

D-SUBMINIATURE CONNECTORS

AMPHENOL® DIN 41612 TWO-PIECE
PRINTED CIRCUIT BOARD CONNECTORS
SHORT FORM CATALOG



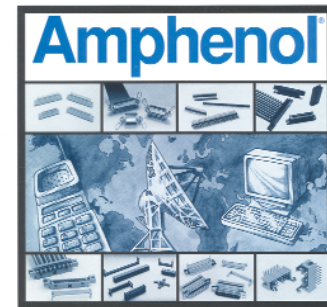
**DIN 41612
Circuit Board Connectors**



**FCC Filtered
Connectors**

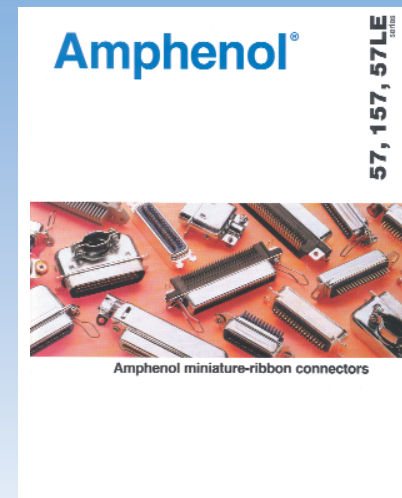


**RJ Modular
Jacks**



HEADERS & SOCKETS
AND
MASS-TERMINATED
IDC CONNECTORS

**IDC
Connectors**



**Miniature
Ribbon Connectors**

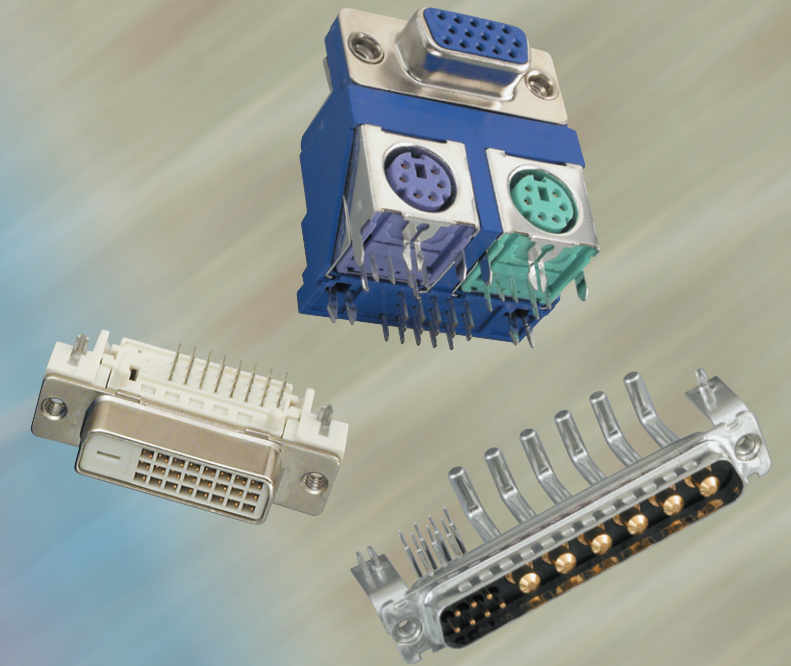
Amphenol®

Data / Telecom Products

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Amphenol®

ACCESSORIES

STANDARD DENSITY

SURFACE MOUNT RECEPTACLES

HIGH DENSITY

GENERAL DESCRIPTION:

Amphenol's line of D-Subminiature rack and panel connectors is part of an industry standard for applications requiring reliable, rugged, connectors. These connectors are designed to accommodate rack and panel, cable to panel and cable to cable applications. D-Subminiature connectors are pin and socket devices that employ contacts encased in a molded dielectric insert surrounded by a "D" shaped shell for polarization.

MARKETS:

Amphenol D-Subminiature connectors can be used in commercial, industrial or military markets. We offer a broad selection of dielectric materials and contact styles and configurations to meet all of your design requirements.

APPLICATIONS INCLUDE:

- Business equipment
- Electronic office systems
- Data communications
- Medical equipment
- Mobile communications
- Consumer electronics

AMPHENOL D-SUB FEATURES:

- Industry standard interfacing RS232 and RS449 mating configurations per EIA standards.
- UL Component Recognition File number E64911 (617, 841, 17, 17D, 17HD, ED, 17RR, 17SD, 117DF, 17BH, 17TW)
- Variations available:
 - Solder cup
 - Straight pc mount solder
 - Right angle pc mount solder
 - Solderless wire wrap
 - Crimp
 - High Density Right Angle
 - High Density Straight
 - Stacked Right Angle PC mount
 - Surface mount
- Five shell sizes offer widest choice of contact positions: 9, 15, 25, 37 and 50 in standard density and 15, 26, 44, 62 and 78 positions in high-density.
- Inserts are flame-retardant thermoplastic.
- Accessories for all applications are available including strain reliefs, cable clamps, shielded backshells, mating hardware and connector to pc board mounting hardware.
- Automatic and manual tooling is available for both crimp and IDC versions.
- Contact Amphenol for lease information.

High Density

SPECIFICATIONS:

MATERIALS AND PLATINGS

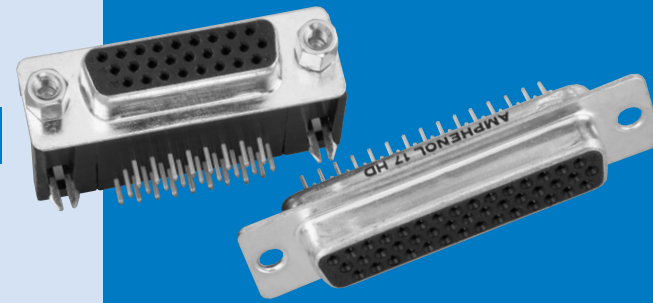
Shells	Steel, tin plated, grounding indents on plug.
Contact Material	Copper alloy
Contact Plating	Engagement area: gold (see ordering information).
Termination End	150µ" (3.81µm) tin/lead
Nickel Underplate	50µ" (1.27µm) entire contact

ELECTRICAL DATA

Current Rating	3 Amps maximum per contact
Voltage Rating	125 VAC
Dielectric Withstanding Voltage	1000 VAC (minimum)
Dielectric	Glass filled thermoplastic, black, UL 94 VO
Insulation Resistance	5,000 Megaohms (minimum)
Contact Resistance	15 Milliohms (maximum)

CLIMATIC DATA

Operating Temperature	-67°F (-55°C) to 221°F (105°C)
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17E BH/HD SERIES

Amphenol's High Density D-Subminiature connectors complement Amphenol's extensive D-Subminiature connector line. This line of connectors offers many superior features, high performance level and low installation cost.

The connector configurations are available in 15, 26, 44, 62 and 78 positions.

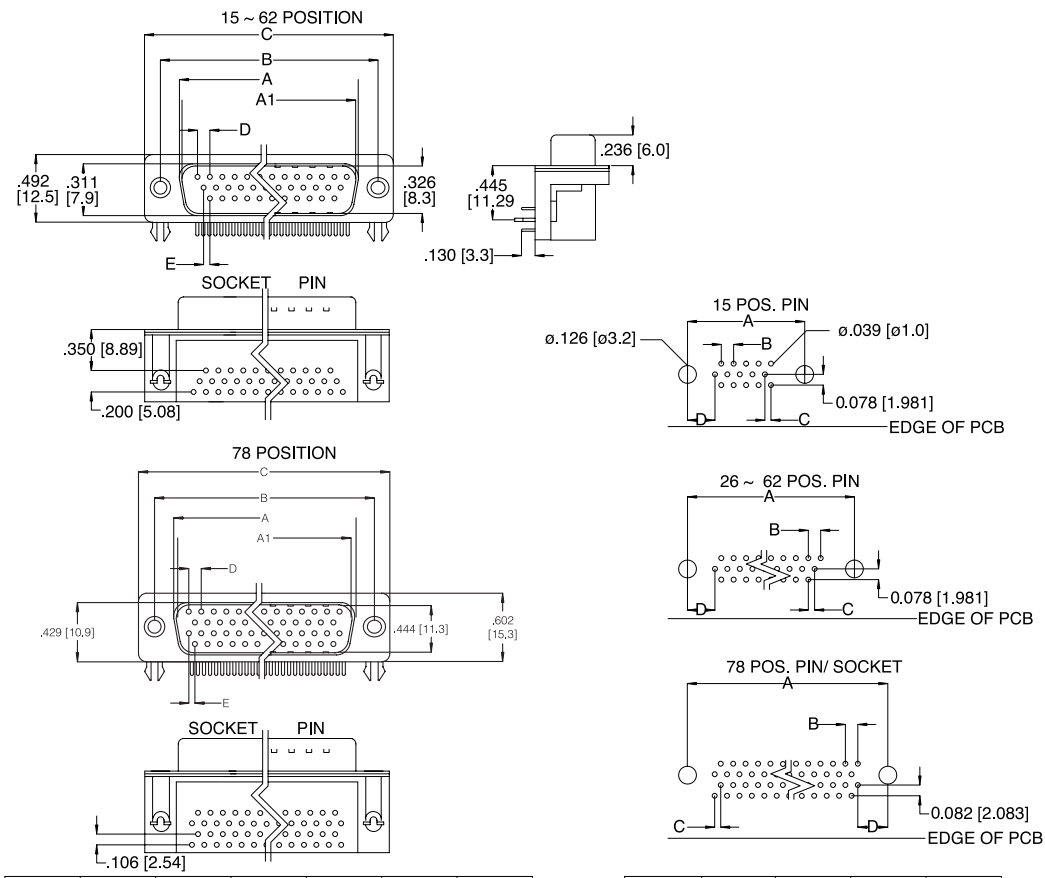
The product offering includes PCB mount connectors in both straight or right angle termination styles. Straight PCB mount are available in both Fixed Screw Machine and Stamped and Formed contacts, while Right Angle PCB mount are only available with Stamped and Formed contacts.

A cable mount version with solder terminations is also available, which can be combined with Amphenol's standard line of shielded or unshielded backshells.

- Industrial
- Telecom
- Any industry standard I / O connections

INCHES (MM)

DIMENSIONS FOR 15 - 62 POSITION (3 ROW)(SHOWN WITH FIXED FEMALE SCREWLOCKS) DIMENSIONS FOR THE 78 POSITION (4 ROW)



CONTACTS	A SOCKET	A1 PIN	B	C	D	E
15	.642 [16.30]	.666 [16.92]	.984 [25.0]	1.213 [30.8]	.090 [2.29]	.045 [1.145]
26	.969 [24.6]	.994 [25.25]	1.311 [33.3]	1.543 [39.2]	.090 [2.29]	.045 [1.145]
44	1.508 [38.3]	1.534 [38.96]	1.854 [47.1]	2.091 [53.1]	.090 [2.29]	.045 [1.145]
62	2.157 [54.8]	2.182 [55.42]	2.50 [63.5]	2.732 [69.4]	.095 [2.41]	.047 [1.205]
78	2.05 [52.20]	2.079 [52.81]	2.40 [61.0]	2.638 [67.0]	.095 [2.41]	.047 [1.205]

CONTACTS	A	B	C	D
15	.984 [25.0]	.090 [2.29]	.045 [1.145]	.277 [7.04]
26	1.311 [33.3]	.090 [2.29]	.045 [1.145]	.271 [6.88]
44	1.854 [47.1]	.090 [2.29]	.045 [1.145]	.271 [6.88]
62	2.50 [63.5]	.095 [2.41]	.047 [1.205]	.275 [7.00]
78	2.402 [61.0]	.095 [2.41]	.047 [1.205]	.300 [7.63]

ORDERING INFORMATION

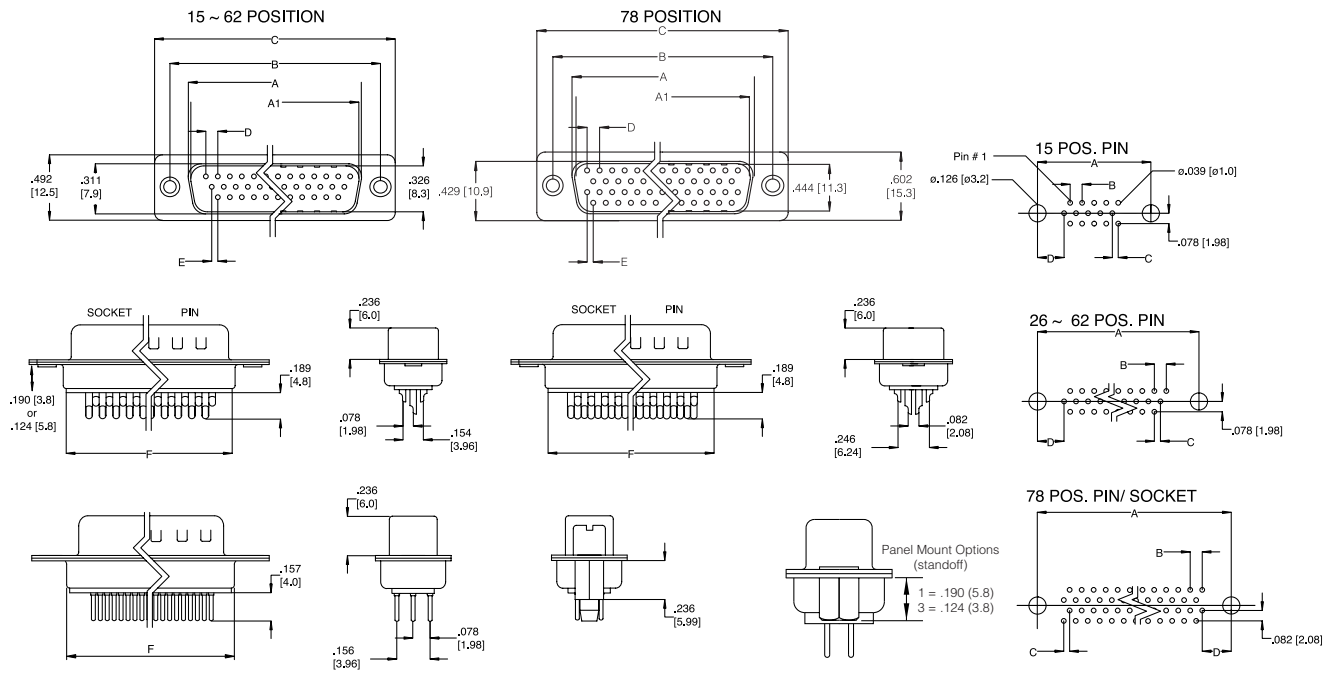
17EBH Series High Density D-Sub

Front Metal Shell, Right-Angle PC Mount

17EBH 0XX X XX X XX

Series	17EBH	PCB Mount Options	00 Clear hole
Number Of Positions	0XX	10 Arrowhead Board	
Type	X	Panel Mounting Options	0 .120 (3.05) Clear Hole
P Pin (male)		1 #4-40 Threaded Hole	
S Socket (female)		2 #4-40 Fixed Female Screw	
	XX	Plating Code	AA Gold Flash over Nickel
			AM 30µ* (.76µm) Gold over Nickel

DIMENSIONS



CONTACTS	A SOCKET	A1 PIN	B	C	D	E	F
15	.642 [16.30]	.666 [16.92]	.984 [25.0]	1.213 [30.8]	.090 [2.29]	.045 [1.145]	.756 [19.2]
26	.969 [24.6]	.994 [25.25]	1.311 [33.3]	1.543 [39.2]	.090 [2.29]	.045 [1.145]	1.071 [27.2]
44	1.508 [38.3]	1.534 [38.96]	1.854 [47.1]	2.091 [53.1]	.090 [2.29]	.045 [1.145]	1.618 [41.1]
62	2.157 [54.8]	2.182 [55.42]	2.50 [63.5]	2.732 [69.4]	.095 [2.41]	.047 [1.205]	2.256 [57.3]
78	2.05 [52.20]	2.079 [52.81]	2.40 [61.0]	2.638 [67.0]	.095 [2.41]	.047 [1.205]	2.169 [55.1]

CONTACTS	A	B	C	D
15	.984 [25.0]	.090 [2.29]	.045 [1.145]	.277 [7.04]
26	1.311 [33.3]	.090 [2.29]	.045 [1.145]	.277 [7.04]
44	1.854 [47.1]	.090 [2.29]	.045 [1.145]	.277 [7.04]
62	2.50 [63.5]	.095 [2.41]	.047 [0.120]	0.699
78	2.402 [61.0]	.095 [2.41]	.047 [0.120]	0.699

ORDERING INFORMATION

17E HD Series High Density D-Sub

Solder Cup & Straight P.C. Mount, Front Metal Shell Fixed Contact

17EHD 0XX X XX X XX

Series
 Number Of Positions
 15, 26, 44, 62, 78
 Type
 P Pin (male)
 S Socket (female)

Termination Types:
 00 Solder Cup
 30 Board-mount, Vertical
 32 Board-mount, Vertical with Boardlocks
 33 Board-mount, Vertical with standoff,
 no boardlock

Panel Mounting Options:
 0 .120 (3.05) Clear Hole
 1 #4-40 Threaded Hole .190 (5.8)
 2 #4-40 Fixed Female Screwlock
 3 #4-40 Threaded Hole .124 (3.8)

Plating Code:
 AA Gold Flash over Nickel
 AM 30µ* (.76µm) Gold over Nickel

INCHES (MM)

**Right-Angle Board Mount Connectors
Front Metal Shell**

SPECIFICATIONS:

MATERIALS AND PLATINGS

Shells	Steel, tin plated
Contacts	Precision formed copper alloy
Contact Plating	Gold over nickel
Contact Forces	Engagement: 12 oz. max. (340.2 g) Separation: .75 oz. min. (21.26 g)

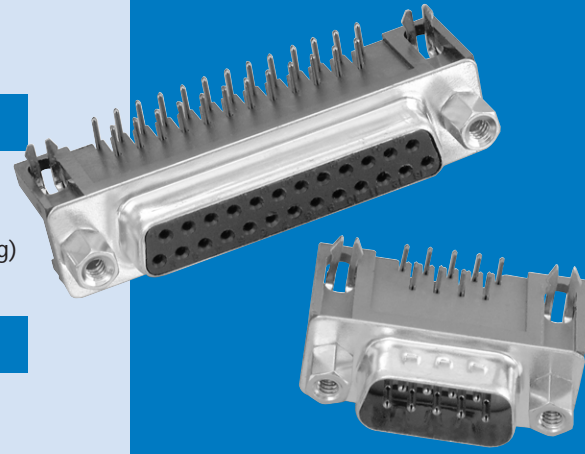
ELECTRICAL DATA

Current Rating	5 amps
Dielectric Withstanding Voltage	1000 VAC/60 sec.
Dielectric	Glass filled thermoplastic, black, UL 94 VO
Contact Resistance	15 milliohms max.

CLIMATIC DATA

Temperature Range	-67°F (-55°C) to 221°F (105°C)
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6E17 SERIES

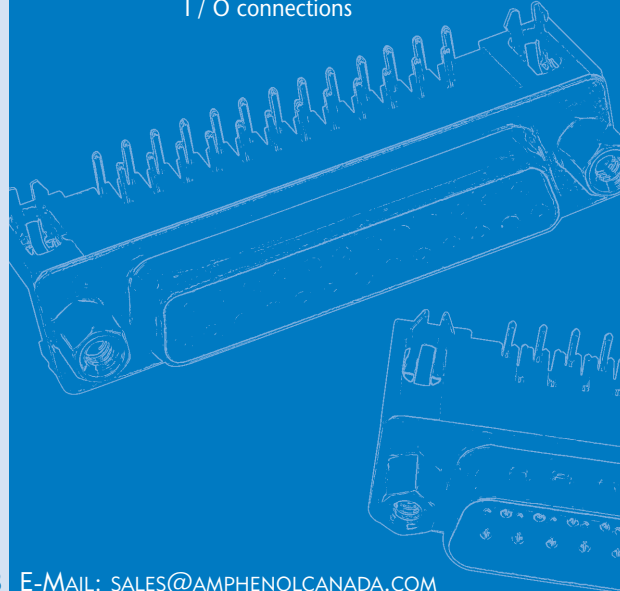


Amphenol's 6E17 series of right angle commercial connectors provide high performance at competitive prices.

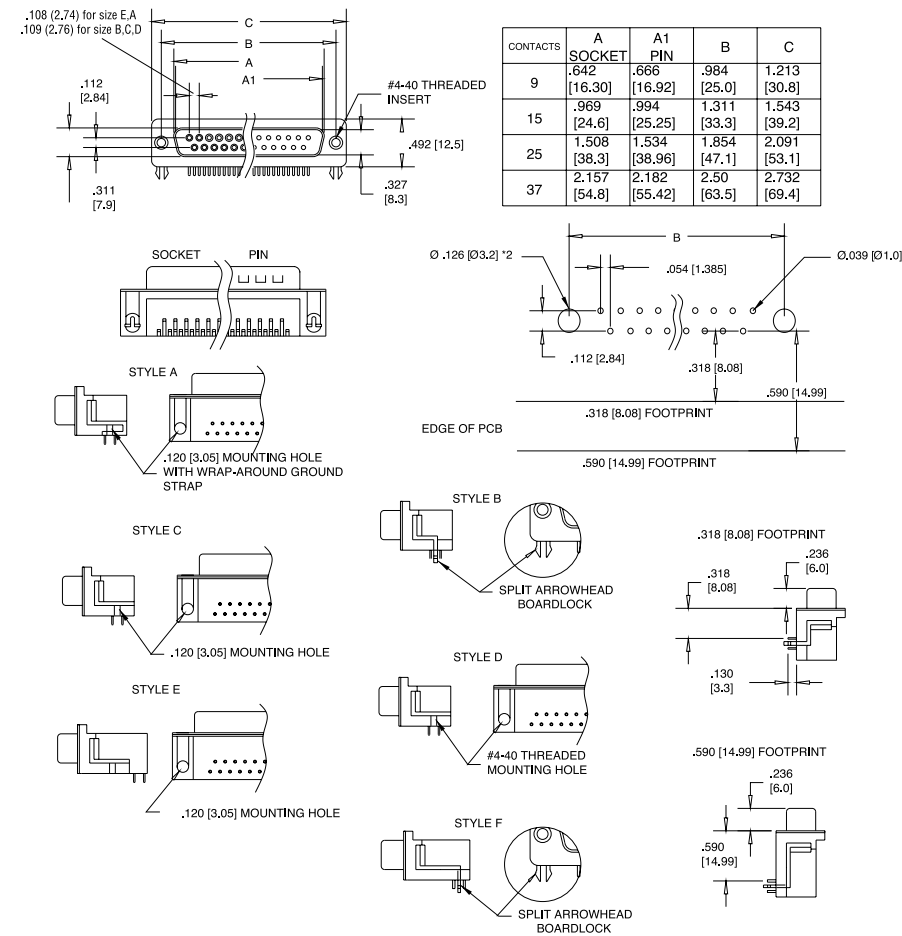
The front metal shell helps to provide reduced EMI/ RFI emissions, and the contacts are selectively plated to provide additional high performance. The 6E17 series are available in a variety of board mounting and grounding options including arrowhead boardlocks and #4-40 threaded inserts.

Front mounting holes are also available threaded, un-threaded and with installed female hex screwlocks.

- Industrial
- Telecom
- Any industry standard I / O connections



DIMENSIONS



ORDERING INFORMATION

Series: **6E17 X** **0XX** **X** **XX** **X** **XX** **X**

Number of Contacts: 09, 15, 25, 37

.318 (8.08) Footprint	.590 (14.99) Footprint	Description of PC Board Mounting Characteristics	Style
A		.120 (3.05) diameter mtg hole with wrap-around ground strap	A
C		split arrowhead boardlock	B
D	U	.120 (3.05) diameter mtg hole	C&E
J		#4-40 threaded mtg hole	D
	Y	split arrowhead boardlock	F

Code
P Pin (male)
S Socket (female)

Contact Type
Pin (male)
Socket (female)

Contact
20 Tin plated receptacle
21 Tin plated plug with grounding indents

Code
0 .120 (3.05) clear hole
1 #4-40 threaded hole
2 #4-40 threaded hole with female screwlock
4 Fixed female round screwlock

Code
BF **Contact Plating**
Engagement area 3µ" (.076µm) gold flash, terminal end area 100µ"/200µ" (2.54µm/5.08µm) tin/lead underplate of 50µ" (1.27µm) nickel
CF Engagement area 15µ" (.381µm) gold flash, terminal end area 100µ"/200µ" (2.54µm/5.08µm) tin/lead underplate of 50µ" (1.27µm) nickel
AJ Engagement area 30µ" (.76µm) gold, terminal end area 100µ"/200µ" (2.54µm/5.08µm) tin/lead underplate of 50µ" (1.27µm) nickel

Variation Code: E for U & Y Footprint

Panel Mounting Options
0 .120 (3.05) clear hole
1 #4-40 threaded hole
2 #4-40 threaded hole with female screwlock
4 Fixed female round screwlock

Contact Plating
BF Engagement area 3µ" (.076µm) gold flash, terminal end area 100µ"/200µ" (2.54µm/5.08µm) tin/lead underplate of 50µ" (1.27µm) nickel
CF Engagement area 15µ" (.381µm) gold flash, terminal end area 100µ"/200µ" (2.54µm/5.08µm) tin/lead underplate of 50µ" (1.27µm) nickel
AJ Engagement area 30µ" (.76µm) gold, terminal end area 100µ"/200µ" (2.54µm/5.08µm) tin/lead underplate of 50µ" (1.27µm) nickel

For filtered version, see page 56.

