9 | 63.5 | 15 | 4 | 7 | 12 | 11 | 12 |
| D (50) | 86303641CLF | 67.2 | 43.7 | 71.2 | 61.11 | 15 | 4 | 11.5 | 15.5 | 14 | 18 |

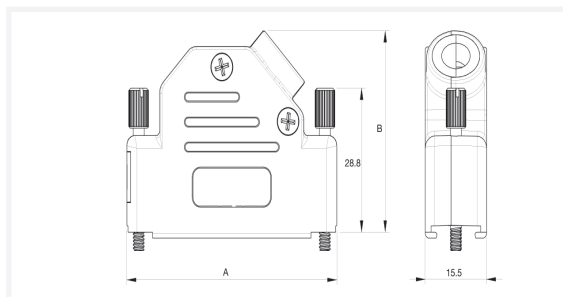
▶ D-Sub Accessories

- Material: Nylon UL 94 V-2
- Material (size D): Thermoplastic (UL94V-2)
- Color: Black
- Temperature Range: -40°C +95°C
- Packaging: Individual sets
- Locking Screws: UNC 4-40 thread

4• ANGLE EXIT PLASTIC HOOD

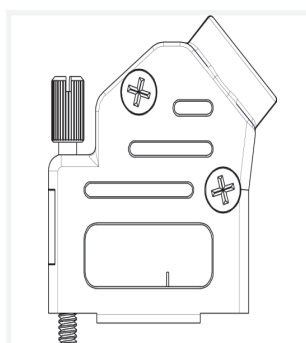


Size E, A,B,C



| Shell Size | Part Numbers | A | B | Cable Diameter |
|------------|----------------|------|------|----------------|
| E (9) | 8655PHRA0901LF | 31.0 | 36.2 | 4 to 13mm |
| A (15) | 8655PHRA1501LF | 39.5 | 40.2 | |
| B (25) | 8655PHRA2501LF | 53.0 | 40.2 | |
| C (37) | 8655PHRA3701LF | 69.5 | 40.2 | |

Size E



All dimensions in mm.

- Cable Strain Relief: Steel fibre reinforced polycarbonate UL94V-0
- Color: Black
- Temperature Range: -40°C +120°C
- Packaging: Bulk, in box of 100 pieces
- Locking Screws: UNC 4-40 thread

► D-Sub Accessories

5• STRAIGHT EXIT PLASTIC HOOD WITH LONG JACK SCREW

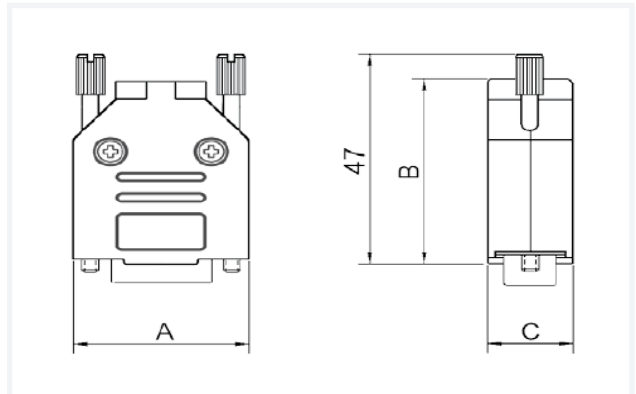
TECHNICAL INFORMATION

- Material: UL 94 V-0 plastic
- Operating Temperature Range: -55°C to +110°C
- Cable Entry: Top
- Jack Screws: UNC 4-40 (Standard) M2.5 or M3 on request
- Cable O.D: 9-37-way: Up to 11.7mm
- Colour: Black

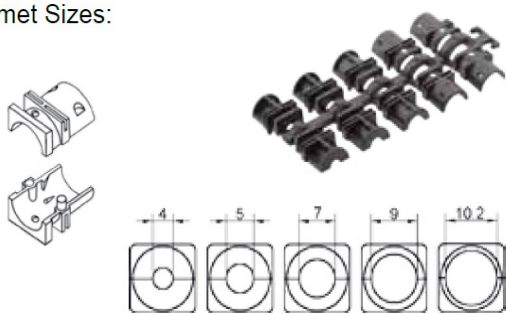


FEATURES

- Available in sizes 9-15-25-37
- Suitable for any common Sub-D connector
- Strain relief inserts ensure a secure termination
- Re-openable



Grommet Sizes:



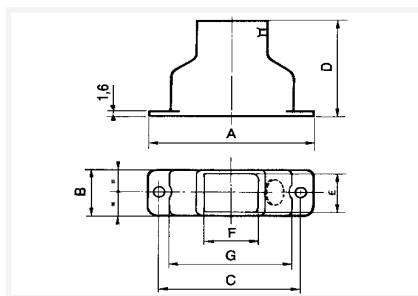
| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 31.2 | 39.9 | 15.0 |
| 15-way | 39.5 | 41.5 | 15.0 |
| 25-way | 53.4 | 48.6 | 15.0 |
| 37-way | 69.7 | 53.6 | 15.0 |

ORDERING INFORMATION

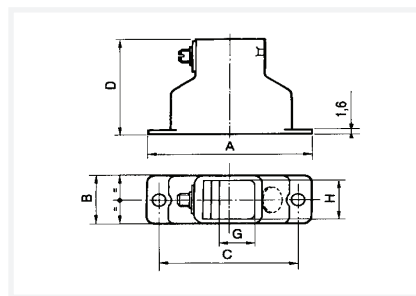
| Description | Size | Part Numbers |
|-----------------|--------|-----------------|
| PLASTIC HOOD 09 | 9-way | 8655APET1A11KLF |
| PLASTIC HOOD 15 | 15-way | 8655APAT1A11KLF |
| PLASTIC HOOD 25 | 25-way | 8655APBT1A11KLF |
| PLASTIC HOOD 37 | 37-way | 8655APCT1A11KLF |

► D-Sub Accessories

6• STRAIGHT EXIT MONOBLOCK PLASTIC HOOD FOR POTTING



with cable tie



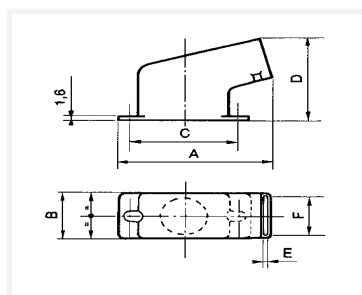
with screw and plate strain relief

| Shell Size | Part Numbers | | A | B | C | D | E | F | G | | H |
|------------|---------------------|---------------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| | Hood with cable tie | Hood with screw and plate | | | | | | | Min. | Max. | |
| E | 863086BLF | 86303920ALF | 30.60 | 12.50 | 25.00 | 29.00 | 9.90 | 9.90 | 2.70 | 7.10 | 10.50 |
| A | 863021BLF | 86303921ALF | 38.90 | 12.50 | 33.32 | 29.00 | 9.90 | 11.90 | 4.50 | 9.10 | 10.50 |
| B | 863022BLF | 86303922ALF | 52.80 | 12.50 | 47.05 | 35.00 | 9.90 | 16.40 | 9.20 | 13.60 | 10.50 |
| C | 863023BLF | 86303923ALF | 69.10 | 12.50 | 63.50 | 41.00 | 9.90 | 23.40 | 9.20 | 20.60 | 10.50 |
| D | 863024BLF | 86303924ALF | 66.70 | 15.30 | 61.10 | 41.00 | 12.70 | 23.40 | 9.20 | 20.60 | 13.30 |

