

D-SUBMINIATURE CONNECTORS

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



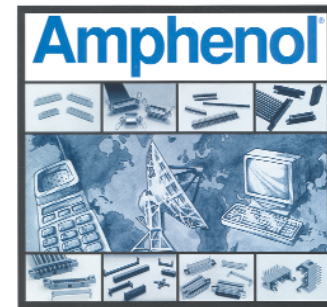
**DIN 41612
Circuit Board Connectors**



**FCC Filtered
Connectors**

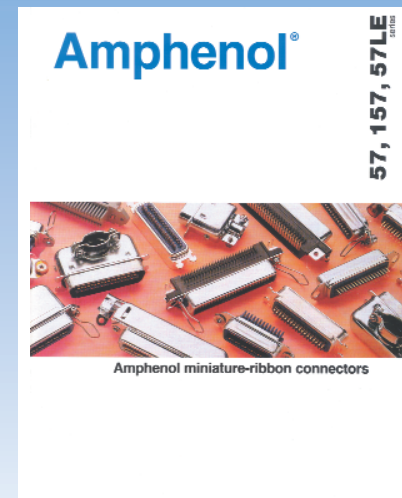


**RJ Modular
Jacks**



HEADERS & SOCKETS
AND
MASS-TERMINATED
IDC CONNECTORS

**IDC
Connectors**



**Miniature
Ribbon Connectors**

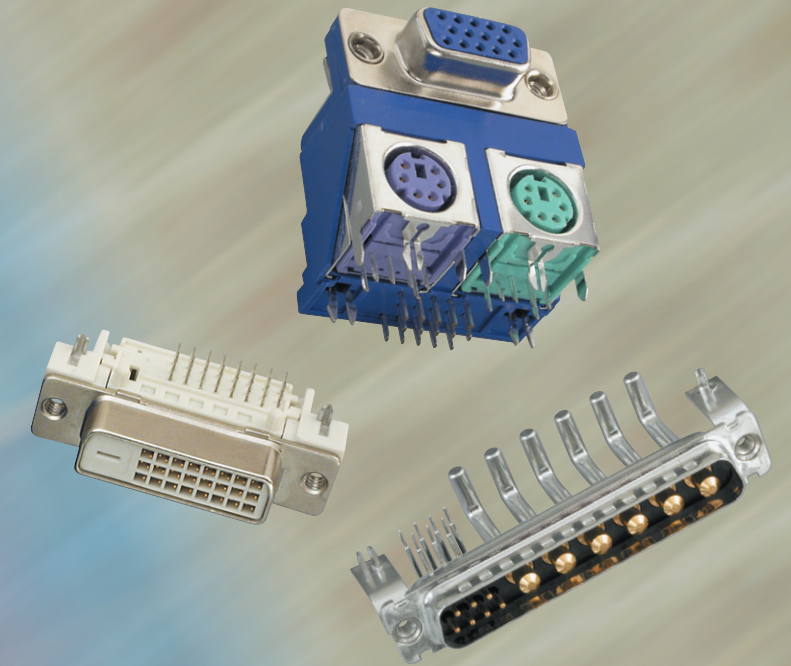
Amphenol®

Data / Telecom Products

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Designed by K Jasper Marketing Communications Inc.



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

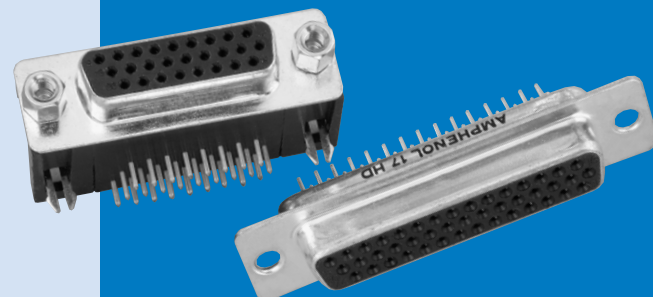
Shells	Steel, tin plated, grounding indents on plug.
Contact Material	Copper alloy
Contact Plating	Engagement area: gold (see ordering information).
Termination End	150µ" (3.81µm) tin/lead
Nickel Underplate	50µ" (1.27µm) entire contact

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.

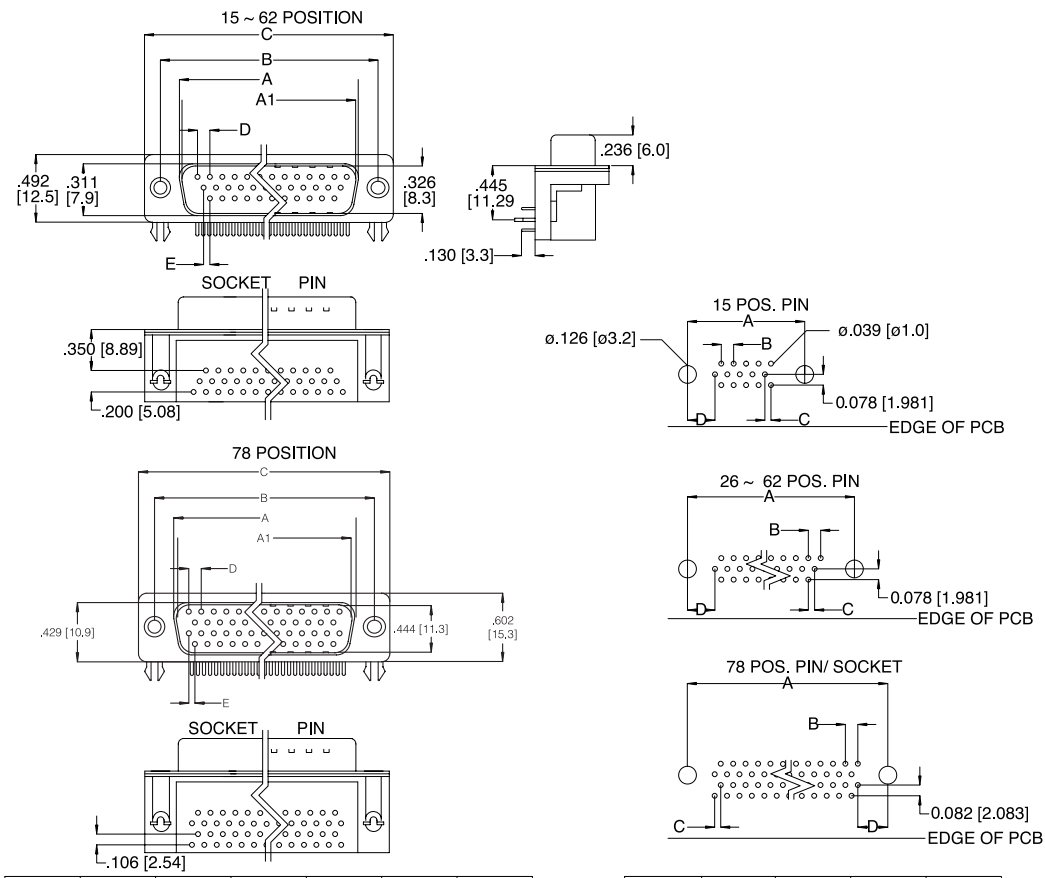
The product offering includes PCB mount connectors in both straight or right angle termination styles. Straight PCB mount are available in both Fixed Screw Machine and Stamped and Formed contacts, while Right Angle PCB mount are only available with Stamped and Formed contacts.

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

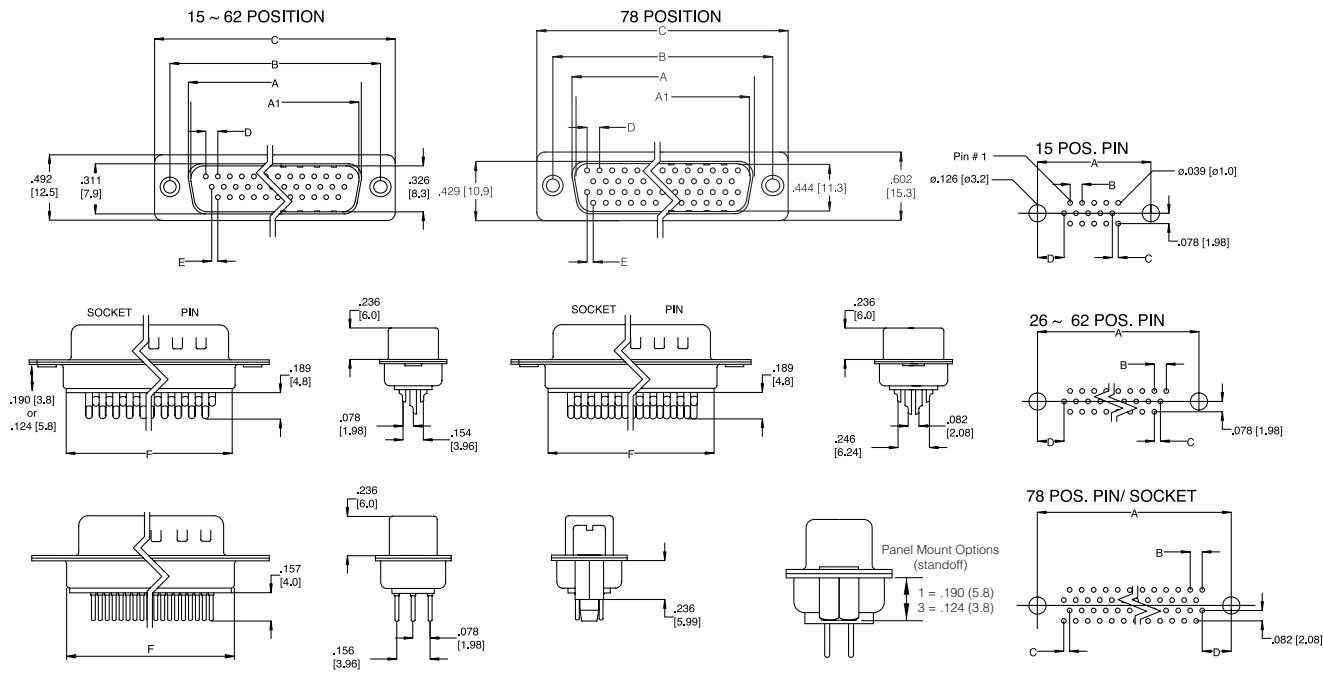
Front Metal Shell, Right-Angle PC Mount

17EBH 0XX X XX X XX

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

PCB Mount Options
00 Clear hole
10 Arrowhead Board
Panel Mounting Options
0 .120 (3.05) Clear Hole
1 #4-40 Threaded Hole
2 #4-40 Fixed Female Screw
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)

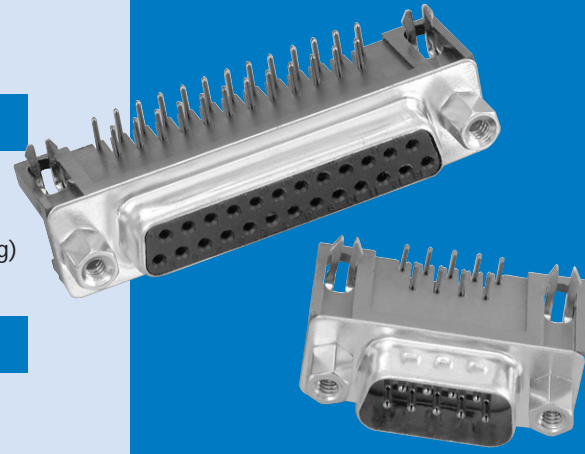
ELECTRICAL DATA

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

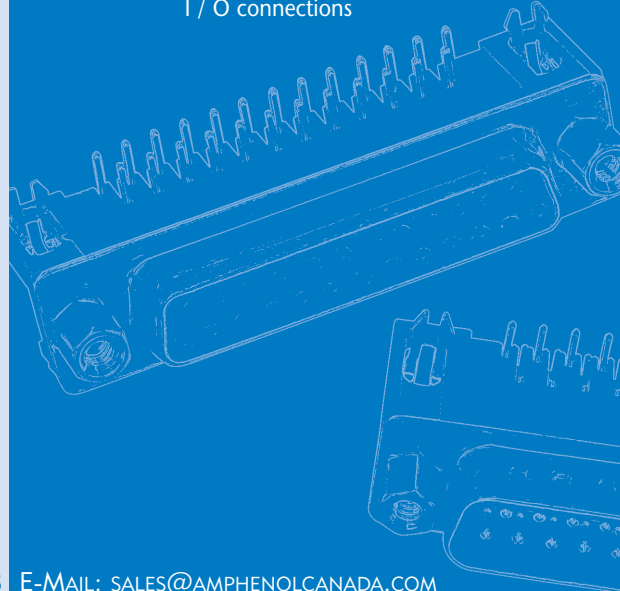


Amphenol's 6E17 series of right angle commercial connectors provide high performance at competitive prices.

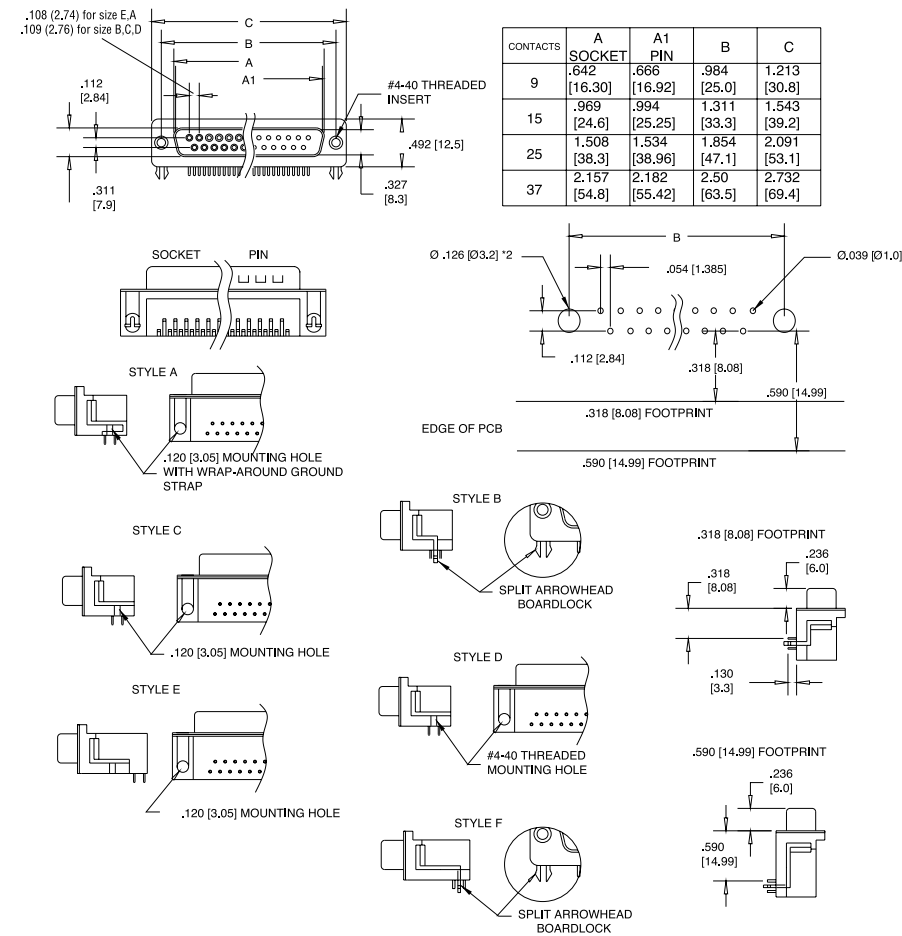
The front metal shell helps to provide reduced EMI/ RFI emissions, and the contacts are selectively plated to provide additional high performance. The 6E17 series are available in a variety of board mounting and grounding options including arrowhead boardlocks and #4-40 threaded inserts.

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

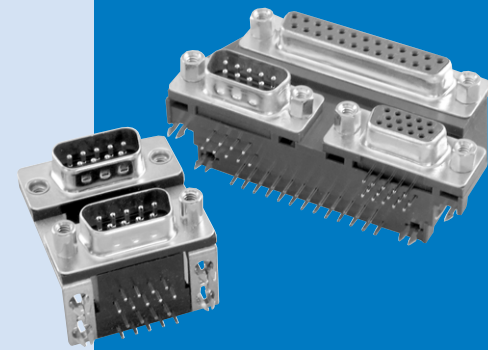
Shells	Steel, tin plated
Contacts	Precision formed copper alloy
Contact Plating	Gold over nickel
Contact Forces	Engagement: 12 oz. max. (340.2 g) Separation: .75 oz. min. (21.26 g)

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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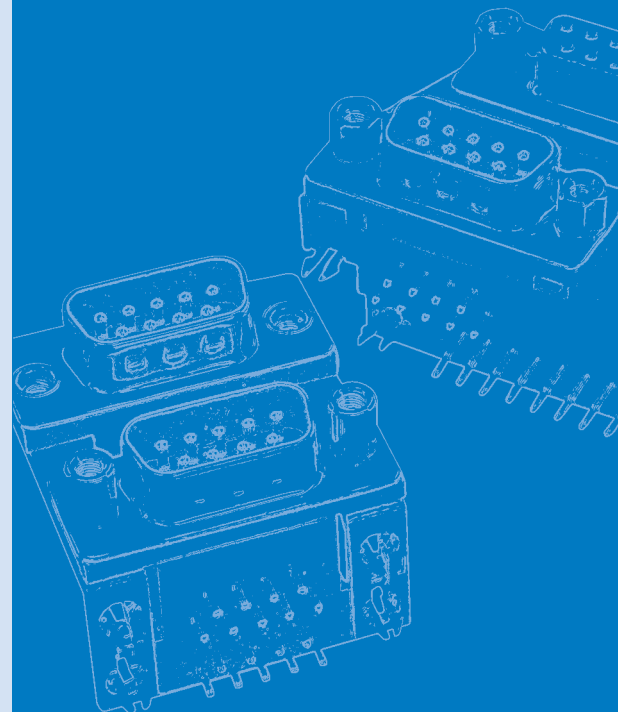
6E17 H SERIES

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.

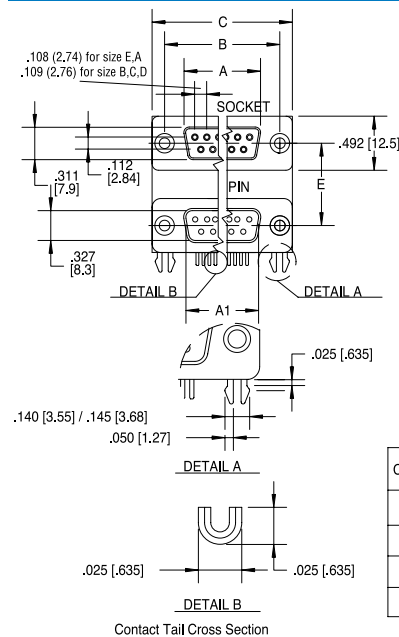
Designed to save PC board space, Amphenol's dual port "D" provides two input output connectors in a minimal amount of board space.

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



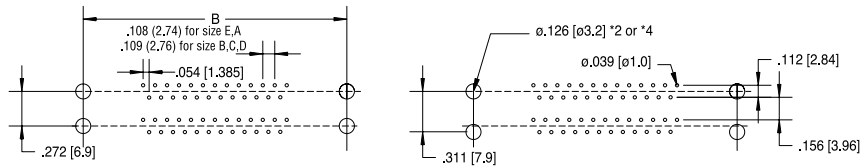
INCHES (MM)

DIMENSIONS



CONTACTS	A SOCKET	A1 PIN	B	C
9	.642 [16.30]	.666 [16.92]	.984 [25.0]	1.213 [30.8]
15	.969 [24.6]	.994 [25.25]	1.311 [33.3]	1.543 [39.2]
25	1.508 [38.3]	1.534 [38.96]	1.854 [47.1]	2.091 [53.1]
37	2.157 [54.8]	2.182 [55.42]	2.50 [63.5]	2.732 [69.4]

Code Letter	Product Description		Dimensions	
	Top Connector	Bottom Connector	E	F
A	Pin	Pin	0.900 ± 0.010 (22.86 ± 0.25)	1.415 (35.94)
B	Socket	Socket		
C	Pin	Socket		
D	Socket	Pin	0.750 ± 0.010 (19.05 ± 0.25)	1.265 (32.13)
E	Pin	Pin		
F	Socket	Socket		
G	Pin	Socket	0.625 ± 0.010 (15.88 ± 0.25)	1.140 (28.96)
H	Socket	Pin		
J	Pin	Pin		
K	Socket	Socket		
L	Pin	Socket		
M	Socket	Pin		