Dual Port Connectors

SPECIFICATIONS:

MATERIALS AND PLATINGS

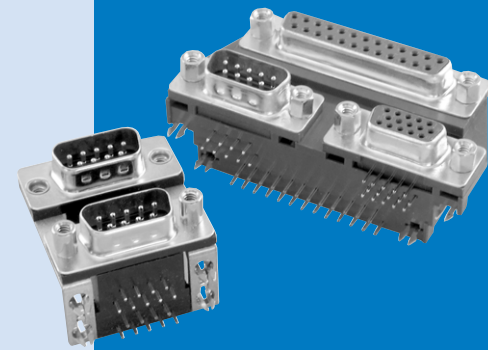
Shells	Steel, tin plated
Contacts	Precision formed copper alloy
Contact Plating	Gold over nickel
Contact Forces	Engagement: 12 oz. max. (340.2 g) Separation: .75 oz. min. (21.26 g)

ELECTRICAL DATA

Current Rating	5 amps
Dielectric Withstanding Voltage	1000 VAC/60 sec.
Dielectric	Glass filled thermoplastic, black, UL 94 VO
Contact Resistance	15 milliohms max.

CLIMATIC DATA

Temperature Range	-67°F (-55°C) to 221°F (105°C)
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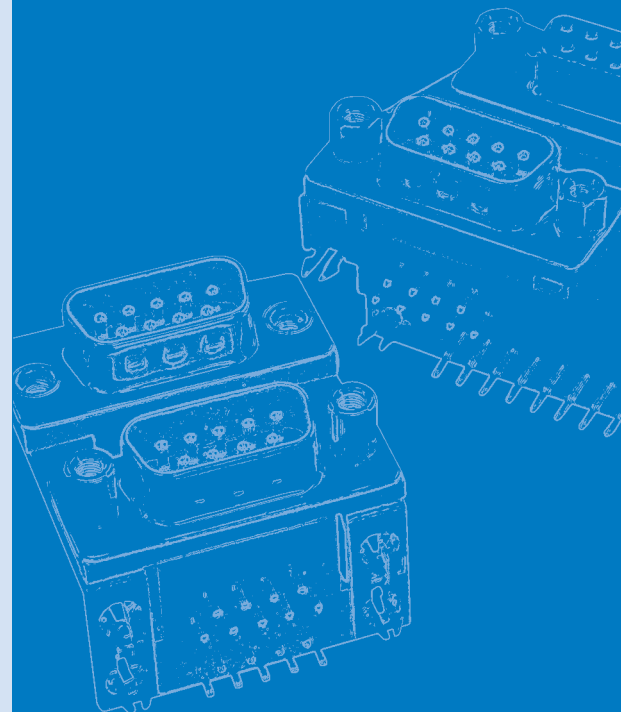
6E17 H SERIES

Amphenol's 61E7 series dual port connectors are a state of the art design. The front metal shell helps reduce EMI/RFI emissions.

Contacts are selectively plated for high performance at a low cost.

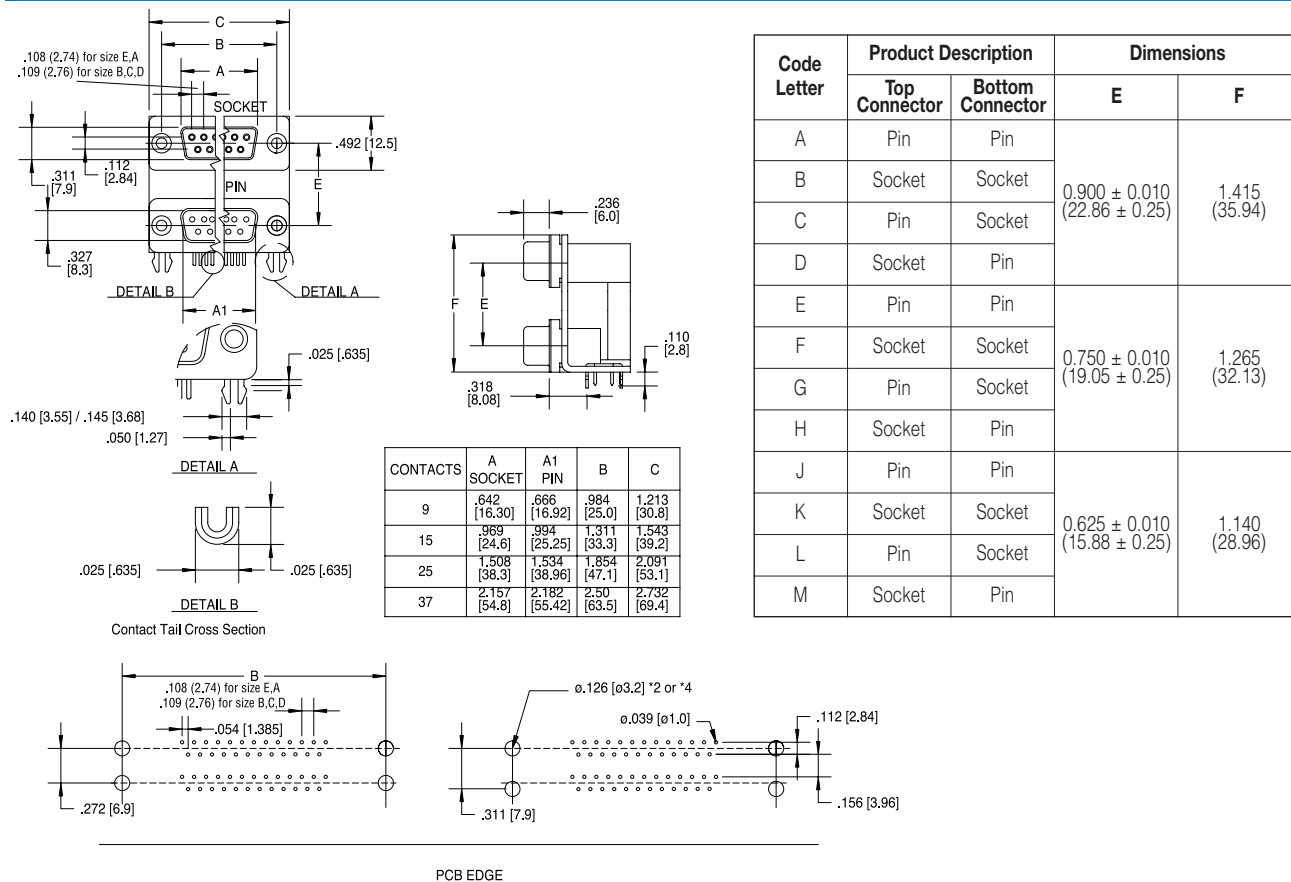
Designed to save PC board space, Amphenol's dual port "D" provides two input output connectors in a minimal amount of board space.

These connectors are available with various stacking options: same gender, mixed gender and multiple pin counts.



INCHES (MM)

DIMENSIONS



ORDERING INFORMATION

6E17H X XX X XX X XX X

Series 6E17H Dual port; right angle solder tail

Code Boardlock
 C Boardlock option
 O No PC boardlock

Code Number of Contacts
 18 2 x 9 15 15 over blank
 30 2 x 15 34 9 / 25
 50 2 x 25 43 25 / 9+9
 74 2 x 37 H15A VGA / Triple Audio
 40 15 / 25

Variation Code
 L for .311 (7.89) Footprint

Code Housing Characteristics
 00 Steel shell, tin plated receptacles without grounding dimples (options B, F, K)
 01 Steel shells, tin plated plugs with grounding dimples (options A, E, J)
 03 Steel shells, tin plated, plug shell with grounding dimples and receptacle shell without dimples (options C,G,L,D,H,M)

Code Panel Mounting Options
 0 120° clear hole
 1 #4-40 threaded hole
 2 #4-40 threaded hole with female screwlock

Code Contact Plating
 BF Engagement area 3µ (.076µm) gold flash, terminal end area 100µ/200µ tin/lead, (2.54µm/5.08µm) tin/lead underplate of 50µ (1.27µm) nickel
 CF Engagement area 15µ (.381µm) gold flash, terminal end area 100µ/200µ (2.54µm/5.08µm) tin/lead underplate of 50µ (1.27µm) nickel
 AJ Engagement area 30µ (.76µm) gold, terminal end area 100µ/200µ (2.54µm/5.08µm) tin/lead underplate of 50µ (1.27µm) nickel

Consult factory for other available configurations

58.064 (22.86) Spacing	48.388 (19.05) Spacing	40.31 (15.87) Spacing	Product Description	
			Top Connector	Bottom Connector
A	E	J	Pin	Pin
B	F	K	Socket	Socket
C	G	L	Pin	Socket
D	H	M	Socket	Pin

For filtered version, see page 55.

**High Temperature
Straight Board Mount Connectors**

SPECIFICATIONS:

MATERIALS AND PLATINGS

Shells	Steel/nickel plated
Contacts	Precision formed copper alloy
Contact Plating	Gold over nickel

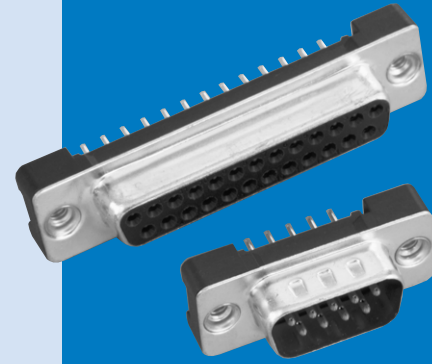
ELECTRICAL DATA

Current Rating	5 amps
Voltage Rating	600 V
Dielectric	Glass filled thermoplastic, black, UL 94 VO
Contact Resistance	10 milliohms (max.)

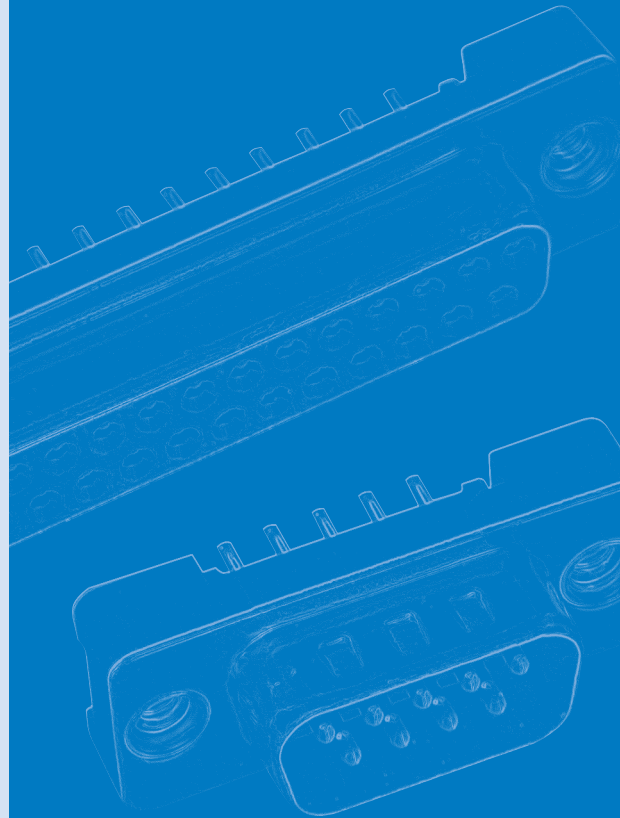
CLIMATIC DATA

Temperature Range	Environmental: -67°F (-55°C) to 302°F (150°C)
Process Compatibility	IR-Air Convection 500°F (260°C) for 20 seconds

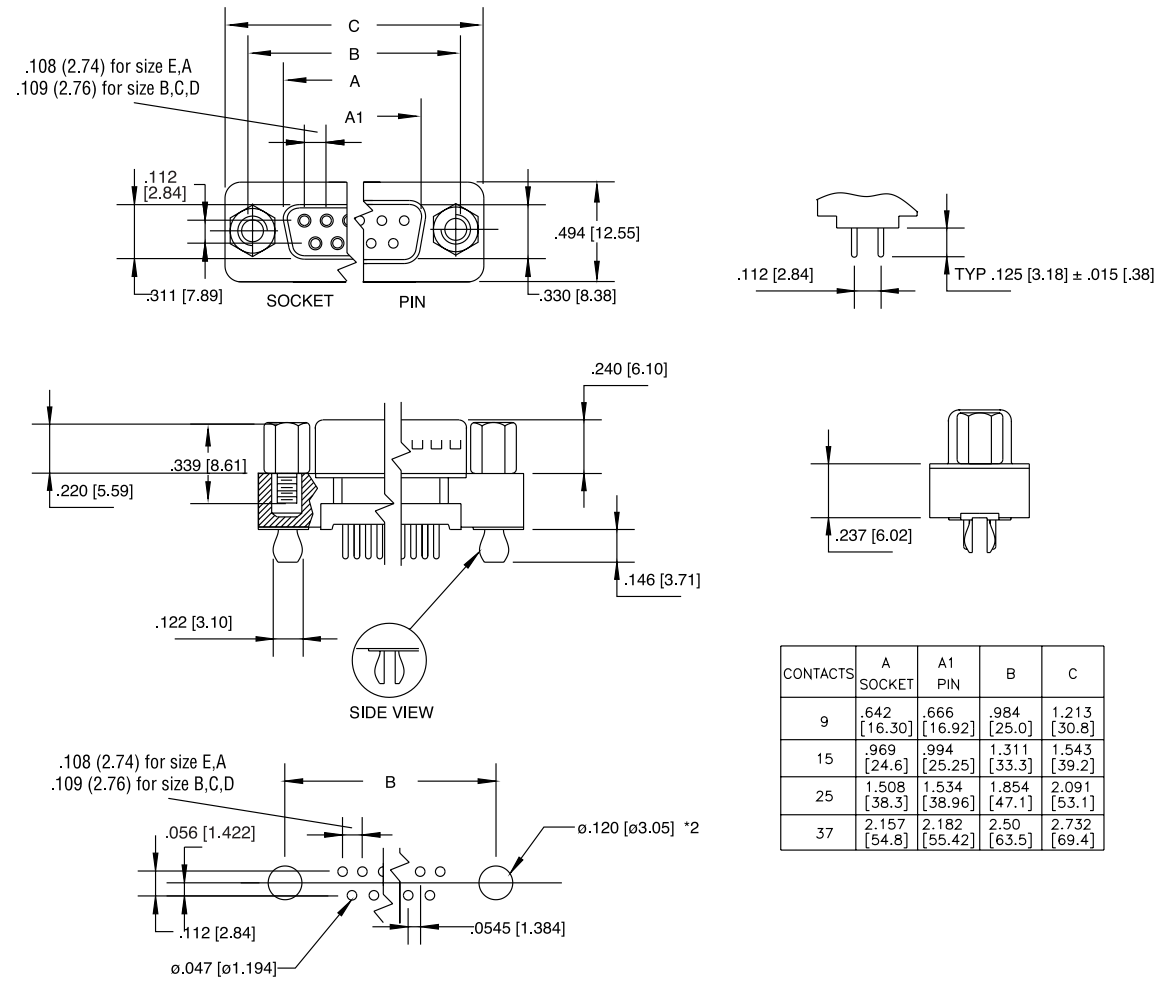
6E17S SERIES



Amphenol's high temperature, low profile D-Sub connector gives you a high quality, reliable commercial connector to meet today's market demands.



DIMENSIONS



ORDERING INFORMATION

6E17S C OXX X XX X XX

Series —————

Code Boardlock —————

C Split arrowhead boardlock
O No boardlock

Number of contacts —————

9, 15, 25 or 37

Code Gender —————

P Pin (male)
S Socket (female)

Code Contact Plating —————

BJ Engagement area 10µ" (2.54µ) gold,
terminal end area 100µ"200µ" (2.54µ/5.08µ)
-tin/lead, underplate of 50µ" (1.27µ) nickel

AJ Engagement area 30µ" (.76µ) gold,
terminal end area 100µ"200µ" (2.54µ/5.08µ)
-tin/lead, underplate of 50µ" (1.27µ) nickel

Code Housing Characteristics

20 Tin plated receptacle
21 Tin plated

Code Panel Mounting Options

1 #4-40 threaded hole
2 #4-40 threaded hole with female screwlock
3 M-3 threaded hole

ED-EHD

D-Sub connectors - Screw-machined contacts

STANDARD AND HIGH DENSITY WATERPROOF CONNECTORS



CHARACTERISTICS

Materials and Platings	
Shells	Steel 2.5µm(100µ") min tin over 1.25µm(50µ") min nickel
Body	Glass-filled thermoplastic Flame retardant to UL94 V-0 Color Black
Contacts	Copper alloy(Brass for plug, Phosphor bronze for socket) gold over 1.25µm(50µ") min nickel
Boardlock	Copper alloy, 100µ" min. sn over 50µ" min. nickel.
Standoff	Copper alloy, 100µ" min. sn over 50µ" min. nickel.

Electrical Data	
Current rating	5.0A
Voltage rating	300V rms at 50Hz
Insulation resistance	>5000MΩ
Contact resistance	20mΩ Max.

Climatic Data	
Operating temperature	-55°C to +85°C
Salt spray	48 hours
Waterproof rating	IP 67 minimum

Mechanical Data					
Mating and unmating force					
Unit: kg (lb)					
No. of Cts		ED		EHD	
ED	EHD	Mate (max)	Unmate (min)	Mate (max)	Unmate (min)
9	15	3.05 (6.74)	0.36 (0.79)	3.81 (8.42)	0.52 (1.14)
15	26	5.09 (11.24)	0.46 (1.01)	5.95 (13.16)	1.05 (2.32)
25	44	8.44 (18.66)	0.81 (1.80)	9.26 (20.46)	1.37 (3.02)
Mating cycles		Gold flash : 100 cycles 0.76µm (30µ") : 500 cycles			

DESCRIPTION

The 17ED and 17EHD series are suitable for waterproof applications.

The machined contacts provide robustness and reliability.

This series offers:

- Panel mount connectors with solder cup, straight and right angle PCB terminations.

Connectors are waterproof unmated.

Harsh environment connectors

APPLICATIONS

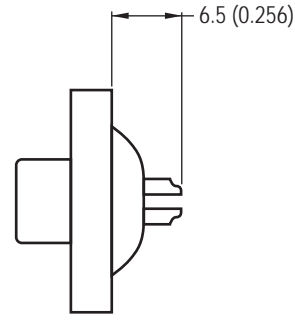
- Marine electronic devices
- Industrial electrical
- Security Monitoring
- Robotics
- Lighting systems

ED-EHD

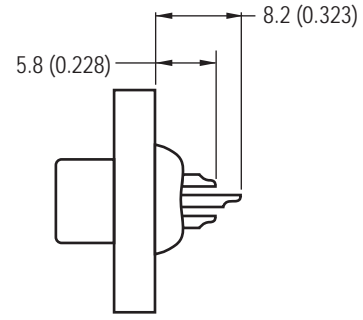


Amphenol

Solder cup (blank) :

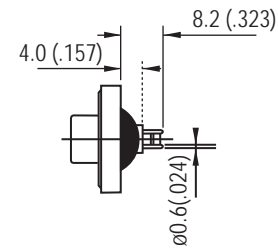


Standard density

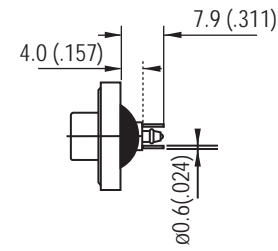


High density

Straight PCB with standoff and boardlocks:

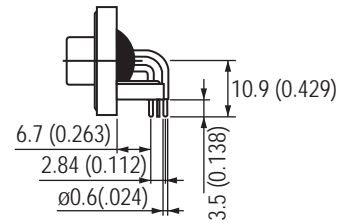


Standard density

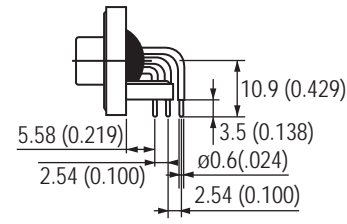


High density

Right angle PCB with brackets and boardlocks:

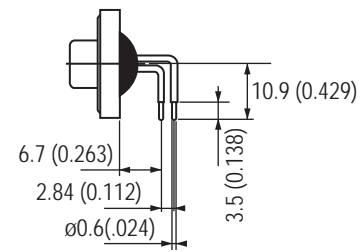


Standard density

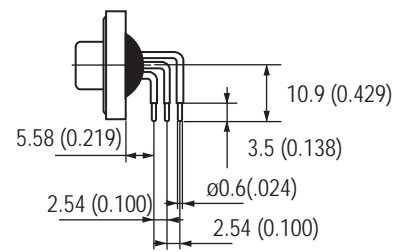


High density

Right angle PCB without brackets and boardlocks:



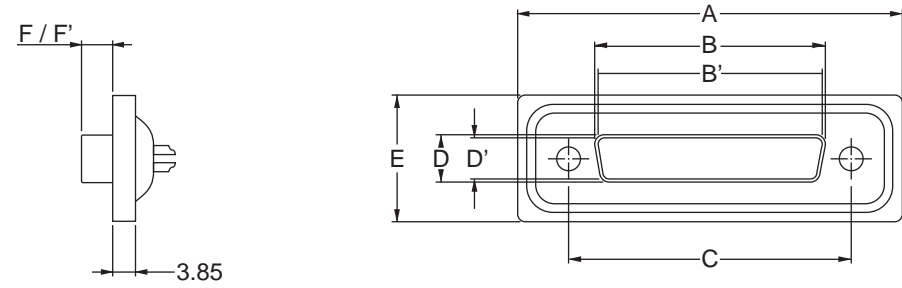
Standard density



High density

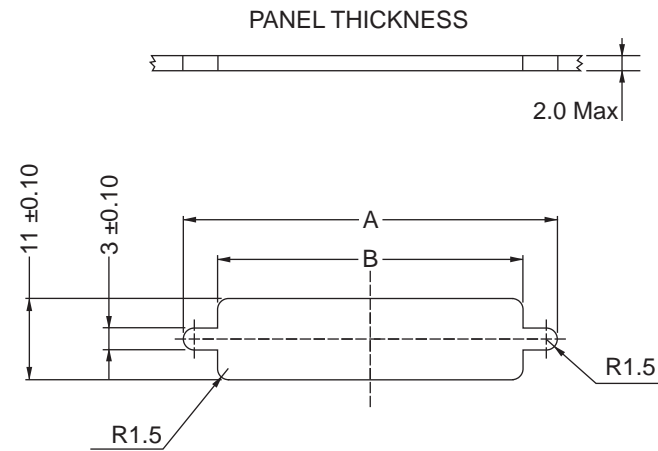


Shell Size Dimensions

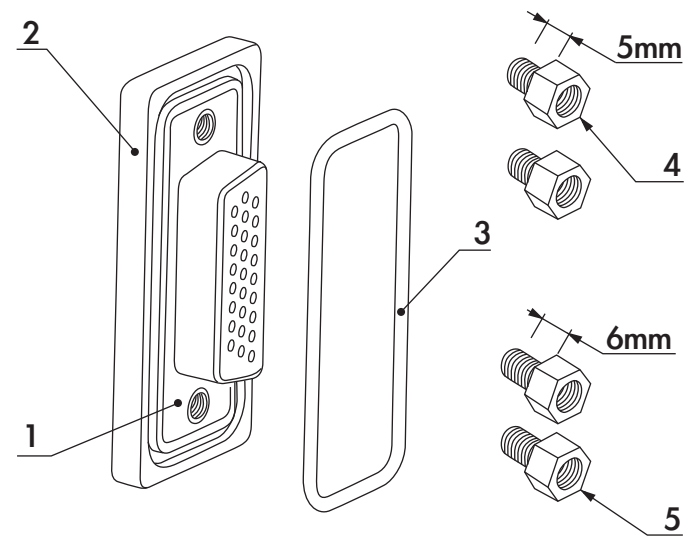


SHELL SIZE	Contact P: pin S: socket	A	B	B'	C	D	D'	E	F	F'
		±0.25 (±.010)	0 / -0.20 (0/- .008)	+0.20 / 0 (+.008/0)	±0.10 (±.004)	0 / -0.25 (0/- .010)	+0.25 / 0 (+.010/0)	±0.25 (±.010)	+0.10/-0.20 (+.004/- .008)	±0.10 (±.004)
E	P	39.4		16.8(0.661)	25.0		8.2(0.325)	21.0		5.9(0.232)
	S	(1.551)	16.4(0.646)		(0.984)	8.0(0.315)		(0.827)	6.2(0.244)	
A	P	47.7		25.1(0.988)	33.3		8.2(0.325)	21.0		5.9(0.232)
	S	(1.878)	24.8(0.976)		(1.311)	8.0(0.315)		(0.827)	6.2(0.244)	
B	P	64.5		28.8(1.528)	47.0		8.2(0.325)	21.0		5.9(0.232)
	S	(2.539)	38.5(1.513)		(1.850)	8.0(0.315)		(0.827)	6.2(0.244)	