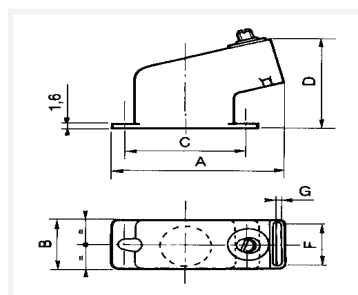
TECHNICAL INFORMATION

- Material: Self-extinguishing
- UL rated 94V-0 thermoplastic
- Operating Temperature Range: -55°C to +110°C
- Colour: Black

7• ANGLE EXIT MONOBLOCK PLASTIC HOOD FOR POTTING



with cable tie



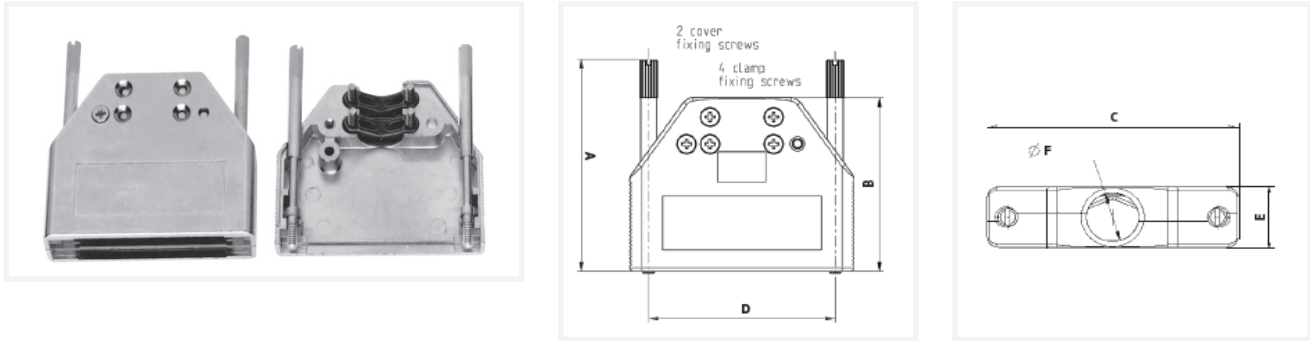
with screw and plate strain relief

| Shell Size | Part Numbers | | A | B | C | D | E | F | G | |
|------------|---------------------|---------------------------|-------|-------|-------|-------|-------|-------|------|-------|
| | Hood with cable tie | Hood with screw and plate | | | | | | | Min. | Max. |
| E | 86305002BLF | 86303925ALF | 30.60 | 12.50 | 25.00 | 26.20 | 10.50 | 10.50 | 2.70 | 7.10 |
| A | 863026BLF | 86303926ALF | 38.90 | 12.50 | 33.32 | 28.60 | 12.50 | 10.50 | 4.50 | 9.10 |
| B | 863027BLF | 86303927ALF | 52.80 | 12.50 | 47.05 | 36.40 | 17.00 | 10.50 | 9.20 | 13.60 |
| C | 863028BLF | 86303928ALF | 69.10 | 12.50 | 63.50 | 42.60 | 24.00 | 10.50 | 9.20 | 20.60 |
| D | 863029BLF | 86303929ALF | 66.70 | 15.30 | 61.10 | 41.00 | 24.00 | 13.30 | 9.20 | 20.60 |

► D-Sub Accessories

METAL HOODS

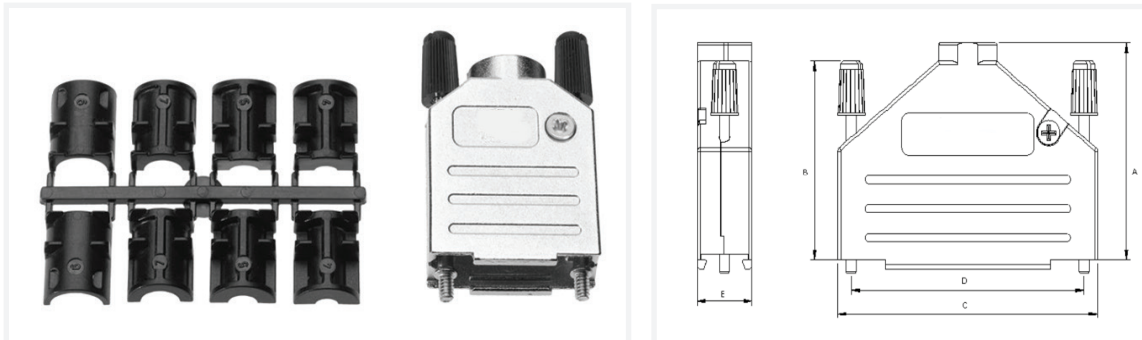
8• STRAIGHT EXIT FULL METAL HOOD WITH TWO METAL CLAMPS



| Shell Size | Part Numbers (in bulk) | Packaging | Part Numbers (in individual set) | Packaging | A± 0.1 | B± 0.5 | C± 0.1 | D± 0.1 | E± 0.2 | F max. |
|------------|------------------------|-----------|----------------------------------|-----------|--------|--------|--------|--------|--------|--------|
| E (9) | 8655MH0901LF | 80 | 8655MH0911LF | 50 | 55.00 | 45.00 | 34.40 | 24.99 | 14.70 | 7.85 |
| A (15) | 8655MH1501LF | 80 | 8655MH1511LF | 50 | 55.00 | 45.00 | 42.70 | 33.32 | 14.70 | 11.80 |
| B (25) | 8655MH2501LF | 60 | 8655MH2511LF | 50 | 55.00 | 45.00 | 56.70 | 47.04 | 14.70 | 11.80 |
| C (37) | 8655MH3701LF | 40 | 8655MH3711LF | 50 | 55.00 | 45.00 | 72.95 | 63.50 | 14.70 | 11.80 |
| D (50) | 8655MH5001LF | 40 | 8655MH5011LF | 50 | 55.00 | 45.00 | 70.60 | 61.11 | 14.70 | 14.10 |

- Material: Zamack
- Plating: Nickel
- Environment: Frequencies at 100Mz > 40dB
- Corrosion Resistance: 50 Hours exposure to salt spray

9• STRAIGHT EXIT METAL HOOD WITH PLASTIC SCREW HEAD

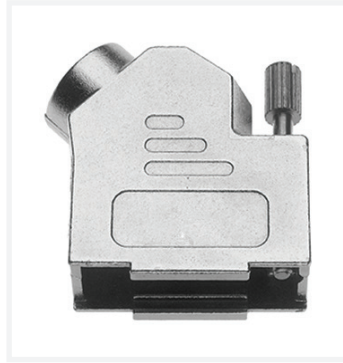


| Shell Size | Part Numbers (in bulk) | A | B | C | D | E |
|------------|------------------------|------|------|------|-------|------|
| E | 8655MH0901BLF | 38.3 | 47.3 | 31 | 24.99 | 14.6 |
| A | 8655MH1501BLF | 40.5 | 47.3 | 39.5 | 33.32 | 14.6 |
| B | 8655MH2501BLF | 47.3 | 47.3 | 53.2 | 47.04 | 14.6 |
| C | 8655MH3701BLF | 52.2 | 47.3 | 70.9 | 63.5 | 15 |