PCB EDGE

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

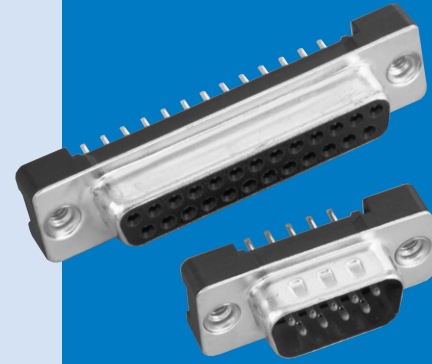
ELECTRICAL DATA

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

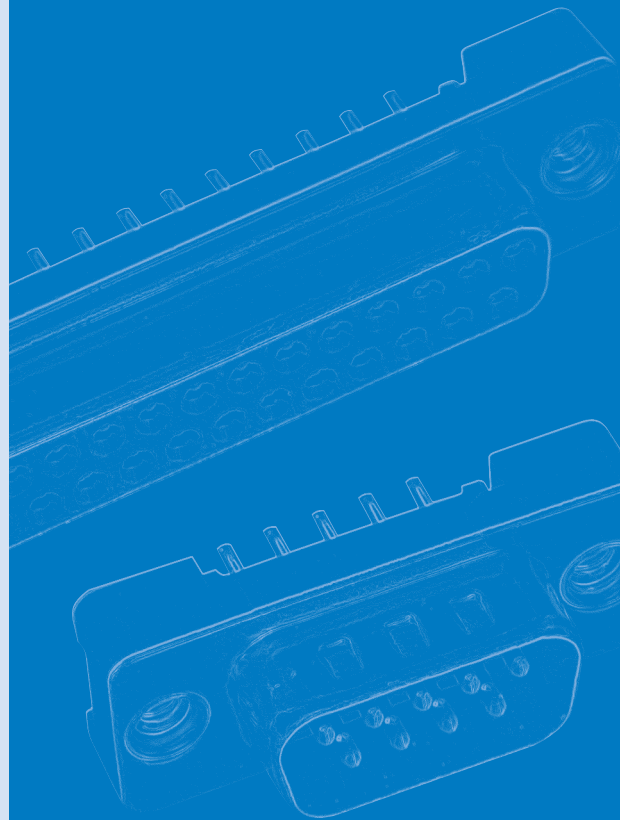
CLIMATIC DATA

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

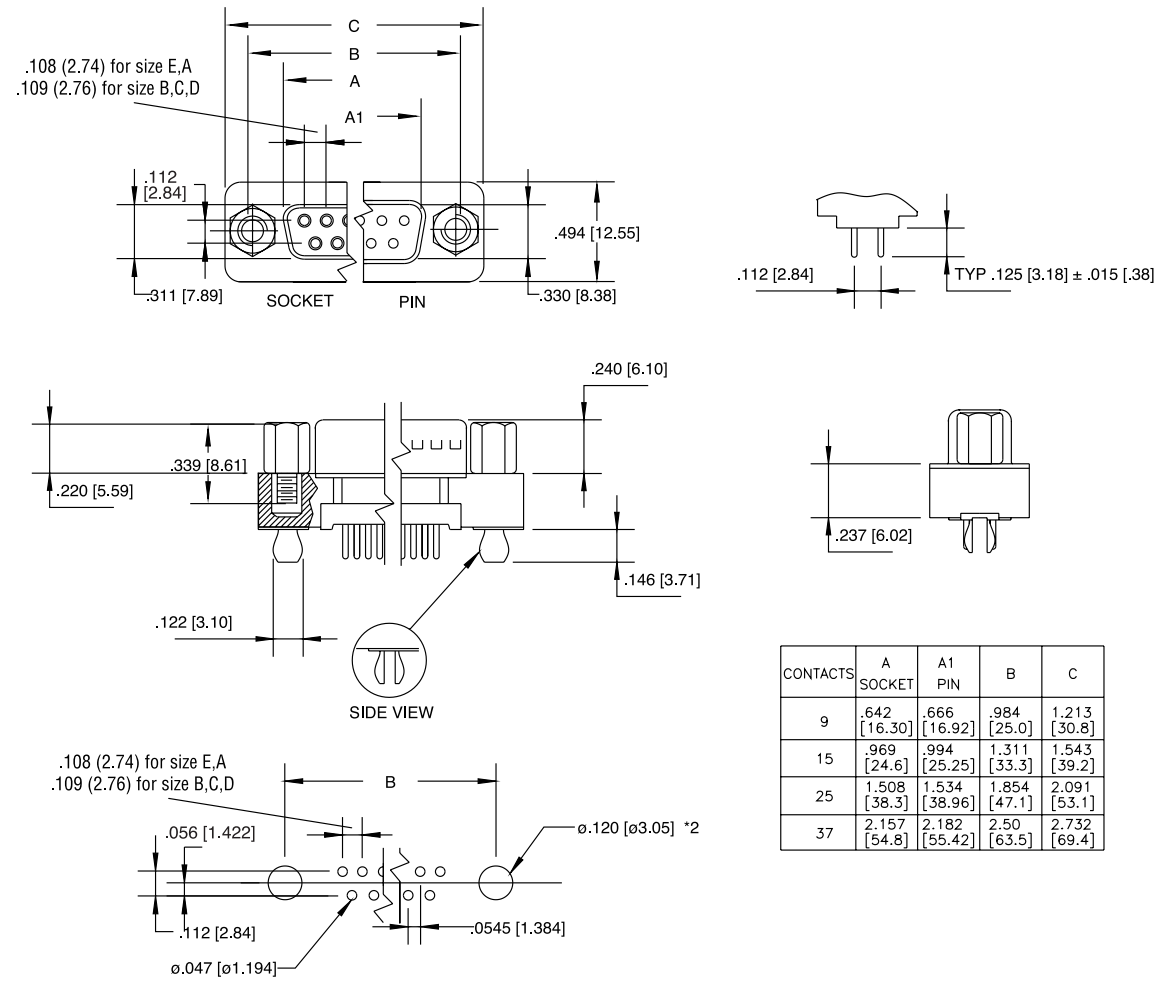
6E17S SERIES



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

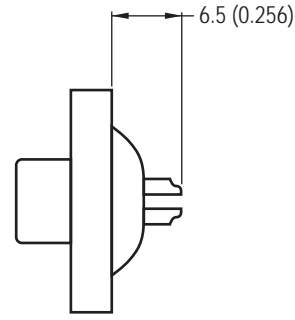
- Marine electronic devices
- Industrial electrical
- Security Monitoring
- Robotics
- Lighting systems

ED-EHD

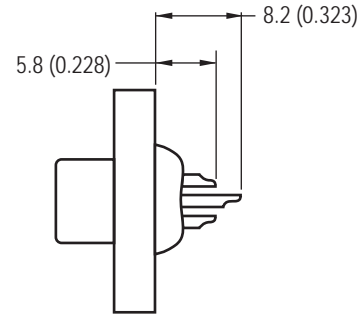


Amphenol

Solder cup (blank) :

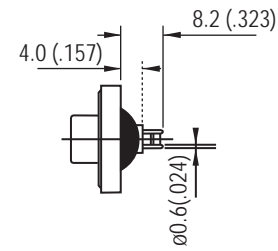


Standard density

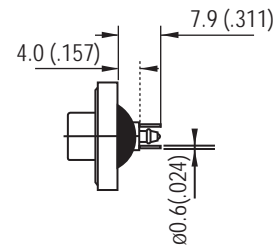


High density

Straight PCB with standoff and boardlocks:

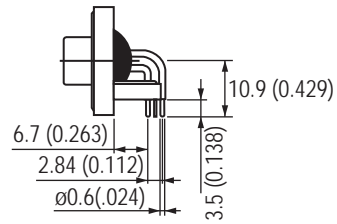


Standard density

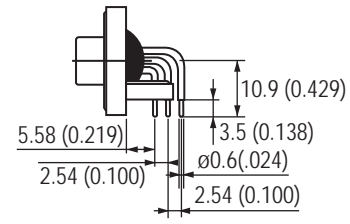


High density

Right angle PCB with brackets and boardlocks:

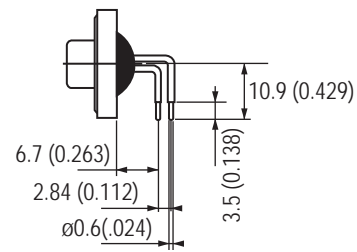


Standard density

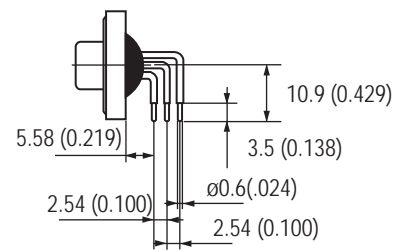


High density

Right angle PCB without brackets and boardlocks:



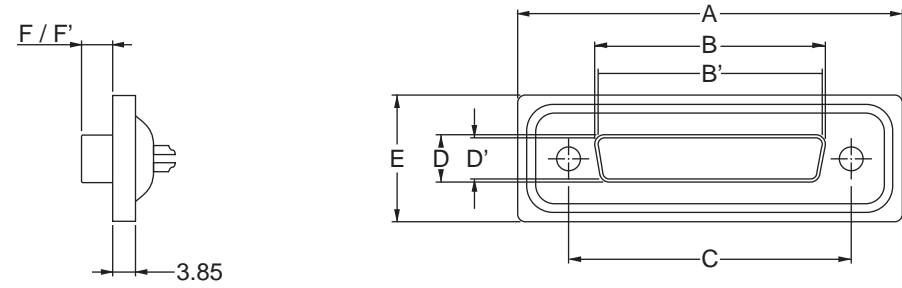
Standard density



High density

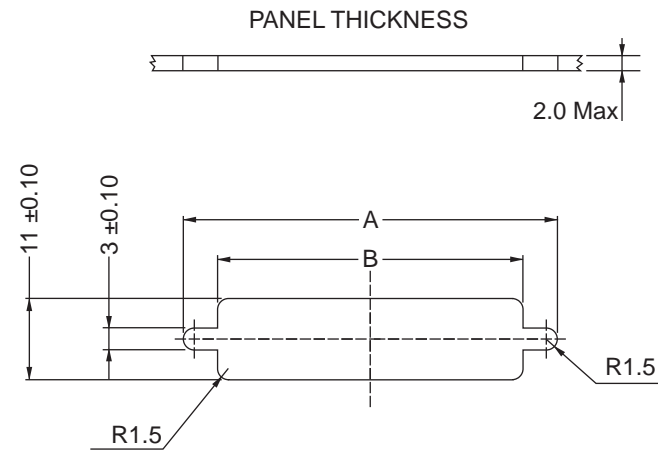


Shell Size Dimensions

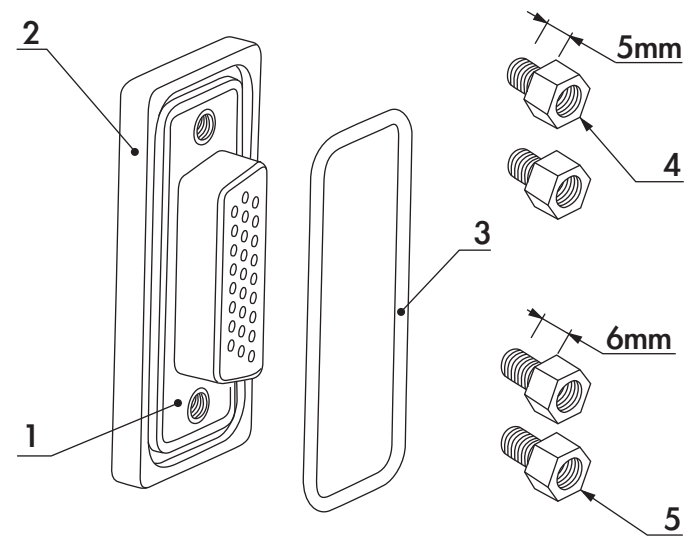


SHELL SIZE	Contact P: pin S: socket	A	B	B'	C	D	D'	E	F	F'
		±0.25 (±.010)	0 / -0.20 (0/- .008)	+0.20 / 0 (+.008/0)	±0.10 (±.004)	0 / -0.25 (0/- .010)	+0.25 / 0 (+.010/0)	±0.25 (±.010)	+0.10/-0.20 (+.004/- .008)	±0.10 (±.004)
E	P	39.4		16.8(0.661)	25.0		8.2(0.325)	21.0		5.9(0.232)
	S	(1.551)	16.4(0.646)		(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

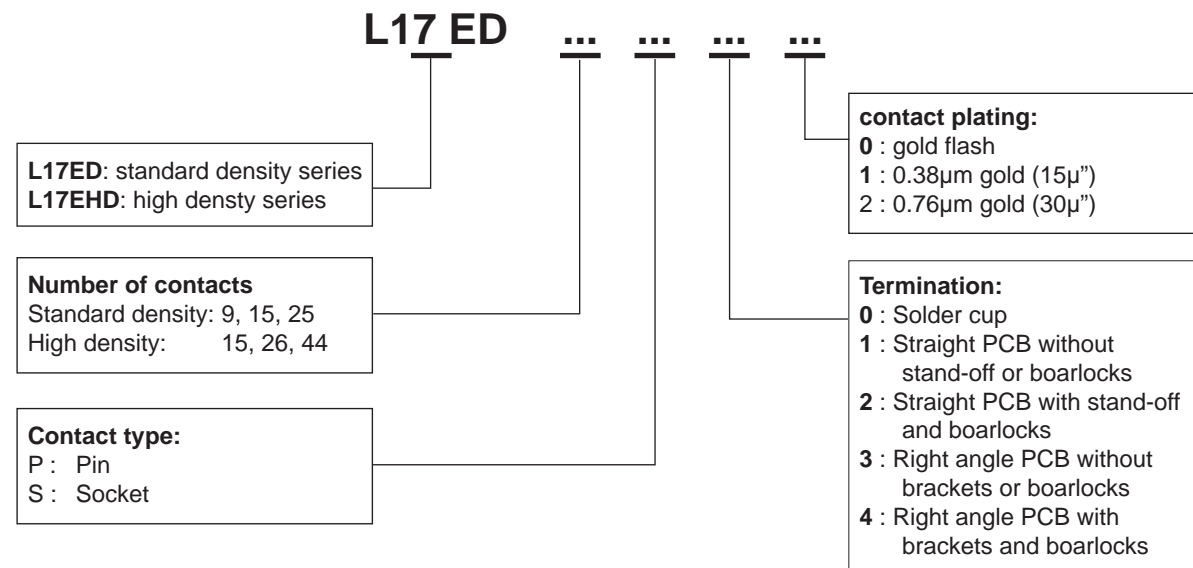


SHELL SIZE	A	B
	±0.10(±.004)	0 / -0.10(0 / -.004)
E	28.8 (1.111)	20.0 (0.788)
A	36.5 (1.438)	28.0 (1.103)
B	51.0 (2.009)	41.5 (1.635)



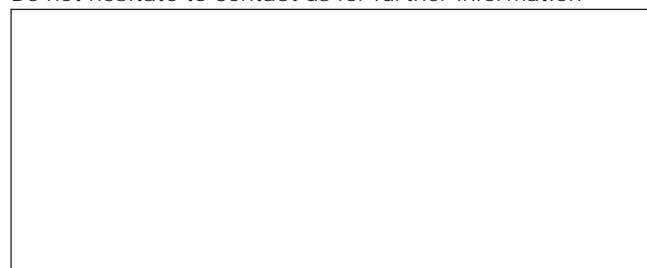
NO	Description	Material	Qty
2	Housing	Black thermoplastic UL 94-VO	1
1	Front shell	Steel tin plated	1
3	Ring	Silicone	1
4	#4-40 Front screw lock	Brass tin plated	2
5	#4-40 Front screw lock	Brass tin plated	2

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

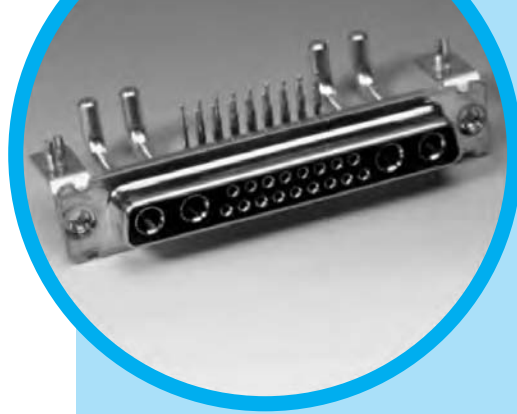
Technical Support

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>








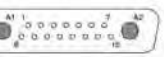


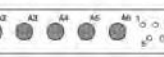







CLASS I

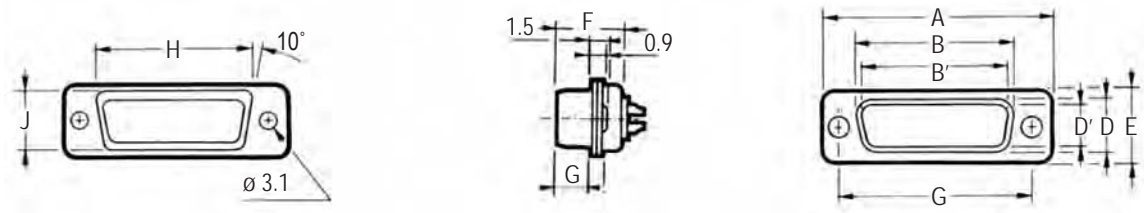
0.76µm (30µ") Au contacts gold plating
500 mating cycles

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

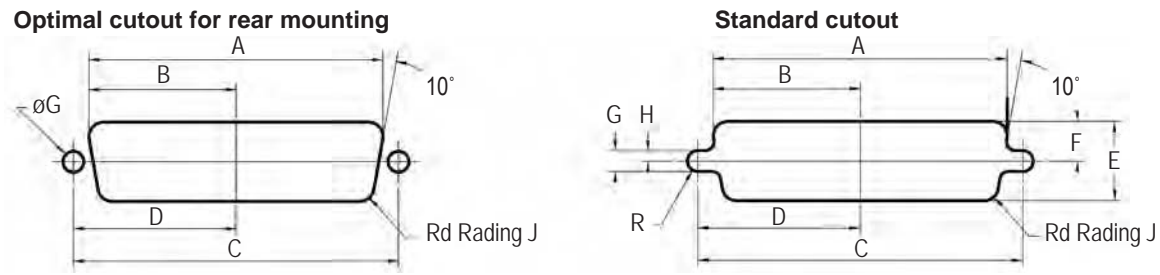
Male front view

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



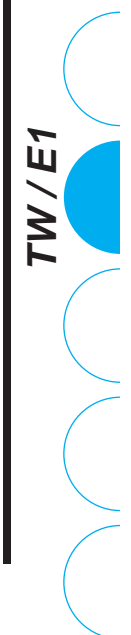
Shell size	Contact P: Pin S: Socket	A ±0.25 (±.010)	B 0/-0.20 (0/-0.008)	B' +0.20/0 (+.008/0)	C ±0.10 (±.004)	D 0/-0.25 (0/-0.010)	D' +0.25/0 (+.010/0)	E ±0.20 (±.008)	F +0.05/-0.20 (+.002/-0.008)	F' +0.10/-0.20 (+.004/-0.008)	G +0.10/-0.20 (±.004)	G' ±0.10 (±.004)	H +0.10/-0.40 (+.004/-0.016)	J 0/-0.50 (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

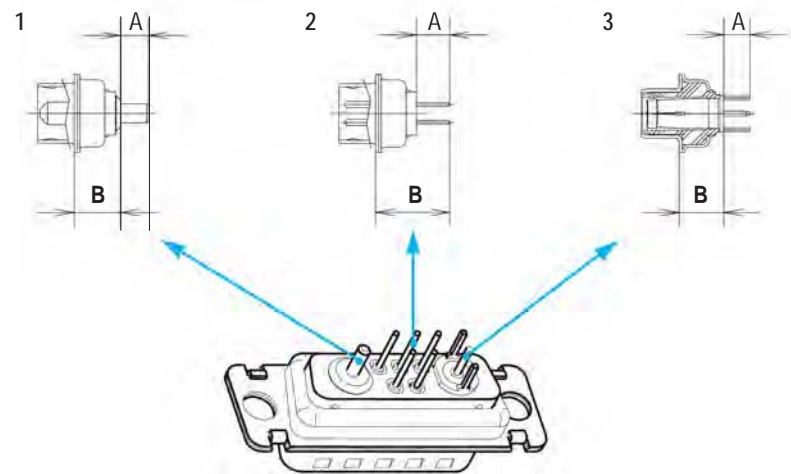


Shell size	Mounting method	A ±0.20 (±.008)	B ±0.20 (±.008)	C ±0.20 (±.008)	D ±0.20 (±.008)	E ±0.20 (±.008)	F ±0.20 (±.008)	G ±0.20 (±.008)	H ±0.20 (±.008)	J ±0.20 (±.008)
E	Front	22.2 (.874")	11.1 (.437")	25.0 (.984")	12.5 (.492")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	20.5 (.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



Straight connector footprint



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

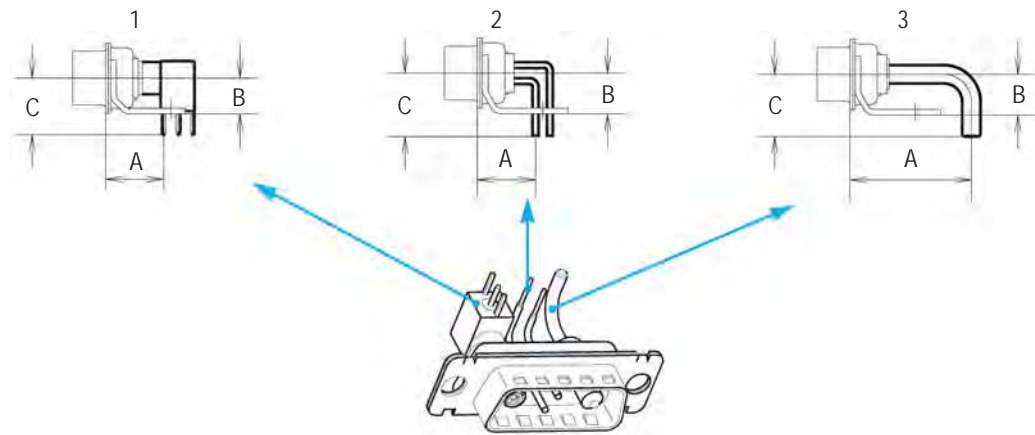
Description		Dimensions	
		a	b
Power (.126" tail dia.)	1	4.80 mm (.198")	7.2 mm (.283")
Power (.0787" tail dia.)	1	4.80 mm (.198")	7.2 mm (.283")
Shielded	3	4.00 mm (.157")	7.2 mm (.283")
Signal	2	5.00 mm (.196")	11.50 mm (.453")

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

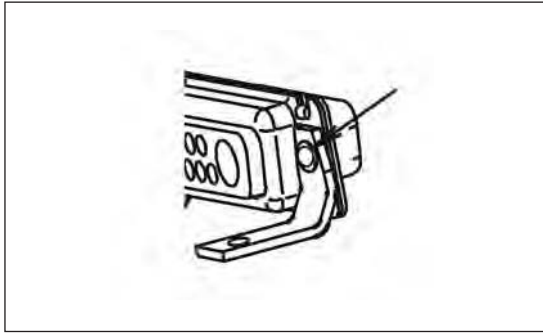
Arrangement with signal contacts

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

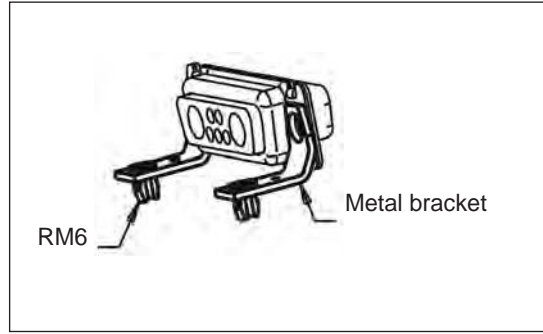
European footprint	Mixed footprint	MIL (U.S.) footprint	Size 8 and 20 Contacts	European footprint	Mixed footprint	MIL (U.S.) footprint	Size 8 contacts only
↓	↓	↓		↓	↓	↓	
EP3SV	HP3SV	MP3SV	Power 3.2 mm DIA. (.126") (20 to 40 A) and signal	EP3V	HP3V	MP3V	Power only 3.2 mm DIA. (.126") (20 to 40 A)
EP2SV	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				