Panel cutouts

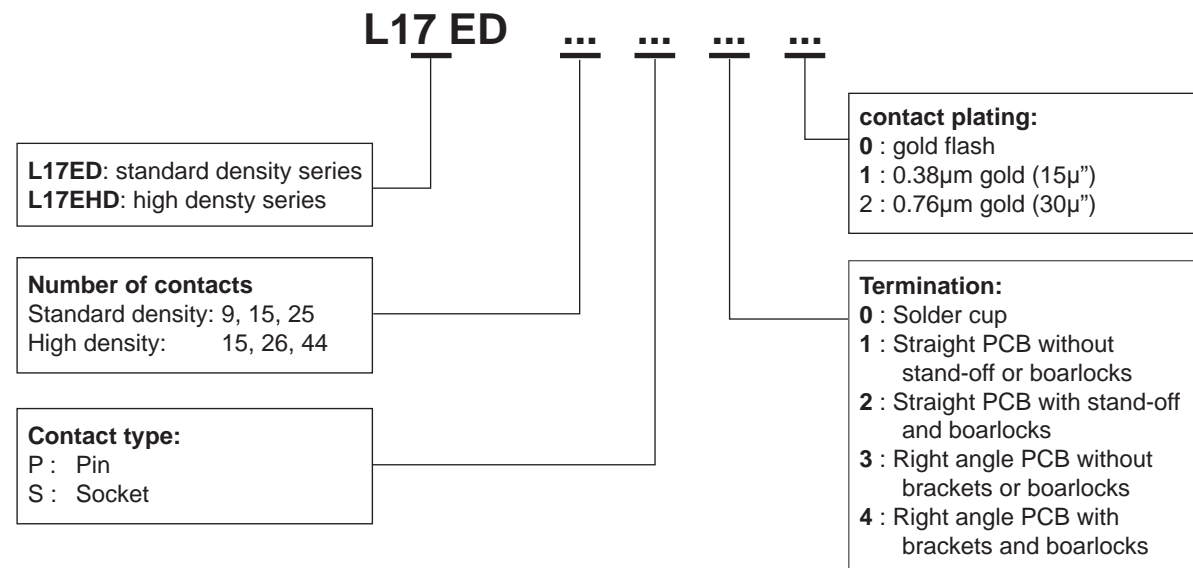


SHELL SIZE	A	B
	±0.10(±.004)	0 / -0.10(0 / -.004)
E	28.8 (1.111)	20.0 (0.788)
A	36.5 (1.438)	28.0 (1.103)
B	51.0 (2.009)	41.5 (1.635)



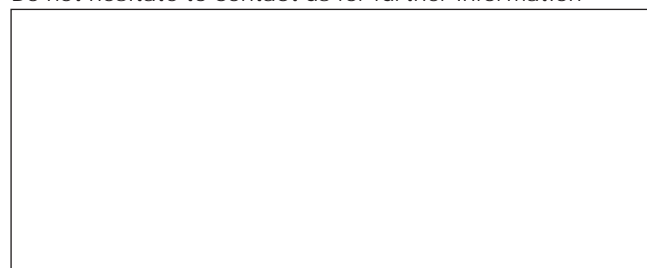
NO	Description	Material	Qty
2	Housing	Black thermoplastic UL 94-VO	1
1	Front shell	Steel tin plated	1
3	Ring	Silicone	1
4	#4-40 Front screw lock	Brass tin plated	2
5	#4-40 Front screw lock	Brass tin plated	2

How to order



For special request, please consult factory

Do not hesitate to contact us for further information



Amphenol

Amphenol IT & Communication Products

Block A3/A4, The 4th Industrial District of
Industrial Headquarters, Dong Keng Road
Gong Ming Town, Shen Zhen China
Fax: +86(0)755 2754 9955

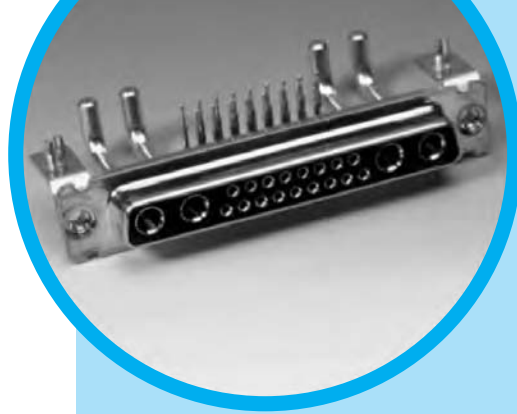
Technical Support

Tel: +86(0)755 2717 7945
Info-dsub@amphenol.com.cn
<http://www.dsubconnector.com>



TW

Hybrid D'Sub series



CONTENT

Specifications

- Connectors according to: MIL C24308 - NFC93425 - HE507

Materials and platings		Electrical Data	
Shells	Steel-Tin plating	Current rating	
Insulators	High temperature black thermoplastic	Signal contacts	7.5 A. with 10 A. peaks
Signal contacts	Female: machined bronze	Power contacts	
Material	Male: machined brass	PCB terminations	10 to 40 A.
Plating finish	16µ "Au over 79µ" Ni min.	Solder cup terminations	10 to 40 A.
Or	30µ "Au over 79µ" Ni min.	Crimp terminations	10 to 40 A.
Shielded contacts	Female: machined bronze	Shielded contacts	0.5 A.
Material	Male: machined brass	Voltage rating	
Plating		Signal and power contacts	300 V.R.M.S. at 50 Hz
Inner conductor	16µ "Au or 30µm Au over 79µ" Ni	Shielded contacts	150 V.R.M.S. at 50 Hz
Outer ring	10µ "Au over 79µ" Ni	Shielded contacts	
Terminations	Tinned	Frequency range	0-1 GHz
Except solder cup and crimp terminations	gold flash	Attenuation	0.2dB
Power contacts	Female: machined bronze	V. S. W. R.	1.4(+0.04/GHz)
Material	Male: machined brass	Characteristic impedance	50 Ohms
Plating		Dielectric withstanding voltage	≥ 1000 V.R.M.S. at 50Hz
Contacts	16µ "Au or 30µ" Au over 79µ" Ni	Insulation resistance	≥ 5000 M Ohms at 500 VDC
Terminations	Tinned	Contact resistance	≤ 5m Ohms
Except solder cup and crimp terminations	gold flash	Shell resistance (electrical grounding)	≤ 1m Ohm
Brackets	Steel-Tin plating		
Front jackscrews	Brass-Tin plating		
Rear clinch nuts	Brass-Tin plating		
Boardlocks	Bronze-Tin plating		
Stand-off	Brass-Tin plating		

Climatic Data		Mechanical data	
Operating temperature	-55°C + 155°C (with peaks up to 180°C)	Shells	With or without dimples
Damp heat	56 days (40°C - 95% HR)	Contact retention force in dielectric material	> 40N
Salt spray	48 hours	Maximum mating and unmating force	
		With dimples	E size = 70 N A size = 80 N B size = 100 N C size = 150 N D size = 180 N
		Without dimples	E size = 30 N A size = 50 N B size = 80 N C size = 120 N D size = 160 N
		Compatible with process	
		IR - Air convectioned	260° for 20 s.
		Resistance to solder iron heat	260°C for 30 s.
		Mating cycles	≥ 200 (classe II) or 500 (classe I)
		Blind mating system	Available upon request
		Polarization	Available with locking accessories Consult factory



DESCRIPTION

Amphenol D'Sub TW Hybrid Series permits a mix of contacts including signal, power, shielded, high voltage and fiber optics in the same housing with 18 different contacts arrangements.

This economic series was first developed from our military series, and has improved features:

- new contacts
- new high temperature black thermoplastic insert
- PCB configurations come preloaded with fixed contacts and brackets.

These connectors are supplied with screw machined contacts which are fixed in the insulator.

A complete range of housings are also available for cable application.

A full range of arrangements compatible with reflow process

APPLICATIONS

- Commercial
- Medical
- Industrial
- Telecom
- Any application requiring optimization of space

TW / E1



Amphenol

CLASS II

0.4µm (16µ") Au contacts gold plating
200 mating cycles

Types	Shells and plating
77 TW	Tin plated shell <i>*Male and female</i>
717 TW	Tin plated shell with dimples <i>Male only</i>








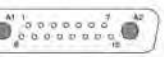


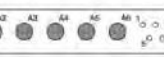







CLASS I

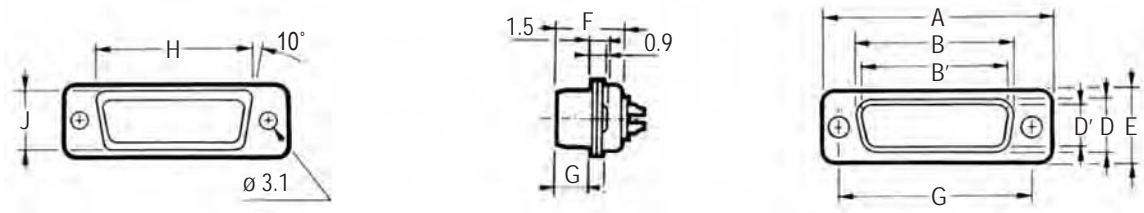
0.76µm (30µ") Au contacts gold plating
500 mating cycles

Types	Shells and plating
177 TW	Tin plated shell <i>*Male and female</i>
777 TW	Tin plated shell with dimples <i>Male only</i>

Housing arrangements

Male front view

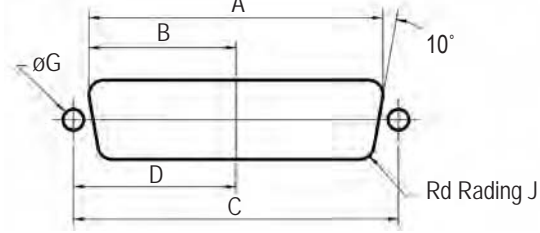
Arrangement Shell size	 5W1 E	 7W2 A	 11W1 A
Arrangement Shell size	 3W3 A	 5W5 B	 9W4 B
Arrangement Shell size	 13W3 B	 17W2 B	 21W1 B
Arrangement Shell size	 27W2 C	 13W6 C	 17W5 C
Arrangement Shell size	 21W4 C	 8W8 C	 25W3 C
Arrangement Shell size	 24W7 D	 36W4 D	 43W2 D



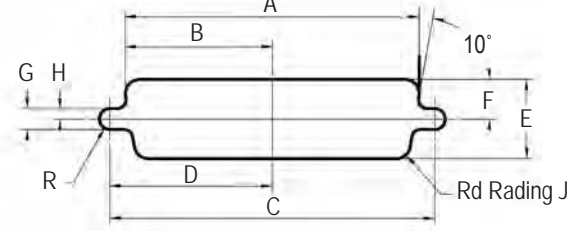
Shell size	Contact P: Pin S: Socket	A ±0.25 (±.010)	B 0/-0.20 (0/-0.008)	B' +0.20/0 (+.008/0)	C ±0.10 (±.004)	D 0/-0.25 (0/-0.010)	D' +0.25/0 (+.010/0)	E ±0.20 (±.008)	F +0.05/-0.20 (+.002/-0.008)	F' +0.10/-0.20 (+.004/-0.008)	G +0.10/-0.20 (±.004)	G' ±0.10 (±.004)	H +0.10/-0.40 (+.004/-0.016)	J 0/-0.50 (0/-0.020)
E	P	30.7 (1.209")		16.8 (.661")	25.0 (.984")		8.2 (.323")	12.4 (.488")		10.9 (.429")		5.9 (.232")	19.4 (.764")	11.0 (.433")
	S		16.4 (.646")			8.0 (.315")			11.1 (.437")		6.2 (.244")			
A	P	39.0 (1.535")		25.1 (.988")	33.3 (1.311")		8.2 (.323")	12.4 (.488")		10.9 (.429")		5.9 (.232")	27.7 (1.091")	11.0 (.433")
	S		24.8 (.976")			8.0 (.315")			11.1 (.437")		6.2 (.244")			
B	P	52.9 (2.083")		38.8 (1.528")	47.0 (1.850")		8.2 (.323")	12.4 (.488")		11.0 (.433")		5.8 (.228")	41.4 (1.630")	11.0 (.433")
	S		38.5 (1.513")			8.0 (.315")			11.1 (.437")		6.2 (.244")			
C	P	69.2 (2.724")		55.3 (2.177")	63.5 (2.500")		8.2 (.323")	12.4 (.488")		11.0 (.433")		5.8 (.228")	57.9 (2.280")	11.0 (.433")
	S		54.9 (2.161")			8.0 (.315")			11.1 (.437")		6.2 (.244")			
D	P	66.8 (2.630")		52.7 (2.075")	61.1 (2.406")		11.0 (.433")	15.2 (.598")		11.0 (.433")		5.8 (.228")	55.5 (2.185")	13.8 (.543")
	S		52.5 (2.067")			10.9 (.429")			11.1 (.437")		6.2 (.244")			

Panel cutouts

Optimal cutout for rear mounting



Standard cutout

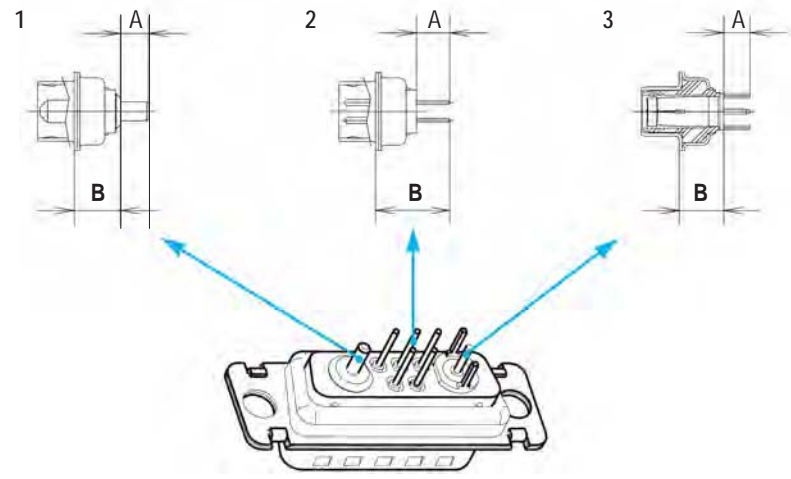


Shell size	Mounting method	A ±0.20 (±.008)	B ±0.20 (±.008)	C ±0.20 (±.008)	D ±0.20 (±.008)	E ±0.20 (±.008)	F ±0.20 (±.008)	G ±0.20 (±.008)	H ±0.20 (±.008)	J ±0.20 (±.008)
E	Front	22.2 (.874")	11.1 (.437")	25.0 (.984")	12.5 (.492")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	20.5 (.807")	10.2 (.402")			11.4 (.449")	5.7 (.224")			3.4 (.134")
A	Front	30.5 (1.201")	15.3 (.602")	33.3 (1.311")	16.7 (.657")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	28.8 (1.134")	14.4 (.567")			11.4 (.449")	5.7 (.224")			3.4 (.134")
B	Front	44.3 (1.744")	22.1 (.870")	47.0 (1.850")	23.5 (.925")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	42.5 (1.673")	21.3 (.839")			11.4 (.449")	5.7 (.224")			3.4 (.134")
C	Front	60.7 (2.390")	30.4 (1.197")	63.5 (2.500")	31.7 (1.248")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	59.1 (2.327")	29.5 (1.161")			11.4 (.449")	5.7 (.224")			3.4 (.134")
D	Front	58.3 (2.295")	29.2 (1.150")	61.1 (2.406")	30.6 (1.205")	15.8 (.622")	7.9 (.311")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	56.3 (2.217")	28.2 (1.110")			14.1 (.555")	7.1 (.280")			3.4 (.134")

TECHNICAL DATA

TW/E1

Straight connector footprint



Signal tail 0.6 mm Dia. (.0236")
 1.6 mm (.063")PCB
 For other PCB thickness: consult factory.

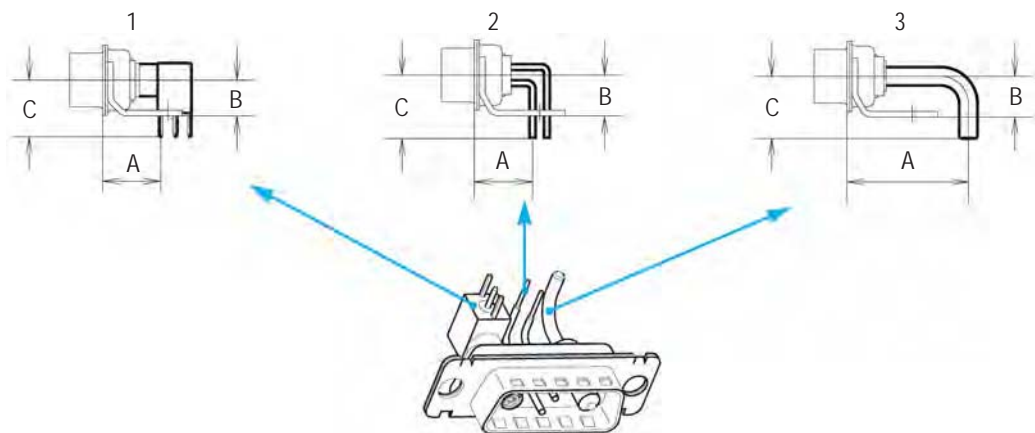
Description		Dimensions	
		a	b
Power (.126" tail dia.)	1	4.80 mm (.198")	7.2 mm (.283")
Power (.0787" tail dia.)	1	4.80 mm (.198")	7.2 mm (.283")
Shielded	3	4.00 mm (.157")	7.2 mm (.283")
Signal	2	5.00 mm (.196")	11.50 mm (.453")

Straight contact combinations

Arrangement with signal contacts

Arrangement without signal contacts
 3W3 - 5W5 - 8W8

See above dimensions	Size 8 and 20 Contacts	See above dimensions	Size 8 Contacts
P 3SY	Power 3.2 mm DIA. (.126") (20 to 40 A) and signal	P 3Y	Power only 3.2 mm DIA. (.126") (20 to 40 A)
P 2SY	Power 2 mm DIA. (.0787") (10 to 20 A) and signal	P 2Y	Power only 2 mm DIA. (.0787") (10 to 20 A)
CSY	Shielded and signal	CY	Shielded only
SY	Signal only		
No reference	Signal (Size 20) with solder cup terminations <i>Housing preloaded with contacts</i>		



Signal tail 0.6 mm Dia. (.0236")
 1.6 mm (.063") PCB
 For other PCB thickness: consult factory.

	Europe			Mix			MIL		
	HE 5 pattern = - Europ. height - Europ. footprint pitch between 2 rows: .100"			Mixed pattern = - MIL height - Europ. footprint pitch between 2 rows: .100"			MIL pattern = - MIL height - MIL footprint pitch between 2 rows: .112"		
Description	a	b	c	a	b	c	a	b	c
Shielded 1	-	-	-	10.30mm (.406")	6.30mm (.248")	10.00mm (.394")	10.30mm (.406")	6.30mm (.248")	10.00mm (.394")
Signal 2	10.30mm (.406")	7.20mm (.283")	11.20mm (.441")	10.30mm (.406")	6.30mm (.248")	9.50mm (.374")	8.10mm (.319")	6.30mm (.248")	9.50mm (.374")
Power (.0787" tail dia.) 3	11.57mm (.456")	7.20mm (.283")	10.50mm (.413")	11.57mm (.456")	6.30mm (.248")	9.50mm (.374")	9.52mm (.375")	6.30mm (.248")	9.50mm (.374")
Power (.126" tail dia.) 3	21.46mm (.845")	7.20mm (.283")	10.50mm (.413")	21.46mm (.845")	6.30mm (.248")	9.50mm (.374")	21.46mm (.845")	6.30mm (.248")	9.50mm (.374")

Note: above dimensions correspond to sizes E to C. Consult factory for D sizes.
 Connector comes equipped with contacts and brackets.

Right angle contacts combinations

Arrangement with signal contacts

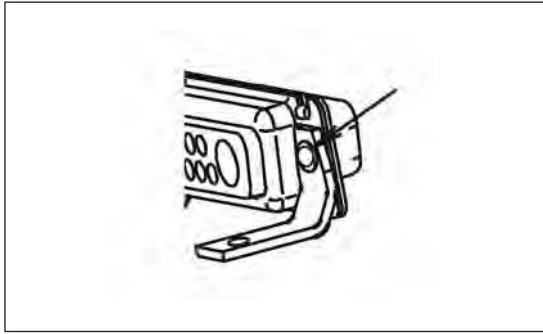
Arrangement without signal contacts
 3W3 - 5W5 - 8W8

European footprint	Mixed footprint	MIL (U.S.) footprint	Size 8 and 20 Contacts	European footprint	Mixed footprint	MIL (U.S.) footprint	Size 8 contacts only
↓	↓	↓		↓	↓	↓	
EP3SV	HP3SV	MP3SV	Power 3.2 mm DIA. (.126") (20 to 40 A) and signal	EP3V	HP3V	MP3V	Power only 3.2 mm DIA. (.126") (20 to 40 A)
EP2SV	HP2SV	MP2SV	Power 2 mm DIA. (.0787") (10 to 20 A) and signal	EP2V	HP2V	MP2V	Power only 2.0 mm DIA. (.0787") (10 to 20 A)
-	HCSV	MCSV	Shielded and signal	-	HCV	MCV	Shielded only
ESV	HSV	MSV	Signal only				

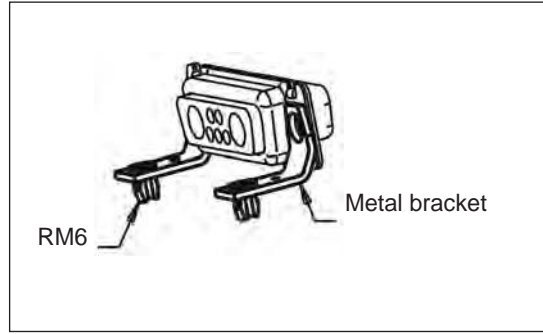
TW/E1

Right angle version
Connectors come equipped with metal brackets

BLANK: 3.10mm (.122") dia mounting hole

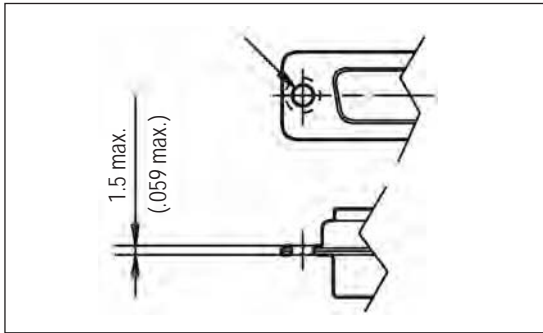


RM6: metal brackets + boardlock

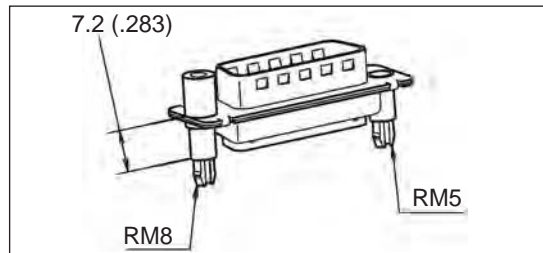


Straight version

BLANK: 3.10mm (.122") dia mounting hole

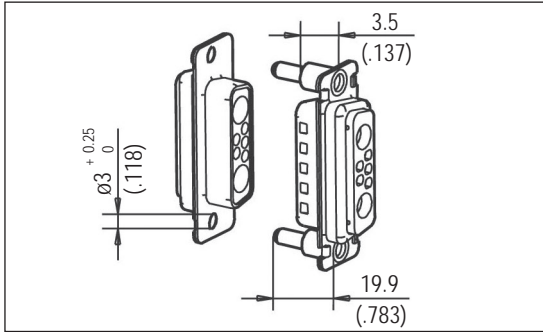


RM54: RM5 4.40 threaded
RM53: RM5 M3 threaded

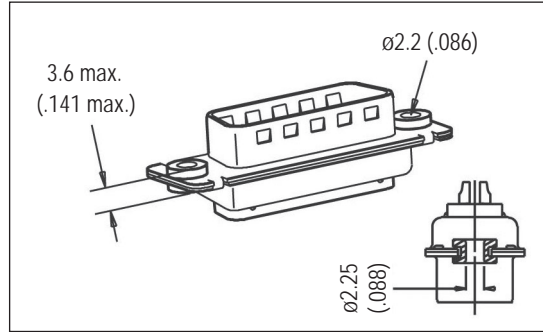


RM84: RM8 4.40 threaded
RM83: RM8 M3 threaded

A514: blind mating system

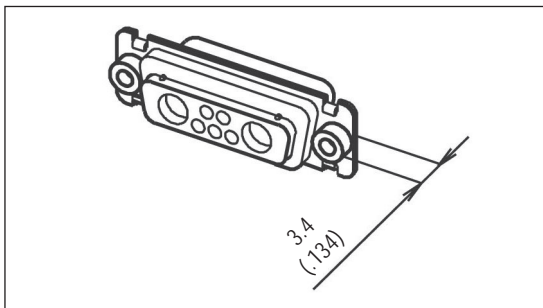


FM: float mounting system

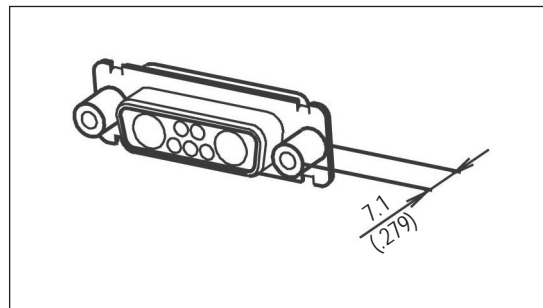


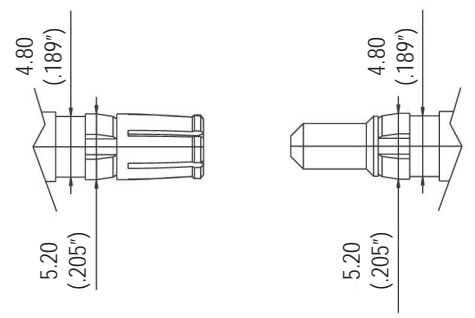
Straight and right angle version

4R: 4.40 rear nut
3R: M3 rear nut

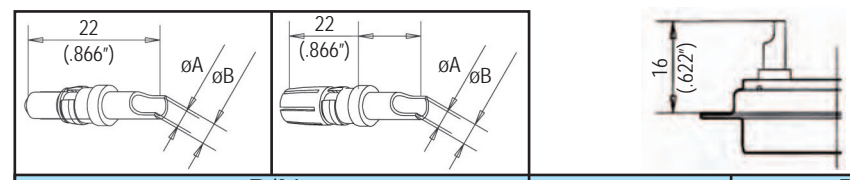


4F: 4.40 front female screwlock
3F: M3 front female screwlock





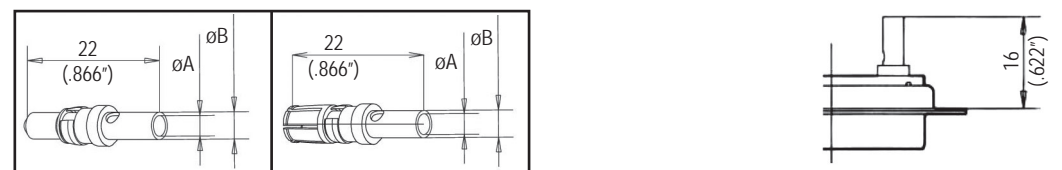
Solder cup version



P/N		Current	Dimensions	
Plug	Socket		A mm (inch)	B mm (inch)
L 17DM 53745-8	L 17DM 53744-7	10 to 20 Amp.	1.80 (.071")	2.55 (.100")
L 17DM 53745-7	L 17DM 53744-6	20 to 30 Amp.	2.80 (.110")	3.70 (.145")
L 17DM 53745-1	L 17DM 53744-1	30 to 40 Amp.	4.80 (.189")	5.60 (.220")