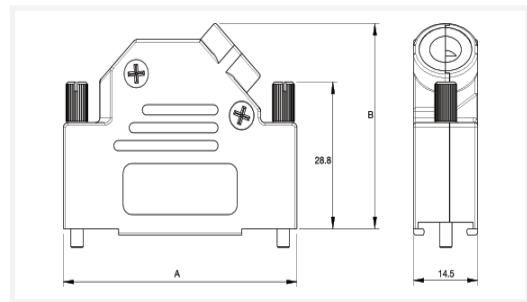
- Material: Zamack, nickel plated
- Cable Strain Relief: Steel fiber reinforced polycarbonate
- UL94V-0 for EMI/RFI screening
- Temperature Range: -40°C +120°C
- Environment: >40dB between 30MHz and 1GHz
- Packaging: Bulk, in box of 100 pieces
- Locking Screws: UNC 4-40 thread

► D-Sub Accessories

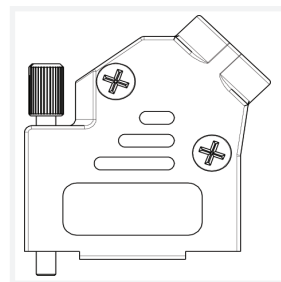
10• ANGLE EXIT METAL HOOD FOR CABLE EMI/RFI



Size A,B,C



Size E



| Shell Size | Part Numbers | A | B | Cable Diameter |
|------------|----------------|------|------|----------------|
| E (9) | 8655MHRA0901LF | 31.0 | 36.2 | 4 to 13 mm |
| A (15) | 8655MHRA1501LF | 39.5 | 40.2 | |
| B (25) | 8655MHRA2501LF | 53.2 | 40.2 | |
| C (37) | 8655MHRA3701LF | 69.7 | 40.2 | 10 to 16 mm |
| D (50) | 8655MHRA5001LF | 67.2 | 43.7 | |

- Material: Zamack, nickel plated
- Cable Strain Relief: Steel fiber reinforced polycarbonate
- UL94V-0 for EMI/RFI screening
- Temperature Range: -40°C +120°C

- Environment: >40dB between 30MHz and 1GHz
- Packaging: Bulk, in box of 100 pieces
- Locking Screws: UNC 4-40 thread

11• STRAIGHT EXIT FULL METAL HOOD WITH LONG JACK SCREWS

TECHNICAL INFORMATION

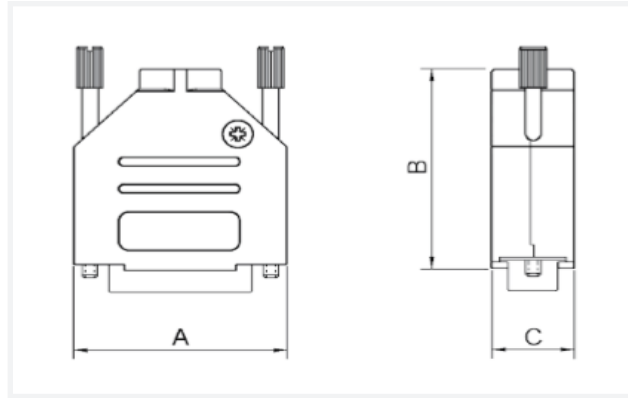
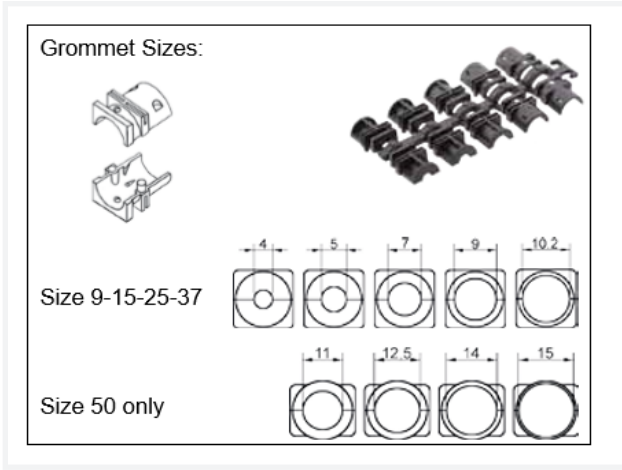
- Material: Zinc, Nickel Plated
- Operating Temperature Range: -40°C to +120°C
- Cable Entry: Top Entry
- Jack Screws: UNC 4-40 (Standard) M2.5 or M3 on request
- Cable O.D: Up to 11.5mm (Size 9-37)
Up to 17mm (Size 50)

FEATURES

- Available in sizes 9-15-25-37-50
- Size 50 equipped with extra cable clamp
- Excellent EMI Shielding
- Re-openable
- Strain relief inserts ensure a secure termination



▶ D-Sub Accessories



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 31.0 | 39.5 | 15.0 |
| 15-way | 39.5 | 41.5 | 15.0 |
| 25-way | 53.5 | 48.5 | 15.0 |
| 37-way | 71.0 | 53.0 | 15.0 |
| 50-way | 67.5 | 54.0 | 18.7 |

ORDERING INFORMATION

| Description | Size | Part Numbers |
|--------------------|--------|-----------------|
| DSUB METAL HOOD 09 | 9-way | 8655AMET1A11KLF |
| DSUB METAL HOOD 15 | 15-way | 8655AMAT1A11KLF |
| DSUB METAL HOOD 25 | 25-way | 8655AMBT1A11KLF |
| DSUB METAL HOOD 37 | 37-way | 8655AMCT1A11KLF |
| DSUB METAL HOOD 50 | 50-way | 8655AMDT1A11KLF |

12• STRAIGHT EXIT FULL METAL HOOD – BLACK COLOUR

TECHNICAL INFORMATION

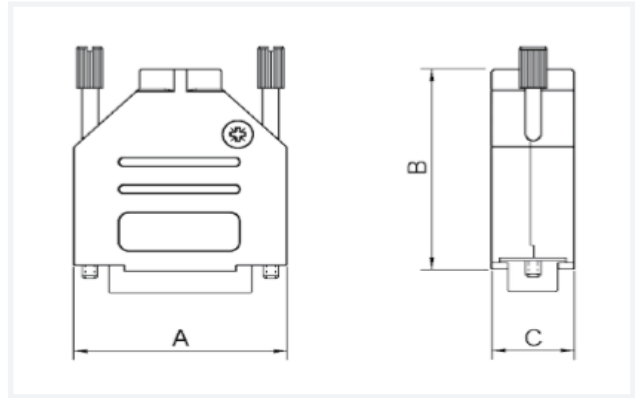
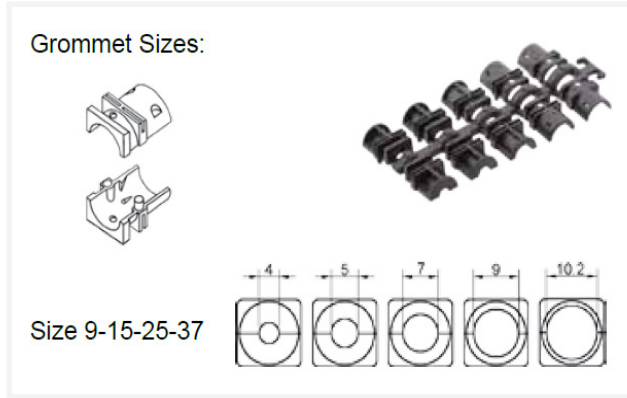
- Material: Zinc, Black Plated
- Operating Temperature Range: -40°C to $+120^{\circ}\text{C}$
- Cable Entry: Top Entry
- Jack Screws: UNC 4-40 (Standard) M2.5 or M3 on request
- Cable O.D: Up to 11.5mm

FEATURES

- Available in sizes 9-15-25-37
- Excellent EMI Shielding
- Re-openable
- Strain relief inserts ensure a secure termination