Right angle version
Connectors come equipped with metal brackets

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

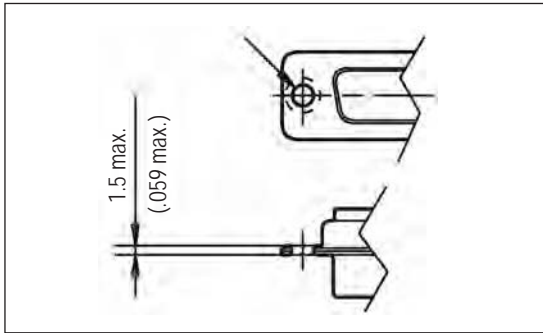


RM6: metal brackets + boardlock

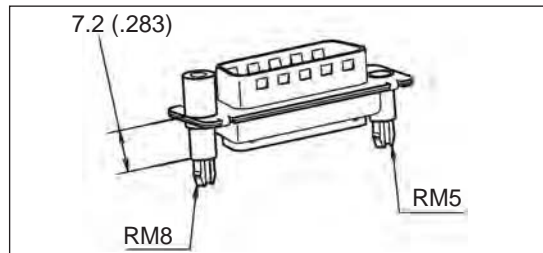


Straight version

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

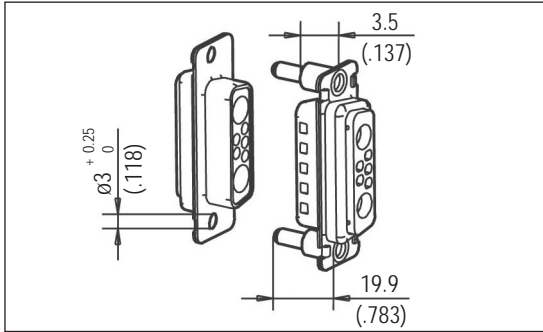


RM54: RM5 4.40 threaded
RM53: RM5 M3 threaded

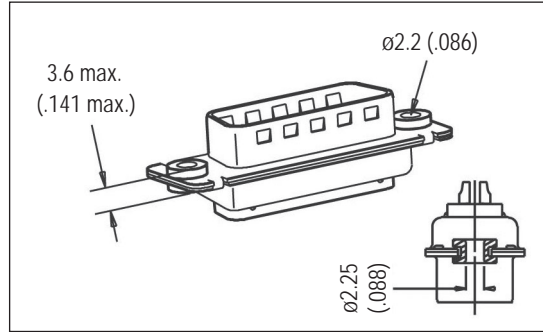


RM84: RM8 4.40 threaded
RM83: RM8 M3 threaded

A514: blind mating system

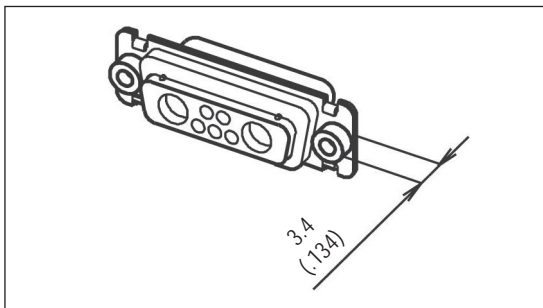


FM: float mounting system

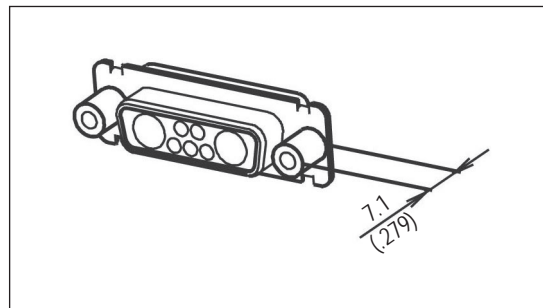


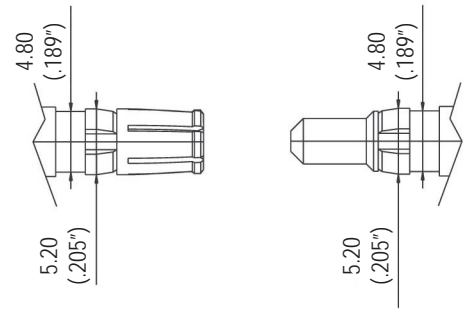
Straight and right angle version

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

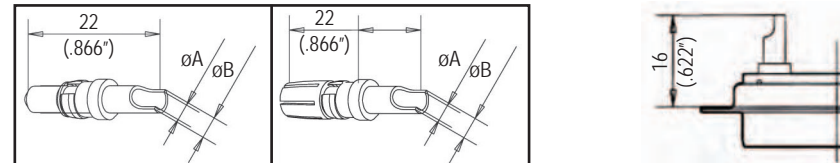


4F: 4.40 front female screwlock
3F: M3 front female screwlock





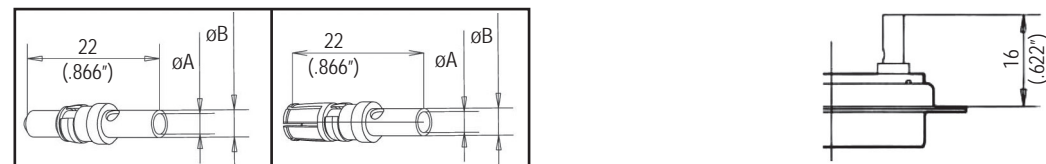
Solder cup version



Plug	P/N Socket	Current	Dimensions	
			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



Plug	P/N Socket	Current	Dimensions	
			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

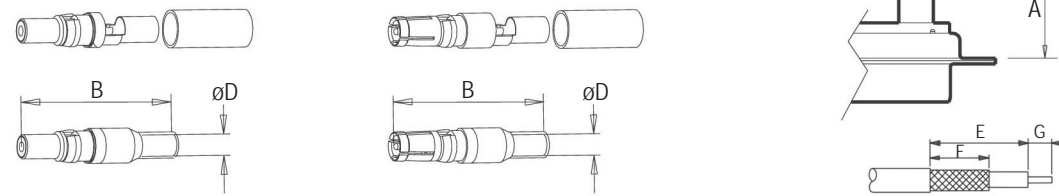


Extraction tool for sizes 8 cts



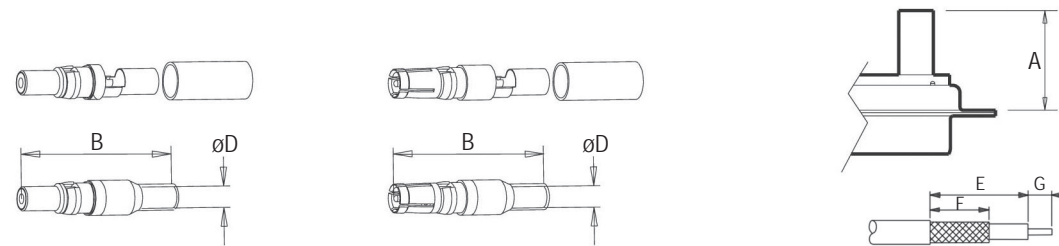
TW/E1

Crimp ferrule and inner solder

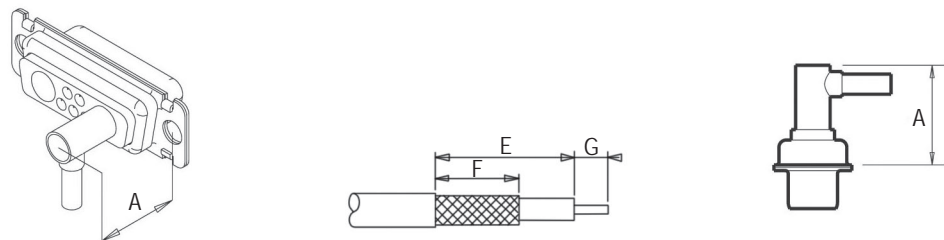


Type	P/N	Dimensions (inch)			Cable - RG	Trim dimensions (inch)		
		A Max	B	D		E	F	G
plug	L17DM 53740	18.8 (740")	23.6 (.929")	1.0 (.039")	178 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
plug	L17DM 53740-1	18.8 (740")	23.6 (.929")	1.7 (.066")	179 B/U 316 B/U	7.9 (.311")	6.3 (.248")	2 (.078")
plug	L17DM 53740-3	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")

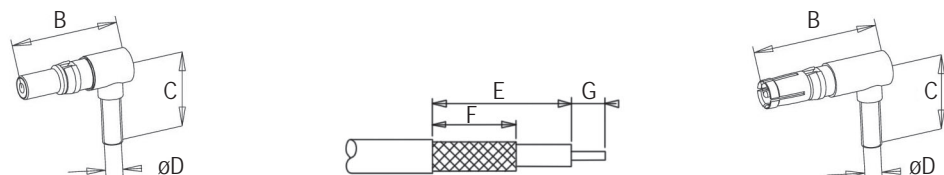
Ferrule and inner solder



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

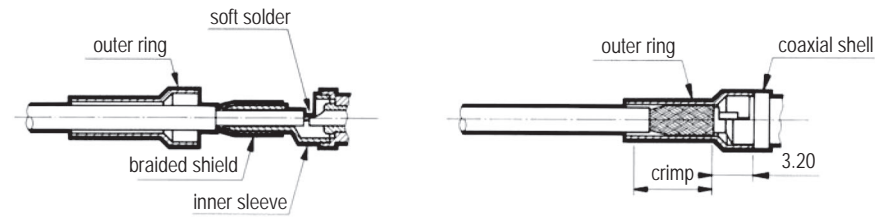
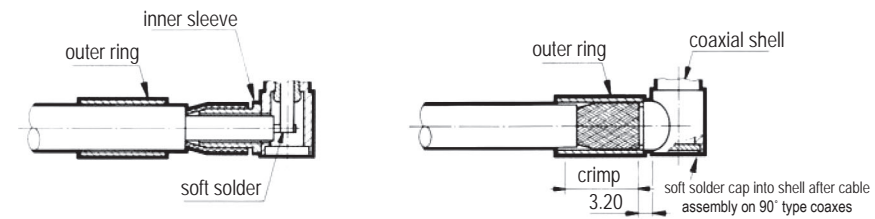
Type	P/N	Dimensions (inch)			Cable - RG	Trim dimensions (inch)		
		A Max	B	D		E	F	G
plug	L17DM 53741-5000	13.5 (.531")	18.6 (.732")	1.0 (.039")	178 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
plug	L17DM 53741-5001	13.5 (.531")	18.6 (.732")	1.7 (.066")	179 B/U 316 B/U	9.5 (.374")	5.9 (.232")	1.6 (.062")
plug	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**

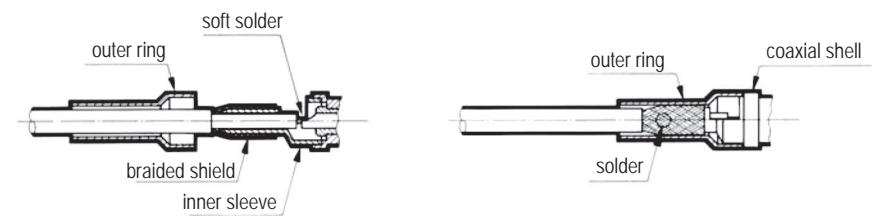
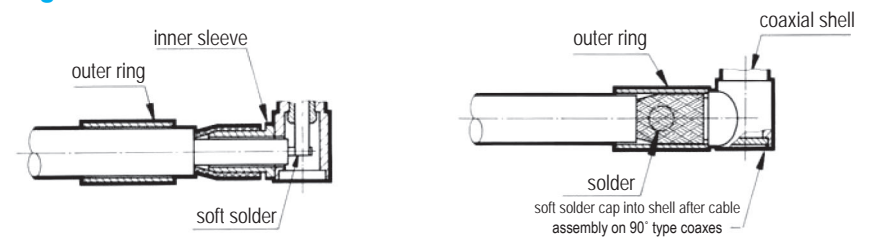
227-0944 (without dies) (M 22 520/5-01)

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

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

... TW ...

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

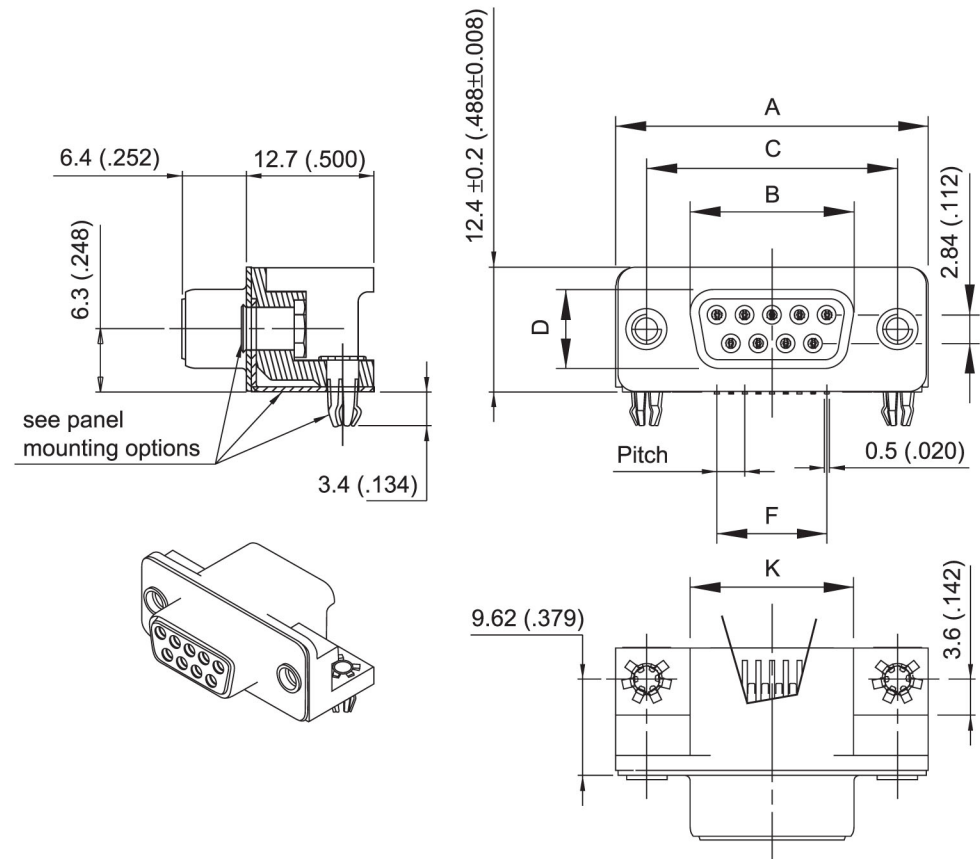
- Industrial
- Telecom
- Any industry standard I / O connections

SM2 / E2

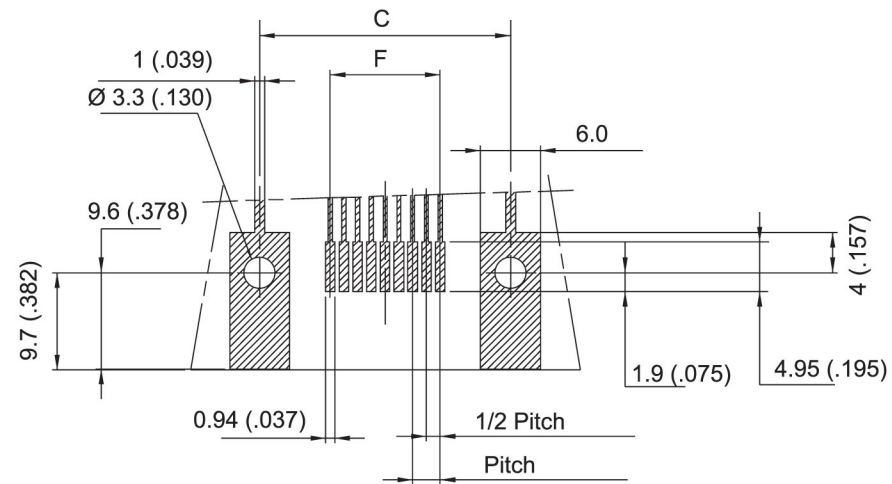


Amphenol

Shell Size Dimensions

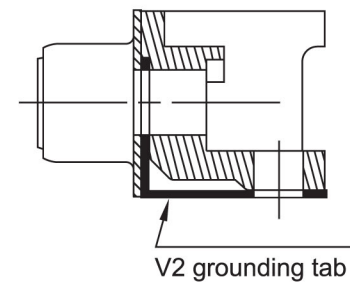
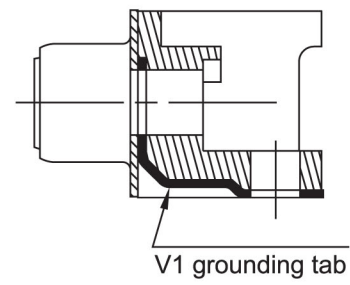


PCB LAYOUT

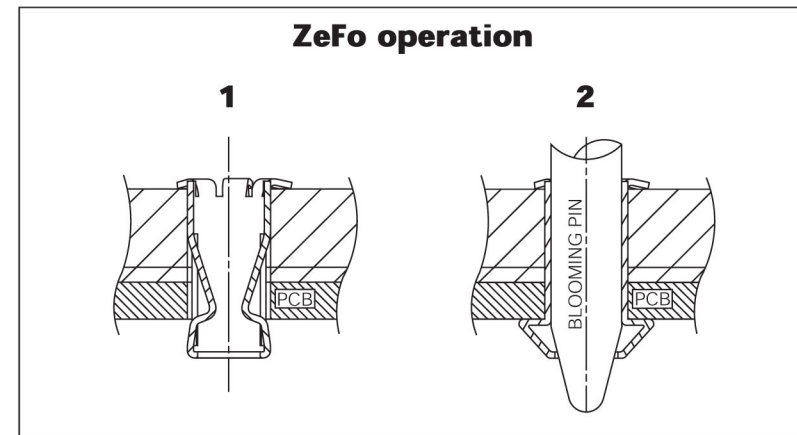
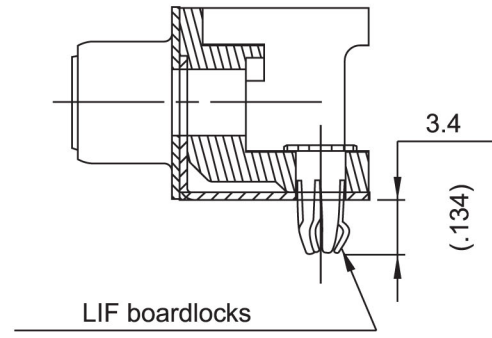
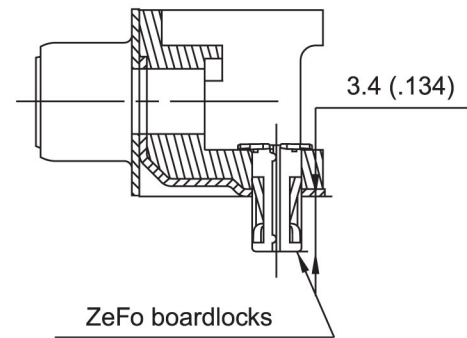


SHELL SIZE	mm (inch)						
	A	B	C	D	PITCH	F	K
	+0.05 (.002) -0.1 (.004)	0 -0.2 (.008)	±0.1 (.004)	0 -0.25 (.01)			
E	31.15 (1.226)	16.4 (.645)	25 (.984)	8.03 (.316)	2.74 (.1078)	10.97 (.432)	16.3 (.642)
A	39.4 (1.551)	24.8 (.976)	33.3 (1.311)	8.03 (.316)	2.74 (.1078)	19.2 (.756)	24.6 (.968)
B	53.3 (2.098)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

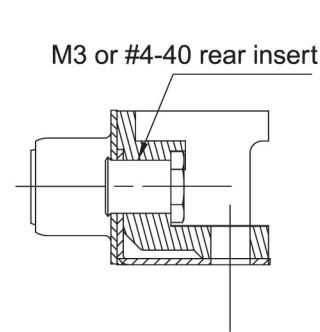
GROUNDING TABS:



BOARDLOCKS:

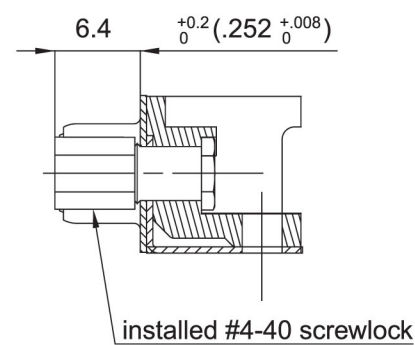


FLANGES ACCESSORIES:



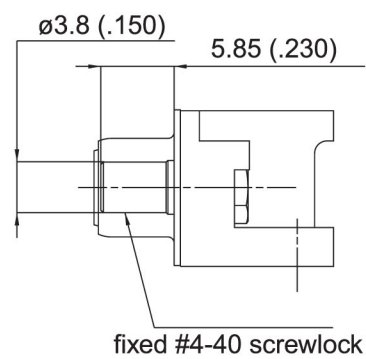
Threaded Rear

1/2



Installed Front Female

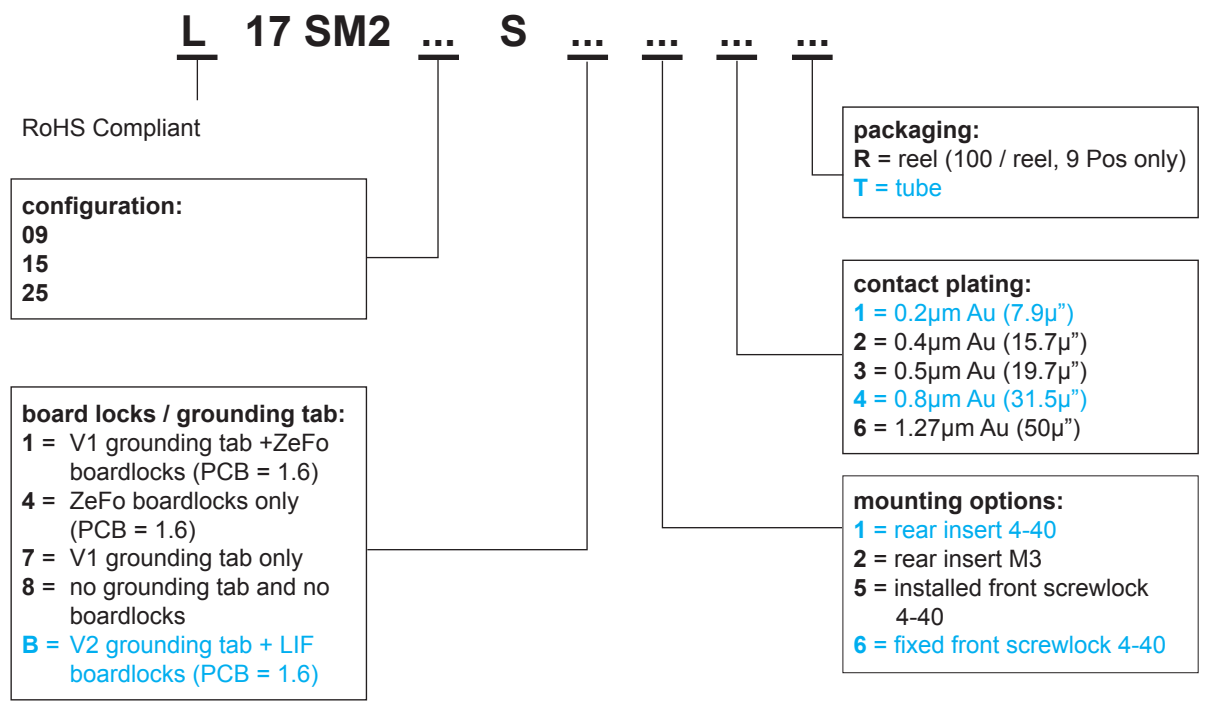
5



Fixed Front Female

6

How to order



■ : Standard options

For special request, please consult factory

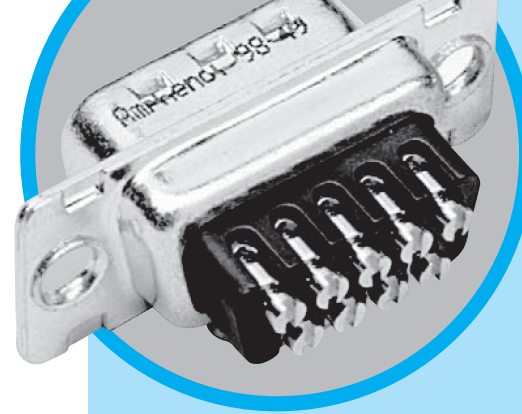
Memo

Do not hesitate to contact us for further information

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 http://www.dsubconnector.com

D-ST

Screw Termination D'Sub series



CHARACTERISTICS

- Connectors according to: MIL C24308 - NFC 93425-HE5

Materials and platings	
Shells	Steel, Tin plated
Insulator	Glass filled thermoplastic, UL 94V-0
Contacts	Machined brass for plug full gold Machined bronze for socket, 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 MΩ at 500 V DC
Contact resistance	< 5 mΩ

Climatic Data	
Operating temperature	- 55°C to + 85°C, peak at 125°C
Damp heat	21 days (40°C - 95% HR)
Salt spray	48 hours

Mechanical Data	
Cable type	Solid or stranded
Cable gage	0.75 mm max (AWG 18) - For bigger wire, please consult factory
Screw torque	0.05 mN max
Mating cycles	100 (class II) or 500 (class I)

DESCRIPTION

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

These new connectors permit easy wiring without any specific tool : Just a standard electrician's screwdriver is required.