Trim dimensions: 7.5 mm (.295")

Crimp version



P/N		Current	Dimensions	
Plug	Socket		A mm (inch)	B mm (inch)
L 17DM 53745-208	L 17DM 53744-207	10 to 20 Amp.	1.80 (.071")	2.55 (.100")
L 17DM 53745-207	L 17DM 53744-206	20 to 30 Amp.	2.80 (.110")	3.70 (.145")
L 17DM 53745-201	L 17DM 53744-201	30 to 40 Amp.	4.80 (.189")	5.60 (.220")

Trim dimensions: 7.5 mm (.295")

Crimping tool for all sizes
L17D479SP

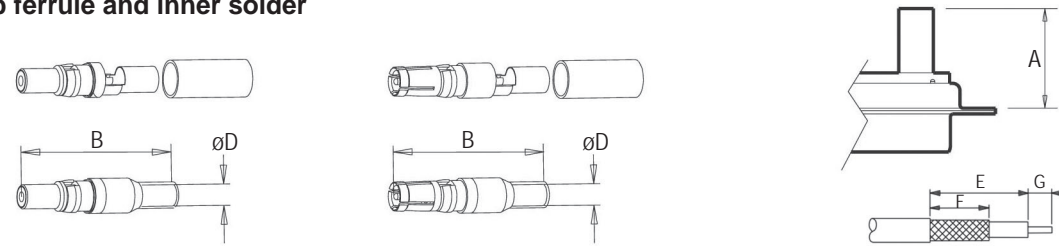


Extraction tool for sizes 8 cts



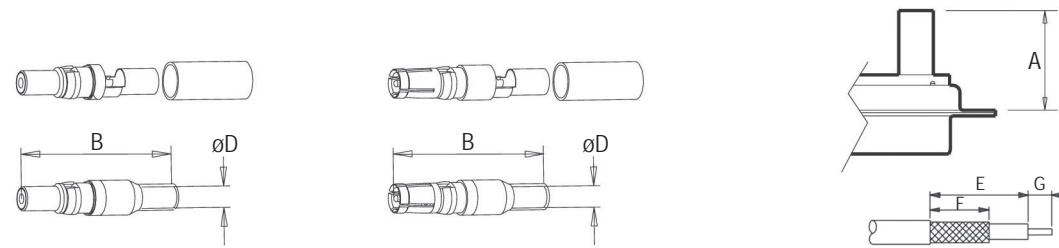
TW/E1

Crimp ferrule and inner solder

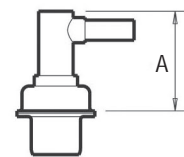
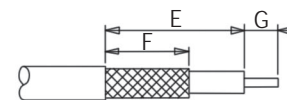
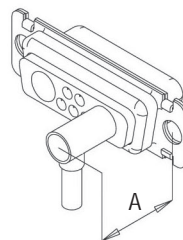


Type	P/N	Dimensions (inch)			Cable - RG	Trim dimensions (inch)		
		A Max	B	D		E	F	G
plug	L17DM 53740	18.8 (740")	23.6 (.929")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
plug	L17DM 53740-1	18.8 (740")	23.6 (.929")	1.7 (.066")	179 B/U 316 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
plug	L17DM 53740-3	21.5 (846")	23.6 (.929")	2.8 (.110")	180 B/U	9.5 (.374")	7.9 (.311")	2 (.078")
plug	L17DM 53740-5	21.5 (846")	23.6 (.929")	3.2 (.126")	58 C/U	9.5 (.374")	7.9 (.311")	2 (.078")
socket	L17DM 53742	18.8 (740")	23.6 (.929")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
socket	L17DM 53742-1	18.8 (740")	23.6 (.929")	1.7 (.066")	179 B/U 316 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
socket	L17DM 53742-3	21.5 (846")	23.6 (.929")	2.8 (.110")	180 B/U	9.5 (.374")	7.9 (.311")	2 (.078")
socket	L17DM 53742-5	21.5 (846")	23.6 (.929")	3.2 (.126")	58 C/U	9.5 (.374")	7.9 (.311")	2 (.078")

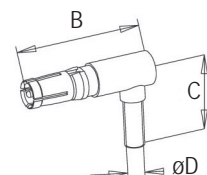
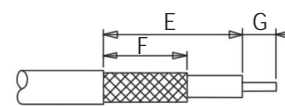
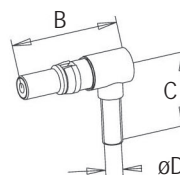
Ferrule and inner solder



Type	P/N	Dimensions (inch)			Cable - RG	Trim dimensions (inch)		
		A Max	B	D		E	F	G
short plug	L17DM 53740-5000	17.0 (669")	21.8 (.858")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
plug	L17DM 53740-5001	18.8 (740")	23.6 (.929")	1.7 (.066")	179 B/U 316 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
plug	L17DM 53740-5002	21.5 (846")	26.3 (1.035")	2.8 (.110")	180 B/U	9.5 (.374")	7.9 (.311")	2 (.078")
plug	L17DM 53740-5005	21.5 (846")	26.3 (1.035")	3.2 (.126")	58 C/U	9.5 (.374")	7.9 (.311")	2 (.078")
plug	L17DM 53740-5008	18.8 (740")	23.6 (.929")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
short socket	L17DM 53742-5000	17.0 (669")	21.8 (.858")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
socket	L17DM 53742-5001	18.8 (740")	23.6 (.929")	1.7 (.066")	179 B/U 316 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
socket	L17DM 53742-5002	21.5 (846")	26.3 (1.035")	2.8 (.110")	180 B/U	9.5 (.374")	7.9 (.311")	2 (.078")
socket	L17DM 53742-5004	21.5 (846")	26.3 (1.035")	3.2 (.126")	58 C/U	9.5 (.374")	7.9 (.311")	2 (.078")
socket	L17DM 53742-50060	18.8 (740")	23.6 (.929")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")

Crimp ferrule and inner solder

Type	P/N	Dimensions (inch)			Cable - RG	Trim dimensions (inch)		
		A Max	B	D		E	F	G
plug	L17DM 53741	13.5 (.531")	18.6 (.732")	1.0 (.039")	178 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
plug	L17DM 53741-1	13.5 (.531")	18.6 (.732")	1.7 (.066")	179 B/U 316 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
plug	L17DM 53741-3	13.5 (.531")	18.6 (.732")	2.8 (.110")	180 B/U	10.7 (.421")	7.9 (.311")	2.4 (.094")
plug	L17DM 53741-4	13.5 (.531")	18.6 (.732")	3.2 (.126")	58 C/U	10.7 (.421")	7.9 (.311")	2.4 (.094")
socket	L17DM 53743-2	13.5 (.531")	18.6 (.732")	1.0 (.039")	178 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
socket	L17DM 53743-3	13.5 (.531")	18.6 (.732")	1.7 (.066")	179 B/U 316 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
socket	L17DM 53743-5	13.5 (.531")	18.6 (.732")	2.8 (.110")	180 B/U	10.7 (.421")	7.9 (.311")	2.4 (.094")
socket	L17DM 53743-6	13.5 (.531")	18.6 (.732")	3.2 (.126")	58 C/U	10.7 (.421")	7.9 (.311")	2.4 (.094")

Ferrule and inner solder

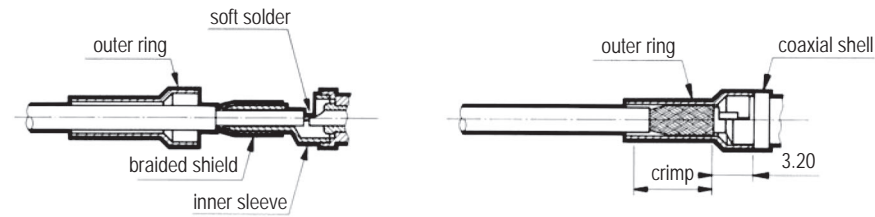
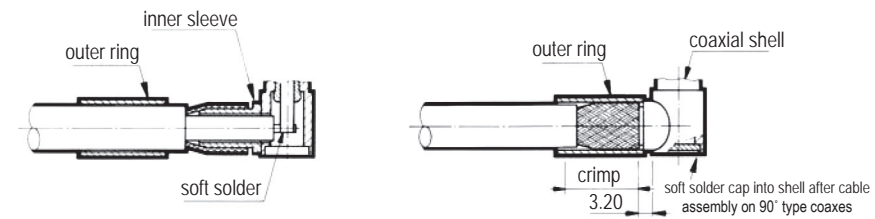
Type	P/N	Dimensions (inch)			Cable - RG	Trim dimensions (inch)		
		A Max	B	D		E	F	G
plug	L17DM 53741-5000	13.5 (.531")	18.6 (.732")	1.0 (.039")	178 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
plug	L17DM 53741-5001	13.5 (.531")	18.6 (.732")	1.7 (.066")	179 B/U 316 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
plug	L17DM 53741-5003	13.5 (.531")	18.6 (.732")	2.8 (.110")	180 B/U	10.7 (.421")	7.9 (.311")	2.4 (.094")
plug	L17DM 53741-5004	13.5 (.531")	18.6 (.732")	3.2 (.126")	58 C/U	10.7 (.421")	7.9 (.311")	2.4 (.094")
socket	L17DM 53743-5000	13.5 (.531")	18.6 (.732")	1.0 (.039")	178 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
socket	L17DM 53743-5001	13.5 (.531")	18.6 (.732")	1.7 (.066")	179 B/U 316 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
socket	L17DM 53743-5003	13.5 (.531")	18.6 (.732")	2.8 (.110")	180 B/U	10.7 (.421")	7.9 (.311")	2.4 (.094")
socket	L17DM 53743-5004	13.5 (.531")	18.6 (.732")	3.2 (.126")	58 C/U	10.7 (.421")	7.9 (.311")	2.4 (.094")

Crimping tool**Hand crimp tool**

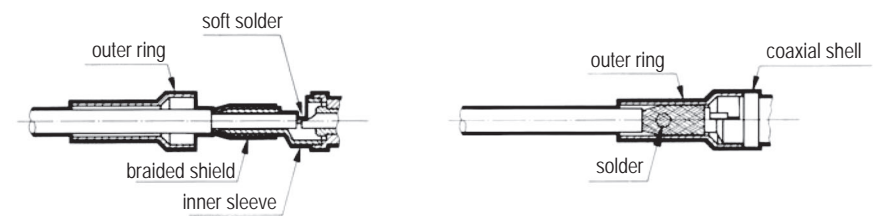
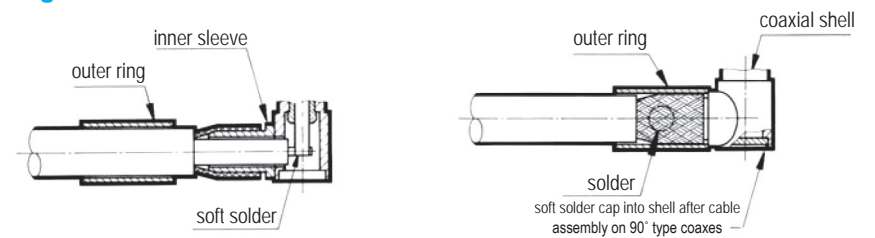
227-0944 (without dies) (M 22 520/5-01)

RG cables	MIL reference	Amphenol P/N	dim. between 2 flat surface	
			cavity A	cavity B
RG 58 C/U	M 22 520/5-05	227 1221-05	5.41	-
RG 178 B/U	M 22 520/5-03	227 1221-03	-	2.67
RG 179 B/U	M 22 520/5-03	227 1221-03	3.25	-
RG 180 B/U	M 22 520/5-05	227 1221-05	-	4.52

Extraction toolExtraction tool for sizes 8 cts
L17D429SP

Straight crimp shielded contacts:**inner solder contact
outer crimp contact****Right angle crimp shielded contacts:****inner solder contact
outer crimp contact****Assembly method**

- Slide the outer ring over the cable jacket. Trim the cable according to the recommended dimensions.
- Insert the cable dielectric and the center conductor inside the inner sleeve.
- Solder the central conductor to the shielded center contacts.
- Slide the outer ring towards the inner sleeve and recover the braid.
- Using crimp hand tool equipped with the appropriate dies, crimp in the area defined.

Solder straight shielded contacts:**Solder right angle shielded contacts:****Assembly method**

- Slide the outer ring over the cable jacket. Trim the cable according to the recommended dimensions.
- Insert the cable dielectric and the center conductor inside the inner sleeve.
- Solder the central conductor to the shielded center contacts.
- Slide the outer ring towards the inner sleeve and recover the braid.
- Solder by introducing metal through the outer ring hole.

L

... TW ...

RoHS Compliant

Contacts and Shell		
Contact Plating	Shell	
	Tinned	Tinned & Indents; Plug only
0.4µm(16µ") Au	77	717
0.76µm(30µ") Au	177	777

Shell size and Configuration:
E5W1, A3W3, A7W2, A11W1, B5W5, B9W4, B13W3,
B17W2, B21W1, C8W8, C13W6, C17W5, C21WA4
C25W3, C27W2, D24W7, D36W4, D43W2

Gender:
P: Pin
S: Socket

Contacts:

For straight

BLANK: Solder-cup signal contacts only
P3SY: 20-40 Amp power & signal mix
P2SY: 10-20 Amp power & signal mix
CSY: Coax & signal mix
SY: Signal only
P3Y: 20-40 Amp power only (3W3, 5W5, 8W8)
P2Y: 10-20 Amp power only (3W3, 5W5, 8W8)
CY: Coax only (3W3, 5W5, 8W8)

For right angle

MP3SV: US Footprint, 20-40 Amp power & signal mix
MP2SV: US Footprint, 10-20 Amp power & signal mix
MCSV: US Footprint, Coax & signal mix
MSV: US Footprint, Signal only
MP3V: US Footprint, 20-40 Amp power only (3W3, 5W5, 8W8)
MP2V: US Footprint, 10-20 Amp power only (3W3, 5W5, 8W8)
MCV: US Footprint, Coax only (3W3, 5W5, 8W8)
EP3SV: European Footprint, 20-40 Amp power & signal mix
EP2SV: European Footprint, 10-20 Amp power & signal mix
ESV: European Footprint, Signal only
EP3V: European Footprint, 20-40 Amp power only (3W3, 5W5, 8W8)
EP2V: European Footprint, 10-20 Amp power only (3W3, 5W5, 8W8)
HP3SV: Mixed Footprint, 20-40 Amp power & signal mix
HP2SV: Mixed Footprint, 10-20 Amp power & signal mix
HCSV: Mixed Footprint, Coax & signal mix
HSV: Mixed Footprint, Signal only
HP3V: Mixed Footprint, 20-40 Amp power only (3W3, 5W5, 8W8)
HP2V: Mixed Footprint, 10-20 Amp power only (3W3, 5W5, 8W8)
HCV: Mixed Footprint, Coax only (3W3, 5W5, 8W8)

Special Deviations
Please consult factory

**Board Mounting Options
For Straight**

Blank: .120"(3.05mm) Clear Hole

RM53: M3 Threaded (panel side)

standoff with boardlock

RM54: 4-40UNC Threaded (panel side)

standoff with boardlock

RM84: Non-Removable M3 screwlock,

with standoff and boardlock

For Right Angle

RM6: Metal bracket with boardlocks

**Panel Mounting Options
For right angle & cable mount**

Blank: .120"(3.05mm) Clear Hole

3F: M3 Front Screwlock

3R: M3 Rear Threaded Insert

4F: #4-40 Front Screwlock

4R: #4-40 Threaded Rear Insert

FM: Float mount system

A514: Blind Mate Guide Pin





SURFACE MOUNT CONNECTORS

CHARACTERISTICS

Specifications

- Connectors according to MIL C24308 - NFC 93425-HE5

Materials and Platings	
Shells	Steel with tin plating
Insulator	High temperature (peak at 260°C) glass-filled thermoplastic, UL 94V-0
Socket contact	Stamped and formed brass, selected gold in mating area; 2.54µm (100µ") min. tin on termination area, with entire contact under-plated 1.27µm (50µ") min. nickel
Rear insert	Brass, 3µm up to 5µm (118µ" up to 197µ") tinned over nickel 2µm up to 3µm (78µ" to 118µ")
Boardlock	Tin plating 4µm up to 6µm (157µ" up to 236µ") over nickel 2µm up to 3µm (78µ" up to 118µ"), insertion force: Low Insertion Force = LIF (bronze) Zero Insertion Force = ZeFo (bronze)
Screwlock	Brass, 6µm up to 10µm (236µ" up to 394µ") tinned over nickel 2µm up to 3µm (78µ" up to 118µ")
Grounding	Grounding strap: brass, 4µm up to 6µm tin plating over nickel 2µm up to 3µm (78µ" up to 118µ")

Electrical Data	
Current rating	3A
Voltage rating	300V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	5000MΩ
Contact resistance	10mΩ max

Climatic Data	
Operating temperature	85°C, peak at 105°C
Damp heat	56 days (40°C - 95% HR)

Mechanical Data	
Single contact insertion force	1.2N < F < 2.5N
Single contact withdrawal force	0.4N min
LIF boardlock	8N max per connector
Coplanarity of contacts	0.2mm (.008") max

Mating and unmating force
Unit: N

No. of Cts	Mate (max)	Unmate (min)
9 (size E)	30	3.5
15 (size A)	50	4.5
25 (size B)	83	8.0

DESCRIPTION

Amphenol SMT D-Sub is offered in right angle, receptacle with brackets, as an industry standard for I / O connections.

Boardlock features:

-LIF (Low Insertion Force) boardlock especially designed to be fully compatible with pick and place machine.

-ZeFo (Zero Force Insertion) boardlock has been designed so that once placed and expanded, secures a safe locking.

*Designed for
Pick and Place
SMT process*

APPLICATIONS

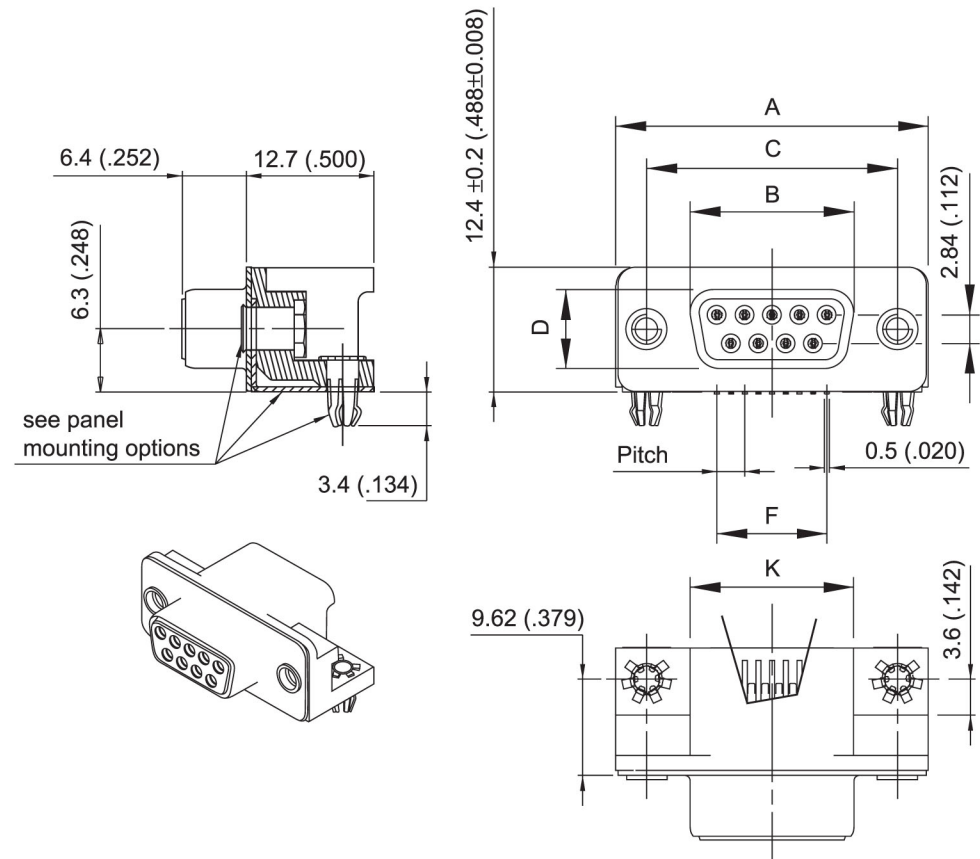
- Industrial
- Telecom
- Any industry standard I / O connections

SM2 / E2

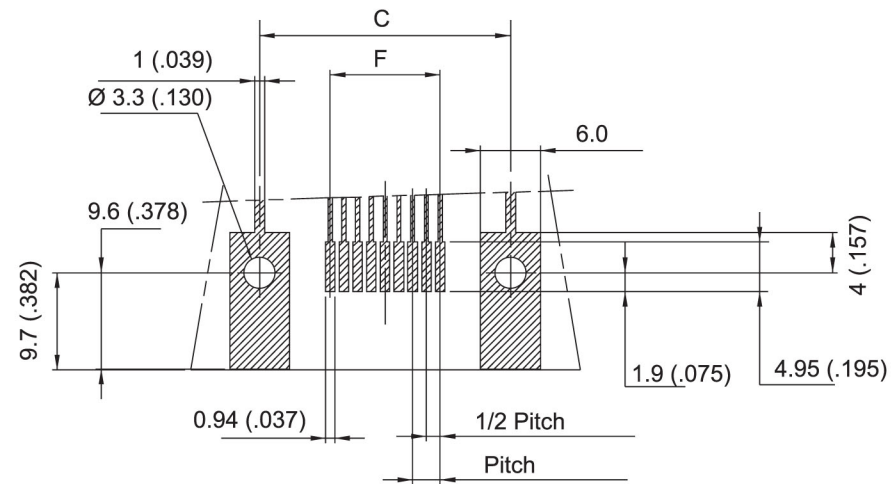


Amphenol

Shell Size Dimensions

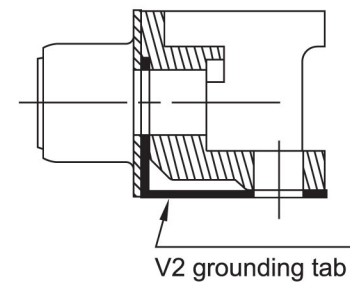
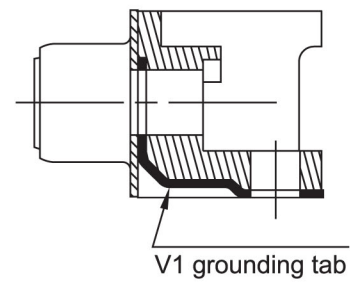


PCB LAYOUT

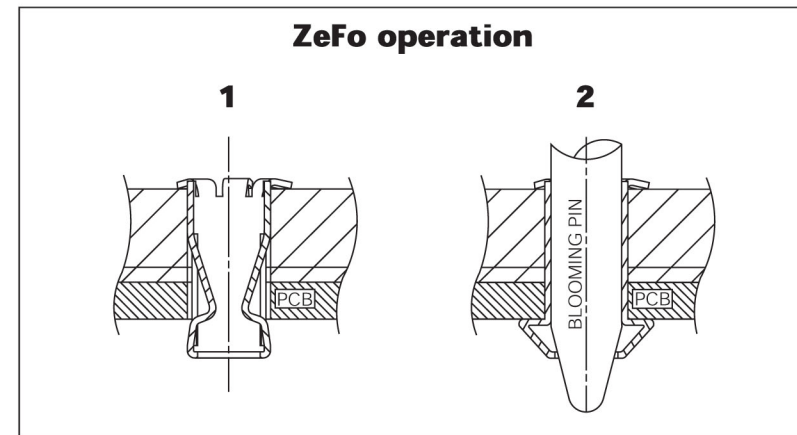
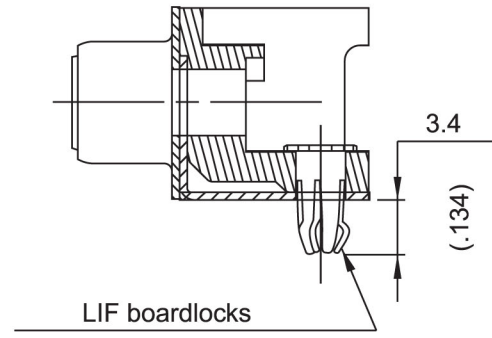
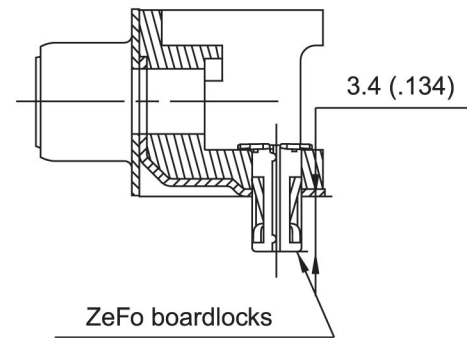