► D-Sub Accessories



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 31.0 | 39.5 | 15.0 |
| 15-way | 39.5 | 41.5 | 15.0 |
| 25-way | 53.5 | 48.5 | 15.0 |
| 37-way | 71.0 | 53.0 | 15.0 |

ORDERING INFORMATION

| Description | Size | Part Numbers |
|--------------------|--------|--------------------|
| DSUB METAL HOOD 09 | 9-way | 8655AMET1A11K001LF |
| DSUB METAL HOOD 15 | 15-way | 8655AMAT1A11K001LF |
| DSUB METAL HOOD 25 | 25-way | 8655AMBT1A11K001LF |
| DSUB METAL HOOD 37 | 37-way | 8655AMCT1A11K001LF |

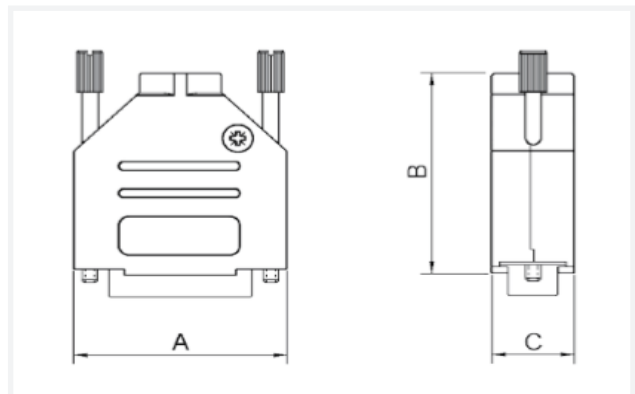
13• STRAIGHT EXIT FULL METAL HOOD WITH DOUBLE CLAMP STRAIN RELIEF

TECHNICAL INFORMATION

- Material: Zinc, Nickel Plated
- Operating Temperature Range: -40°C to $+120^{\circ}\text{C}$
- Cable Entry: Top entry
- Jack Screws: 55mm, UNC 4-40
M2.5 or M3 on request
- Cable O.D: 9-way: Up to 8.0mm
15-way: Up to 11.6mm
25-way: Up to 11.6mm
37-way: Up to 11.6mm
50-way: Up to 14.0mm

FEATURES

- Available in sizes 9-15-25-37-50
- Excellent EMI Shielding
- Re-openable
- Double strain relief for strong and secure cable clamping



► D-Sub Accessories



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 34.0 | 45.0 | 14.6 |
| 15-way | 43.0 | 45.0 | 14.6 |
| 25-way | 53.5 | 45.0 | 14.6 |
| 37-way | 71.0 | 45.0 | 14.6 |
| 50-way | 71.0 | 45.0 | 17.4 |

ORDERING INFORMATION

| Description | Size | Part Numbers |
|--------------------|--------|-----------------|
| DSUB METAL HOOD 09 | 9-way | 8655BMET1A10KLF |
| DSUB METAL HOOD 15 | 15-way | 8655BMAT1A10KLF |
| DSUB METAL HOOD 25 | 25-way | 8655BMBT1A10KLF |
| DSUB METAL HOOD 37 | 37-way | 8655BMCT1A10KLF |
| DSUB METAL HOOD 50 | 50-way | 8655BMDT1A10KLF |

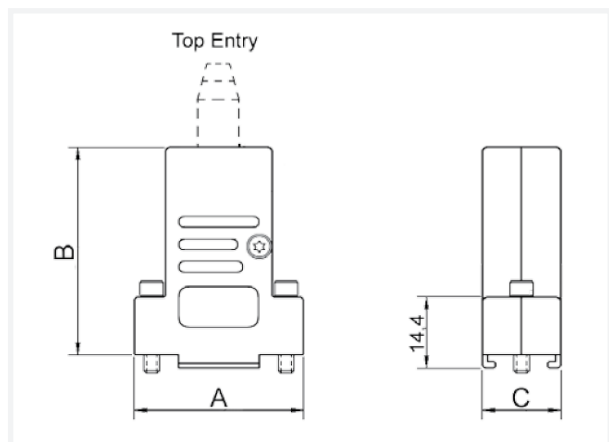
14• STRAIGHT EXIT FULL METAL HOOD WITH RUBBER GROMMET, SHORT SCREWS

TECHNICAL INFORMATION

- Material: Zinc, Nickel Plated
- Operating Temperature Range: -40°C to +120°C
- Cable Entry: Top Entry
Rubber Grommet RGS
- Strain relief: Clamp + Insert
- Thumbscrews: UNC 4-40 (Standard)
M2.5 or M3 on request
- Cable O.D: Up to 11.5mm (Standard)

FEATURES

- 360° EMI Shielding
- Quick assembly
- Pre-mounted locking screws
- Supports all types of cables



► D-Sub Accessories



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 32.2 | 42.0 | 14.5 |
| 15-way | 40.8 | 42.3 | 14.9 |
| 25-way | 54.0 | 42.3 | 14.9 |
| 37-way | 70.5 | 48.0 | 15.1 |



ORDERING INFORMATION

| Description | Size | Part Numbers |
|---------------|--------|-----------------|
| METAL HOOD 09 | 9-way | 8655DMET1B13KLF |
| METAL HOOD 15 | 15-way | 8655DMAT1B13KLF |
| METAL HOOD 25 | 25-way | 8655DMBT1B13KLF |
| METAL HOOD 37 | 37-way | 8655DMCT1B13KLF |

15• ANGLE EXIT FULL METAL HOOD WITH RUBBER GROMMET, SHORT SCREWS

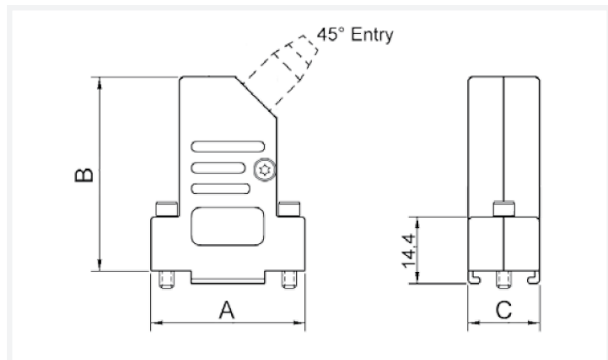
TECHNICAL INFORMATION

- Material: Zinc, Nickel Plated
- Operating Temperature Range: -40°C to +120°C
- Cable Entry: 45° Side Entry
Rubber Grommet RGS
- Strain relief: Clamp + Insert
- Thumbscrews: UNC 4-40 (Standard)
M2.5 or M3 on request
- Cable O.D: Up to 11.5mm



FEATURES

- 360° EMI Shielding
- Quick assembly
- Pre-mounted locking screws
- Supports all types of cables



▶ D-Sub Accessories



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 32.2 | 42.0 | 14.5 |
| 15-way | 40.8 | 42.3 | 14.9 |
| 25-way | 54.0 | 42.3 | 14.9 |
| 37-way | 70.5 | 48.0 | 15.1 |



ORDERING INFORMATION

| Description | Size | Part Numbers |
|---------------|--------|-----------------|
| METAL HOOD 09 | 9-way | 8655DMES2B13KLF |
| METAL HOOD 15 | 15-way | 8655DMAS2B13KLF |
| METAL HOOD 25 | 25-way | 8655DMBS2B13KLF |
| METAL HOOD 37 | 37-way | 8655DMCS2B13KLF |