Due to their reduced overall dimensions, these connectors are compatible with all standard hoods and accessories

*Simplify
Your cable
assemblies!*

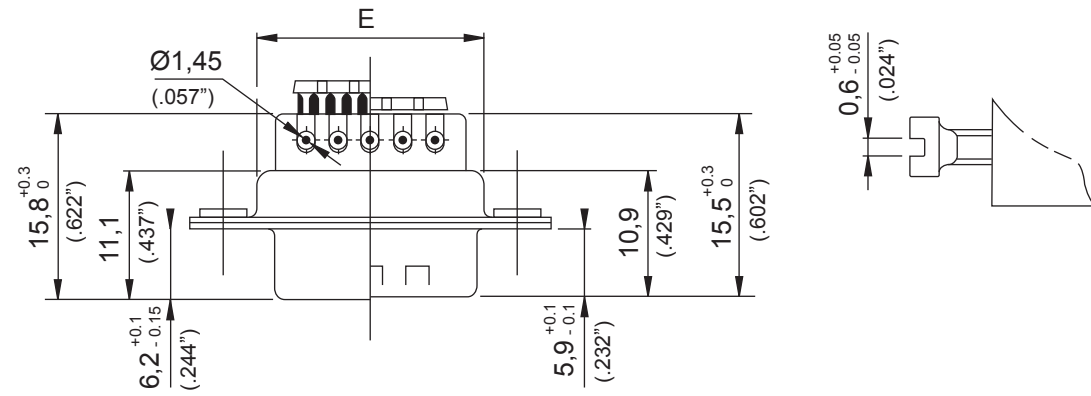
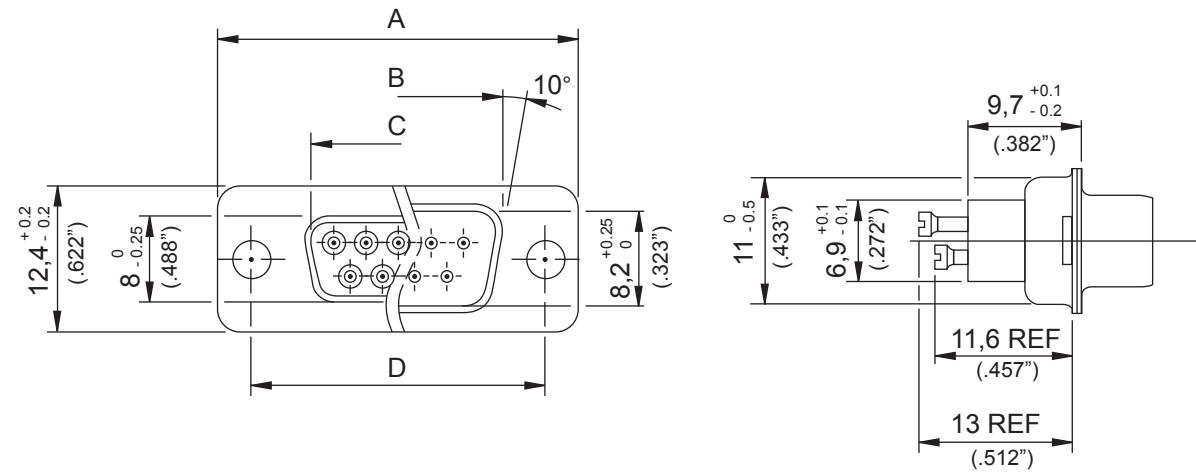
APPLICATIONS

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

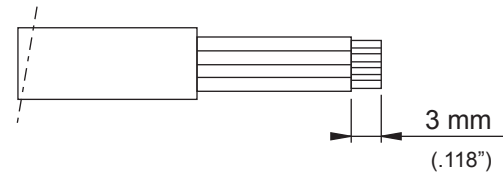
D-ST / E3



Amphenol



Cable stripping



SIZE	A +0,25 (.010") -0,25 (.010")	B 0 -0,2 (.008")	C +0,2 (.008") 0	D +0,1 (.004") -0,1 (.004")	E +0,1 (.004") -0,4 (.016")
9	30.7 (1.209")	16.4 (.646")	16.8 (.661")	25 (.984")	19.4 (.370")
15	39 (1.535")	24.8 (.976")	25.1 (.988")	33.3 (1.311")	27.7 (1.091")
25	52.9 (2.083")	38.5 (1.516")	38.8 (1.528")	47 (1.850")	41.4 (1.630")
37	69.2 (2.724")	54.9 (2.161")	55.3 (2.177")	63.5 (2.500")	57.9 (2.280")

L 717D E09 P ST 1

Class II:	77D	Female connector
	717D	Male connector, shells with dimples
Class I:	177D	Female connector
	777D	Male connector, shells with dimples

RoHS Compliant

Size and number of contacts **E09, A15, B25, C37**

Type of contact: **P = Male S = Female**

Contact termination: **ST = Screw termination**

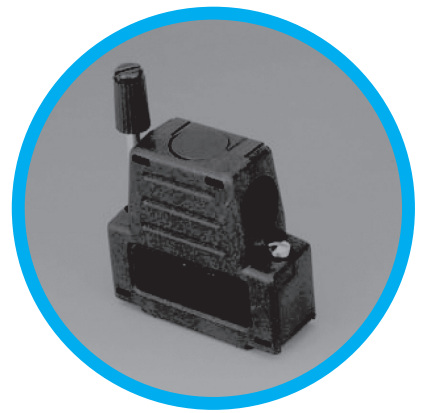
Kit connector + hood option:
(See following description)

1 = DPPK hood
2 = DSSK hood
3 = DTZK hood
4 = DVZK hood

Plastic hoods



DPPK Straight cable entry

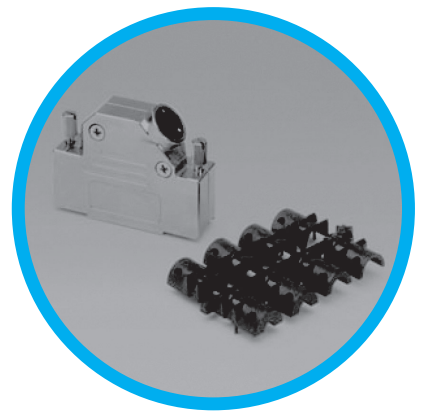


DSSK Angled cable entry

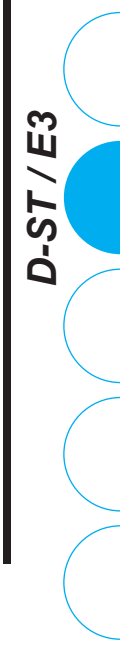
Metallic hoods



DTZK Straight cable entry



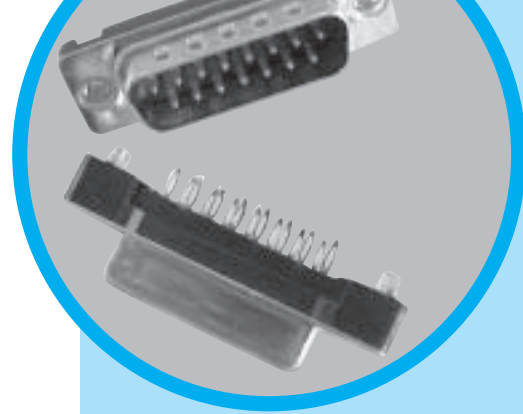
DVZK Angled cable entry



TF

D-Sub connectors - Stamped and Formed Contacts

PRESS FIT STRAIGHT PCB TERMINATION



CHARACTERISTICS

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

Electrical Data	
Current rating	3A
Voltage rating	300V AC
Withstanding voltage	1000V AC/rms 60Hz for one minute
Insulation resistance	1000MΩ
Contact resistance	25mΩ max

Climatic Data	
Operating temperature	-55°C to +125°C
Salt spray	24 hours

Mechanical Data	
Single contact insertion force	≤ 3.60 N
Single contact withdrawal force	≥ 0.2 N
Single contact insertion on board	≤ 100 N
Single contact withdrawal from board	≥ 20 N
Standard plating thickness	Gold flash 0.4µm (15µ") gold 0.76µm (30µ") gold

	Terminal Specification	Boardlock Specification
Finished Hole	1 (+0.09 -0.06)	3.1 +/- 0.05 mm
Cu	> 25 µm	Min 25 µm
Sn	< 15 µm	5-15 µm

DESCRIPTION

The Amphenol "TF" series features eye of needle formed contacts, and insulator with closed entry contacts cavities.

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

*Solderless
straight PCB
mount
connectors*

APPLICATIONS

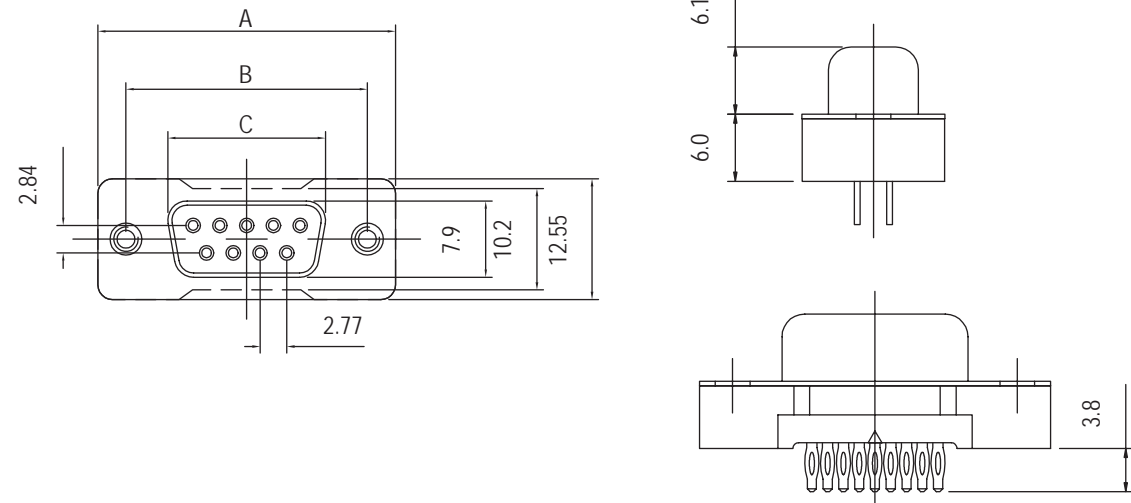
- Industrial
- Telecom
- Any backplanes connections

TF / E4

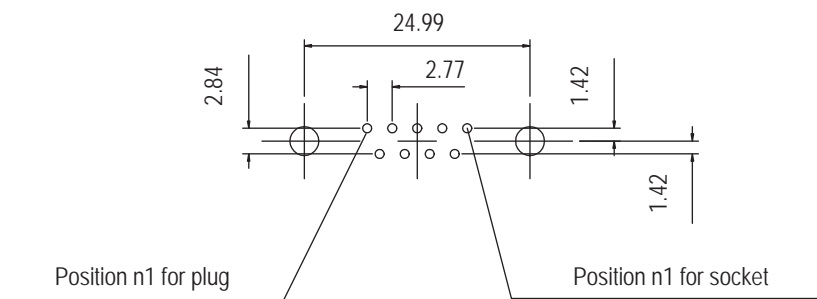
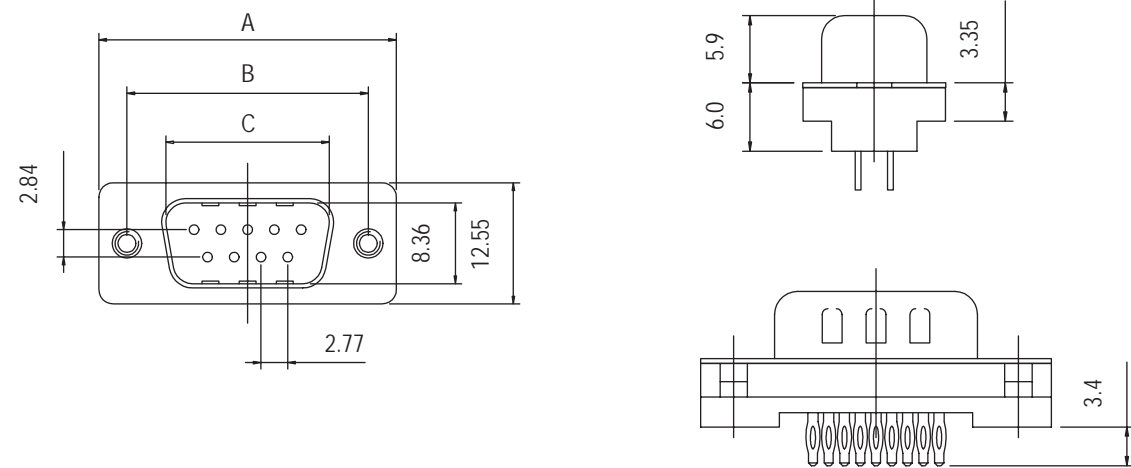


Amphenol

Socket version

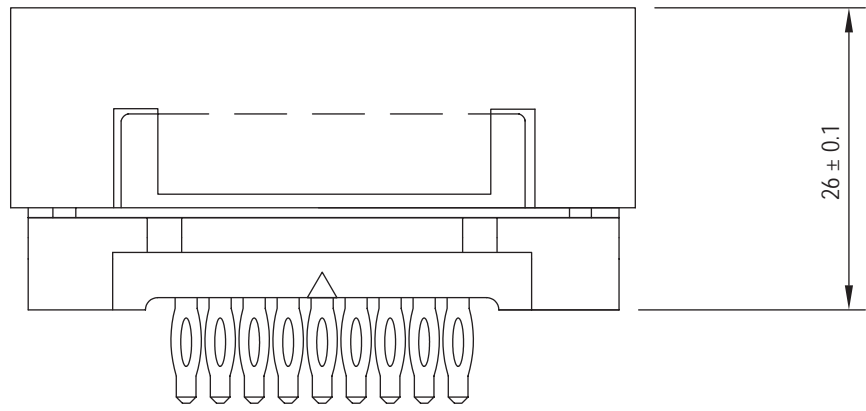


Plug version

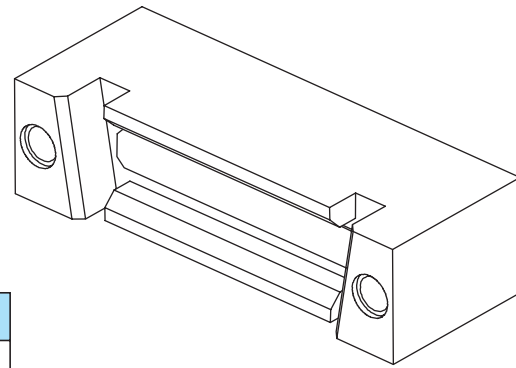


For PCB holes diameters, see on page 1 (finished holes)

Nb OF CONTACTS	DIMENSIONS mm (inch)			
	A	B	C plug	C socket
9	30.81 (1.185)	24.99 (0.984)	16.92 (0.666)	16.33 (0.643)
15	39.14 (1.54)	33.32 (1.312)	25.50 (1.004)	24.66 (0.97)
25	53.04 (2.088)	47.04 (1.852)	28.96 (1.534)	38.38 (1.511)
37	69.32 (2.729)	63.50 (2.5)	55.42 (2.182)	54.84 (2.16)

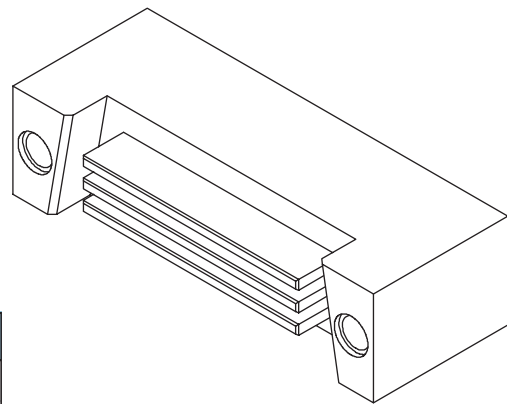


Female



Size of connectors	Tooling PN
9	981 MC
15	982 MC
25	983 MC
37	984 MC

Male



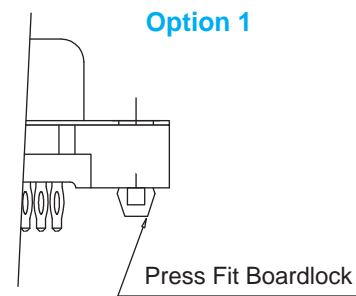
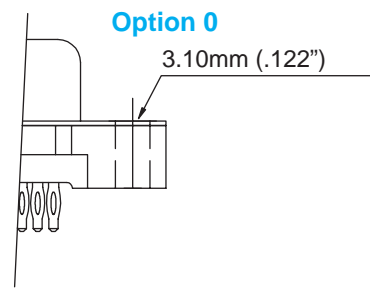
Size of connectors	Tooling PN
9	985 MC
15	986 MC
25	987 MC
37	988 MC

PRESS-FIT TOOLING

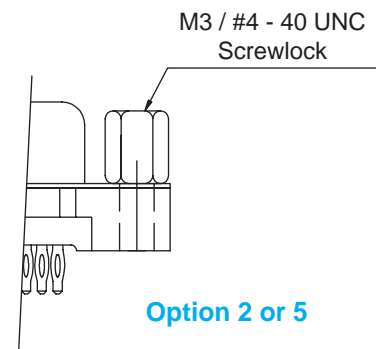
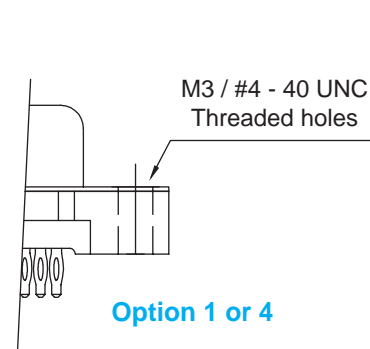
TF/E4



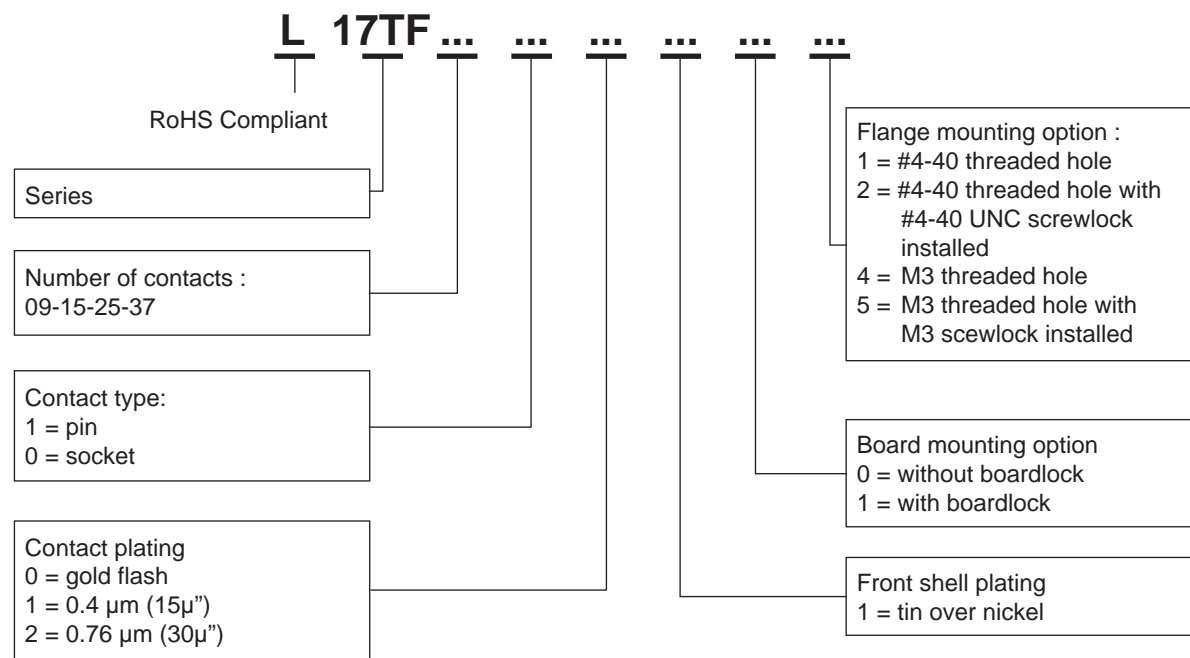
Board mounting option



Flange mounting option



How to order



Do not hesitate to contact us for further information

Amphenol

Amphenol IT & Communication Products

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Technical Support

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<http://www.dsubconnector.com>

SD

D'Sub connectors - Stamped and Formed Contacts

SOLDER-CUP TERMINATION STANDARD and HIGH DENSITY



CHARACTERISTICS

Specifications

- Connectors according to: MIL C24308 - NFC 93425-HE5

Materials and Platings	
Shells	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Pin contacts	Brass, selected gold in mating area; 2.54µm (100µ") min. tin on termination area over 1.27µm (50µ") min. nickel
Socket contact	Phosphor bronze, selected gold in mating area; 2.54µm (100µ") min. tin-on termination area over 1.27µm (50µ") min. nickel
Rear insert	Brass, 2.54µm (100µ") min. nickel plated
Screwlock	Brass, 2.54µm (100µ") min. nickel plated

Electrical Data	
Current rating	Standard Density: 5A High Density: 3A
Voltage rating	250V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	1000MΩ at 500V DC
Contact resistance	20mΩ max

Climatic Data	
Operating temperature	-55°C to +125°C
Salt spray	24 hours

Mechanical Data					
Single contact insertion force		0.54kg (1.19lb) max			
Single contact withdrawal force		SD : 0.06kg (0.13lb) min HD : 0.02kg (0.044lb) min			
Mating and unmating force					
Unit: kg (lb)					
No. of Cts		SD		HD	
SD	HD	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 (1.8)	9.26 (20.46)	1.37 (3.02)
37	62	12.51 (27.65)	1.1 (2.47)	13.48 (29.78)	1.76 (3.88)
50	78	14.65 (32.38)	1.6 (3.56)	15.82 (34.96)	2.02 (4.46)
Standard plating thickness		<ul style="list-style-type: none"> gold flash 0.4µm (15µ") gold 0.76 µm (30µ") gold 			

DESCRIPTION

The Amphenol "SD" series features precision formed contacts, and insulator with closed entry contacts cavities.