SHELL SIZE	mm (inch)						
	A	B	C	D	PITCH	F	K
	+0.05 (.002) -0.1 (.004)	0 -0.2 (.008)	±0.1 (.004)	0 -0.25 (.01)			
E	31.15 (1.226)	16.4 (.645)	25 (.984)	8.03 (.316)	2.74 (.1078)	10.97 (.432)	16.3 (.642)
A	39.4 (1.551)	24.8 (.976)	33.3 (1.311)	8.03 (.316)	2.74 (.1078)	19.2 (.756)	24.6 (.968)
B	53.3 (2.098)	38.5 (1.515)	47 (1.850)	8.03 (.316)	2.76 (.1086)	33.12 (1.304)	38.3 (1.508)

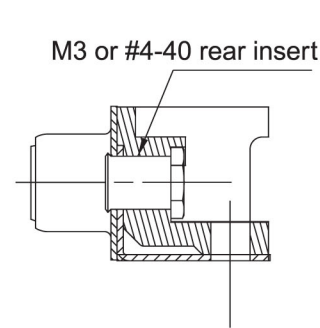
GROUNDING TABS:



BOARDLOCKS:

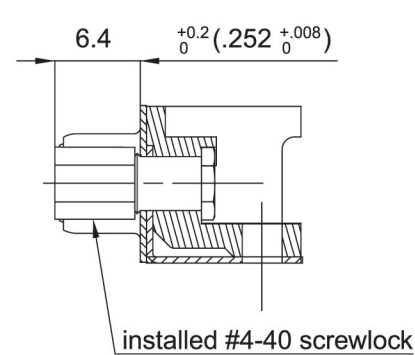


FLANGES ACCESSORIES:



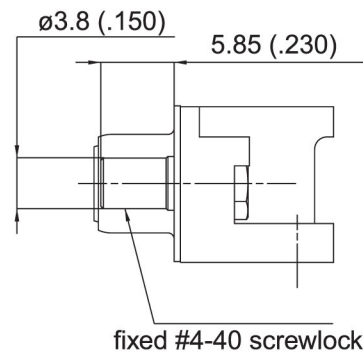
Threaded Rear

1/2



Installed Front Female

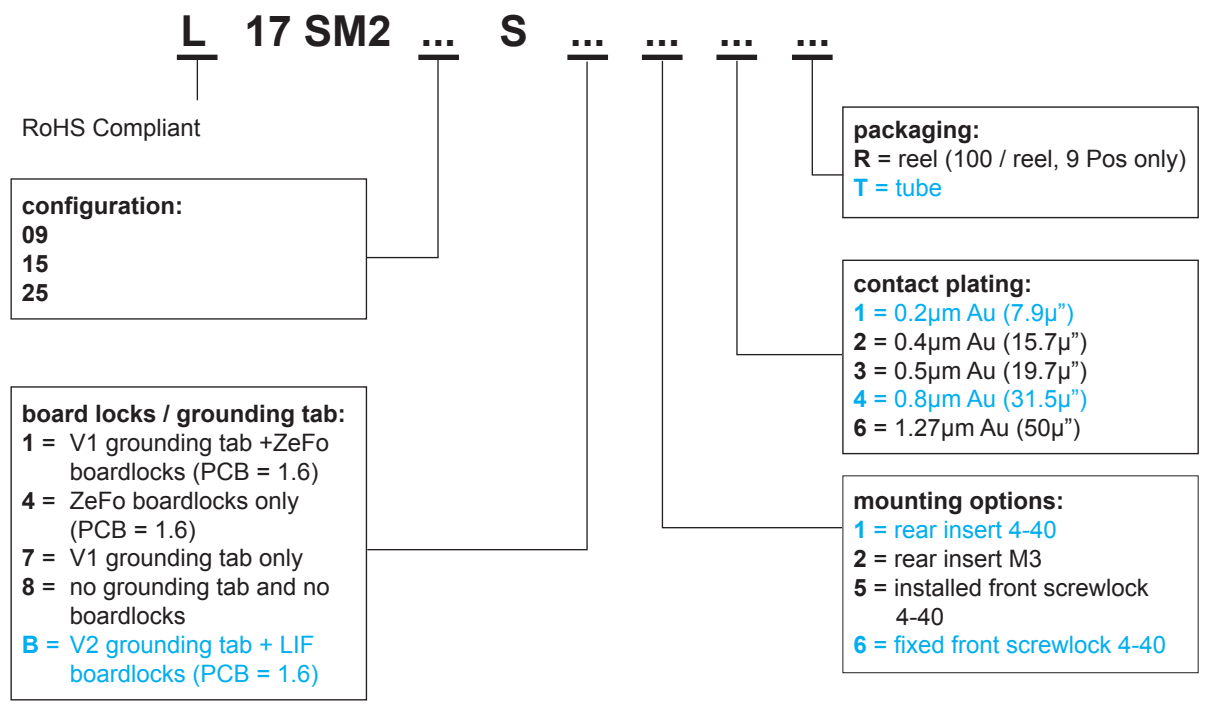
5



Fixed Front Female

6

How to order



■ : Standard options

For special request, please consult factory

Memo

Do not hesitate to contact us for further information

Amphenol
Amphenol IT & Communication Products
 Block A3/A4, The 4th Industrial District of
 Industrial Headquarters, Dong Keng Road
 Gong Ming Town, Shen Zhen China
 Fax: +86(0)755 2754 9955
Technical Support
 Tel: +86(0)755 2717 7945
 Info-dsub@amphenol.com.cn
 http://www.dsubconnector.com

**Stamped And Formed Contacts
Solder-Cup And Straight PCB Termination**

Standards: UL File: E149426
Connectors according to: MIL C24308 - NFC 93425-HE5

SPECIFICATIONS:

MATERIALS AND PLATINGS

Shells	Steel
Insulator	Glass-filled thermoplastic, UL 94V-0
Pin Contact	Brass, selected gold in mating area; 100µ" (2.54µm) min. tin-lead on termination area over 50µ" (1.27µm) min. nickel
Socket Contact	Phosphor bronze, selected gold in mating area; 100µ" (2.54µm) min. tin-lead on termination area over 50µ" (1.27µm) min. nickel
Rear Insert	Brass, 100µ" (2.54µm) min. nickel plated
Boardlock	Brass, 100µ" (2.54µm) min. nickel plated
Screwlock	Brass, 100µ" (2.54µm) min. nickel plated

ELECTRICAL DATA

Current Rating	Standard Density: 5A per contact
Voltage Rating	250V AC/ rms 50Hz
Withstanding Voltage	1000V AC/ rms 50Hz for one minute
Insulation Resistance	1000MΩ at 500V DC
Contact Resistance	20 mΩ max.

CLIMATIC DATA

Operating Temperature -67°F (-55°C) to +257°F (125°C)

MECHANICAL DATA

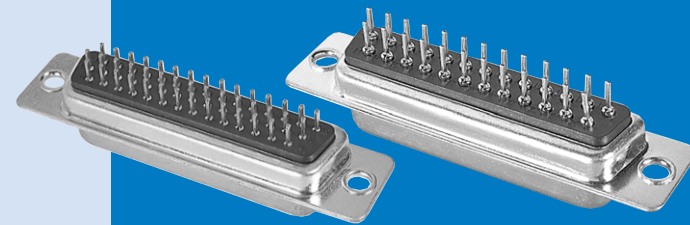
Single Contact Insertion Force	1.19 lb. (0.54 kg.) max.
Single Contact Withdrawal Force	0.13 lb. (0.06 kg.) min.

Mating and Unmating Force
Unit: lb. (kg.)

No. of Pos	SD				
	SD	Mate (max.)		Unmate (min.)	
9	3.05	(6.74)	0.36	(0.79)	
15	5.09	(11.24)	0.46	(1.01)	
25	8.44	(18.66)	0.81	(1.8)	
37	12.51	(27.65)	1.1	(2.47)	
50	14.65	(32.38)	1.6	(3.56)	

- Standard plating thicknesses
- gold flash
 - 15µ" (0.381µm) gold
 - 30µ" (0.76 µm) gold

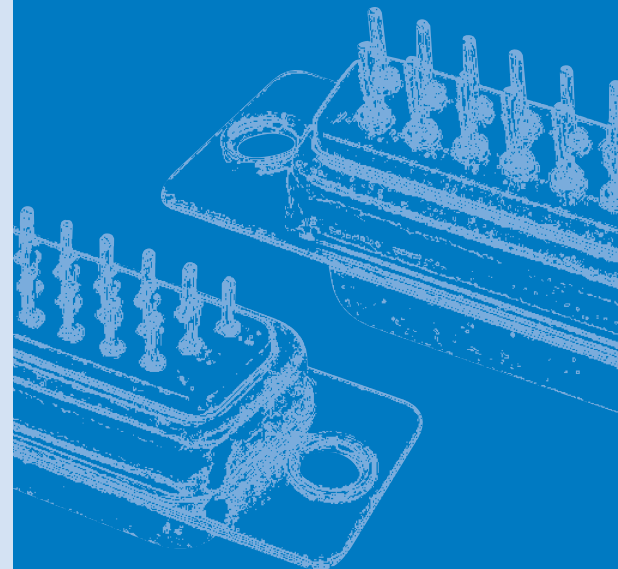
SD SERIES



Amphenol's SD series, features precision stamped and formed contacts with closed entry contact cavities in insulator.

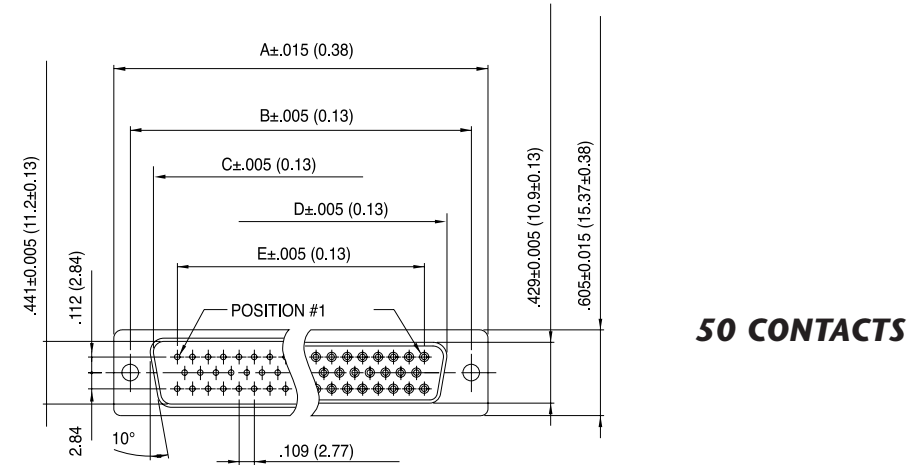
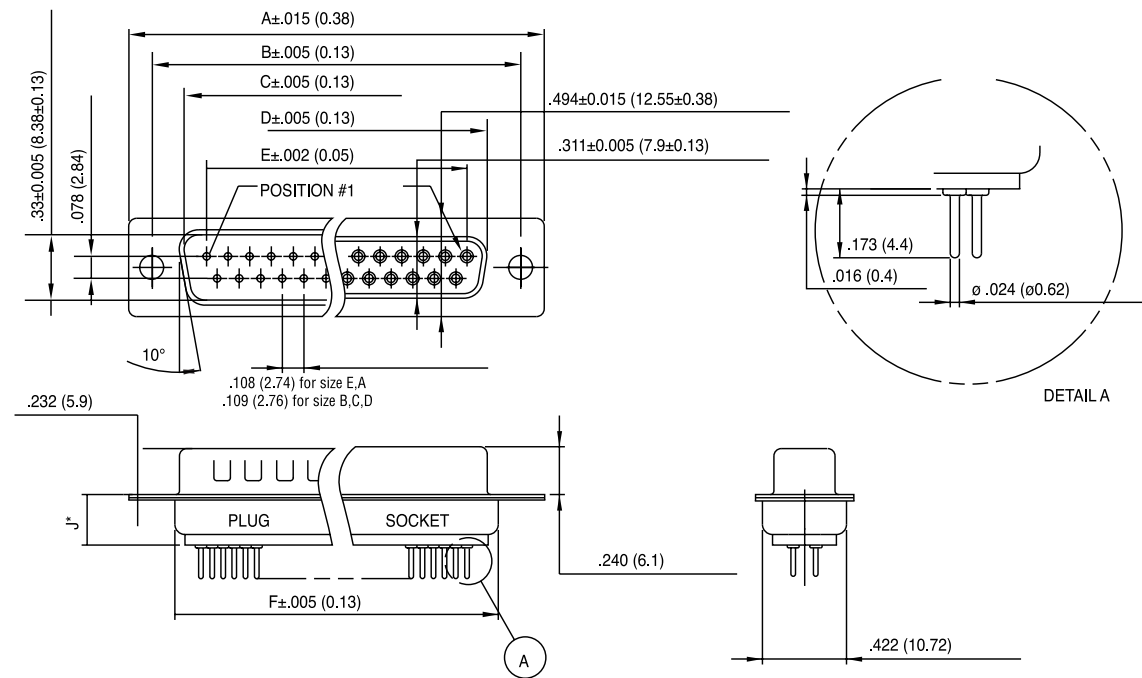
This series provides Amphenol's high standard of quality and reliability, to meet all of your commercial requirements.

- Industrial
- Telecom
- Any industry standard I / O connections



INCHES (MM)

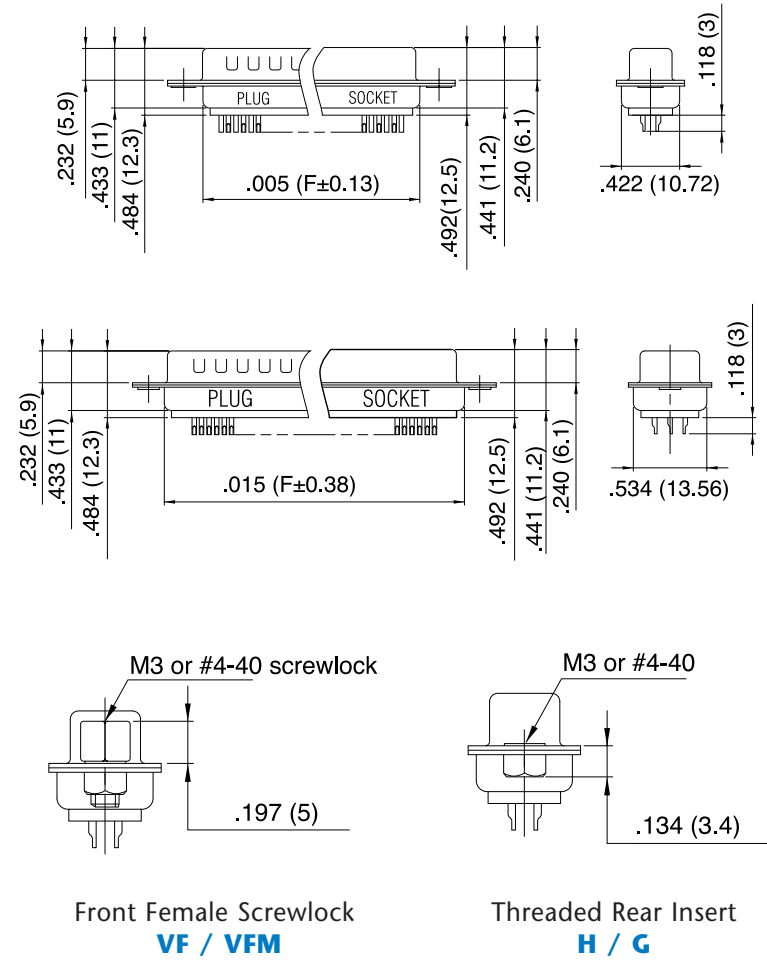
DIMENSIONS



50 CONTACTS

No. of Contacts	Dimensions					
	A	B	C	D	E	F
9	1.21 (30.84)	.98 (24.99)	.67 (16.92)	.64 (16.24)	.44 (11.09)	.76 (19.28)
15	1.54 (39.24)	1.31 (33.32)	.972 (24.7)	.97 (24.56)	.76 (19.39)	1.08 (27.51)
25	2.09 (53.04)	1.85 (47.04)	1.53 (38.96)	1.51 (38.38)	1.31 (33.24)	1.63 (41.30)
37	2.73 (69.32)	2.50 (63.50)	2.18 (55.42)	2.16 (54.76)	1.96 (49.86)	2.27 (57.71)
50	2.64 (67.06)	2.41 (61.11)	2.08 (52.86)	2.06 (52.34)	1.75 (44.32)	2.18 (55.3)

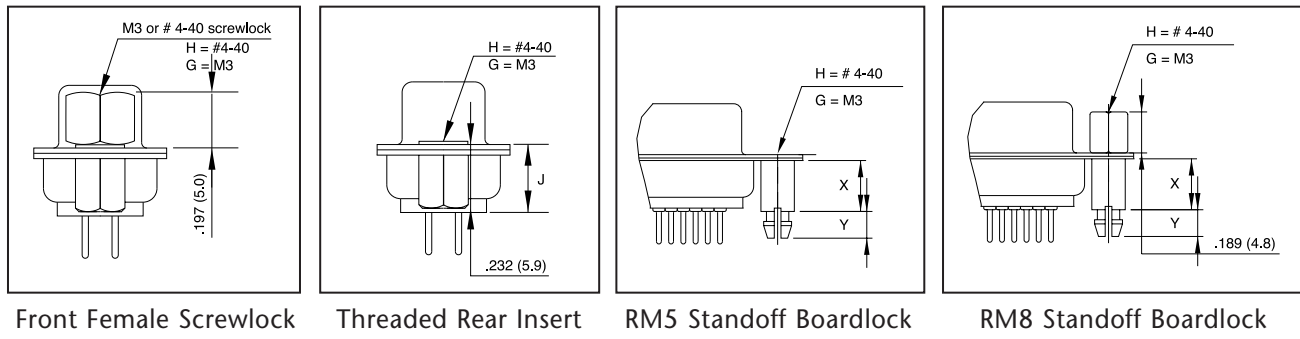
50 CONTACTS



Front Female Screwlock
VF / VFM

Threaded Rear Insert
H / G

PANEL MOUNTING OPTION PRINTED CIRCUIT BOARD TERMINATIONS



	RM5 RM8	RM5G RM8G
X	.236 (6.0)	.500 (12.7)
Y	.126 (4.2)	.126 (3.2)
J	.244 (6.2)	.465 (11.8)

INCHES (MM)

ORDERING INFORMATION

XXX - XX - X - X - XX - X - XXX - XXX - 309

Gold Flash	77: tinned shell for receptacle 717: tinned shell + dimples for plug	SD: standard density	Plating Option: <i>valid only for 30µ" (0.76µm)</i> 77 C309 or 717 C309
15µ" (0.4µm)	177: tinned shell for receptacle 777: tinned shell + dimples for plug	Shell size: E, A, B, C, D	Grounding Tabs*: RM5 boardlock RM8 boardlock + front screwlock <i>*not available with s-cup</i>
Mounting Type: H rear insert 4-40 G rear insert M3 blank standard rivet .120 (3.05) H,G must also be used to specify the threading of RM5 or RM8 grounding tabs.		Termination Straight for PCB = OL2 Blank = solder cup	
		Contact Type: P pin S socket	
		Configuration: SD 9, 15, 25, 37, 50	

For Filtered D-Sub, see page 56.

Fixed Machined Contact Connector

- Standards:
- UL File: E119881
 - Connectors according to MIL C24308

SPECIFICATIONS:

MATERIALS AND PLATINGS

Shells	Steel yellow chromated over zinc or tinned steel with or without dimples on plug connector
Insulator	Glass-filled thermoplastic, UL 94V-0
Rear Insert	Brass, 118µ" up to 197µ" (3µm up to 5µm) tinned over nickel 78µ" up to 118µ" (2µm up to 3µm)
Boardlock	Tin-lead plating 157µ" up to 236µ" (4µm up to 6µm) over nickel 78µ" up to 118µ" (2µm up to 3µm)
Screwlock	Brass, 236µ" up to 394µ" (6µm up to 10µm) tinned over nickel 78µ" up to 118µ" (2µm up to 3µm)
Contacts	D: brass DF: pin = brass Socket = copper alloy
Right Angle Version	Selective gold in mating area over 78µ" up to 118µ" (2µm up to 3µm) nickel; 118µ" up to 197µ" (3µm up to 5µm) tin-lead on termination area over 78µ" up to 118µ" (2µm up to 3µm) nickel
Straight Version	Full gold plating over 78µ" up to 118µ" (2µm up to 3µm) nickel

ELECTRICAL DATA

Current Rating	7.5 A
Voltage Rating	300 V AC/rms 50Hz
Withstanding Voltage	1000V AC/rms 50Hz for one minute
Insulation Resistance	5000MΩ
Contact Resistance	D: 8.5mΩ max. DF: 5mΩ max.

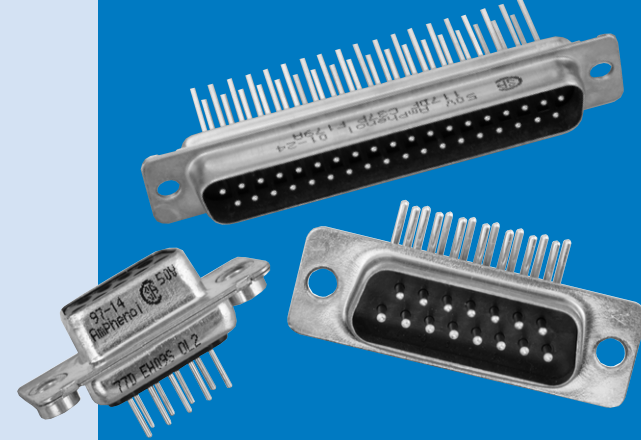
CLIMATIC DATA

Operating Temperature	D: -67°F (-55°C) to +185°F (85°C), peak at 257°F (125°C) DF: -67°F (-55°C) to + 257°F (125°C)
------------------------------	--

MECHANICAL DATA

No. of Contacts	Mate (max.)	Unmate (min.)
9 (size E)	6.74 (3.05)	0.79 (0.36)
15 (size A)	11.24 (5.09)	1.01 (0.46)
25 (size B)	18.66 (8.44)	1.8 (0.81)
37 (size C)	27.65 (12.51)	2.47 (1.1)
50 (size D)	32.38 (14.65)	3.56 (1.6)

D-DF SERIES



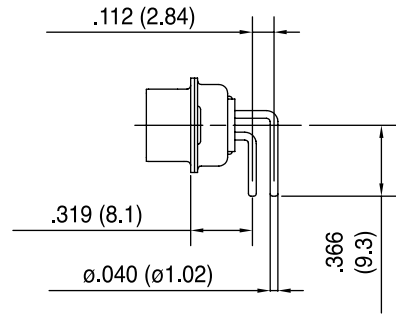
The Amphenol SD series features precision formed contacts, and 4 finger boardlocks.

This series gives you Amphenol's high standards of quality and reliability to meet all of your commercial requirements.