16• RIGHT ANGLE EXIT FULL METAL HOOD

TECHNICAL INFORMATION

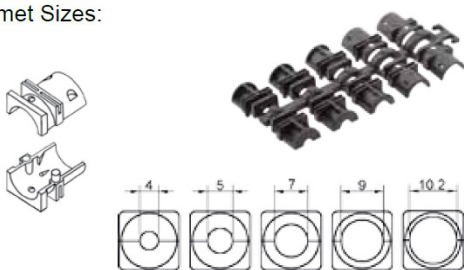
- Material: Zinc, Nickel Plated
- Operating Temperature Range: -40°C to +120°C
- Cable Entry: 90° Side Entry
- Jackscrews: UNC 4-40, M3 on request
- Cable O.D: Up to 11.7mm
- Type of grommets: 2 piece Plastic Ferrule Kit

FEATURES

- Available in sizes 9-15-25-37-way
- Suitable for any common Sub-D connector
- Re-Openable

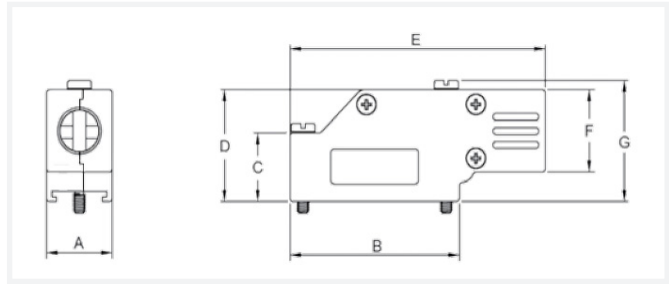


Grommet Sizes:



► D-Sub Accessories

| Size | A | B | C | D | E | F | G |
|------|------|------|------|------|------|------|------|
| 9 | 15.0 | 31.0 | 15.0 | 24.0 | 51.0 | 18.0 | 26.5 |
| 15 | 15.3 | 39.2 | 15.0 | 24.0 | 59.0 | 18.0 | 26.5 |
| 25 | 16.0 | 54.0 | 23.0 | 34.5 | 73.0 | 24.5 | 37.0 |
| 37 | 16.0 | 70.5 | 23.0 | 34.5 | 89.5 | 24.5 | 37.0 |



ORDERING INFORMATION

| Description | Size | Part Numbers |
|--------------------|--------|-----------------|
| DSUB METAL HOOD 09 | 9-way | 8655GMES3C11KLF |
| DSUB METAL HOOD 15 | 15-way | 8655GMAS3C11KLF |
| DSUB METAL HOOD 25 | 25-way | 8655GMBS3C11KLF |
| DSUB METAL HOOD 37 | 37-way | 8655GMCS3C11KLF |

17• TWO SIDE EXIT FULL METAL HOOD

TECHNICAL INFORMATION

- Material: Zinc, Nickel Plated
- Operating Temperature Range: -40°C to +120°C
- Cable Entry: Side + Side Entry
- Thumbscrews: UNC 4-40 (Standard)
M2.5 or M3 on request
- Cable O.D: Up to 11.5mm

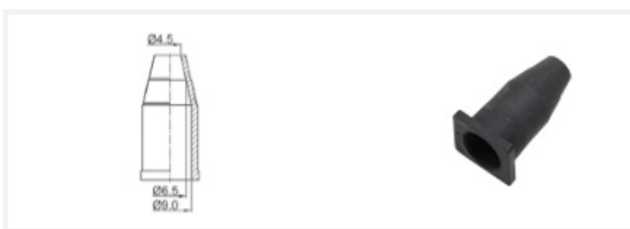
FEATURES

- Available in size 9
- Excellent EMI Shielding
- Re-openable

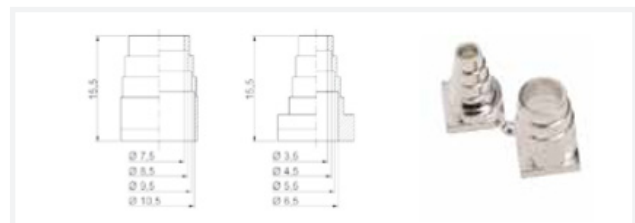


ACCESSORIES

Universal Rubber Grommet

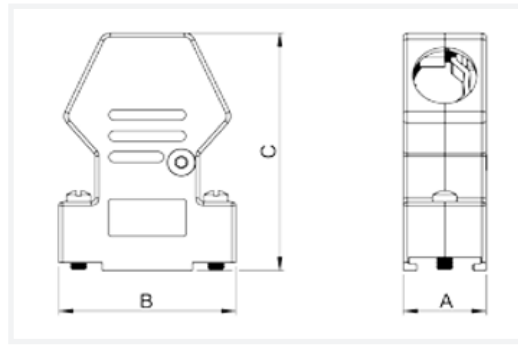


Metalized Plastic Grommet Kit



► D-Sub Accessories

| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 15 | 32.2 | 45 |
| 15-way | 15 | 40.8 | 45 |
| 25-way | 15 | 54.0 | 45 |



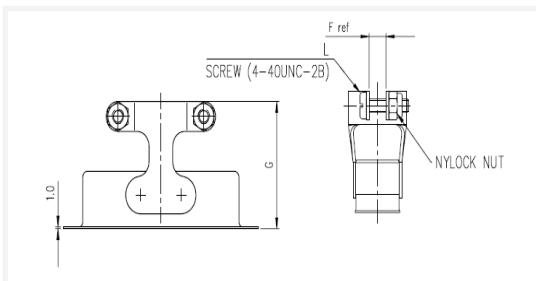
ORDERING INFORMATION

| Description | Size | Part Numbers |
|--------------------|--------|-----------------|
| DSUB METAL HOOD 09 | 9-way | 8655HMED1A10KLF |
| DSUB METAL HOOD 15 | 15-way | 8655HMAD1A10KLF |
| DSUB METAL HOOD 25 | 25-way | 8655HMBD1A10KLF |

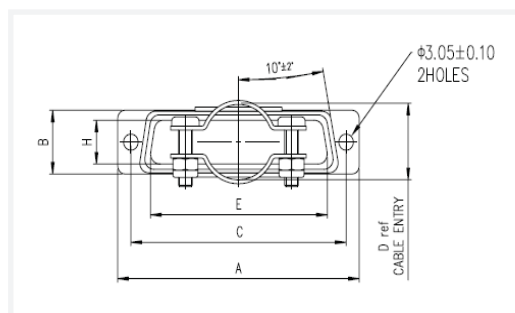
18• METAL HOOD WITH CIRCULAR CLAMP AND STRAIGHT EXIT

TECHNICAL INFORMATION

- Material: Steel
- Plating: Yellow chromate cadmium
- Corrosion Resistance
- 50 hours exposure to salt spray



| Shell Size | Part Numbers | A ± 0.38 | B ± 0.38 | C ± 0.13 | D ref | E ± 0.38 | F ref | G ± 0.76 | H ± 0.38 | L ± 0.80 |
|------------|--------------|----------|----------|----------|-------|----------|-------|----------|----------|----------|
| E | 863010A | 30.68 | 12.70 | 25.00 | 10.31 | 16.79 | 3.18 | 26.19 | 8.74 | 9.53 |
| A | 863011A | 38.89 | 12.70 | 33.30 | 10.31 | 25.00 | 3.18 | 26.19 | 8.74 | 9.53 |
| B | 863012A | 52.78 | 12.70 | 47.04 | 15.06 | 38.48 | 4.75 | 27.08 | 8.74 | 9.53 |
| C | 863013A | 69.04 | 12.70 | 63.50 | 18.25 | 55.14 | 6.35 | 27.08 | 8.74 | 12.70 |
| D | 863014A | 66.68 | 15.47 | 61.12 | 20.62 | 53.16 | 7.93 | 27.08 | 11.13 | 15.88 |