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

*Economical
solder cup
connectors*

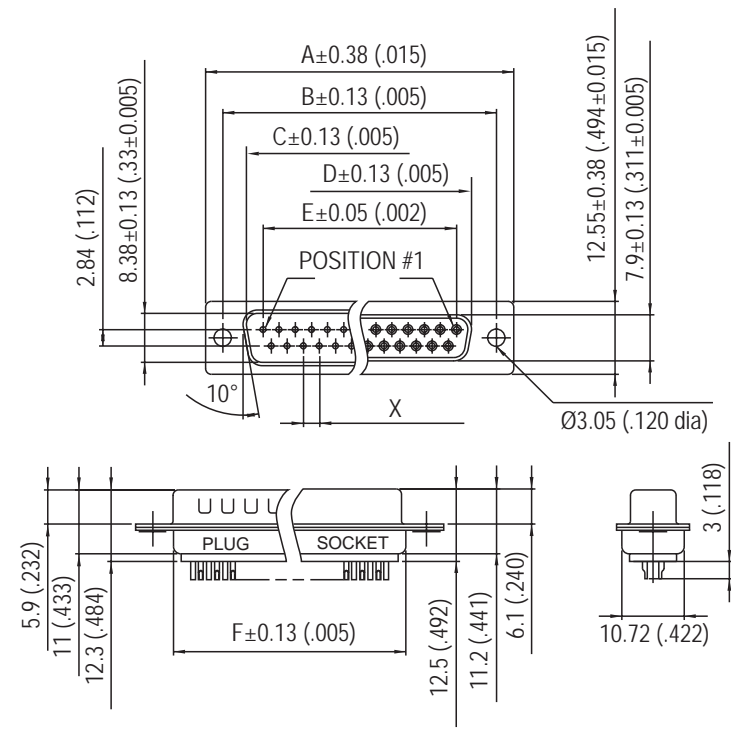
APPLICATIONS

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

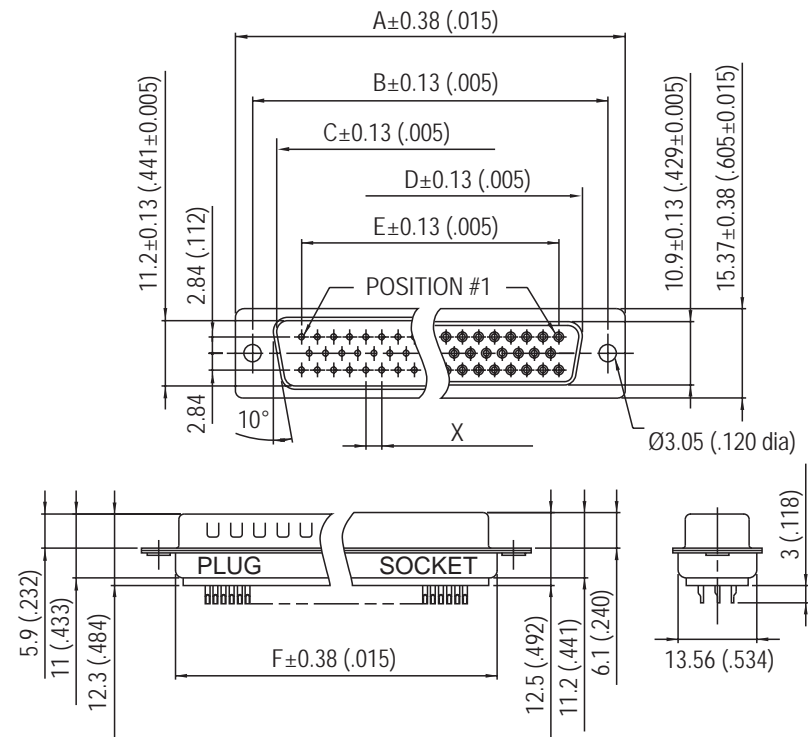
SD / E5

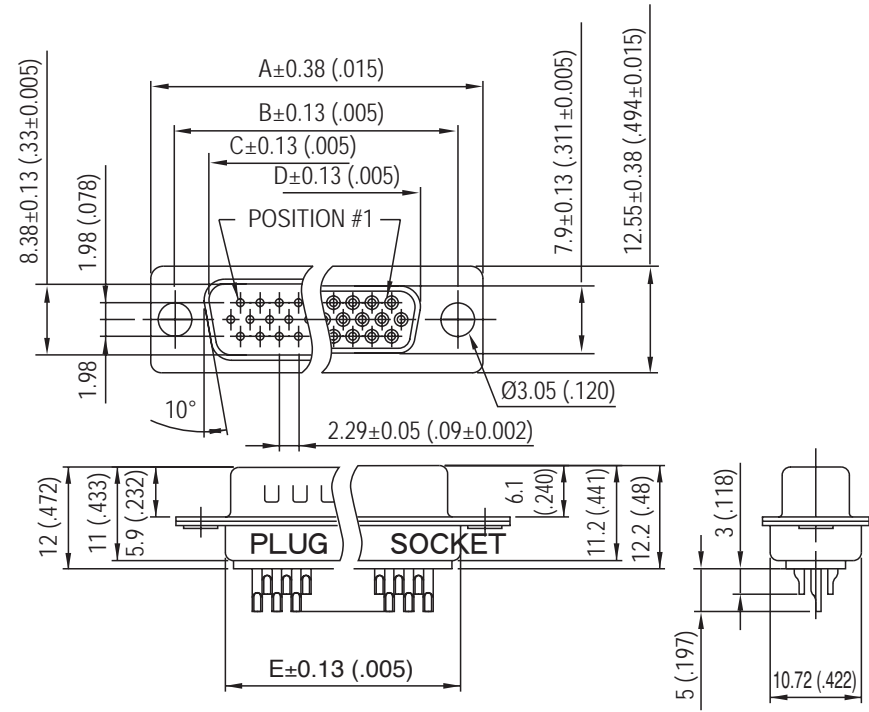


Amphenol

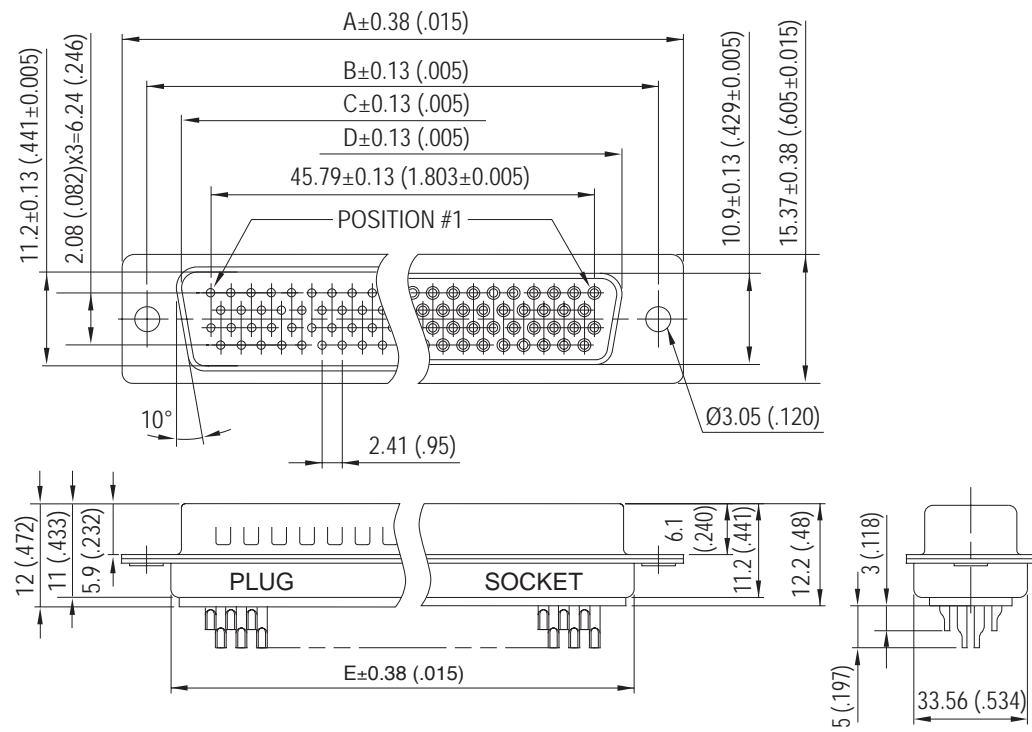


Nb OF CONTACTS	DIMENSIONS mm (inch)						
	A	B	C	D	E	F	X
9	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	11.09 (.44)	19.28 (.76)	2.74
15	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.97)	19.39 (.76)	27.51 (1.08)	2.74
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	41.30 (1.63)	2.77
37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	57.71 (2.27)	2.77
50	67 (2.64)	61.11 (2.41)	52.86 (2.08)	52.34 (2.06)	44.32 (1.75)	55.3 (2.18)	2.77





Nb OF CONTACTS	DIMENSIONS mm (inch)				
	A	B	C	D	E
15	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	19.28 (.76)
26	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.97)	27.51 (1.08)
44	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	41.30 (1.63)
62	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	57.71 (2.27)
78	67 (2.64)	61.11 (2.41)	52.86 (2.08)	52.34 (2.06)	55.3 (2.18)

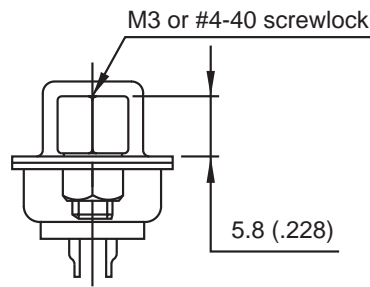


78 CONTACTS

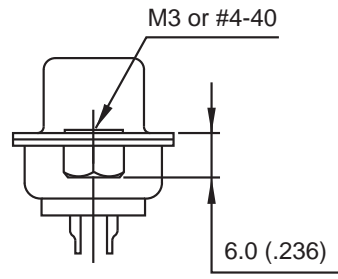
OVERALL DIMENSION

SD / E5



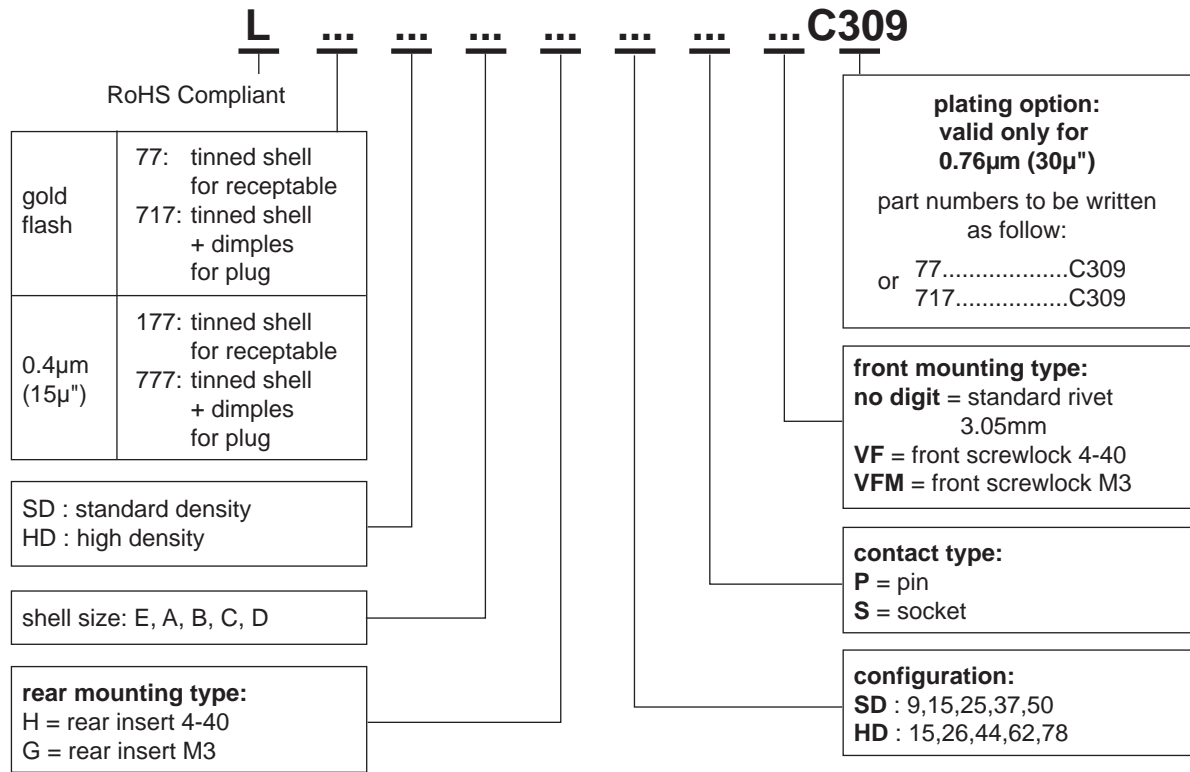


Front Female Screwlock
VF / VFM



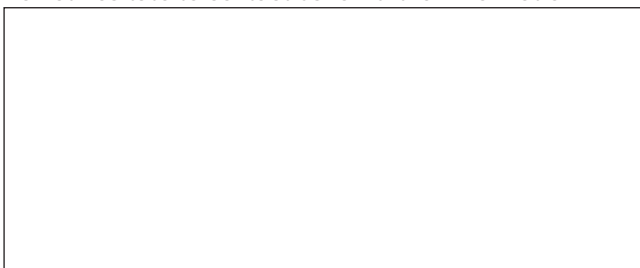
Threaded Rear Insert
H / G

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

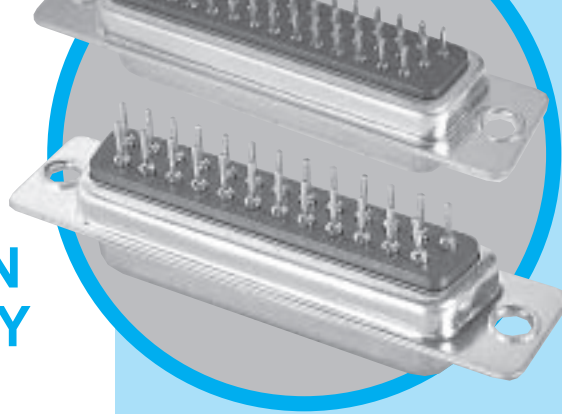
Technical Support

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

SD

D'Sub connectors - Stamped and Formed Contacts

STRAIGHT PCB TERMINATION STANDARD and HIGH DENSITY



CHARACTERISTICS

Specifications

- Connectors according to: MIL C24308 - NFC 93425-HE5

Materials and Platings	
Shells	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Pin contacts	Brass, selected gold in mating area; 2.54µm (100 µ") min.tin on termination area over 1.27µm (50µ") min.nickel
Socket contact	Phosphor bronze, selected gold in mating area;2.54µ(100µ") min.tin on termination area over 1.27µm (50µ") min.nickel
Rear insert	Brass, 2.54µm (100µ") min.nickel plated
Boardlock	Brass, 2.54µm (100µ") min.nickel plated
Screwlock	Brass, 2.54µm (100µ") min.nickel plated (removable)

Electrical Data	
Current rating	Standard Density:5A High Density:3A
Voltage rating	250V AC/ rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	1000MΩ at 500V DC
Contact resistance	20mΩ max

Climatic Data	
Operating temperature	-55°C to +125°C
Salt spray	24 hours

Mechanical Data						
Single contact insertion force		0.54kg (1.19lb) max				
Single contact withdrawal force		SD : 0.06kg (0.13lb) min		HD : 0.02kg (0.044lb) min		
Mating and unmating force						
Unit: kg (lb)						
No. of Cts	SD			HD		
	SD	HD	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 (1.8)	9.26 (20.46)	1.37 (3.02)
37	62		12.51 (27.65)	1.1 (2.47)	13.48 (29.78)	1.76 (3.88)
50	78		14.65 (32.38)	1.6 (3.56)	15.82 (34.96)	2.02 (4.46)
Standard plating thickness		<ul style="list-style-type: none"> gold flash 0.381µm (15µ") gold 0.76 µm (30µ") gold 				

DESCRIPTION

The Amphenol "SD" series features precision formed contacts, and insulator with closed entry contacts cavities. This series gives you Amphenol's high standards of quality and reliability to meet all of your commercial requirements.

*Economical
straight PCB
mount connectors*

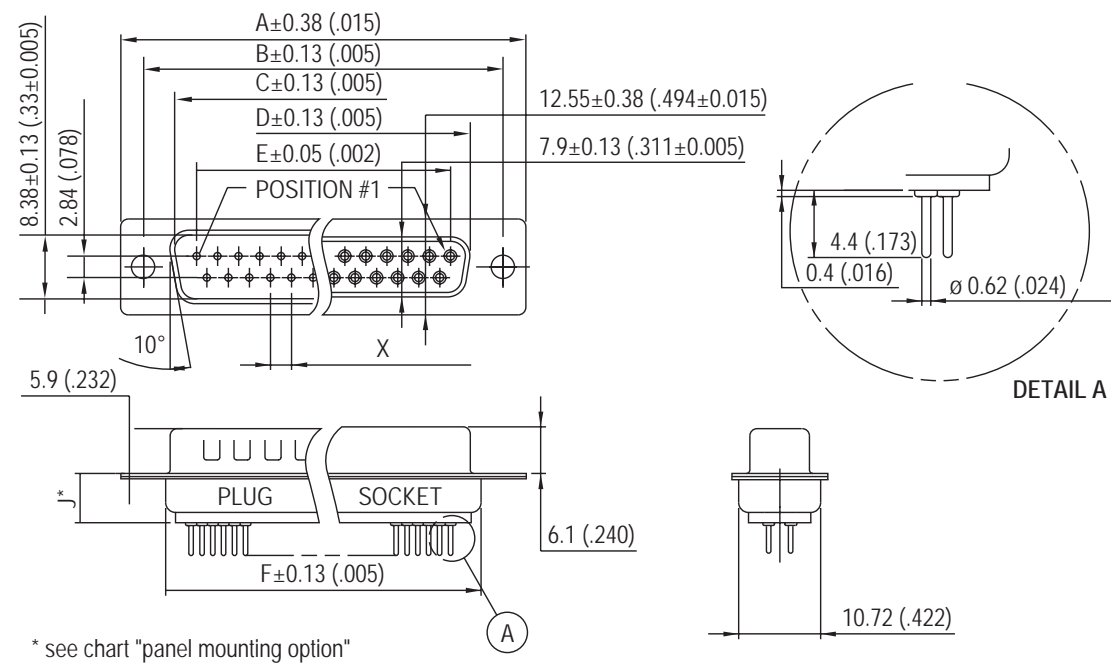
APPLICATIONS

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

SD / E6

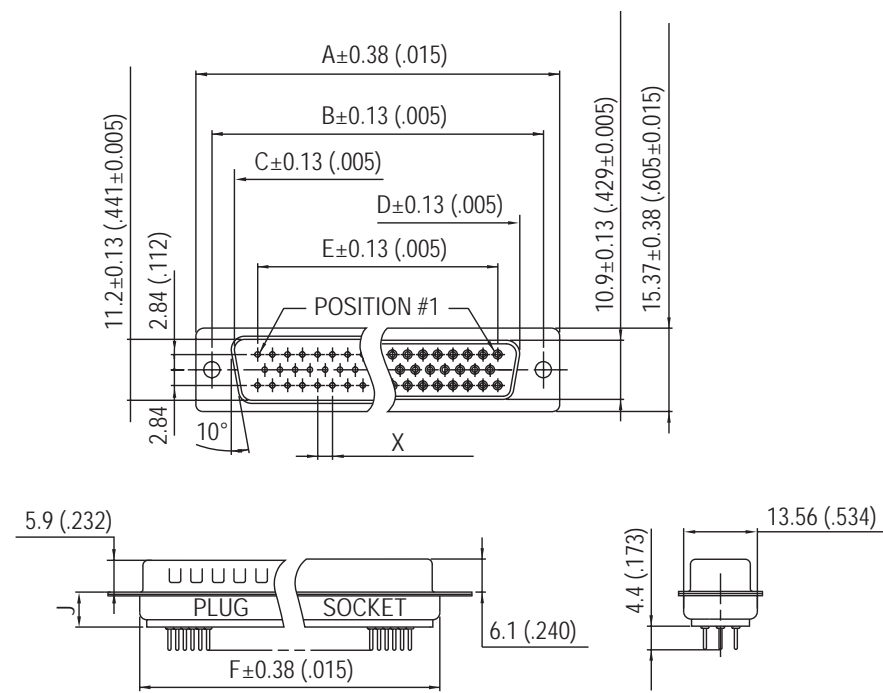


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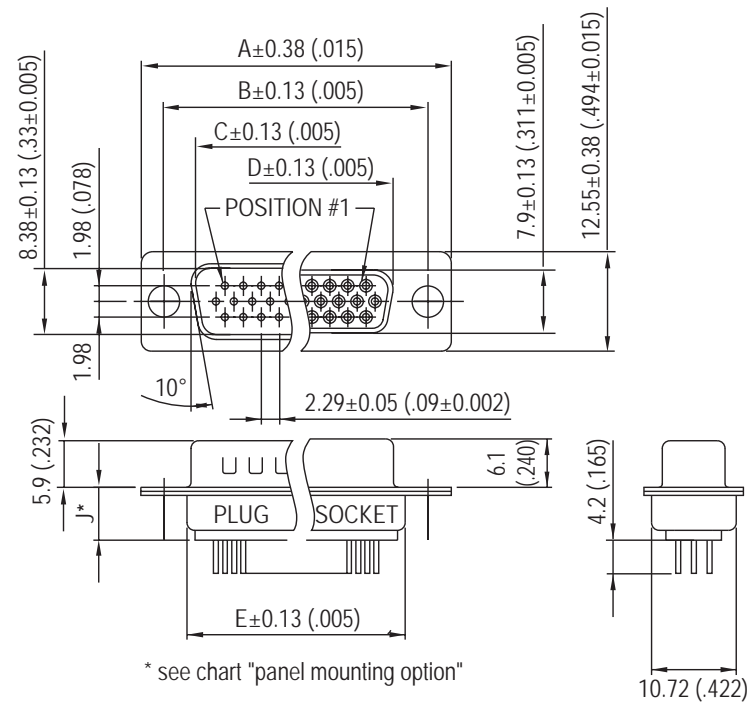