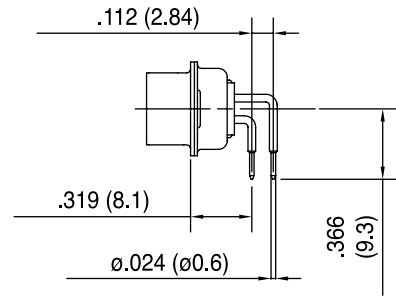
- Industrial
- Telecom
- Any industry standard I / O connections

INCHES (MM)

Without bracket

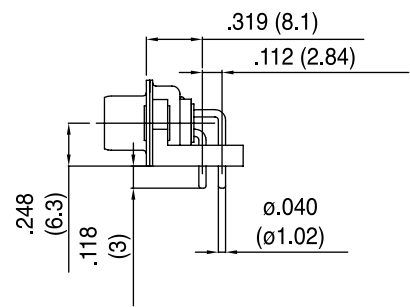


C

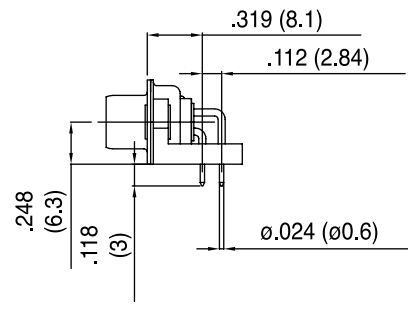


A4

Plastic bracket

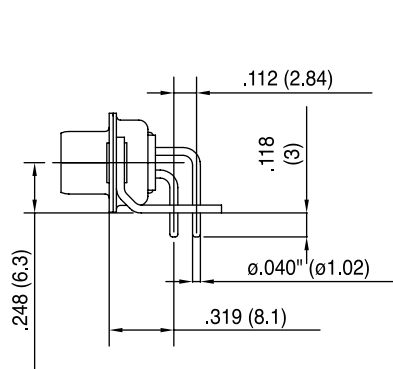


AJ3

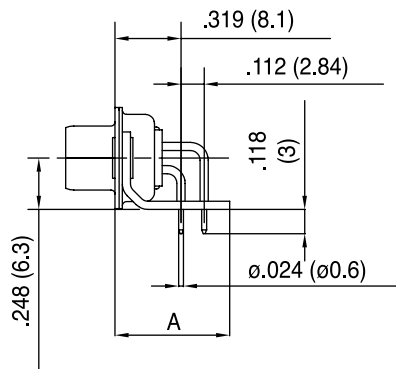


AJ4

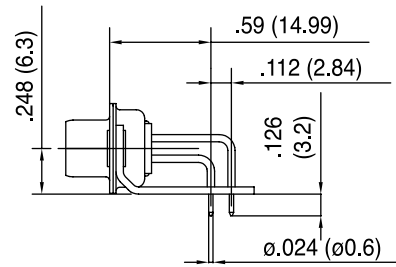
Metal bracket



A

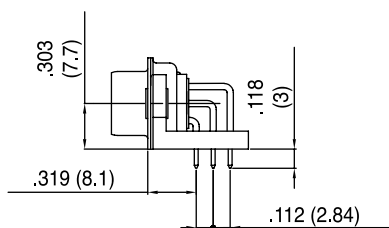


AM4 : A=.519 (13.2)
AZ4 : A=.453 (11.5)

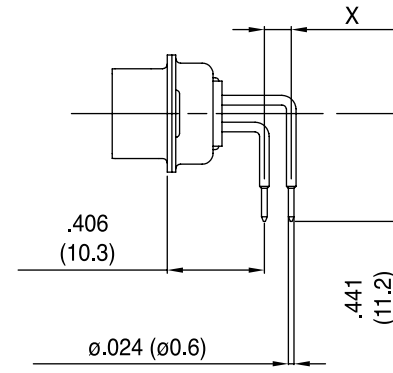


AM4B

50 contacts

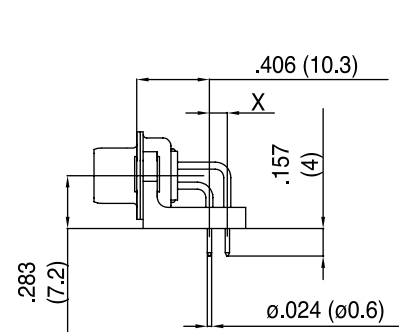


Without bracket

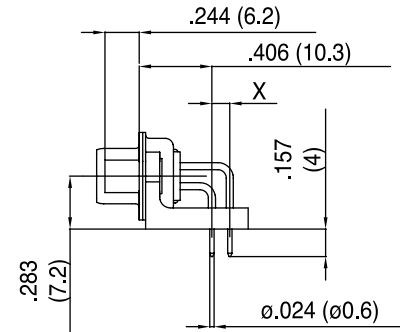


1AON : X= .100 (2.54)
1BON : X= .112 (2.84)

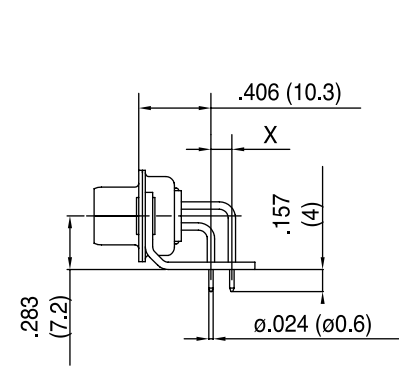
Plastic bracket



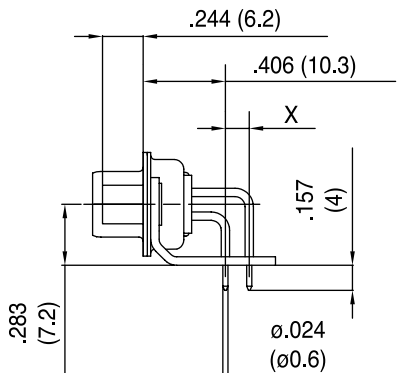
1APN : X= .100 (2.54)
1BPN : X= .112 (2.84)



1AUN : X= .100 (2.54)
1BUN : X= .112 (2.84)

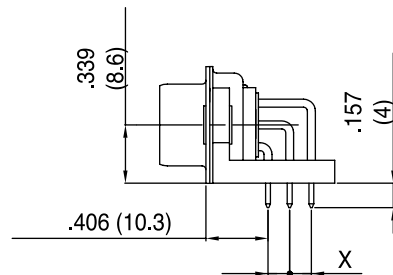


1AMN : X= .100 (2.54)
1BMN : X= .112 (2.84)



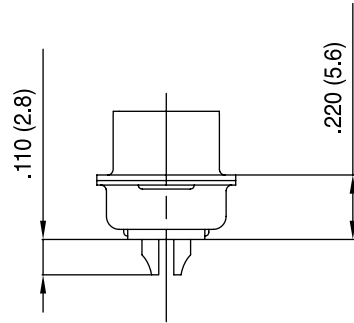
1ATN : X= .100 (2.54)
1BTN : X= .112 (2.84)

50 contacts

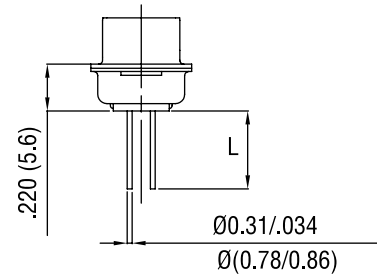


INCHES (MM)

Solder cup

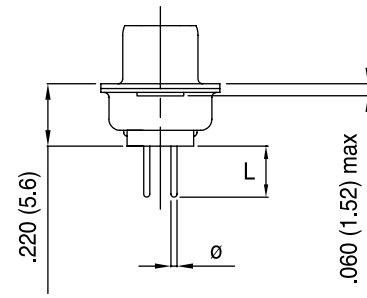


Wire Wrap



Termination	Nb of wraps	L
F179	2	.378 (9.6)
F179A	3	.512 (13)

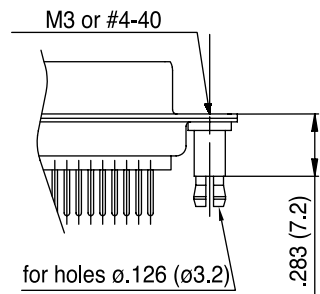
Straight PCB



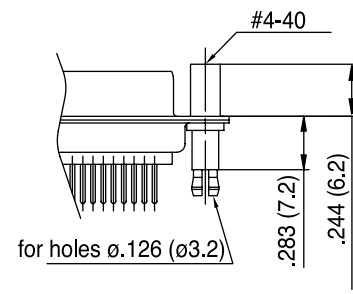
Termination	Ø	L
U	.024 (0.6)	.126 (3.2)
V	.040 (1.02)	.095 (2.4)
T	.024 (0.6)	.157 (4)
OL2	.02 (0.6)	.217 (5.5)

Grounding tabs

For straight termination

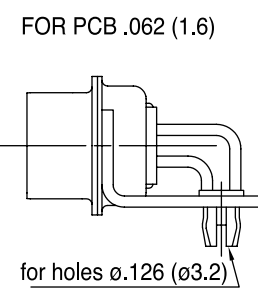


RM5



RM8

For R/A termination

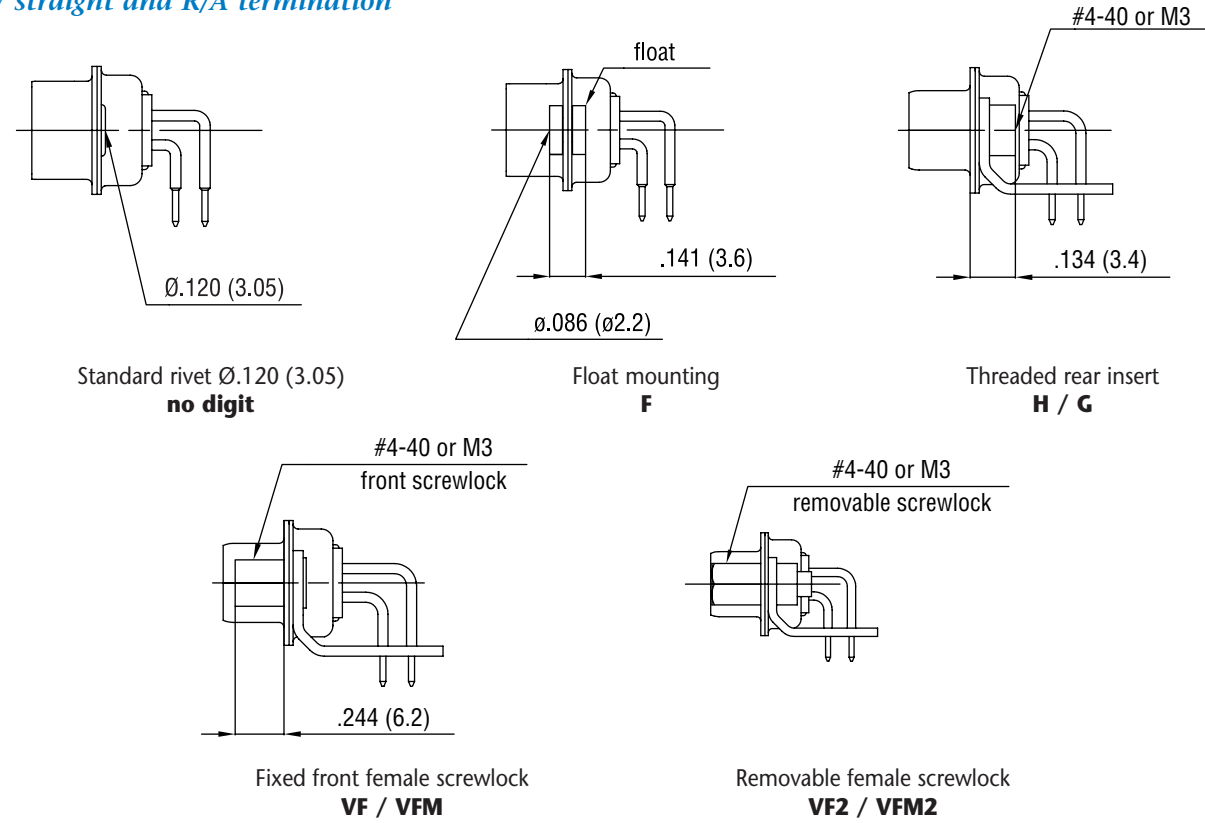


RM6

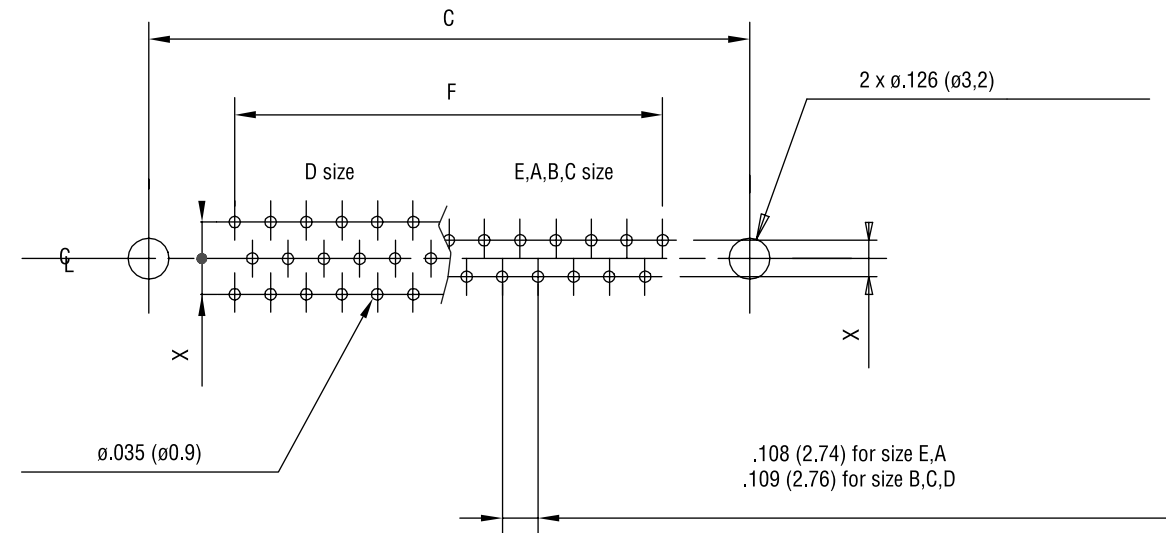
Screw-Machined Contacts
Fixed Machined Contact Connector

D-DF SERIES

For straight and R/A termination



RECOMMENDED PCB LAYOUT



For straight PCB: X = .112 (2.84)
 For right angle PCB: MIL: X = .112 (2.84)
 European: X = .100 (2.54), .112 (2.84) in option

	size E	size A	size B	size C	size D
C ± .004 (0.1)	.984 (25)	1.311 (33.3)	1.85 (47)	2.5 (63.5)	2.406 (61.1)
F ± .002 (0.05)	.431 (10.96)	.755 (19.18)	1.304 (33.12)	1.956 (49.68)	1.74 (44.2)

INCHES (MM)

ORDERING INFORMATION

XXXXX X X XX X XXXXX XXXX X

8µ" (0.2µm)	17D: yellow chromated shell 77D: tinned shell for receptacle 717D: tinned shell + dimples for plug
20µ" (0.5µm)	17DF: yellow chromated shell 77DF: tinned shell for receptacle 717DF: tinned shell + dimples for plug
30µ" (0.76µm)	117DF: yellow chromated shell 177DF: tinned shell for receptacle 777DF: tinned shell + dimples for plug

Shell size: E, A, B, C, D

Mounting Options:

- H rear insert 4-40
- G rear insert M3
- F float mounting
- no digit standard rivet .122 (ø 3.1)
- *H, G must also be used to specify the threading of RM5 grounding tabs.

Configuration: 09, 15, 25, 37, 50

Contact type:

- P pin
- S socket

For specific product

Grounding tabs:

- RM5 for straight PCB mounting*
- RM8 for straight PCB mounting + female lock
- RM6 for right angle PCB mounting
- VF front screwlock 4-40
- VFM front screwlock M3
- VF2 removable screwlock 4-40
- VFM2 removable screwlock M3

Termination:

solder cup: no digit

Wire Wrap:

- F179 length .378 (9.6)
- F179A length .512 (13)

Straight PCB:

- U length .126 (3.2) tail ø.024 (ø0.6)
- V length .094 (2.4) tail ø.040 (ø1.02)
- T length .157 (4) tail ø.024 (ø0.6)
- OL2 length .216 (5.5) tail ø.024 (ø0.6)

Right Angle Connector:

- MIL footprint
- without bracket: C tail ø.040 (ø1.02)
- A4 tail ø.024 (ø0.6)
- plastic bracket: AJ3 tail ø.040 (ø1.02)
- AJ4 tail ø.024 (ø0.6)
- metal bracket: A tail ø.040 (ø1.02)
- AM4 A ø.519 (13.2)
- AZ4 A ø.453 (11.5)
- AM4B footprint ø.590 (14.99)

European footprint

- without bracket: 1AON X .100 (2.54)
- 1BON X .112 (2.84)
- plastic bracket: 1APN X .100 (2.54)
- 1BPN X .112 (2.84)
- 1AUN X .100 (2.54)
- 1BUN X .112 (2.84)
- metal bracket: 1AMN X .100 (2.54)
- 1BMN X .112 (2.84)
- 1ATN X .100 (2.54)
- 1BTN X .112 (2.84)

■ : Standard options

For special request, please consult factory

For Filtered D-Sub, see page 56.

Screw Termination

SPECIFICATIONS:

MATERIALS AND PLATINGS

Shells	Steel Tin plated
Insulator	Glass filled thermoplastic, UL94V-0
Contacts	Machined brass, full gold

ELECTRICAL DATA

Current Rating	7,5 A max.
Voltage Rating	300 V RMS at 50 Hz
Withstanding Voltage	1000 V RMS at 50 Hz
Insulation Resistance	> 5000 Ω at 500 V DC
Contact Resistance	< 5 Ω

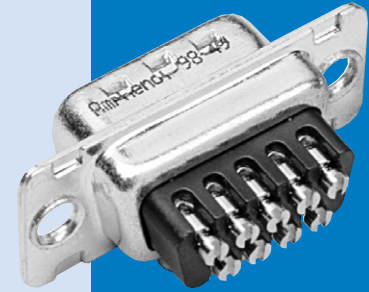
CLIMATIC DATA

Operating Temperature	-67°F (-55°C) to +185°F (85°C), peak at 257°F (125°C)
Damp Heat	21 days 219°F(104°C - 95% HR)
Salt Spray	48 hours

MECHANICAL DATA

Cable Type	Solid or stranded
Cable Gauge	0,75 mm ² max. (AWG 18) - For bigger wire, please consult factory
Screw Torque	0,05 mN max.
Mating Cycles	100 (class II) or 500 (class I)

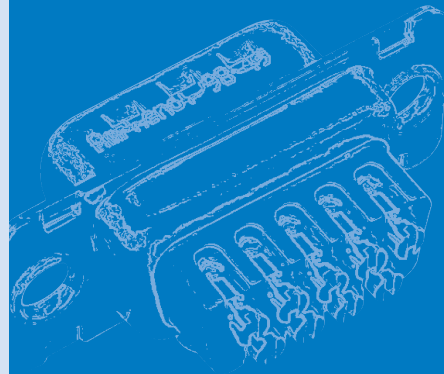
D-ST SERIES

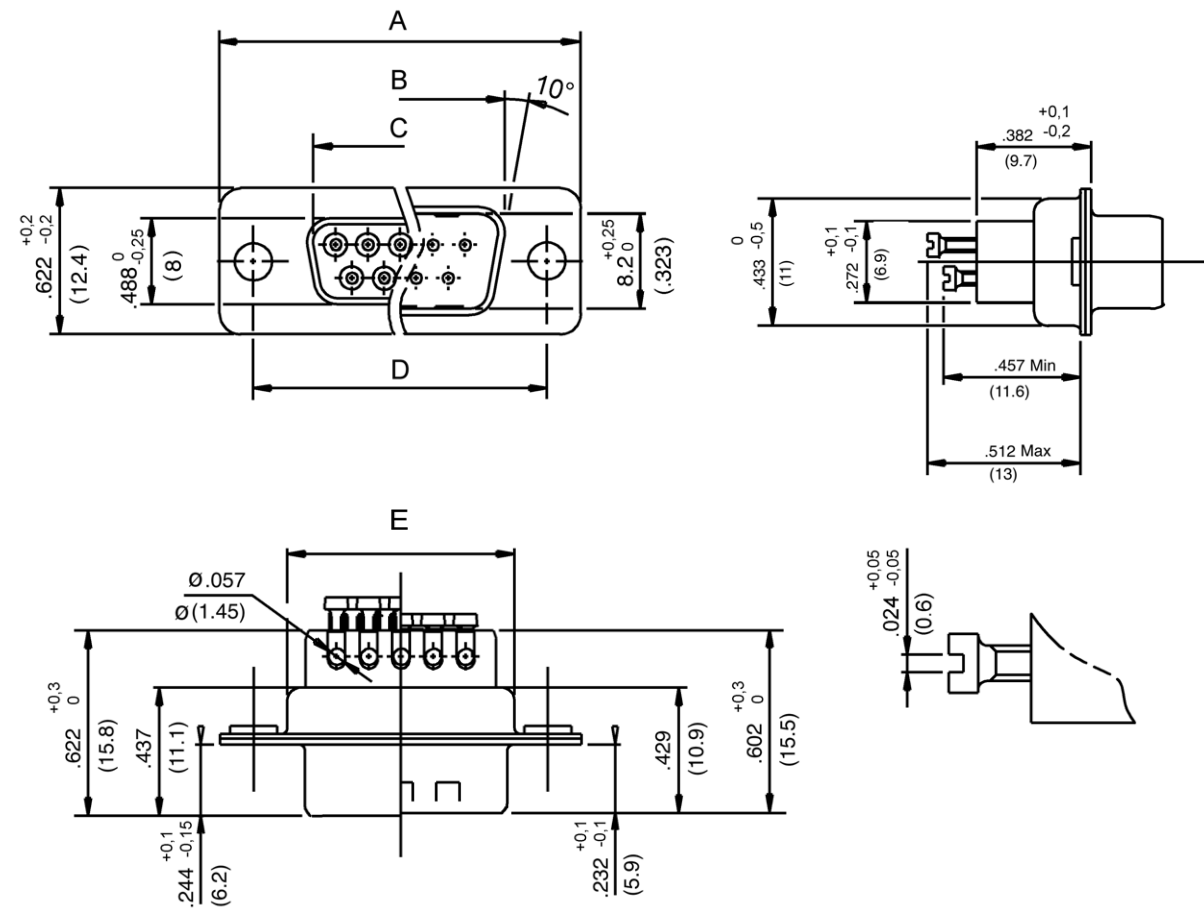


The Amphenol Screw Termination D-Sub series is especially designed for field applications.

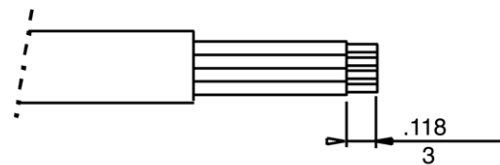
These new connectors permit easy wiring without any specific tool; only a standard electrician's screwdriver is required. Due to their reduced overall dimensions, these connectors are compatible with all standard hoods and accessories.

- Industry - control of speed variators and calculators.
- Houses and public buildings - control of heating, air conditioning, lighting, shutters and fire safety.
- Infrastructures - fluids control, motorway tolls and street lighting.



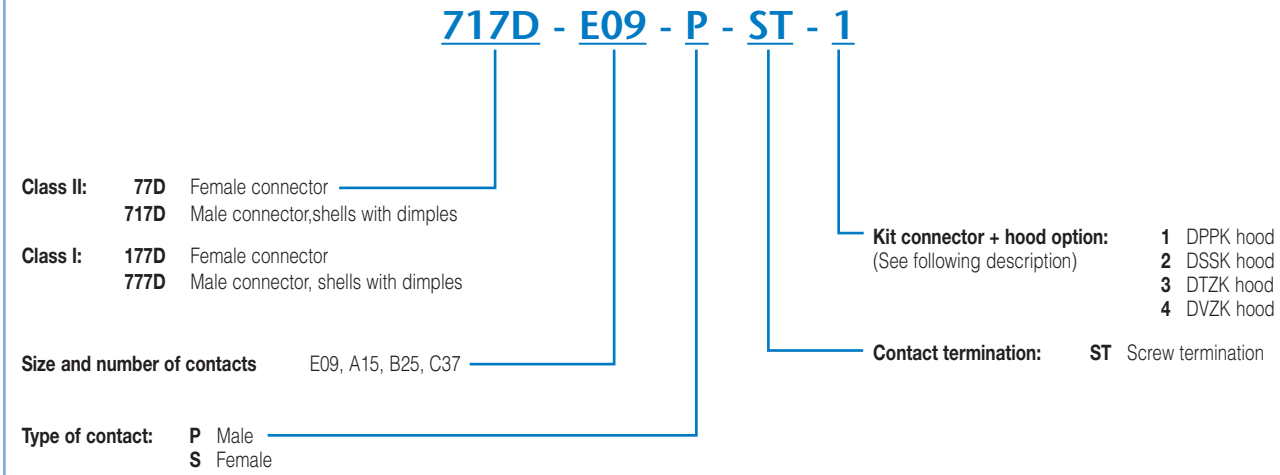


Cable stripping



SIZE	A +.010 (0.25) -.010 (0.25)	B 0 -.008 (0.2)	C +.008 (0.2) 0	D +.004 (0.1) -.004 (0.1)	E +.004 (0.1) -.016 (0.4)
9	1.209 (30.7)	.646 (16.4)	.661 (16.8)	.984 (25)	.370 (19.4)
15	1.535 (39)	.976 (24.8)	.988 (25.1)	1.311 (33.3)	1.091 (27.7)
25	2.083 (52.9)	1.516 (38.5)	1.528 (38.8)	1.850 (47)	1.630 (41.4)
37	2.724 (69.2)	2.161 (54.9)	2.177 (55.3)	2.500 (63.5)	2.280 (57.9)

ORDERING INFORMATION



PLASTIC HOODS



DPPK Straight cable entry

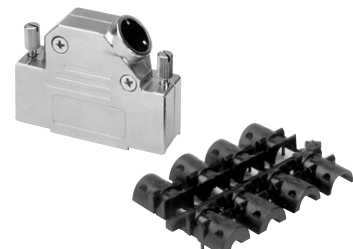


DSSK Angled cable entry

METALLIC HOODS



DTZK Straight cable entry



DVZK Angled cable entry

RR-HR SERIES



Designed for high volume production, Amphenol's rear release crimp connector and contacts provide significant cost savings.

- EMI / RFI shell configuration.
- Removable, reusable contacts.
- Automatic and manual tooling available.