▶ D-Sub Accessories

METALIZED HOODS

19• STRAIGHT EXIT METALIZED HOOD WITH SHORT SCREWS

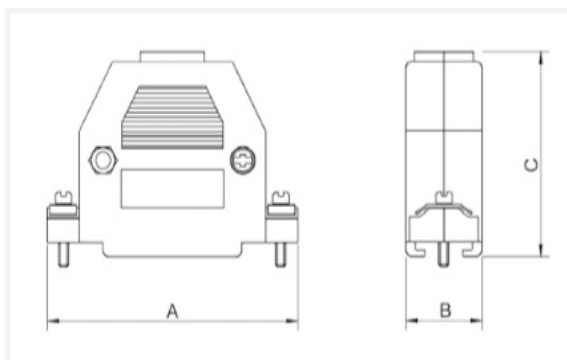
TECHNICAL INFORMATION

- Material: UL recognised Plastic Material
- Plating: Nickel over Copper
- Operating Temperature: -40°C to +120°C
- Cable Entry: Top
- Thumbscrews: UNC 4-40 (Short)
- Cable O.D:
 - 9-way Up to 7.0mm
 - 15-way Up to 10.0mm
 - 25-way Up to 11.0mm
 - 37-way Up to 13.8mm
 - 50-way Up to 14.0mm



FEATURES

- Available in sizes 9-15-25-37-50
- Re-openable
- Short Jackscrews



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 31.0 | 16.0 | 40.4 |
| 15-way | 39.7 | 17.5 | 36.7 |
| 25-way | 54.6 | 16.8 | 44.5 |
| 37-way | 69.0 | 23.9 | 53.0 |
| 50-way | 69.5 | 19.8 | 44.7 |

ORDERING INFORMATION

| Description | Size | Part Numbers |
|-------------------|--------|-----------------|
| METALIZED HOOD 09 | 9-way | 8655BZET1B10KLF |
| METALIZED HOOD 15 | 15-way | 8655BZAT1B10KLF |
| METALIZED HOOD 25 | 25-way | 8655BZBT1B10KLF |
| METALIZED HOOD 37 | 37-way | 8655BZCT1B10KLF |
| METALIZED HOOD 50 | 50-way | 8655BZDT1B10KLF |

► D-Sub Accessories

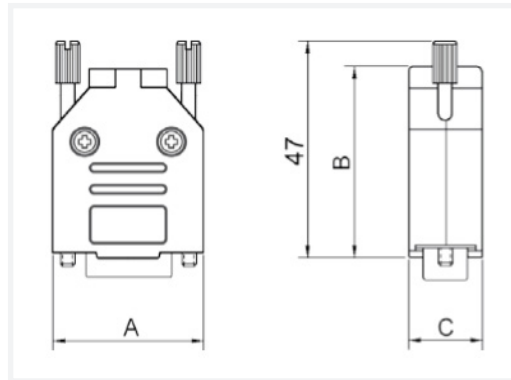
20• STRAIGHT EXIT METALIZED HOOD WITH LONG JACK SCREWS

TECHNICAL INFORMATION

- Material: UL 94 V-0 Plastic Material
- Plating: Nickel over Copper
- Operating Temperature: -55°C to +110°C
- Cable Entry: Top
- Jack Screws: UNC 4-40 (Standard)
M2.5 or M3 on request
- Cable O.D: Up to 11.7mm

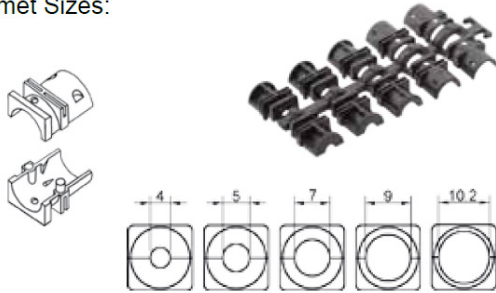
FEATURES

- Available in sizes 9-15-25-37
- Strain relief inserts ensure a secure termination
- Re-openable



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 31.2 | 39.9 | 15.0 |
| 15-way | 39.5 | 41.5 | 15.0 |
| 25-way | 53.4 | 48.6 | 15.0 |
| 37-way | 69.7 | 53.6 | 15.0 |

Grommet Sizes:



ORDERING INFORMATION

| Description | Size | Part Numbers |
|-------------------|--------|-----------------|
| METALIZED HOOD 09 | 9-way | 8655AZET1A11KLF |
| METALIZED HOOD 15 | 15-way | 8655AZAT1A11KLF |
| METALIZED HOOD 25 | 25-way | 8655AZBT1A11KLF |
| METALIZED HOOD 37 | 37-way | 8655AZCT1A11KLF |

▶ D-Sub Accessories

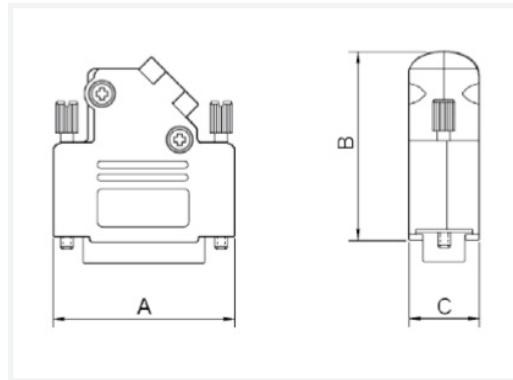
21• ANGLE EXIT METALIZED HOOD WITH LONG JACK SCREWS

TECHNICAL INFORMATION

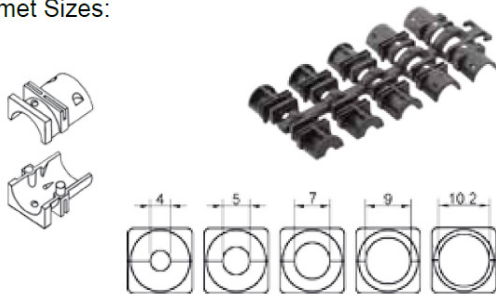
- Material: UL 94 V-0 Plastic Material
- Plating: Nickel over Copper
- Operating Temperature: -55°C to +110°C
- Cable Entry: Side 45° entry
- Jack Screws: UNC 4-40 (Standard)
M2.5 or M3 on request
- Cable O.D: Up to 11.7mm

FEATURES

- Available in sizes 9-15-25-37
- Strain relief inserts ensure a secure termination
- Re-openable



Grommet Sizes:



| Size | Dim A | Dim B | Dim C |
|--------|-------|-------|-------|
| 9-way | 31.0 | 36.3 | 15.0 |
| 15-way | 39.5 | 40.3 | 15.0 |
| 25-way | 53.2 | 40.3 | 15.0 |
| 37-way | 69.7 | 40.3 | 15.0 |

ORDERING INFORMATION

| Description | Size | Part Numbers |
|-------------------|--------|-----------------|
| METALIZED HOOD 09 | 9-way | 8655AZES2A11KLF |
| METALIZED HOOD 15 | 15-way | 8655AZAS2A11KLF |
| METALIZED HOOD 25 | 25-way | 8655AZBS2A11KLF |
| METALIZED HOOD 37 | 37-way | 8655AZCS2A11KLF |