* see chart "panel mounting option"

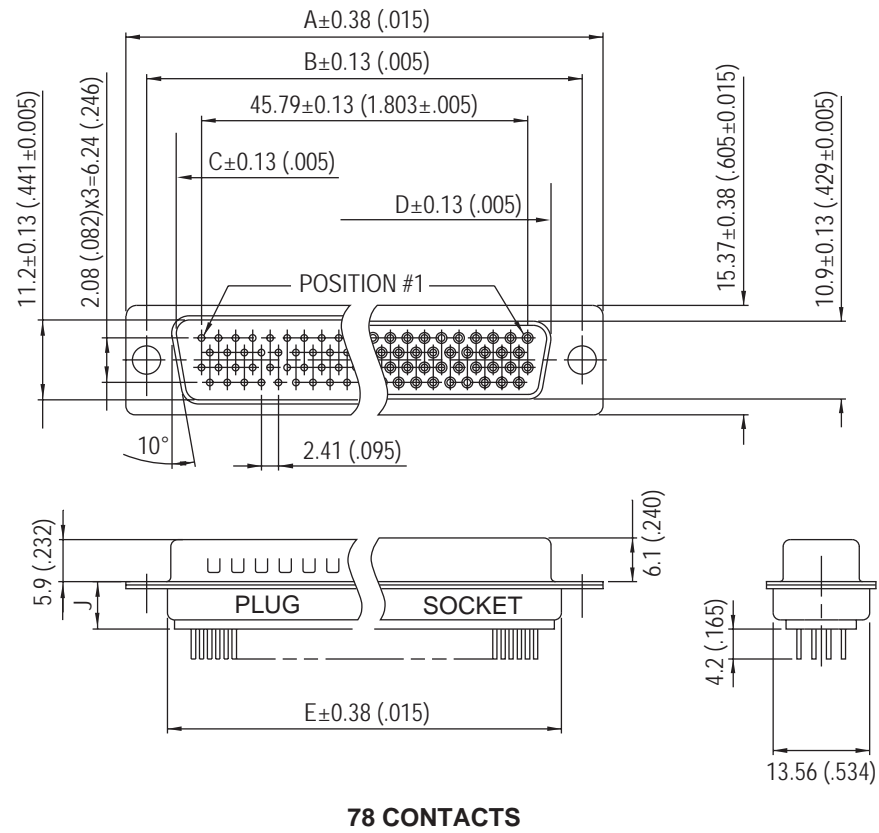
Nb OF CONTACTS	DIMENSIONS mm (inch)						
	A	B	C	D	E	F	X
9	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	11.09 (.44)	19.28 (.76)	2.74
15	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.97)	19.39 (.76)	27.51 (1.08)	2.74
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	41.30 (1.63)	2.77
37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	57.71 (2.27)	2.77
50	67 (2.64)	61.11 (2.41)	52.86 (2.08)	52.34 (2.06)	44.32 (1.75)	55.3 (2.18)	2.77



50 CONTACTS



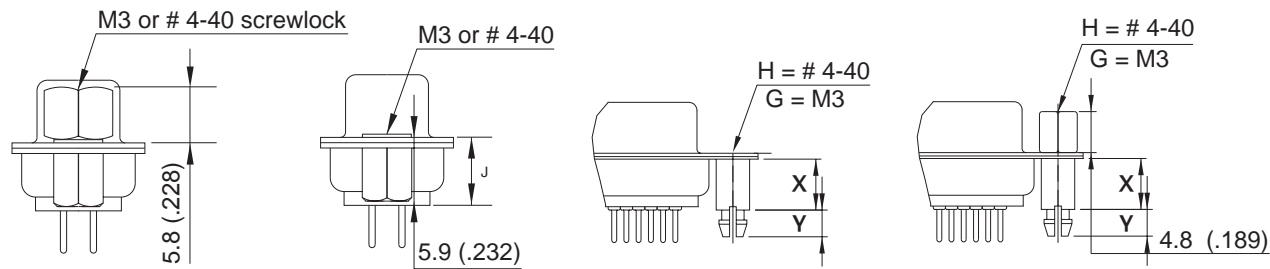
Nb OF CONTACTS	DIMENSIONS mm (inch)				
	A	B	C	D	E
15	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	19.28 (.76)
26	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.97)	27.51 (1.08)
44	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	41.30 (1.63)
62	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	57.71 (2.27)
78	67 (2.64)	61.11 (2.41)	52.86 (2.08)	52.34 (2.06)	55.3 (2.18)



OVERALL DIMENSION

SD / E6

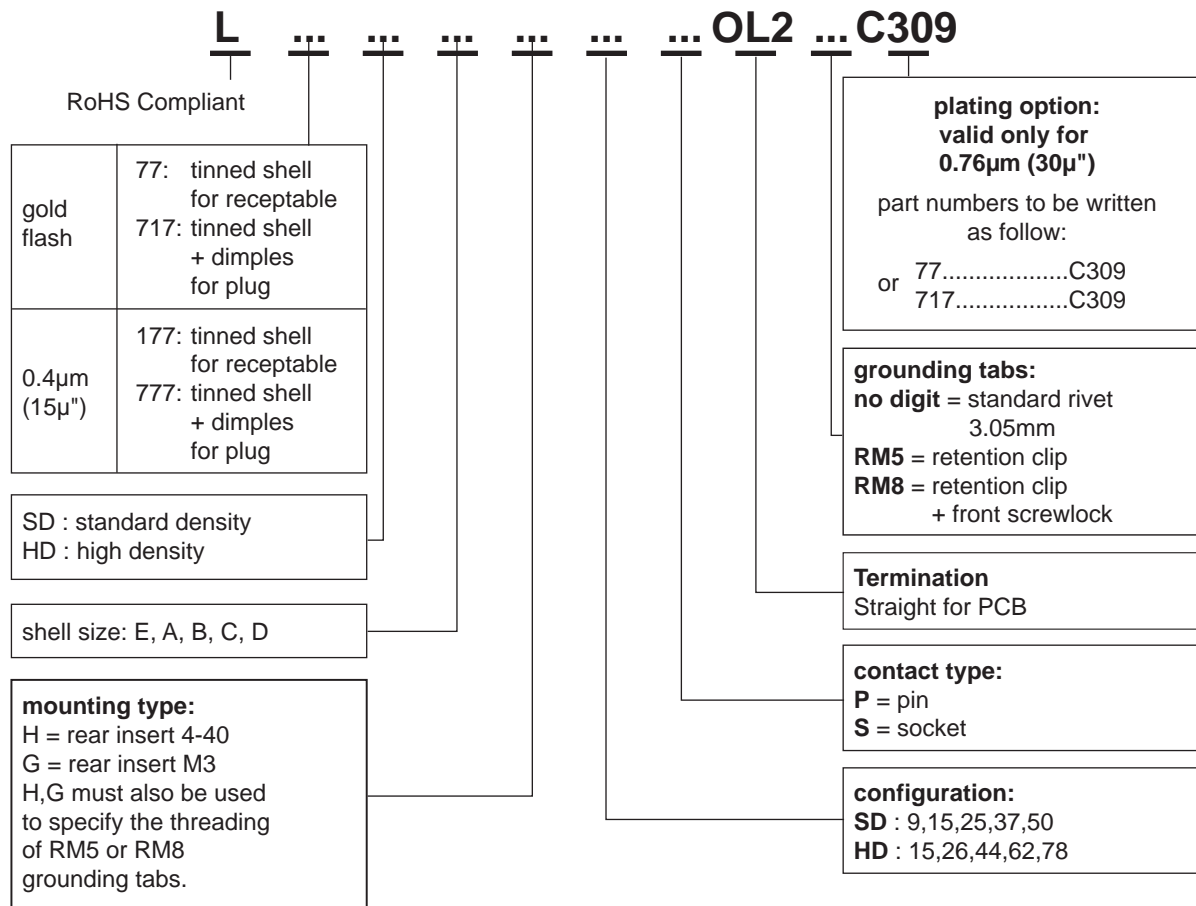
Panel mounting option



Front Female Screwlock Threaded Rear Insert RM5 Standoff Boardlock RM8 Standoff Boardlock

	RM5 RM8	RM5G RM8G
X	6.0(.236)	12.7(.500)
Y	4.2(.165)	3.2(.126)
J	6.2(.244)	10.1(.397)

How to order



For special request, please consult factory

Do not hesitate to contact us for further information

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Fax:+86(0)755 2754 9955

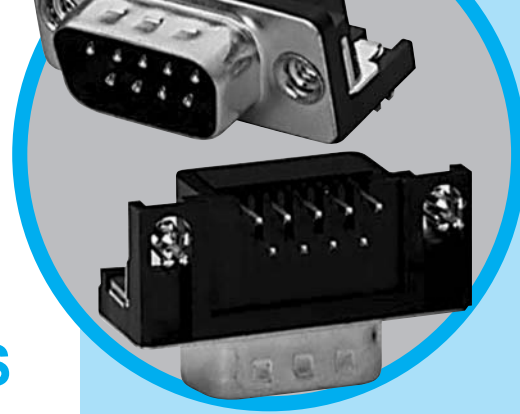
Technical Support

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

SD

D'Sub connectors - Stamped and Formed Contacts

RIGHT ANGLE BOARD MOUNT CONNECTORS



MAIN CHARACTERISTICS

Specifications

- Connectors according to: MIL C24308 - NFC 93425-HE5

Materials and Platings	
Shells	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V- 0
Pin contacts	Brass, selected gold in mating area; 2.54µm (100 µ") min.tin on termination area over 1.27µm (50µ") min.nickel
Socket contact	Phosphor bronze, selected gold in mating area;2.54µ(100µ") min.tin on termination area over 1.27µm (50µ") min.nickel
Rear insert	Brass, 2.54µm (100µ") min.nickel plated
Boardlock	Phosphor bronze or Brass, 2.54µm (100µ") min.nickel plated
Screwlock	Brass, 2.54µm (100µ") min.nickel plated

Electrical Data	
Current rating	5A
Voltage rating	250V AC/ rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	1000MΩ at 500V DC
Contact resistance	15mΩ max

Climatic Data	
Operating temperature	-55°C to +125°C
Salt spray	24 hours

Mechanical Data				
Single contact insertion force	0.54kg (1.19lb) max			
Single contact withdrawal force	0.06kg (0.13lb) min			
Mating and unmating force Unit: kg (lb)				
	A4 Style		1A Style	
No. of Cts	Mate (max)	Unmate (min)	Mate (max)	Unmate (min)
9	3.05 (6.74)	0.36 (0.79)	4.6 (10.17)	0.4 (0.88)
15	5.09 (11.24)	0.46 (1.01)	7.7 (17.02)	0.5 (1.10)
25	8.44 (18.66)	0.81 (1.8)	12.7 (28.07)	0.8 (1.77)
37	12.51 (27.65)	1.1 (2.47)	17.7 (39.12)	1.2 (2.65)
Standard plating thickness	<ul style="list-style-type: none"> • gold flash • 0.381µm (15µ") gold • 0.76 µm (30µ") gold 			

DESCRIPTION

The Amphenol "SD" series features precision formed contacts and boardlocks.

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

*Economical
right angle PCB
mount
connectors*

APPLICATIONS

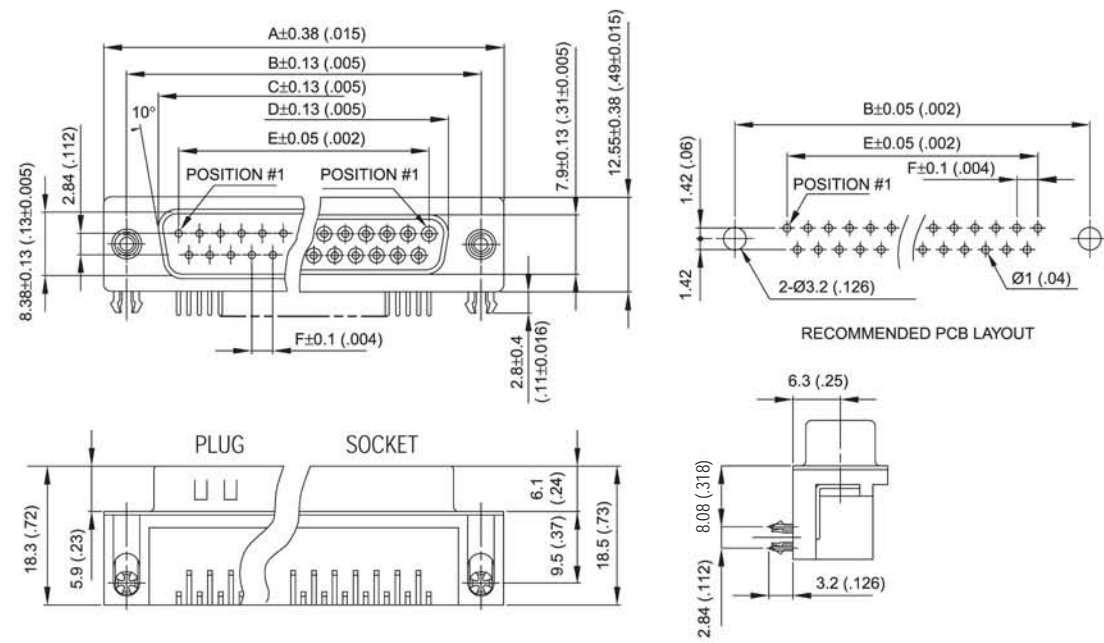
- Industrial
- Telecom
- Any industry standard I / O connections

SD / E7



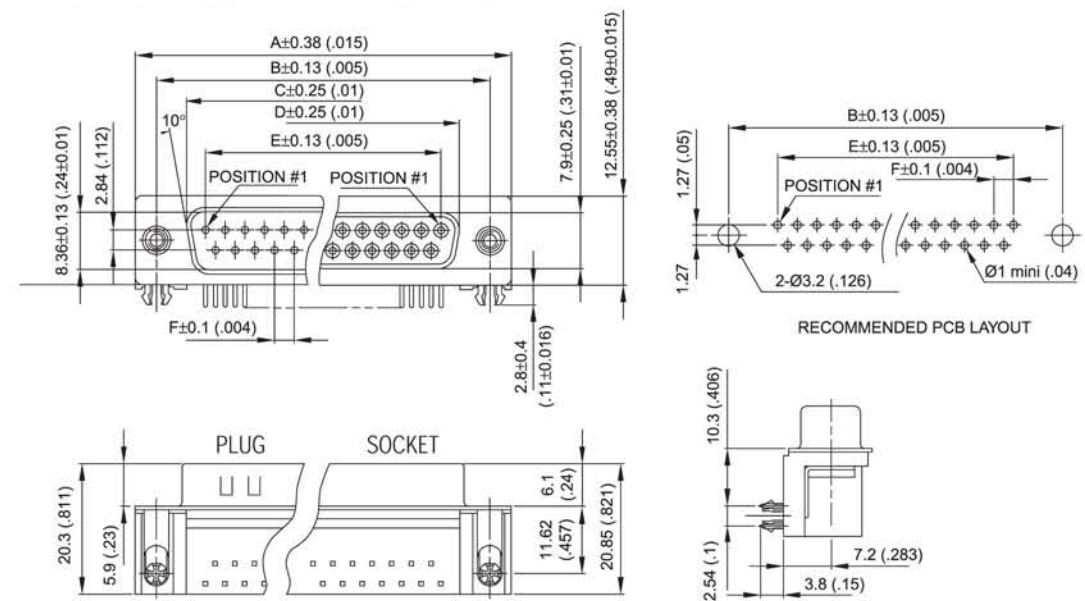
Amphenol

A4 style (MIL Footprint)

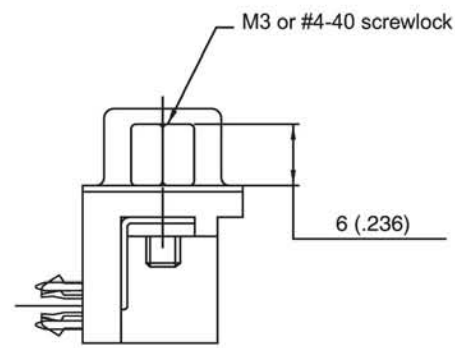


Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	F
9	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	11.09 (.44)	2.74 (.108)
15	39.14 (1.54)	33.32 (1.31)	25.25 (.99)	24.56 (.97)	19.39 (.76)	2.74 (.108)
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	2.77 (.109)
37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	2.77 (.109)

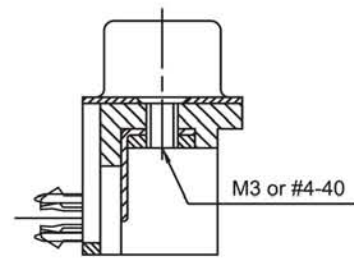
1A style (European Footprint)



Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	F
9	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	11.96 (.43)	2.74 (.108)
15	39.1 (1.54)	33.32 (1.31)	25.25 (.99)	24.66 (.97)	19.18 (.755)	2.74 (.108)
25	53.09 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	2.77 (.109)
37	69.4 (2.73)	63.50 (2.50)	55.42 (2.18)	54.84 (2.16)	49.86 (1.96)	2.77 (.109)



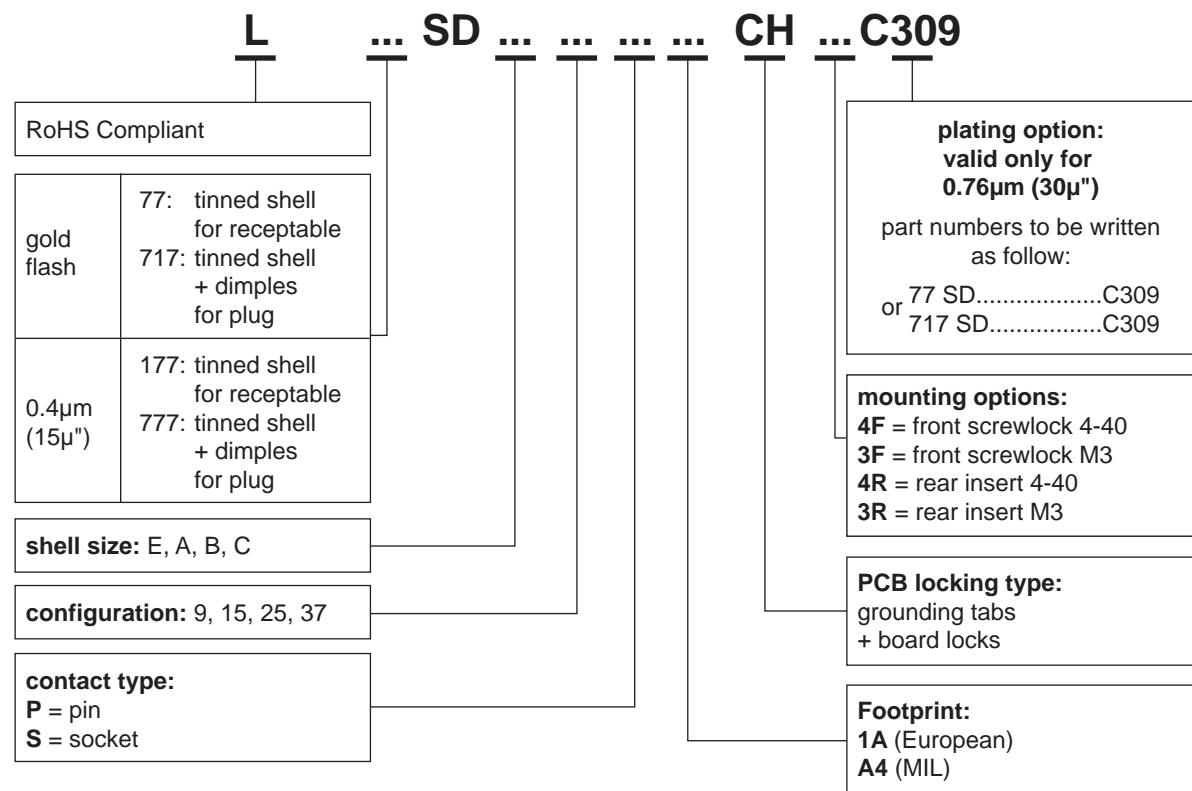
Front Female Screwlock
4F / 3F



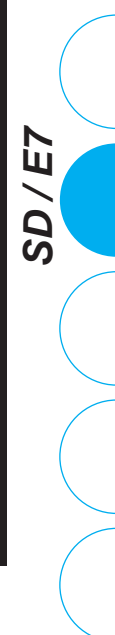
Threaded Rear Insert
4R / 3R

HOW TO ORDER

How to order



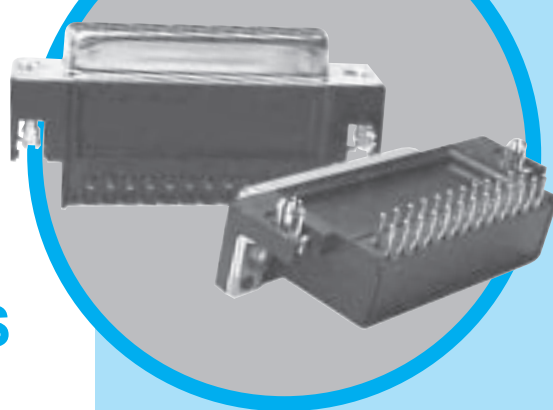
For special request, please consult factory



SD

D-Sub connectors - Stamped and Formed Contacts

RIGHT ANGLE BOARD MOUNT CONNECTORS FOOTPRINT 14.99 mm (.590")



CHARACTERISTICS

Specifications

- UL File: E119881
- Connectors according to MIL C24308

Materials and Platings	
Shells	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Pin contacts	Brass, selected gold in mating area; 2.54µm (100µ") min. tin on termination area over 1.27µm (50µ") min. nickel
Socket contact	Phosphor bronze, selected gold in mating area; 2.54µm (100µ") min. tin- on termination area over 1.27µm (50µ") min. nickel
Rear insert	Brass, 2.54µm (100µ") min. nickel plated
Screwlock	Brass, 2.54µm (100µ") min. nickel plated

Electrical Data	
Current rating	5A
Voltage rating	600V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	5000MΩ
Contact resistance	10mΩ max

Climatic Data	
Operating temperature	-55°C to +125°C
Salt Spray	24 hours

Mechanical Data		
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	Mate (max)	Unmate (min)
9 (size E)	3.05 (6.74)	0.36 (0.79)
15 (size A)	5.09 (11.24)	0.46 (1.01)
25 (size B)	8.44 (18.66)	0.81 (1.8)
37 (size C)	12.51 (27.65)	1.1 (2.47)
Standard plating thickness	<ul style="list-style-type: none"> • gold flash • 0.4µm (15µ") gold • 0.76 µm (30µ") gold 	

DESCRIPTION

The Amphenol "SD" series features precision formed contacts and boardlocks.