- Industrial
- Telecom
- Any industry standard I / O connections

Stamped And Formed Contacts Rear Release Crimp Connectors

- Standards:
- RR: UL File : E64911
 - HR: UL File : E149426
 - Connectors according to MIL C24308

SPECIFICATIONS:

MATERIALS AND PLATINGS

Shells	Steel yellow chromated over zinc or tinned steel with or without dimples on plug connector
Insulator	Black glass-filled thermoplastic, UL 94V-0
Rear Insert	Brass, 118µ" up to 197µ" (3µm up to 5µm) tinned over nickel 78µ" up to 118µ" (2µm up to 3µm)
Screwlock	Brass, 236µ" up to 394µ" (6µm up to 10µm) tinned over nickel 78µ" up to 118µ" (2µm up to 3µm)

Contacts	Under plating	Crimp side
8µ" (0.2µm) gold	78µ" (2µm) nickel	gold flash or tin
20µ" (0.5µm) gold	78µ" (2µm) nickel	gold flash or tin
30µ" (0.76µm) gold	78µ" (2µm) nickel	gold flash or tin

ELECTRICAL DATA

Current Rating	5A
Voltage Rating	500V AC/rms 50Hz
Withstanding Voltage	RR: 1000V AC/rms 50Hz for 1 minute HR: 1000V AC/rms 60Hz for 1 minute
Insulation Resistance	RR: 5000MΩ HR: 1000MΩ
Contact Resistance	10mΩ max.
Wire Size	20-28 AWG max. insulation out .05 (Ø1.27)

CLIMATIC DATA

Operating Temperature	67°F to 221°F (-55°C to +105°C)
-----------------------	---------------------------------

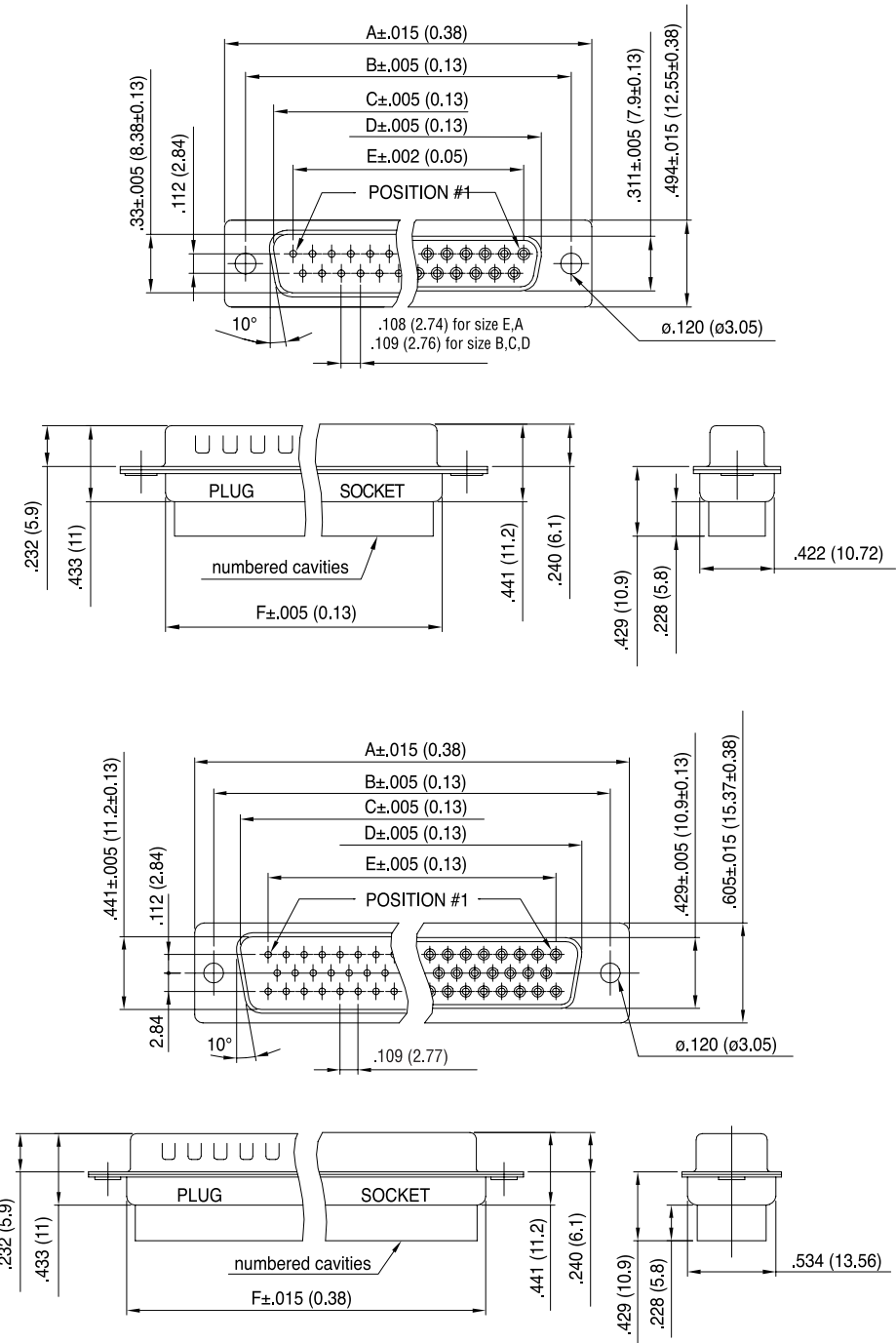
MECHANICAL DATA

Mating and Unmating Force
Unit: lb. (kg.)

No. of Contacts		Mate (max.)		Unmate (min.)	
RR	HR	RR	HR	RR	HR
9 (size E)	15 (size E)	6.74 (3.05)	8.42 (3.81)	0.79 (0.36)	1.14 (0.52)
15 (size A)	26 (size A)	11.24 (5.09)	13.16 (5.95)	1.01 (0.46)	2.32 (1.05)
25 (size B)	44 (size B)	18.66 (8.44)	20.46 (9.26)	1.8 (0.81)	3.02 (1.37)
37 (size C)	62 (size C)	27.65 (12.51)	29.78 (13.48)	2.47 (1.1)	3.88 (1.76)
50 (size D)	78 (size D)	32.38 (14.65)	34.96 (15.82)	3.56 (1.6)	4.46 (2.02)

AMPHENOL D-SUBMINIATURE

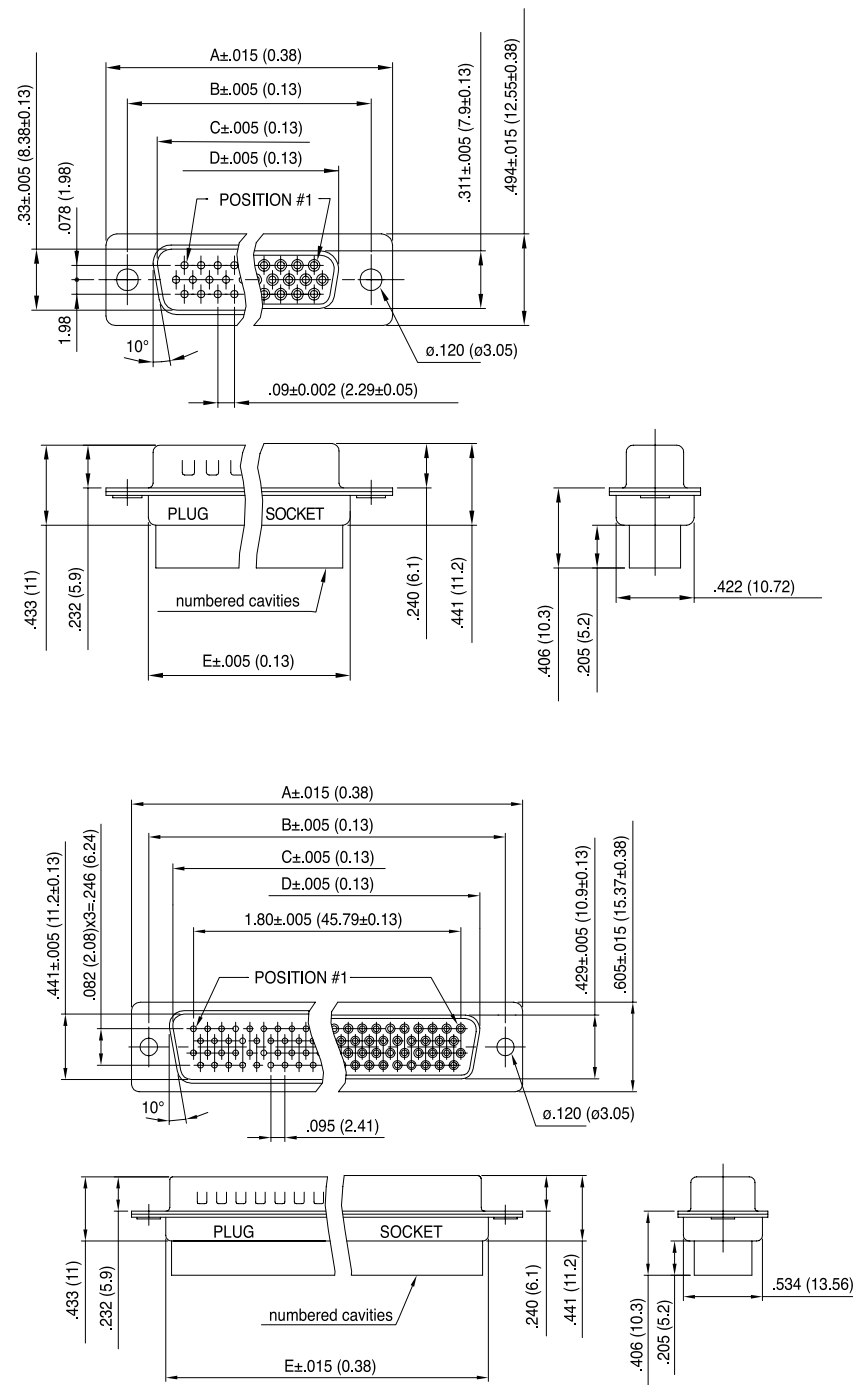
STANDARD DENSITY RR



No. of Contacts	Dimensions					
	A	B	C	D	E	F
9	1.21 (30.84)	.98 (24.99)	.67 (16.92)	.64 (16.24)	.44 (11.09)	.76 (19.28)
15	1.54 (39.24)	1.31 (33.32)	.972 (24.7)	.97 (24.56)	.76 (19.39)	1.08 (27.51)
25	2.09 (53.04)	1.85 (47.04)	1.53 (38.96)	1.51 (38.38)	1.31 (33.24)	1.63 (41.30)
37	2.73 (69.32)	2.50 (63.50)	2.18 (55.3)	2.16 (54.76)	1.96 (49.86)	2.27 (57.71)
50	2.64 (67)	2.41 (61.11)	2.08 (52.86)	2.06 (52.34)	1.75 (44.32)	2.18 (55.3)

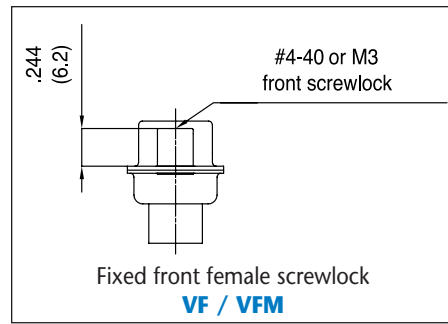
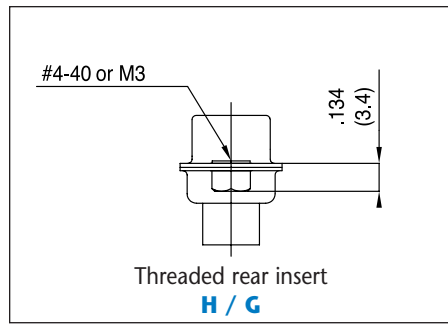
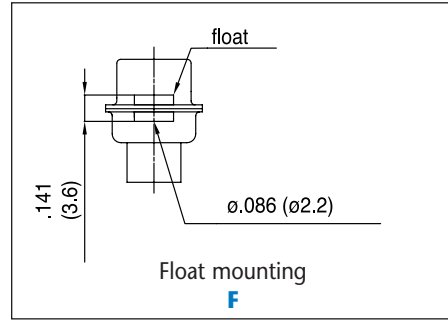
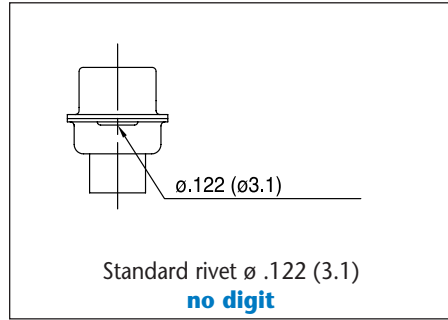
INCHES (MM)

HIGH DENSITY HR

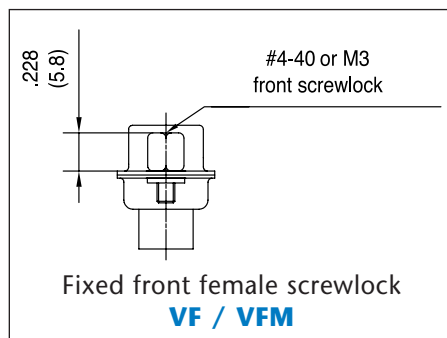
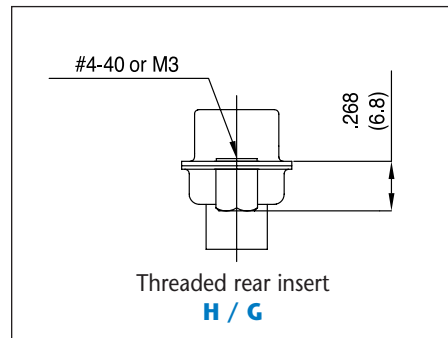
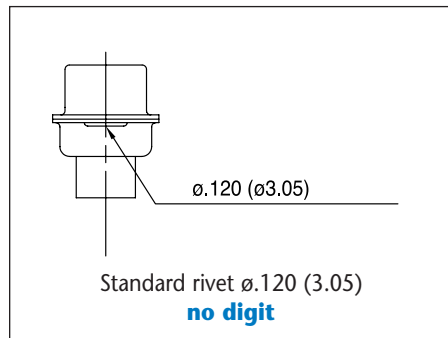


No. of Contacts	Dimensions				
	A	B	C	D	E
15	1.21 (30.84)	.98 (24.99)	.67 (16.92)	.64 (16.24)	.76 (19.28)
26	1.54 (39.24)	1.31 (33.32)	.972 (24.7)	.97 (24.56)	1.08 (27.51)
44	2.09 (53.04)	1.85 (47.04)	1.53 (38.96)	1.51 (38.38)	1.63 (41.30)
62	2.73 (69.32)	2.50 (63.50)	2.18 (55.42)	2.16 (54.76)	2.27 (57.71)
44	2.64 (67)	2.41 (61.11)	2.08 (52.86)	2.06 (52.34)	2.18 (55.3)

PANEL MOUNTING OPTION

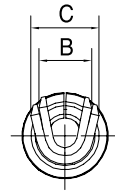


HIGH DENSITY

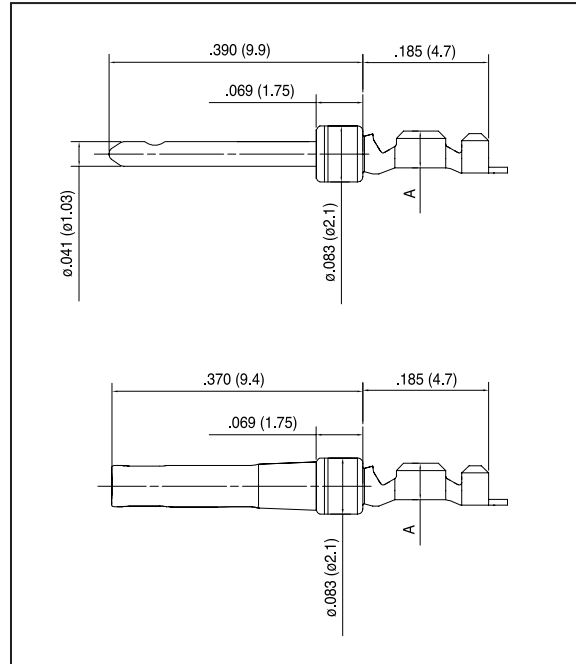


CONTACTS

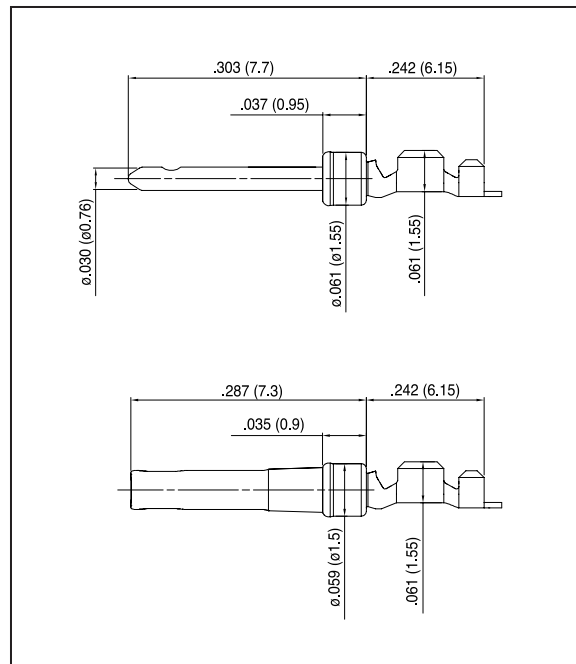
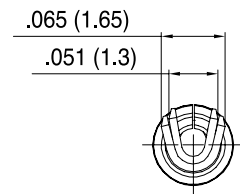
Standard density



AWG	A	B	C
20-24	.071 (1.8)	.075 (1.9)	.098 (2.5)
24-28	.055 (1.4)	.059 (1.5)	.066 (1.7)



High density



ORDERING INFORMATION - RR (STANDARD DENSITY)

Housings

XXX - RR - X - X - XX - X - XXX

Shell Size: E, A, B, C, D

Rear Mounting Type :

- H** rear insert 4-40
- G** rear insert M3
- no digit** standard rivet ø.120 (3.05)
- F** float mounting

Front Mounting Type :

- VF** front screwlock 4-40
- VFM** front screwlock M3

Contact Type:

- P** pin
- S** socket

Configuration:
09, 15, 25, 37, 50

117: yellow chromated shell
177: tinned shell for receptacle
777: tinned shell + dimples for plug

Contacts

17 - RR - XX - X - XX - XXX

Wire Size:

- D1:** 20 to 24 AWG
- D2:** 24 to 28 AWG

Contact Type:

- M** male
- F** female

Packaging :

- 100** bulkpack unit (100 cts)
- 400** reel of 400 cts
- 2K** reel of 2000 cts
- 10K** reel of 10000 cts (right feed reel)
- 10G** reel of 10000 cts (left feed reel)


Full Gold Plating:

- 01** 8µ*(0.2µm)
- 02** 20µ*(0.5µm)
- 04** 30µ*(0.76µm)

Selective Gold Plating:

- 11** 8µ*(0.2µm) Au
+ 78µ*(2µm) SnPb
- 12** 20µ*(0.5µm) Au
+ 78µ*(2µm) SnPb
- 14** 30µ*(0.76µm) Au
+ 78µ*(2µm) SnPb

REEL WINDING DIRECTION



Left to right feed reel: **G** Right to left feed reel: **K**

For special request, please consult factory

ORDERING INFORMATION - HR (HIGH DENSITY)

Housings

XXX - HR - X - X - XX - X - XXX

117: yellow chromated shell
177: tinned shell for receptacle
777: tinned shell + dimples for plug

Shell Size: E, A, B, C, D

Rear Mounting type :
H rear insert 4-40
G rear insert M3
no digit standard rivet ø.120 (3.05)

Front Mounting Type :
VF front screwlock 4-40
VFM front screwlock M3

Contact Type:
P pin
S socket

Configuration:
15, 26, 44, 62, 78

Contacts

17 - HR - D2 - X - XX - XXX

Wire Size:
24 to 28 AWG


Contact Type:
M male
F female

Full Gold Plating:
01 8µ*(0.2µm)
02 20µ*(0.5µm)
04 30µ*(0.76µm)

Selective Gold Plating:
11 8µ*(0.2µm) Au
+ 78µ*(2µm) SnPb
12 20µ*(0.5µm) Au
+ 78µ*(2µm) SnPb
14 30µ*(0.76µm) Au
+ 78µ*(2µm) SnPb

Packaging :
5K reel of 5000 cts (right feed reel)
5G reel of 5000 cts (left feed reel)
10K reel of 10000 cts (right feed reel)
10G reel of 10000 cts (left feed reel)

REEL WINDING DIRECTION



Left to right feed reel: **G** Right to left feed reel: **K**

For special request, please consult factory

TOOLING FOR CRIMP CONTACTS

For standard density crimp contacts: 17RR series

- | | |
|---|-------------|
| • Contact insertion and removal tool | 17D 438 SP |
| • Hand crimp tool for single contacts AWG 20 to 28 | 17D 440 SP |
| • Hand crimp tool for reels of 400 contacts | FA 0000 762 |
| crimp dies: AWG 20 to 24 | FA 0000 104 |
| crimp dies: AWG 24 to 28 | FA 0000 102 |
| • Stripping box | FE 0400 |
| • Automatic crimp machine for reels of 2000 to 10000 contacts | 970 MC |
| crimp dies: AWG 20 to 24 | 968 MC |
| crimp dies: AWG 24 to 28 | 972 MC |

For high density crimp contacts: 17HR series

- | | |
|---|--------|
| • Automatic crimp machine for reels of 2000 to 10000 contacts | 970 MC |
| crimp dies: AWG 24 to 28 | 973 MC |

SD308



For Sea, Air or Land, these connectors are SEALED! Amphenol's SD308 Sealed D-Subminiature Connectors are available in the full range of standard density and hi-density insert arrangements, pin and socket contacts. These connectors are supplied with fixed screw machine contacts and are available in Solder Cup, Straight PCB, and Right Angle PCB terminations.

- Ruggedized Computers and Peripheral Equipment
- Industrial Controllers
- 21st Century Soldier
- Ideal For Retrofit Applications Or Late Design-In

Sealed D-Sub Connectors

SPECIFICATIONS:

PRODUCT FEATURES

- One piece machined Aluminum Shell
- Gold Plated Screw Machine Contacts
- Hi Grade Thermoplastic Inserts -67°F to +257°F (-55°C to +125°C)
- Integrated Blind Panel Mounts
- Supplied with Conductive Panel Seal Gasket

MATERIALS AND PLATINGS

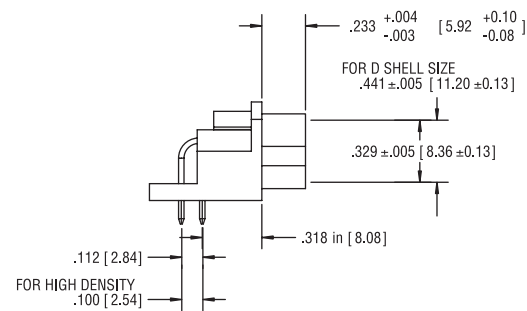
Shells Machined aluminum alloy, tin plated
Inserts High temperature resistant polyethersulfone per mil-p-46185
Contacts Copper alloy, 20µ" (0.51µm) gold plated over nickel.
Seal Silicone elastomer with nickel plated graphite flake

ELECTRICAL DATA

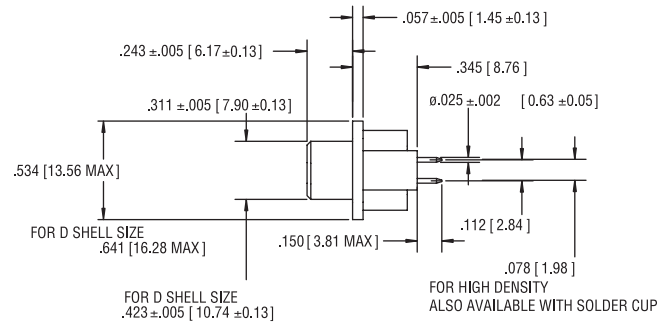
Current Rating 5A
Insulation Resistance 5 GIGOHM @ 500 VDC
Working Voltage 120 VAC
D.W.V. 1,000 VAC pin to pin & pin to shell

CLIMATIC DATA

Operating Temperature -67°F to +257°F (-55°C to +125°C)



PLUG - SIDE VIEW



RECEPTACLE - SIDE VIEW

SD308 - E09 - S - A - 1 - 000

Series Designation

Shell Size & Number Of Contacts

STD Density E09, A15, B25, C37, D50
 HIGH Density E15, A26, B44, C62, D78, 6106

Contact Type

S=Socket Contact P= Pin Contact

000 = Standard part
 other deviations as required

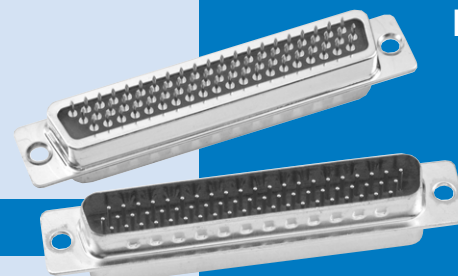
Mounting Type

1 = 4-40 Blind Nut
 2 = 4-40 Blind Nut with R/A Mounting Bracket

Termination Style

A = Right Angle pcb B = Vertical pcb
 C = Solder Cup

Filtered D-Sub Connectors, Ruggedized



FD308

SPECIFICATIONS:

DESCRIPTION

- Hi reliability filtering in multi row arrangements
- Stamped and Formed shells
- Screw Machine Contacts and Hi Reliability inserts
- Available in all Hi-Density insert patterns

MATERIALS AND PLATINGS

Shells Stamped steel shell, tin plated
Inserts High temperature resistant polyethersulfone per MIL-P-46185
Contacts Machined copper alloy, 20µ" (0.51µm) gold plated over nickel
Capacitor Barium titanate ceramic array

ELECTRICAL DATA

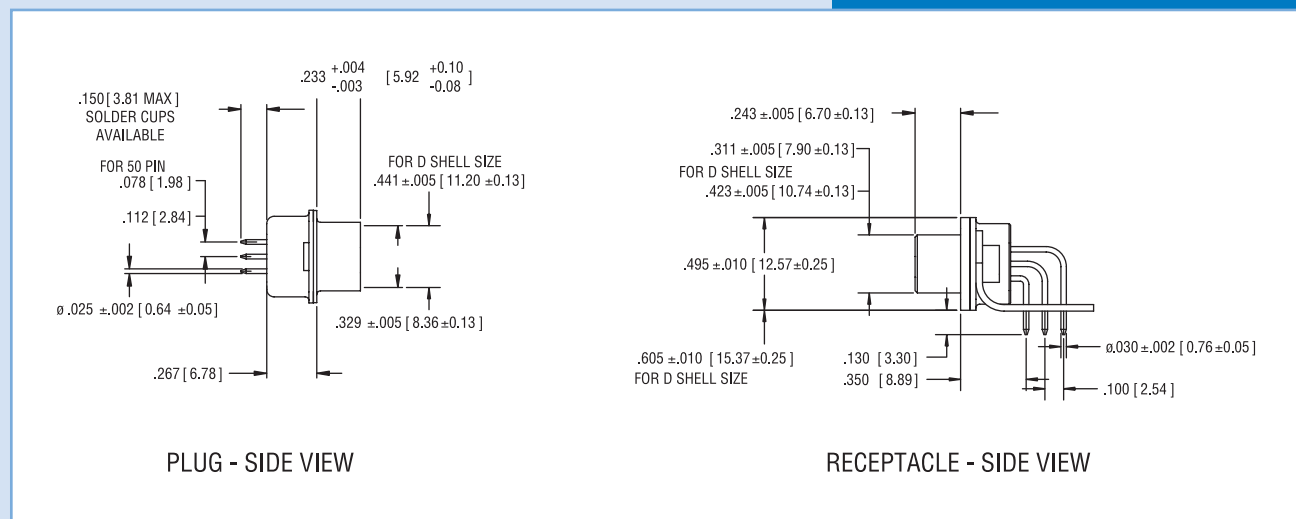
Current Rating 5 A
Insulation Resistance 5 GIGOHM @ 500 VDC
Working Voltage 200 VDC
D.W.V. 500 VDC pin to pin & pin to shell
Capacitance +/- 20% (see P/N description)

CLIMATIC DATA

Operating Temperature -67°F to +257°F (-55°C to +125°C)

For 50 position and all high density versions. Amphenol's FD308 Filtered D-Subminiature connectors are available in the full range of hi-density insert arrangements, pin and socket contacts, plus the 50 position standard density. These connectors are supplied with fixed screw machine contacts and are available in Straight and Right Angle PCB terminations and Solder Cup.