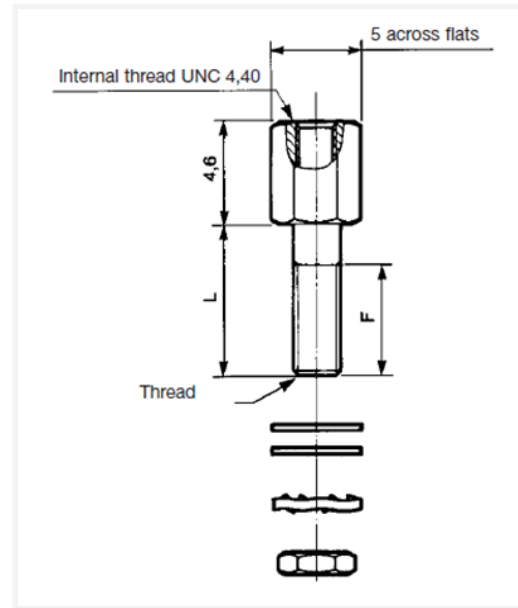
► D-Sub Accessories

LOCKING DEVICES & OTHER ACCESSORIES

22• FEMALE SCREW LOCKS

| Thread | L.Max | F | Material | Part Numbers |
|----------|-------|-------|----------|--------------|
| M3 | 8.30 | 6.90 | Brass | 863001TLF |
| M3 | 8.30 | 6.90 | Steel | 86552153TLF |
| M3 | 6.30 | 5.00 | Brass | 863001017TLF |
| M3 | 13.00 | 12.00 | Brass | 863001061TLF |
| UNC 4-40 | 8.30 | 6.90 | Brass | 863001060TLF |

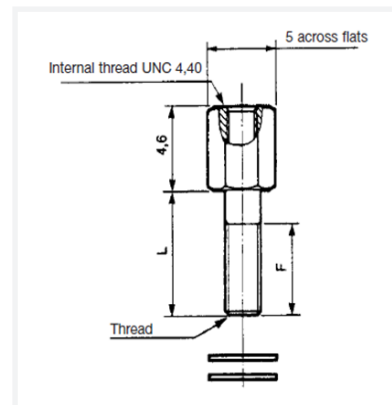
- Plating: Bright tin
- Corrosion Resistance: 24 hours exposure to salt spray



23• SPECIFIC FEMALE SCREW LOCKS FOR DELTA D SERIES

| Thread | L.Max | F | Material | Part Numbers |
|----------|-------|-----|----------|--------------|
| M3 | 4.5 | 3.7 | Steel | 863001018TLF |
| UNC 4-40 | 4.5 | 3.7 | Steel | 863001019TLF |

| Material | Torque Max. (Nm) |
|----------|------------------|
| Brass | 0.5 |
| Steel | 0.7 |



24• MALE SCREW LOCKS

| Shell Size | Connector Type | Part Numbers | | |
|------------|----------------|--|--------------------------------------|-------------------------------------|
| | | For use with connector without hood or with hood 2 | For use with connector with hoods 18 | For use with connector with hoods 6 |
| E | Male | 863005ATLF | 863004ATLF | 863009ATLF |
| | Female | | | |
| A | Male | | | |
| | Female | | | |
| B | Male | | | |
| | Female | | | |
| C | Male | 863008ATLF | 863002ATLF | 863025ATLF |
| | Female | 863005ATLF | | |
| D | Male | 863015ATLF | | |
| | Female | 863003ATLF | | |

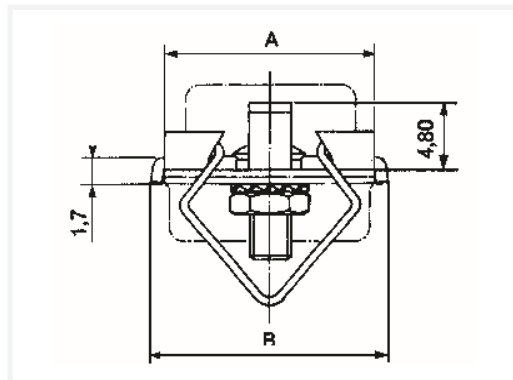
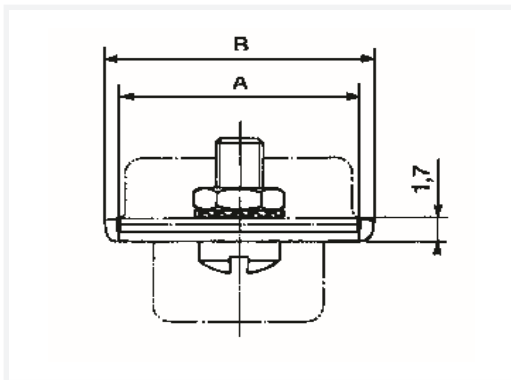
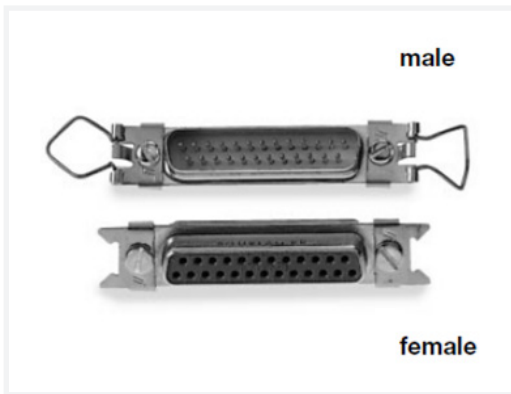
► D-Sub Accessories

TECHNICAL INFORMATION

- Material: Steel
- Plating: Bright tin
- Corrosion Resistance: 50 hours exposure to salt spray
- To obtain military plating (yellow chromate cadmium) exclude «TLF» in the part number (ex: 863005A)
- Thread: UNC 4-40



25• LEVER LOCKS



- Material: Steel
- Plating: Passivated

| Shell Size | Material | Plating | A | B | M3 Thread | | UNC 4-40 Thread | |
|------------|----------|------------|-------|-------|------------|------------|-----------------|------------|
| | | | | | Female | Male | Female | Male |
| E, A, B, C | Steel | Passivated | 12.50 | 14.30 | 86303425LF | 86552096LF | 86303425060LF | 86552098LF |

► D-Sub Accessories

26• METAL DUST CAPS

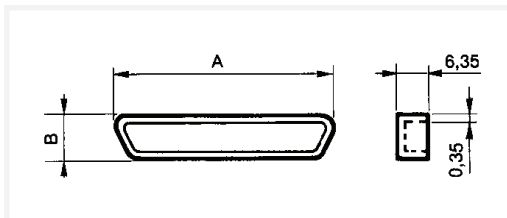
| Shell size | Connector Type Compatibility | Part Numbers | Diameter |
|------------|------------------------------|--------------|----------|
| E | Male | 86553148TLF | 30 |
| | Female | 86553113TLF | 30 |
| | | 86553138TLF* | 30 |
| A | Male | 86553149TLF | 25 |
| | Female | 86553114TLF | 25 |
| | | 86553139TLF* | 25 |
| B | Male | 86553150TLF | 20 |
| | Female | 86553115TLF | 20 |
| | | 86553140TLF* | 20 |
| C | Male | 86553151TLF | 15 |
| | Female | 86553116TLF | 15 |
| | | 86553141TLF* | 15 |
| D | Male | 86553152TLF | 10 |
| | Female | 86553117TLF | 10 |
| | | 86553142TLF* | 10 |