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

*Economical
right angle PCB
mount connectors*

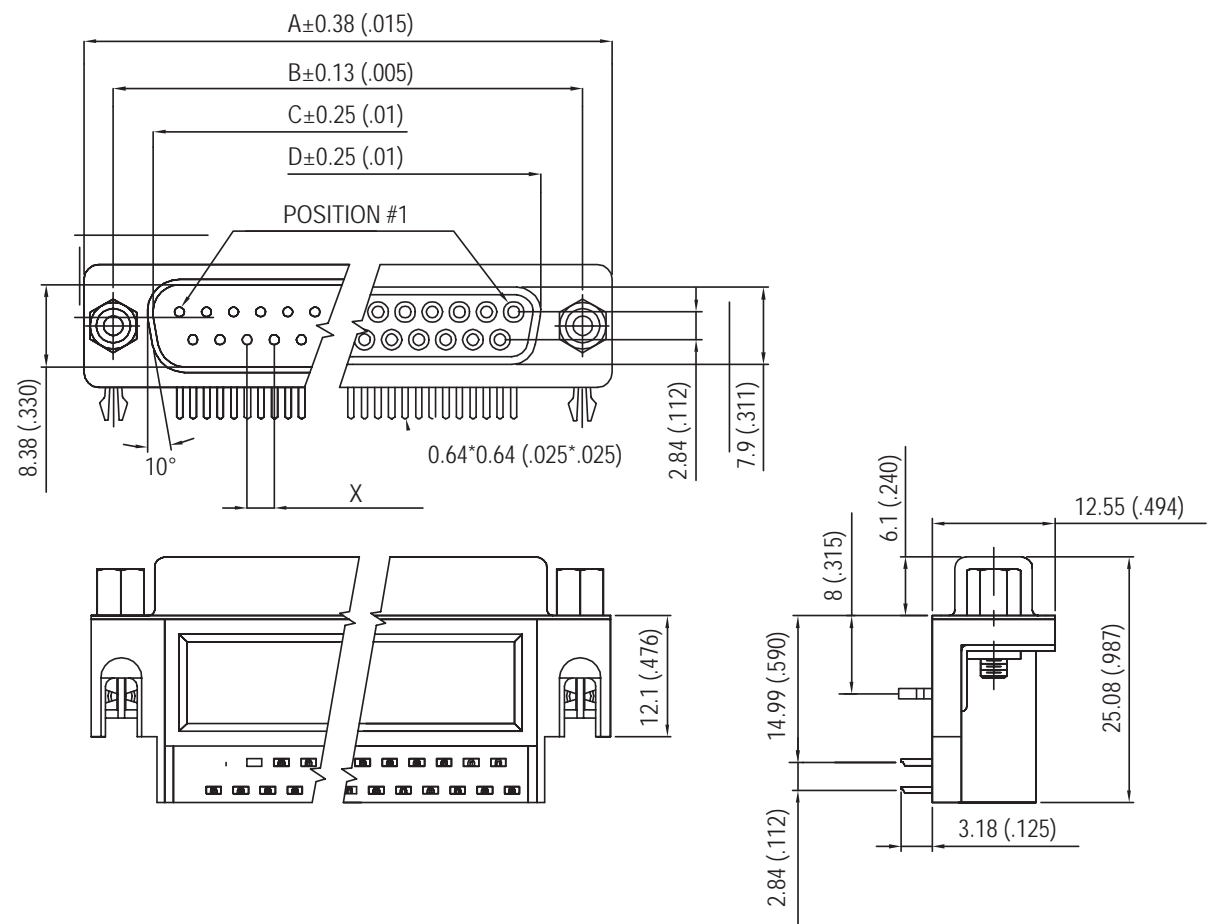
APPLICATIONS

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

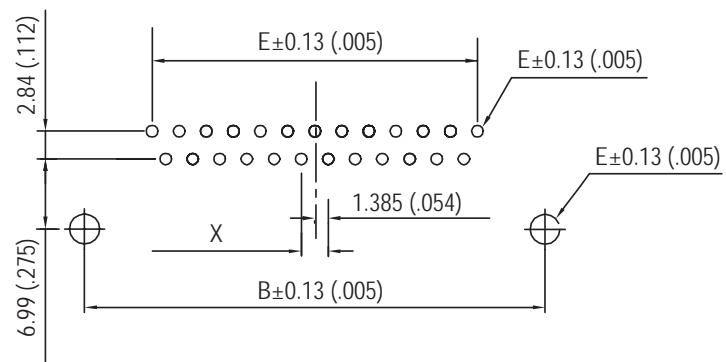
SD / E8



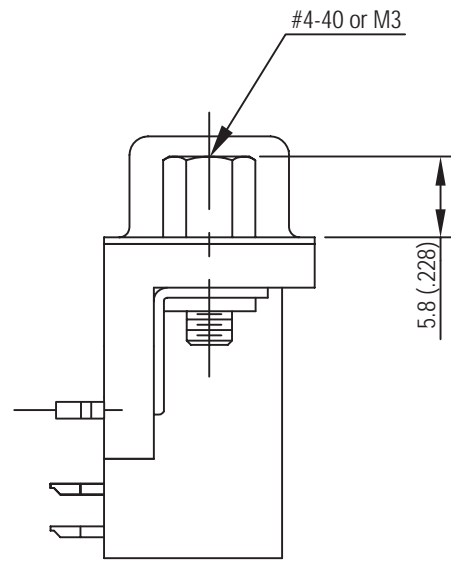
Amphenol



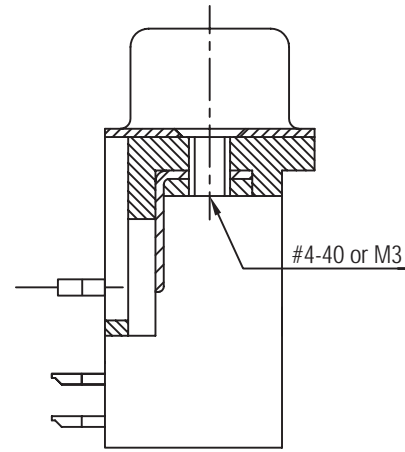
Recommended P.C.B. Layout



Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	X
9	30.84 (1.214)	24.99 (.984)	16.92 (.666)	16.26 (.640)	11.08 (.436)	2.74
15	39.24 (1.545)	33.32 (1.312)	25.25 (.994)	24.56 (.967)	19.39 (.763)	2.74
25	53.04 (2.088)	47.04 (1.852)	38.96 (1.534)	38.30 (1.508)	33.24 (1.309)	2.77
37	69.34 (2.730)	63.50 (2.500)	55.42 (2.182)	54.76 (2.156)	49.86 (1.963)	2.77



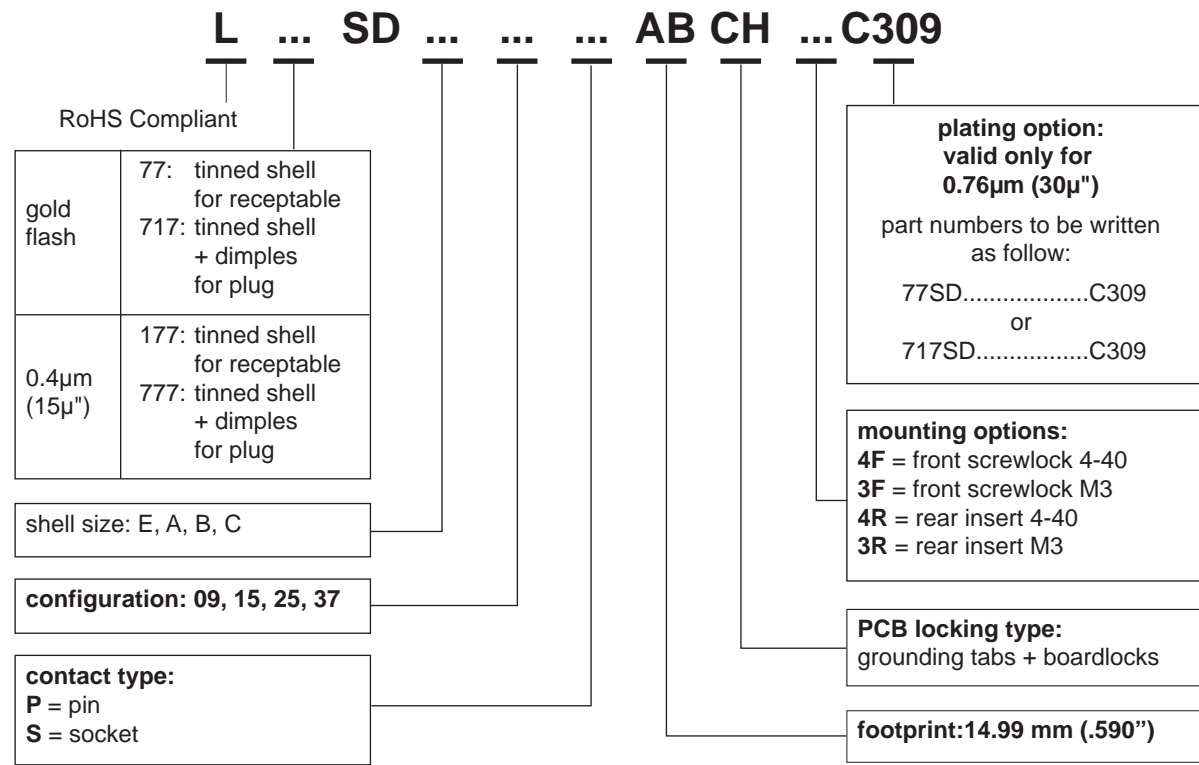
Front Female Screwlock
4F/3F



Threaded Rear Insert
4R/3R

HOW TO ORDER

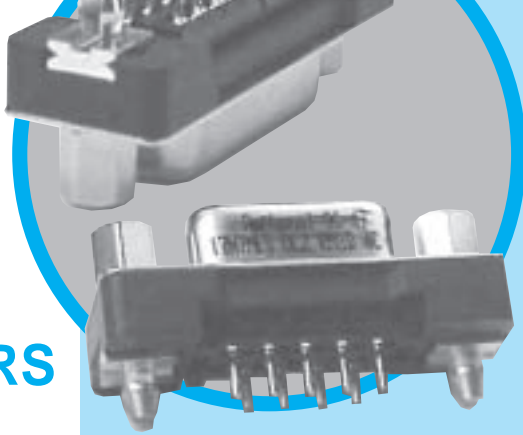
How to order



For special request, please consult factory

SD / E8

STRAIGHT PCB TERMINATION ONE METAL SHELL CONNECTORS



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shells	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Contacts	Copper alloy, with selective gold plating
Boardlock	Brass with nickel plating
Screwlock	Brass with nickel plating

Electrical Data	
Current rating	5A
Voltage rating	600V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	5000MΩ
Contact resistance	10mΩ max

Climatic Data	
Operating temperature	-55°C to +125°C

Mechanical Data		
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	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)
Standard plating thicknesses		
<ul style="list-style-type: none"> • gold flash • 0.4µm (15µ") gold • 0.76 µm (30µ") gold 		

DESCRIPTION

The one shell D-sub Amphenol series features, stamped and formed contacts.

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

*Economical
straight PCB,
one shell
connectors*

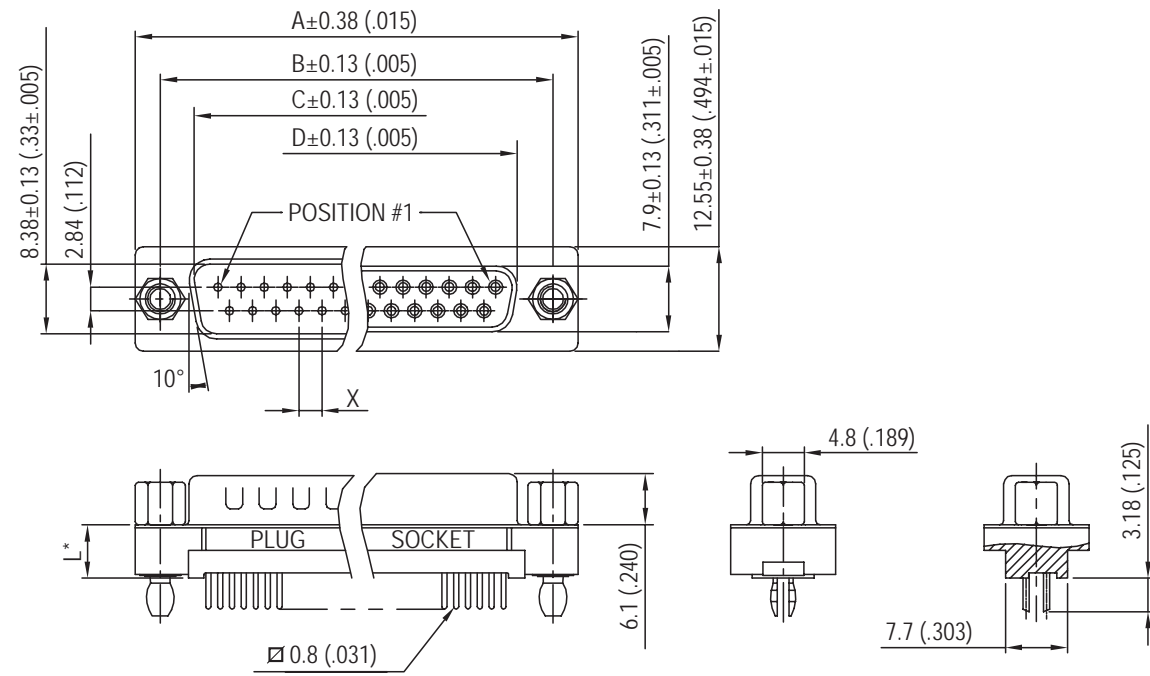
APPLICATIONS

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

TS / E10

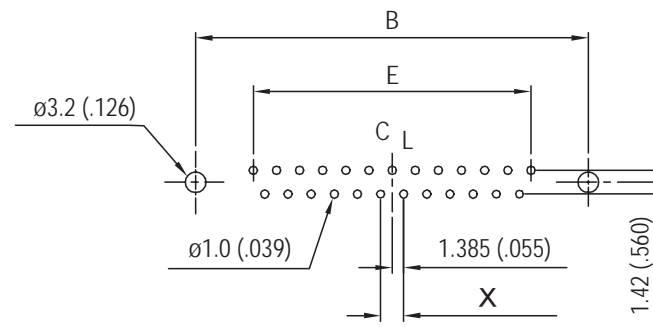


Amphenol

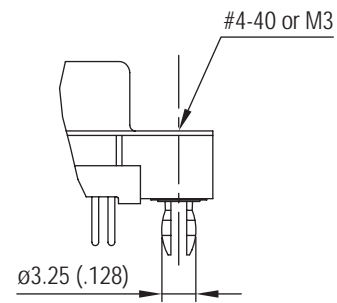


*see chart "how to order"

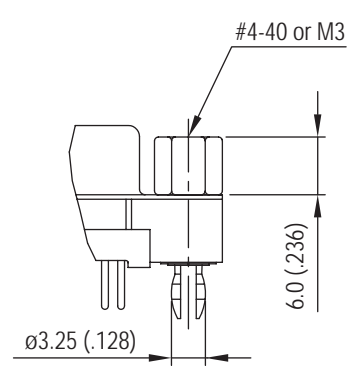
RECOMMENDED P.C.B. LAYOUT



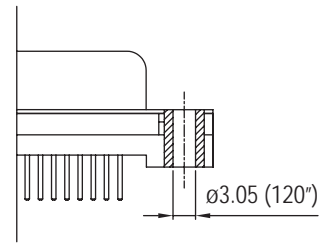
Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	X
9	30.84 (1.21)	24.99 (.984)	16.92 (.666)	16.26 (.640)	11.08 (.436)	2.74
15	39.24 (1.54)	33.32 (1.31)	25.25 (.994)	24.56 (.967)	19.39 (.763)	2.74
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.30 (1.51)	33.24 (1.31)	2.77
37	69.34 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	2.77



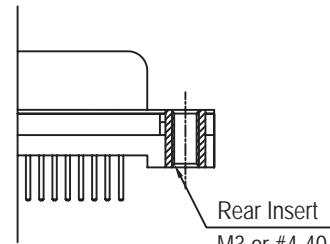
**Boardlock with Threaded Insert
RM5**



**Boardlock with Front Screwlock
RM8**

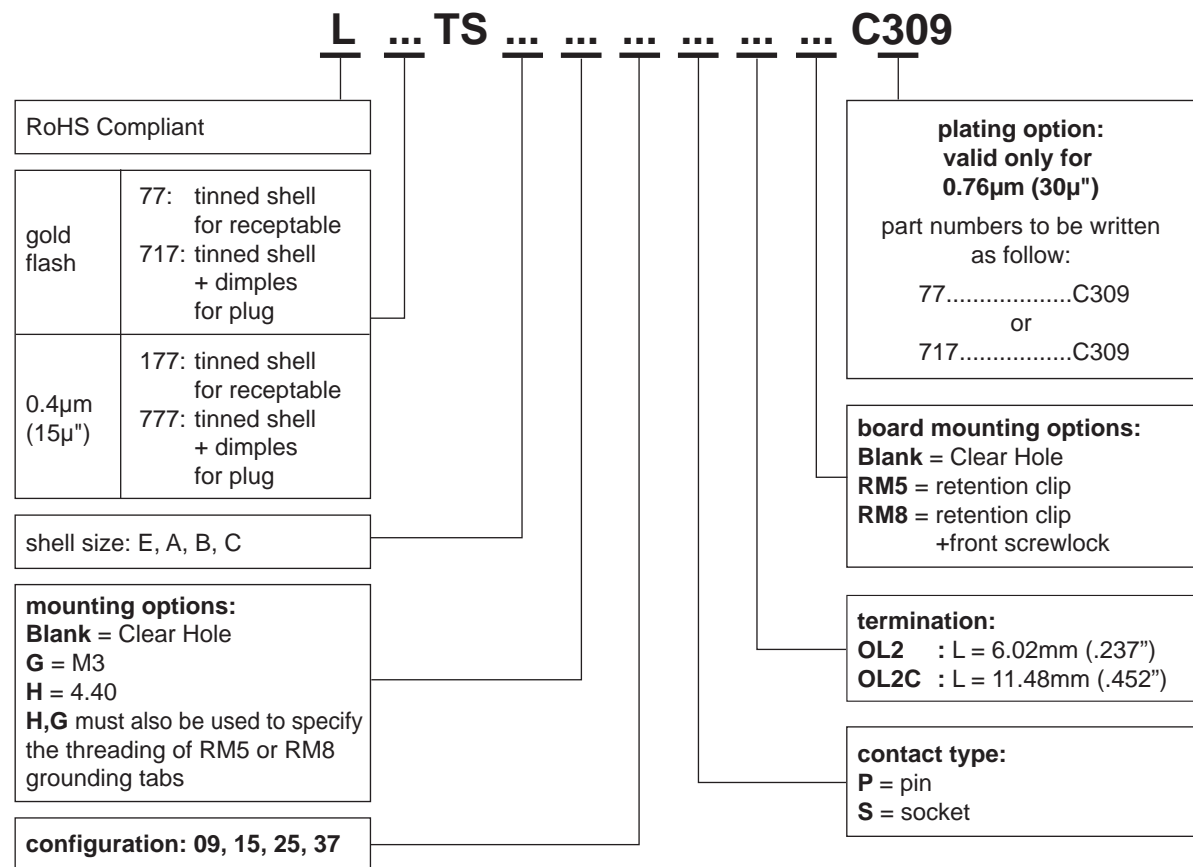


Clear Hole



Rear Insert Threaded

How to order



For special request, please consult factory

RR-HR

D-Sub connectors - Stamped and Formed Contacts

REAR RELEASE CRIMP CONNECTORS



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings		
Shells	Tinned steel with or without dimples on plug connector	
Insulator Boardlock	Black glass-filled thermoplastic, UL 94V-0 Brass, 3µm to 5µm (118µ" to 197µ") tin over nickel 2µm to 3µm (78µ" to 118µ")	
Screwlock	Brass, 6µm to 10µm (236µ" to 394µ") tin over nickel 2µm to 3µm (78µ" to 118µ")	
	Contacts	Under plating
	0.2µm (8µ") gold	2µm (78µ") nickel
	0.5µm (20µ") gold	2µm (78µ") nickel
	0.76µm (30µ") gold	2µm (78µ") nickel
		Crimp side
		gold flash or tin
		gold flash or tin
		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 Ø1.27mm (.05")