- Computers and Peripheral Equipment
- Avionics Systems Ideal For Retrofit Applications Or Late Design-In



FD308 - B44 - S - A - 1 - A2 - 000

Series Designation FD308

Size & Number Of Contacts B44
 STD Density E09, A15, B25, C37, D50
 High Density E15, A26, B44, C62, D78, 6104

Contact Type S = Socket Contact P = Pin Contact

Termination Style A = Right Angle pcb
 B = Vertical pcb
 C = Solder Cup

000 = Standard part
 other deviations as required

Capacitance Code
 A2 = 200 PF 02 = 2000 PF
 A4 = 400 PF 05 = 5000 PF
 01 = 1000 PF

Mounting Type
 1 = 4-40 Clinch Nut
 2 = Ø.120 (3.05) Hole
 3 = R/A Mounting Bracket
 4 = 4-40 Clinch Nut with R/A Mounting Bracket

ORDERING INFORMATION - IDC

FCC17 - E09 - S - W - 4 - 8 - 0 - G

<p>Series Designation</p> <p>Size and Configuration 15 & 25 Size Consult Factory.</p> <p>Connector Type S: Socket P: Pin Consult Factory.</p> <p>Termination Type W: IDC *</p> <p>Mounting 2: .120 (3.05) Diameter Through Hole 4: 4-40 Threaded Inserts 6: M3 Threaded Inserts</p>	<p>Special G: 50 Micro Inches Gold</p> <p>Modifier 0: Standard Product x: Special or Custom Versions</p> <p>Capacitance Value D: 50 pF 5: 1,000 pF 0: 180 pF E: 2,200 pF F: 330 pF 9: 5,600 pF 1: 470 pF 8: 47,000 pF 4: 820 pF</p> <p>Other Capacitance values available. Consult Factory.</p>
--	--

ORDERING INFORMATION - FILTERED PRESS FIT

FCC17 - B25 - S - R - 4 - 8 - 0 - G

<p>Series Designation</p> <p>Size and Configuration *</p> <p>Connector Type S: Socket P: Pin Consult Factory.</p> <p>Termination Type R: Press Fit</p> <p>Mounting 2: .120 (3.05) Diameter Through Hole 3: 4-40 Self Locking Threaded Insert 4: 4-40 Threaded Inserts 5: 4-40 Threaded Standoff 6: M3 Threaded Inserts E: Code 4 with 4-40 Hex Jack Socket</p>	<p>Special G: 50 Micro Inches Gold</p> <p>Modifier 0: Standard Product x: Special or Custom Versions</p> <p>Capacitance Value D: 50 pF 5: 1,000 pF 0: 180 pF E: 2,200 pF F: 330 pF 9: 5,600 pF 1: 470 pF 8: 47,000 pF 4: 820 pF</p> <p>Other Capacitance values available. Consult Factory.</p>
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ORDERING INFORMATION - STACKED D-SUB

FCC17 - 2 - BP - BS - 4 - 5 - 5 - X

<p>Series Designation</p> <p>Vertical Mounting Dimension Between Connectors 1 = .625 (15.88) 2 = .750 (19.05)</p> <p>Upper Connector Configuration (Size and Style) EP: 9 pin BP: 25 pin ES: 9 socket BS: 25 socket AP: 15 pin CP: 37 pin AS: 15 socket CS: 37 socket</p> <p>Lower Connector Configuration (Size and Style) same as Upper Connector Configuration</p> <p>Mounting 2: .120 (3.05) Diameter Through Hole on Flanges 4: 4-40 Threaded Inserts on Flanges E: 4-40 Hex Jack Sockets (supplied loose)</p>	<p>Modifier 0: Standard Product x: Special or Custom Versions</p> <p>Lower Connector Filter Capacitance same as Upper Connector Filter Capacitance Designation</p> <p>Upper Connector Filter Capacitance D: 50 pF 5: 1,000 pF 0: 180 pF E: 2,200 pF F: 330 pF 7: 1,200 pf 1: 470 pF 9: 5,600 pF 4: 820 pF 8: 47,000 pF</p> <p>* For Additional Mounting Options and Filter Capacitance - Consult Factory</p>
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ORDERING INFORMATION - D-SUB

FCC17 - B25 - S - C - 4 - 4 - 0 - G

Series Designation _____

Size _____
E09, A15, B25, C37

Connector type _____
A - Adapter P - Pin S - Socket

Termination Type _____
A - Right Angle PC Tail, .318 (8.08) Footprint E - Vertical Mount PC Tail
B - Right Angle PC Tail, .405 (10.29) Footprint M - Solder Cup
C - Right Angle PC Tail, .590 (14.99) Footprint N - Vertical Mount PC Tail - Long Body
D - Pin/Socket Adapter

Mounting options*

A: 4-40 Threaded PC Tail Standoffs with Boardlock, Vertical Mount Only	3: Self-Locking 4-40 Threaded Inserts
E: 4-40 Hex Jack Sockets (supplied loose)	4: 4-40 Threaded Inserts (Standard)
F: 4-40 Round Fixed Jack Sockets	5: 4-40 Threaded Stand-Offs, Vertical Mount
2: .120 (3.05) diameter Through hole	6: M3 Threaded inserts

Specials
No Digit: Standard 15µ* (0.38µm) gold
G: 50µ* (1.27µm) gold
K: 30µ* (0.76µm) gold
L: Standard Connector with added ferrite block

Modifier
0 = Standard Product (Boardlocks on Right Angle D-Subs)
B = Metal Mounting Brackets, for Right Angle D-Subs
D = .315 (8.00) to Boardlock for .590 (14.99) footprint
E = Plastic Bracket - No Boardlock
F = No Boardlock, No plastic or metal Bracket - Alignment Strip Only
X = Specials or Custom Versions

Filter Capacitance (pF)*

D: 50 pF	5: 1,000 pF
B: 100 pF	7: 1,200 pF
0: 180 pF	E: 2,200 pF
F: 330 pF	9: 5,600 pF
1: 470 pF	8: 47,000 pF
4: 820 pF	

* For Additional Mounting Options and Filter Capacitance - Consult Factory

ORDERING INFORMATION - COMBO D-SUB

FCC17 - A - 3W3 - P - M - 4 - 5 - 0 - G

Series Designation _____

Shell Size _____
A, B, C, D, E

Arrangement _____

Connector type _____
A = Adapter, P = Pin, S = Socket

Termination type _____
D = Pin/Socket Adapter
E = Power PC Tail - 40A - .126 (3.20) Dia., .175 (4.44) Lg.
K = Power Solder Cup - 10A - Wire Size 16
L = Power Solder Cup - 20A - Wire Size 12
M = Power Solder Cup - 40A - Wire Size 8
R = Power Press Fit - 20A - .145 (3.68) Lg. - .126 (3.20) Dia. Hole

Mounting Options

2 = .120 (3.05) dia. mounting holes	5 = 4-40 Standoffs - PC tail only
3 = 4-40 Threads Self locking	6 = M3 Threads
4 = 4-40 Threads	E = 4-40 Hex Jack Sockets (supplied loose)

Plating Option
Blank = Standard 30µ* (0.76µm) gold
G = 50µ* (1.27µm) gold

Modifier
0 = Standard
X = Specials or Custom versions (Consult Factory)

Filter Capacitance (pF)

D: 50 pF	5: 1000 pF
B: 100 pF	7: 1200 pF
o: 180 pF	E: 2200 pF
f: 330 pF	9: 5600 pF
l: 470 pF	8: 47000 pF
4: 820 pF	

* For Additional Mounting Options and Filter Capacitance - Consult Factory

ACCESSORIES

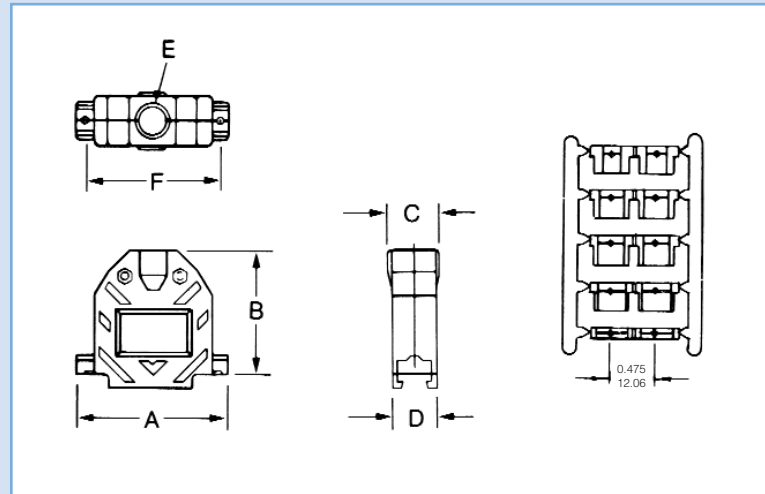


Amphenol's black plastic backshell accommodates most standard and high-density D-Subminiature connectors and is appropriate for most cable assemblies. This version is economical and highly durable. The split-grommet insert provides cable strain relief while making it easy to assemble.

Plastic Backshell

SPECIFICATIONS:

Housing Material: Styrene (UL 94 VO)
Grommet Material: Polypropylene
Mounting Hardware: Steel, clear zinc finish *RoHS Compliant



DIMENSIONS AND ORDERING INFORMATION

Shell Size	Standard # of Contacts	Hi-Density # of Contacts	Part #	Dimensions						Cable Diameter Range	
				A	B	C	D	E	F	Minimum	Maximum
E	9	15	17E-1724-1	1.217 (30.91)	1.547 (39.29)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	0.984 (24.99)	0.210 (5.33)	0.350 (8.89)
A	15	26	17E-1725-1	1.545 (39.24)	1.505 (38.23)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	1.312 (33.32)	0.210 (5.33)	0.350 (8.89)
B	25	44	17E-1726-1	2.090 (53.08)	1.655 (42.04)	0.710 (18.03)	0.640 (16.26)	0.522 (13.26)	1.857 (47.17)	0.230 (5.84)	0.450 (11.43)
C	37	62	17E-1727-1	2.734 (69.44)	1.830 (46.48)	0.906 (23.01)	0.640 (16.26)	0.726 (18.44)	2.500 (63.50)	0.350 (8.89)	0.640 (16.26)
D	50	78	17E-1728-1	2.645 (67.18)	1.855 (47.12)	0.940 (23.88)	0.770 (19.56)	0.726 (18.44)	2.406 (61.11)	0.350 (8.89)	0.640 (16.26)

AMPHENOL D-SUBMINIATURE

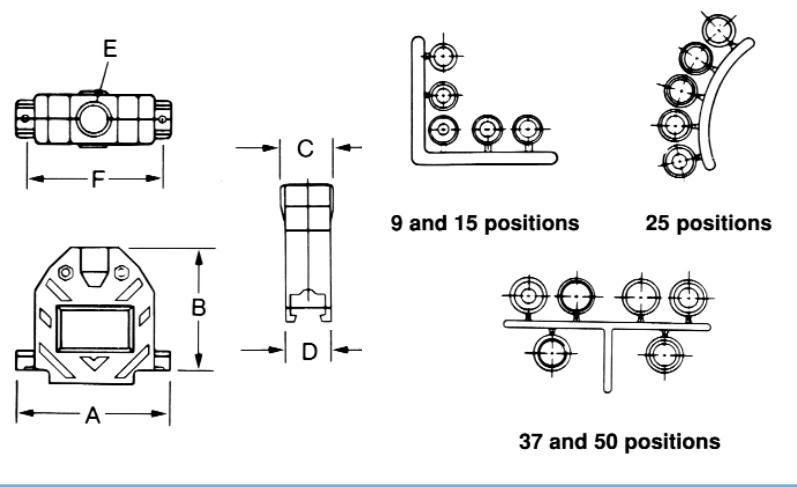
Plated Plastic Backshell

SPECIFICATIONS:

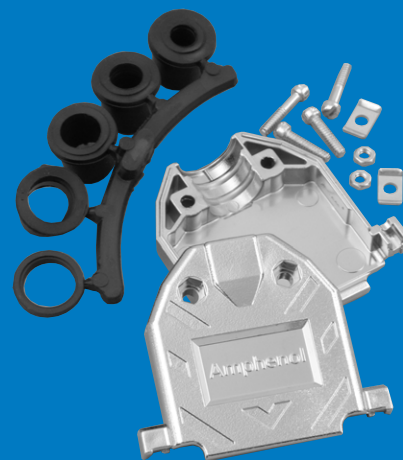
Housing Material: ABS Polymer
Plating: Nickel over copper
Grommet Material: PVC (UL 94 VO)
Mounting Hardware: Steel, clear zinc finish *RoHS Compliant

ASSEMBLY INSTRUCTIONS

1. Select the tightest insert that will fit over the cable and thread the cable through it, placing the end with the smaller O.D. (the end without the washer) towards the connector.
2. Cut the jacket, fold the shielding back over the outside of the insert and cut it just short of the washer.
3. Install jackscrews and connector.
4. Place the washer in the outermost depression in the exit area of the hood and screw the cover closed.



ACCESSORIES



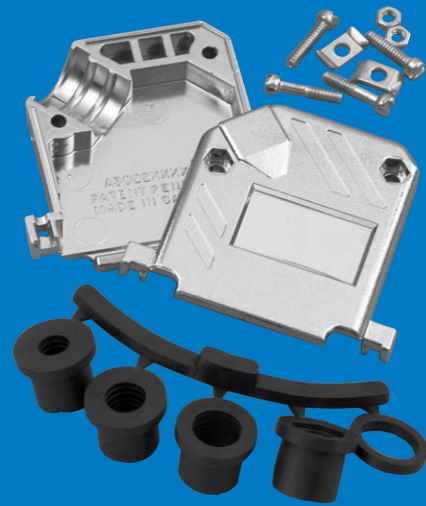
Amphenol's plated plastic backshell accommodates most standard and high-density D-Subminiature connectors and is appropriate for cable assemblies requiring compliance to FCC 20780. This version is highly durable and provides EMI/RFI protection. The rubber grommet compression insert forces the cable's shielding against the inside of the cable exit area, assuring shielding.

DIMENSIONS AND ORDERING INFORMATION

Shell Size	Standard # of Contacts	Hi-Density # of Contacts	Part #	Dimensions						Cable Diameter Range	
				A	B	C	D	E	F	Minimum	Maximum
E	9	15	17E-1724-2	1.217 (30.91)	1.547 (39.29)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	0.984 (24.99)	0.210 (5.33)	0.320 (8.13)
A	15	26	17E-1725-2	1.545 (39.24)	1.505 (38.23)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	1.312 (33.32)	0.210 (5.33)	0.320 (8.13)
B	25	44	17E-1726-2	2.000 (50.8)	1.655 (42.04)	0.710 (18.03)	0.640 (16.26)	0.522 (13.26)	1.857 (47.17)	0.230 (5.84)	0.450 (11.43)
C	37	62	17E-1727-2	2.730 (69.34)	1.830 (46.48)	0.906 (23.01)	0.640 (16.26)	0.726 (18.44)	2.500 (63.50)	0.350 (8.89)	0.650 (16.51)
D	50	78	17E-1728-2	2.645 (67.18)	1.855 (47.12)	0.940 (23.88)	0.440 (11.18)	0.726 (18.44)	2.406 (61.11)	0.350 (8.89)	0.650 (16.51)

INCHES (MM)

ACCESSORIES



Amphenol's plated plastic backshell accommodates most standard and high-density D-Subminiature connectors and is appropriate for cable assemblies requiring compliance to FCC 20780. This version is highly durable and provides EMI/RFI protection. The rubber grommet compression insert forces the cable's shielding against the inside of the cable exit area, assuring shielding. The 45° cable exit helps save space behind equipment.

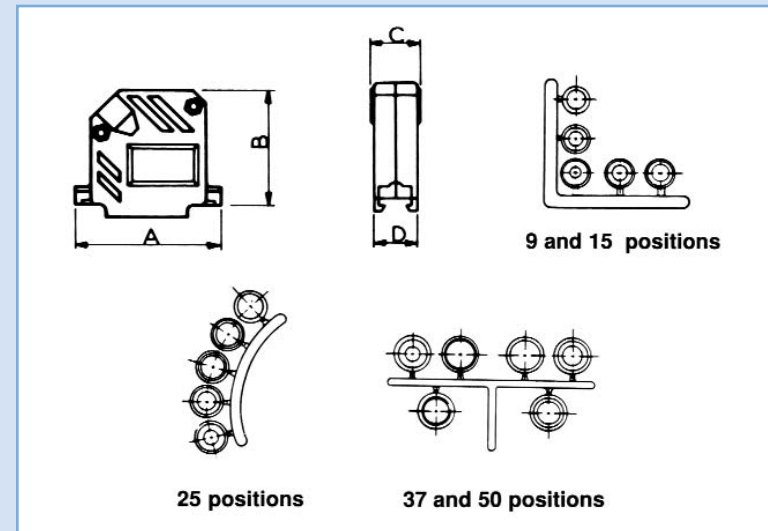
45° Plated Plastic Backshell

SPECIFICATIONS:

Housing Material: ABS Polymer
Plating: Nickel over copper
Grommet Material: PVC (UL 94 VO)
Mounting Hardware: Steel, clear zinc finish *RoHS Compliant

ASSEMBLY INSTRUCTIONS

1. Select the tightest insert that will fit over the cable and thread the cable through it, placing the end with the smaller O.D. (the end without the washer) towards the connector.
2. Cut the jacket, fold the shielding back over the outside of the insert and cut it just short of the washer.
3. Install jackscrews and connector.
4. Place the washer in the outermost depression in the exit area of the hood and screw the cover closed.



DIMENSIONS AND ORDERING INFORMATION

Shell Size	Standard # of Contacts	Hi-Density # of Contacts	Part #	Dimensions						Cable Diameter Range	
				A	B	C	D	E	F	Minimum	Maximum
E	9	15	17E-1824-2	1.217 (30.91)	1.430 (36.32)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	0.984 (24.99)	0.210 (5.33)	0.320 (8.13)
A	15	26	17E-1825-2	1.545 (39.24)	1.568 (39.83)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	1.312 (33.32)	0.210 (5.33)	0.320 (8.13)
B	25	44	17E-1826-2	2.090 (53.09)	1.735 (44.07)	0.710 (18.03)	0.640 (16.26)	0.522 (13.26)	1.857 (47.17)	0.230 (5.84)	0.450 (11.43)
C	37	62	17E-1827-2	2.734 (69.44)	1.976 (50.19)	0.906 (23.01)	0.640 (16.26)	0.726 (18.44)	2.500 (63.5)	0.350 (8.89)	0.650 (16.51)

Two-Piece Die Cast Shielded Backshells

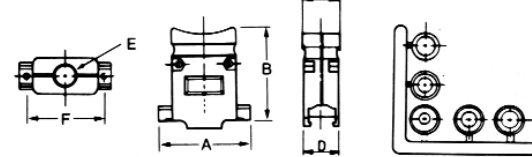
SPECIFICATIONS:

Housing Material: Die cast zinc
 Grommet Material: PVC (UL 94 VO)
 Mounting Hardware: Steel, clear zinc finish *RoHS Compliant

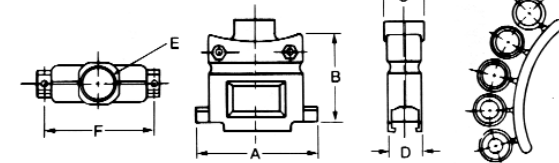
ASSEMBLY INSTRUCTIONS

1. Select the tightest insert that will fit over the cable and thread the cable through it, placing the end with the smaller O.D. (the end without the washer) towards the connector.
2. Cut the jacket, fold the shielding back over the outside of the insert and cut it just short of the washer.
3. Install jackscrews and connector.
4. Place the washer in the outermost depression in the exit area of the hood and screw the cover closed.

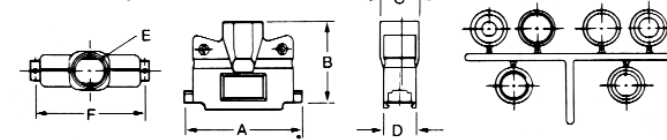
9 and 15 positions



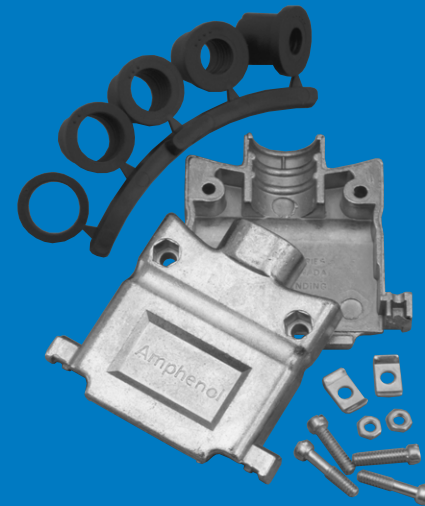
25 positions



37 and 50 positions



ACCESSORIES



Amphenol's metal backshell accommodates most standard and high-density D-Subminiature connectors and is appropriate for cable assemblies requiring compliance to FCC 20780. This version is highly durable and provides EMI/RFI protection. The rubber grommet compression insert forces the cable's shielding against the inside of the cable exit area, assuring shielding.

DIMENSIONS AND ORDERING INFORMATION

Shell Size	Standard # of Contacts	Hi-Density # of Contacts	Part #	Dimensions						Cable Diameter Range	
				A	B	C	D	E	F	Minimum	Maximum
E	9	15	17E-1657-09	1.217 (30.91)	1.430 (36.32)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	0.984 (24.99)	0.210 (5.33)	0.320 (8.13)
A	15	26	17E-1657-15	1.545 (39.24)	1.568 (39.83)	0.640 (16.26)	0.640 (16.26)	0.400 (10.16)	1.312 (33.32)	0.210 (5.33)	0.320 (8.13)
B	25	44	17E-1657-25	2.090 (53.09)	1.735 (44.07)	0.710 (18.03)	0.640 (16.26)	0.522 (13.26)	1.857 (47.17)	0.230 (5.84)	0.450 (11.43)
C	37	62	17E-1657-37	2.734 (69.44)	1.976 (50.19)	0.906 (23.01)	0.640 (16.26)	0.726 (18.44)	2.500 (63.5)	0.350 (8.89)	0.640 (16.26)

INCHES (MM)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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[72.352.2435.1](#) [73.359.4035.3](#) [829472-1](#) [PCS-E20W](#) [970-015-040R011](#) [971-009-030R121](#) [971-009-040R011](#) [971-015-040R011](#) [DPH-B-003](#)
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[165X11899X](#) [165X13019X](#) [165X13029X](#) [165X13169X](#) [165X13199X](#) [165X13239X](#) [165X13389X](#) [165X13489X](#) [165X14219X](#)
[165X14429X](#) [165X14449X](#) [165X17409X](#) [165X17439X](#) [165X17569X](#) [165X17599X](#) [165X17609X](#) [165X17979X](#) [L171373](#) [971-025-](#)
[030R121](#) [300X10989X](#) [165X02609X](#) [165X02639X](#)