* Sealed caps IP 65



- Material: Steel
- Plating: Bright tin

27• PLASTIC DUST CAPS



| Shell size | For Male Connector | A | B | For Female Connector | A | B |
|------------|--------------------|-------|-------|----------------------|-------|-------|
| E | 70518BLF | 19.17 | 10.30 | 70523BLF | 17.77 | 9.0 |
| A | 70519BLF | 27.50 | 10.30 | 70524BLF | 26.10 | 9.0 |
| B | 70520BLF | 41.67 | 10.70 | 70525BLF | 39.82 | 9.0 |
| C | 70521BLF | 58.13 | 10.70 | 70526BLF | 56.28 | 9.0 |
| D | 70522BLF | 55.49 | 13.40 | 70527BLF | 53.89 | 11.85 |

- Material: Thermoplastic
- Color: Black
- For Red colour, to change the "B" to "C" in P/N logic, Eg: 70518CLF

▶ D-Sub Accessories

28• ATTACHING CORD FOR METAL CAPS

86553156LF (Length = 100 mm) Packaging: Individual



INODSUBACC092IEA4

MDBR Series Rugged D-Subminiature Connectors

RUGGED D-SUB CONNECTORS FOR HARSH ENVIRONMENT APPLICATION, GENERATION 2

Amphenol's MDBR series D-Sub Connectors serve many markets and applications across the globe including Automotive, Communications, Industrial, Medical and Military.

MDBR series is a line of Generation 2 ruggedized D-Sub connectors with die cast housings and IP67 sealing, designed for Harsh Environment applications. MDBR provides a standard D-Sub interface. Protection is provided for the ingress of water when immersed to a 1.0m depth for a period of 30 minutes and the ingress of dust less than 75 microns under 2 kPa vacuum pressure.

- IP67 environmental sealing protects against water and dust
- Die cast metal housings protect against mechanical damage
- Operating temperature range from -40°C to $+105^{\circ}\text{C}$ for extreme conditions
- RoHS compliant to meet environmental standards

FEATURES

- Internal and external seals made with flexible silicone rubber
- Die cast metal housings
- Improved thermal cycling performance
- Mates with existing standard connectors
- Similar in size compared to standard equivalents
- Machined contacts plated with 30u" gold
- Wide variety of mounting and termination options
- RoHS compliant



TARGET MARKETS



BENEFITS

- Excellent sealing to IP67 and higher protection over wide temperature range
- Protects equipment from water and dust incursion
- Mechanically rugged and stable to protect against shock, vibration and impact
- Prevents distortion
- Suitable for outdoor application with wide operating temperature range
- Suitable for a wide variety of mating connectors which are readily available
- Able to replace existing standard parts with little to no changes
- Extremely durable for demanding applications
- Replace virtually any existing standard connector using standard footprints and mounting hardware
- Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- External Shell: Die Cast Zinc, Nickel Plated
- Insulator Housing: High Temperature Resistant Nylon, Glass Reinforced, UL940V-0, Black
- Contacts: Machined Phosphor Bronze or Brass Alloy Plated with 0.76um (30u”) min Gold over 1.27um (50u”) min Nickel
- Gaskets & O-rings: Silicone Rubber, Black or Red
- Jack Sockets: Stainless Steel
- Dust Covers: Silicone Rubber, Grey, with Nickel Plated Brass Bushing
- Threaded Inserts: Nickel Plated Steel

ELECTRICAL PERFORMANCE

- Current Rating: Standard Density – 5A max., High Density – 3A max.
- Contact Resistance: 20mΩ max.
- Insulation Resistance: 5000mΩ min.
- Dielectric Withstanding Voltage: Standard Density–1500V DC, High Density–1200V DC

MECHANICAL PERFORMANCE

- Water & Dust Protection Level: Code IP67 per IEC 60529
- Operating Temperature: –40°C to +105°C
- Contact Insertion Force: Standard Density – 5.0N (18ozf) max, 3.3N (12ozf) max Average Initial, High Density – 5.0N (18ozf) max, 2.6N (9.5ozf) max Average Initial
- Durability: Per EIA 364–09, 500 Mating Cycles
- Vibration: Per EIA 364–28 Condition V, Letter D, 4.5 Hrs, No Discontinuity > 1μs
- Shock: Per EIA 364–27 Test Condition A (11ms, 50g, 1/2 Sine), No Discontinuity > 1μs

SPECIFICATION

- Amphenol Product Specification: MIL-DTL–24308

APPROVALS AND CERTIFICATIONS

- RoHS

ENVIRONMENTAL

- Temperature Life w/o Load: Per EIA–364–17, 105°C, 1000 Hours
- Thermal Shock: Per EIA–364–32, –55°C to +105°C, 25 Cycles
- Humidity: Per EIA–364–31, 10 Cycles, 240 Hrs, 25°C to 65°C, 90–95%RH, with –10°C Cold Shock
- Thermal Cycling: Per EIA–364–110, 500 Cycles, 15°C to 85°C
- Mixed Flowing Gas: Per EIA 364–65 Class IIA (Cl2, No2, H2S & SO2), 14 Day Exposure
- Isopropyl Alcohol & 5% Sodium Hydroxide Solution, 24 Hrs Each
- Solderability: Per EIA–364–52, 95% Coverage after Category 2 Steam Aging

PACKAGING

- Tray

TARGET MARKETS/APPLICATIONS



Transportation



Datacom
Telecom



Energy
Industrial
Rail

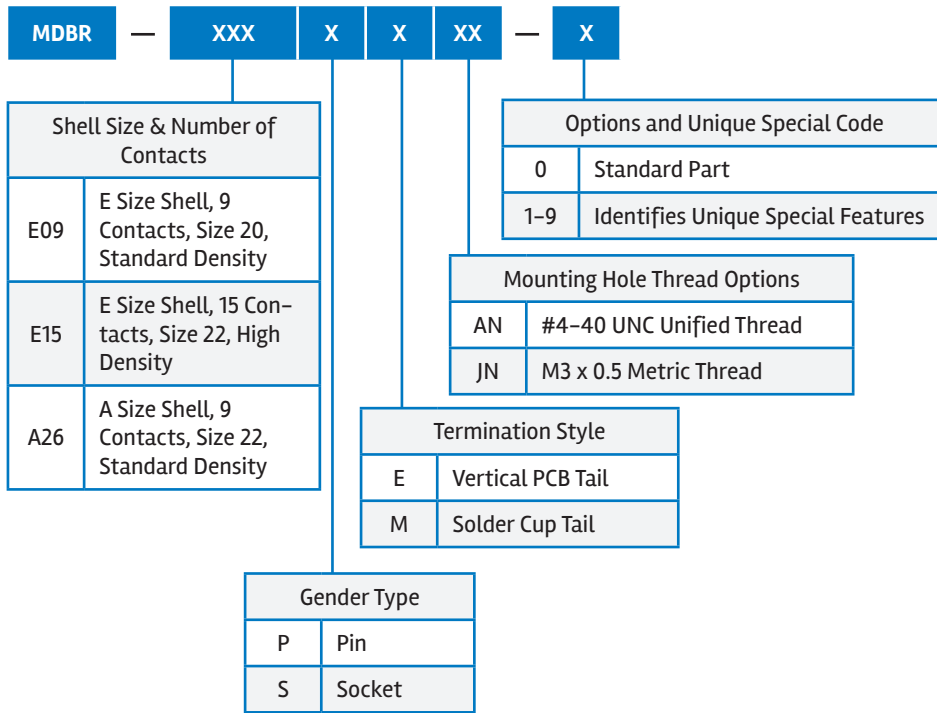


Medical



Military

PART NUMBER SELECTOR







Amphenol

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