Climatic Data	
Operating temperature	-55°C to +125°C

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

DESCRIPTION

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

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

Simplify your cable assemblies

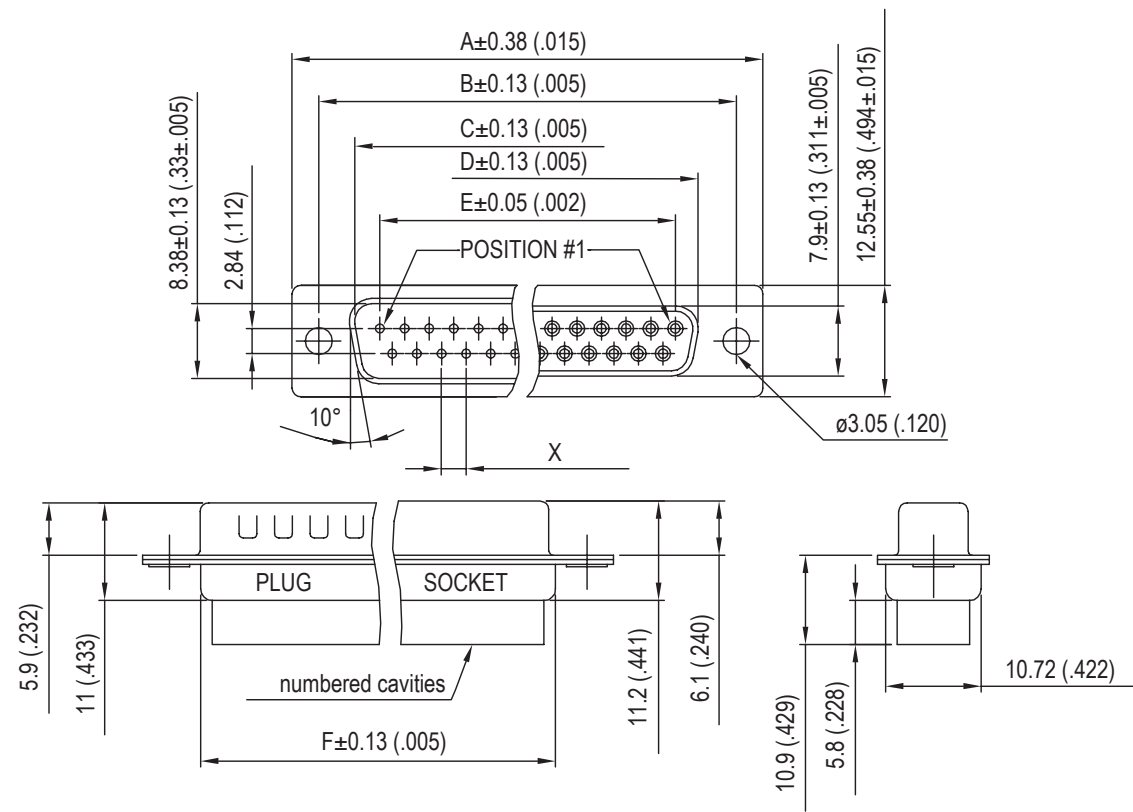
APPLICATIONS

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

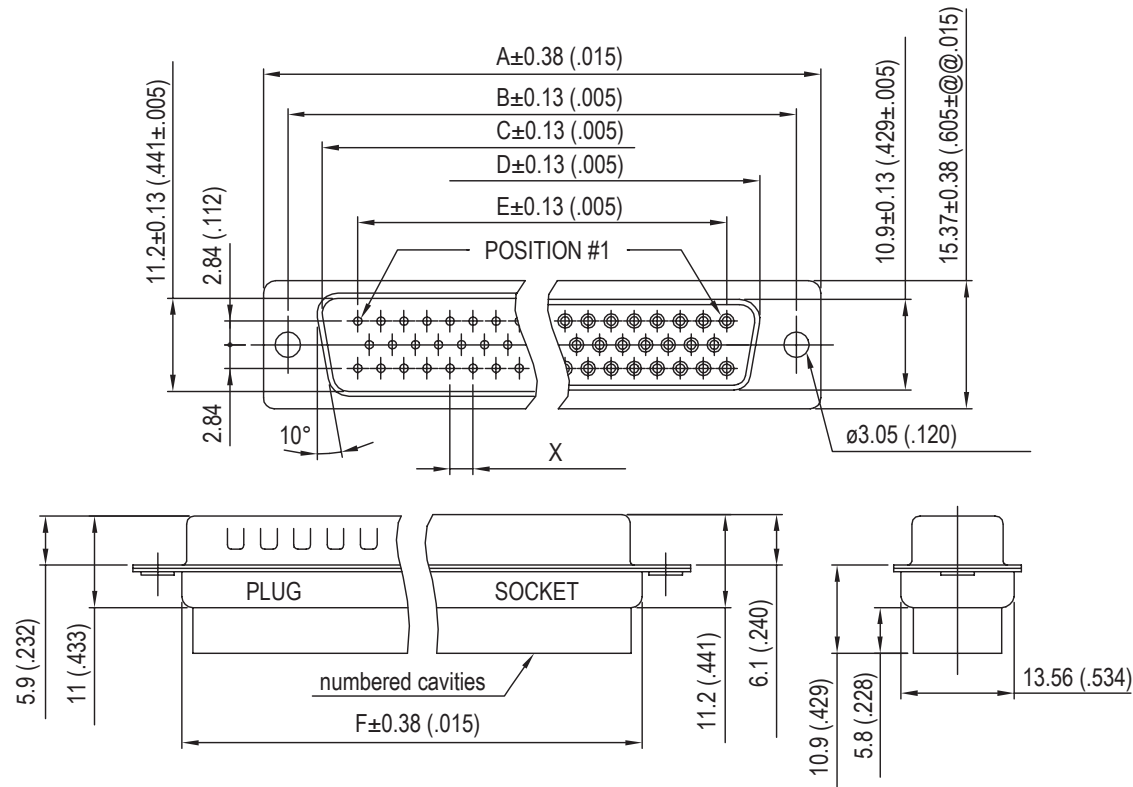
RR-HR / E11

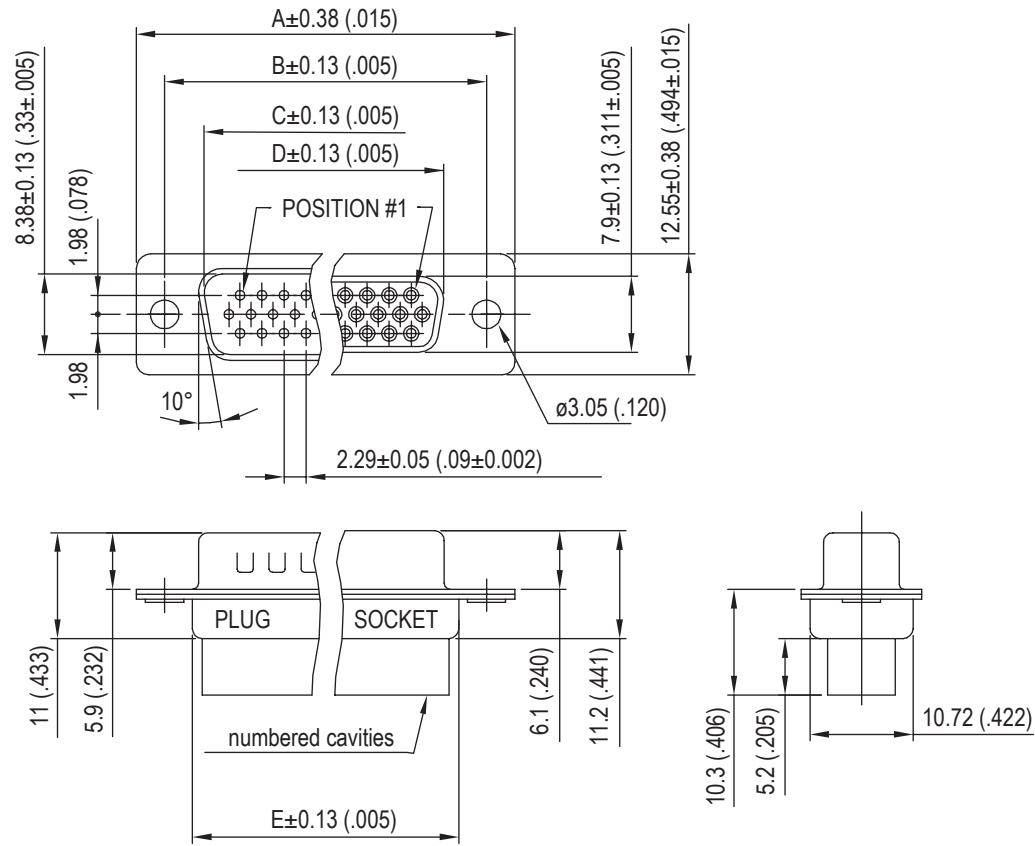


Amphenol

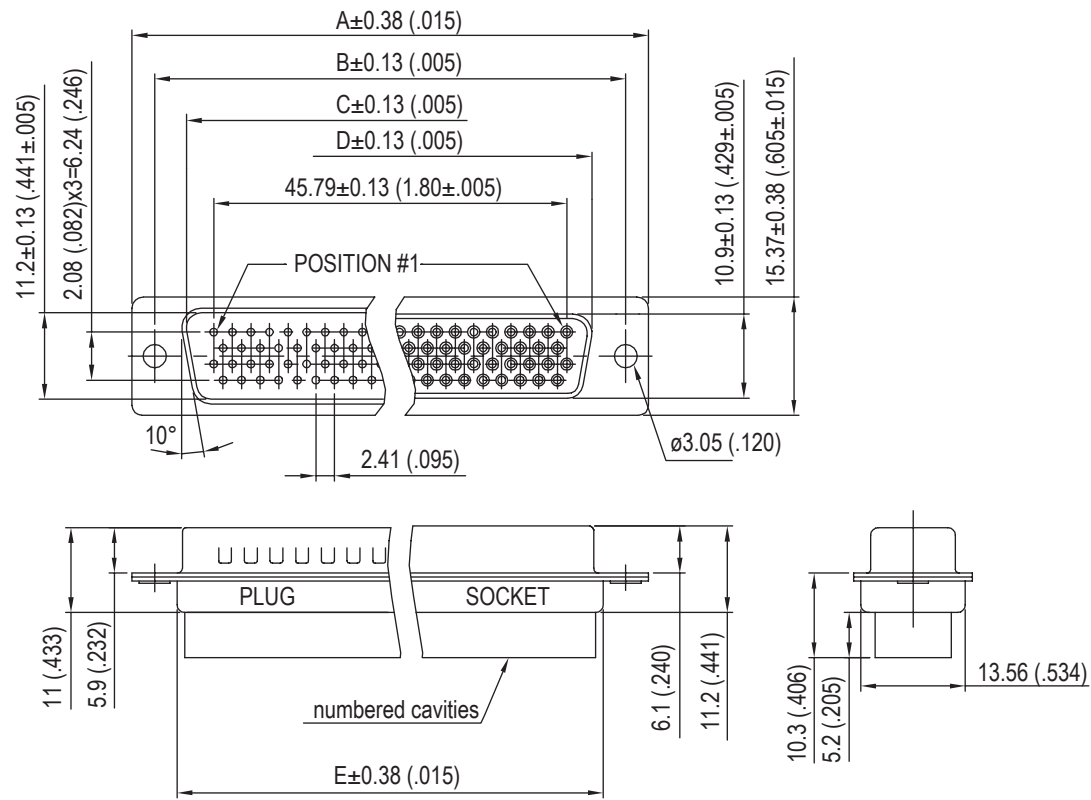


Nb OF CONTACTS	DIMENSIONS mm (inch)						
	A	B	C	D	E	F	X
9	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	11.09 (.44)	19.28 (.76)	2.74
15	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.97)	19.39 (.76)	27.51 (1.08)	2.74
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	41.30 (1.63)	2.77
37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	57.71 (2.27)	2.77
50	67 (2.64)	61.11 (2.41)	52.86 (2.08)	52.34 (2.06)	44.32 (1.75)	55.3 (2.18)	2.77





Nb OF CONTACTS	DIMENSIONS mm (inch)				
	A	B	C	D	E
15	30.84 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	19.28 (.76)
26	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.97)	27.51 (1.08)
44	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	41.30 (1.63)
62	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	57.71 (2.27)
78	67 (2.64)	61.11 (2.41)	52.86 (2.08)	52.34 (2.06)	55.3 (2.18)



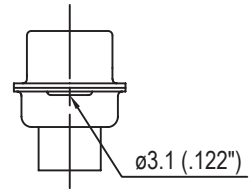
OVERALL DIMENSION

RR-HR / E11

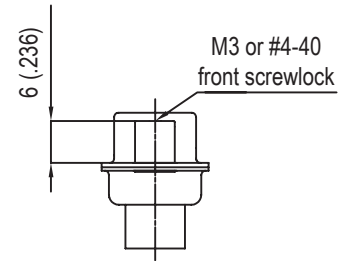


Panel mounting option

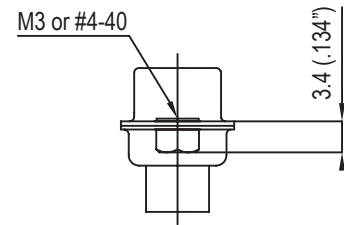
Standard density:



Standard rivet \varnothing 3.1mm
no digit

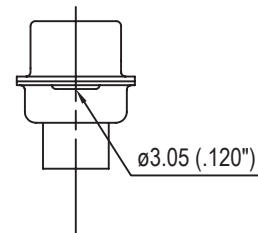


Fixed front female screwlock
VF / VFM

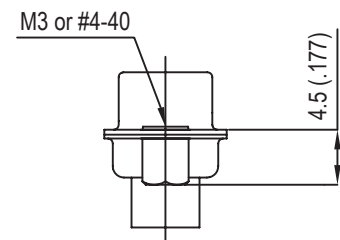


Threaded rear insert
H / G

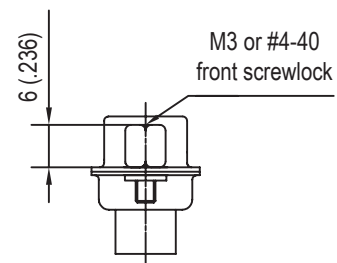
High density:



Standard rivet \varnothing 3.05mm
no digit

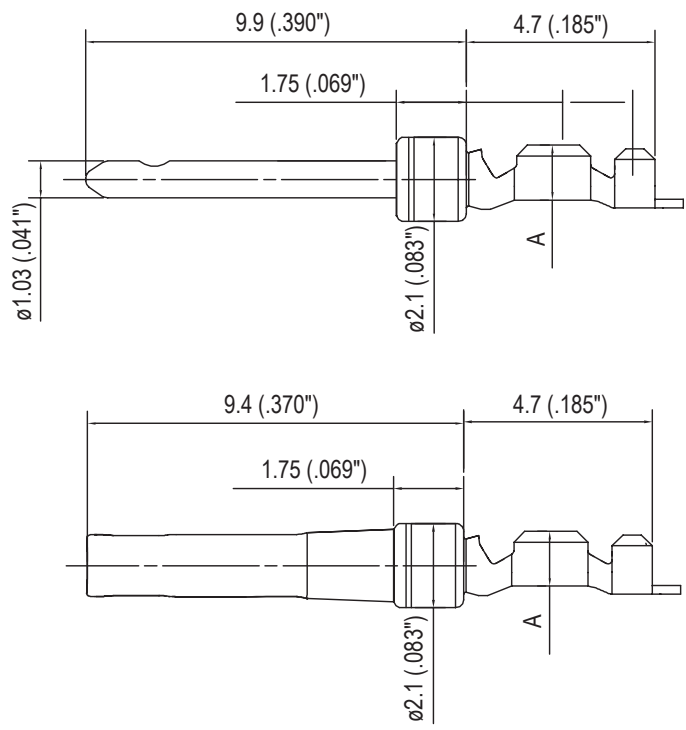
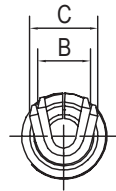


Threaded rear insert
H / G



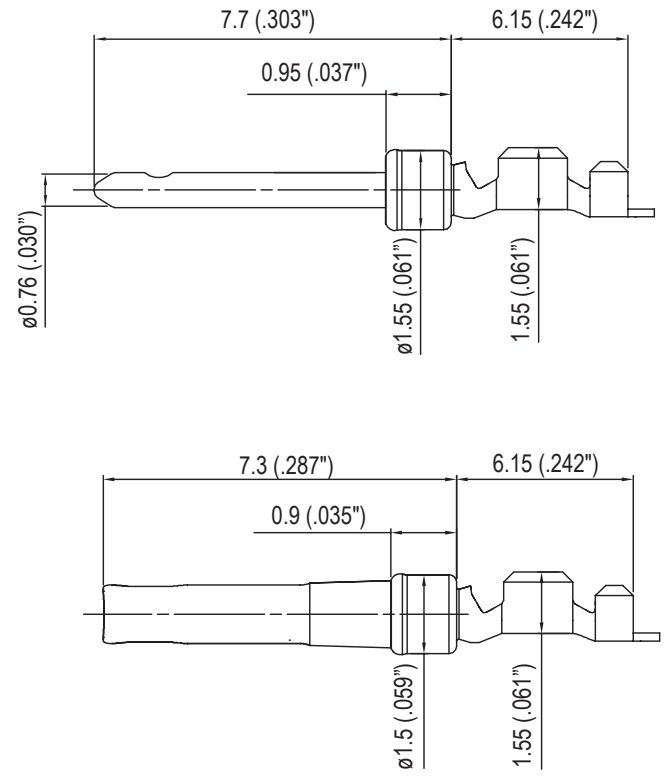
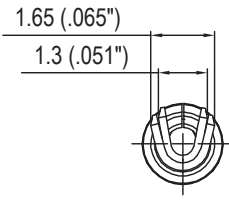
Fixed front female screwlock
VF / VFM

Standard density:

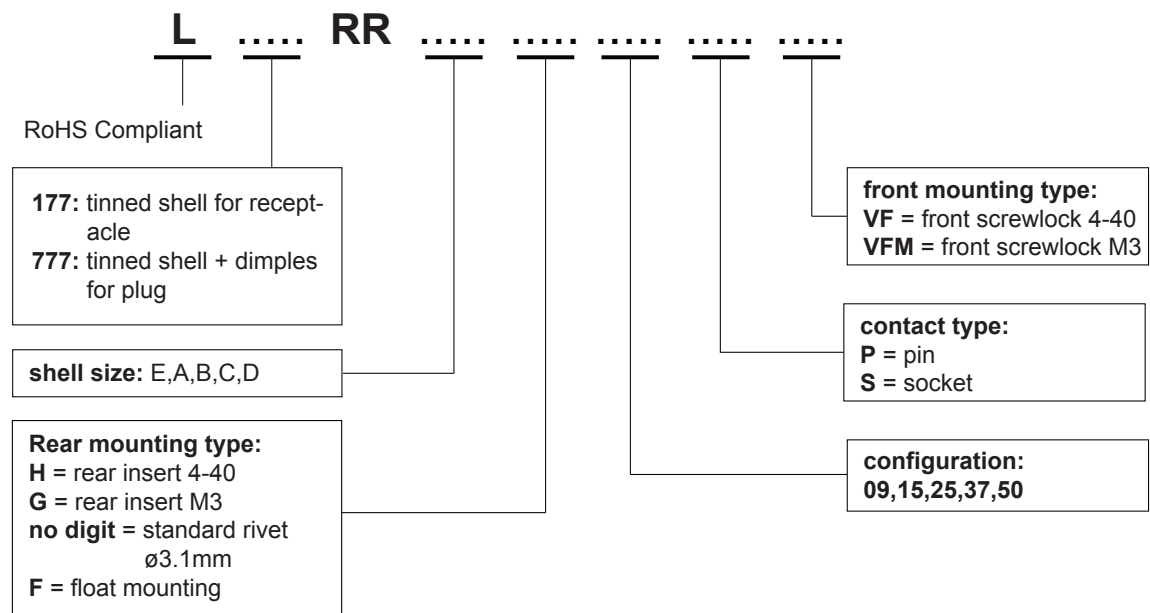


AWG	A	B	C
20-24	1.8 (.071")	1.9 (.075")	2.5 (.098")
24-28	1.4 (.055")	1.5 (.059")	1.7 (.066")

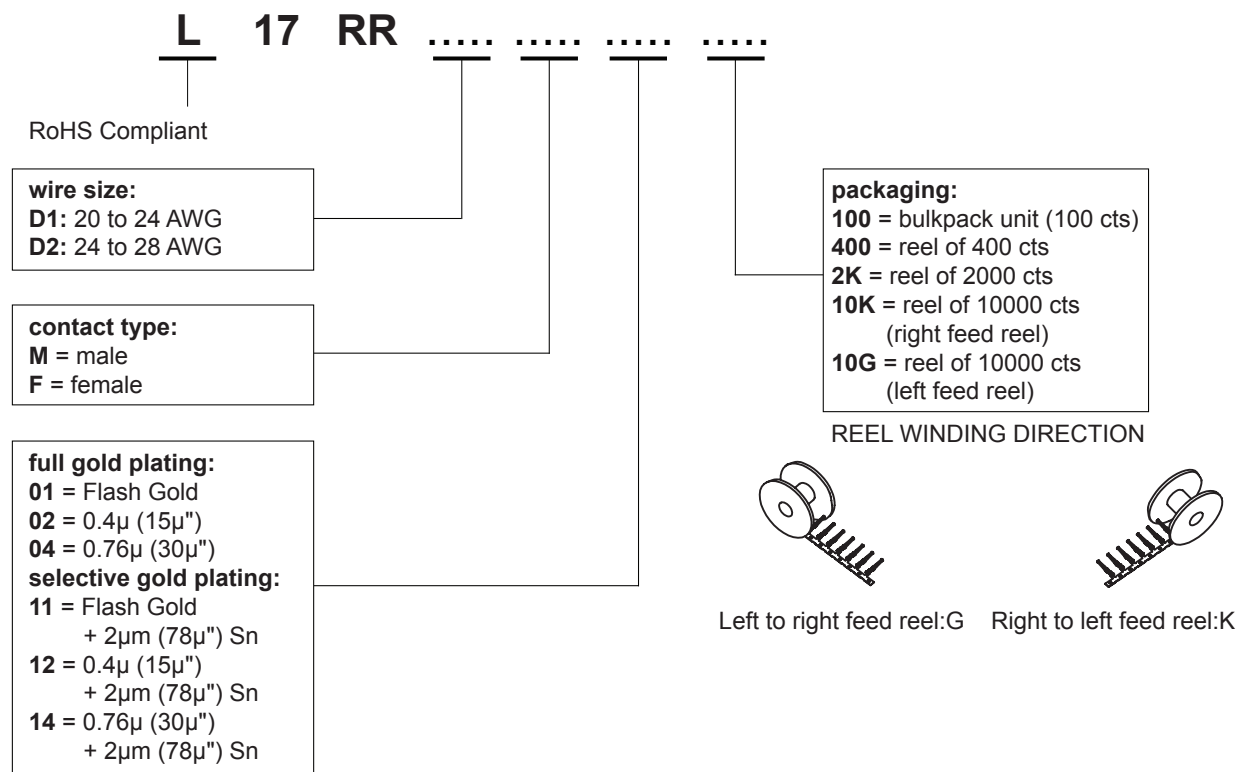
High density:



Housings

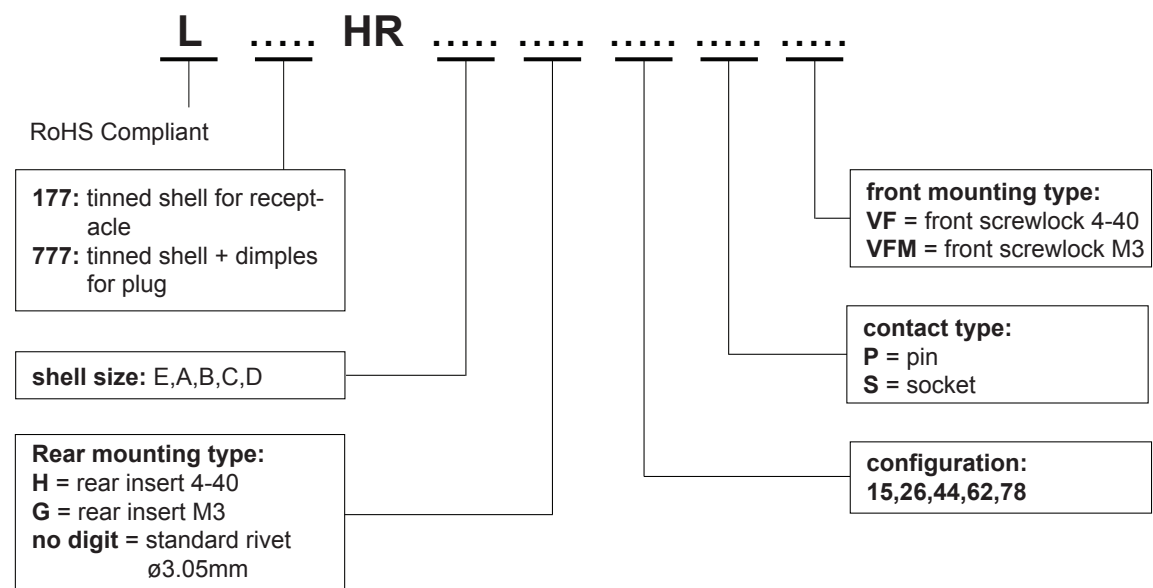


Contacts

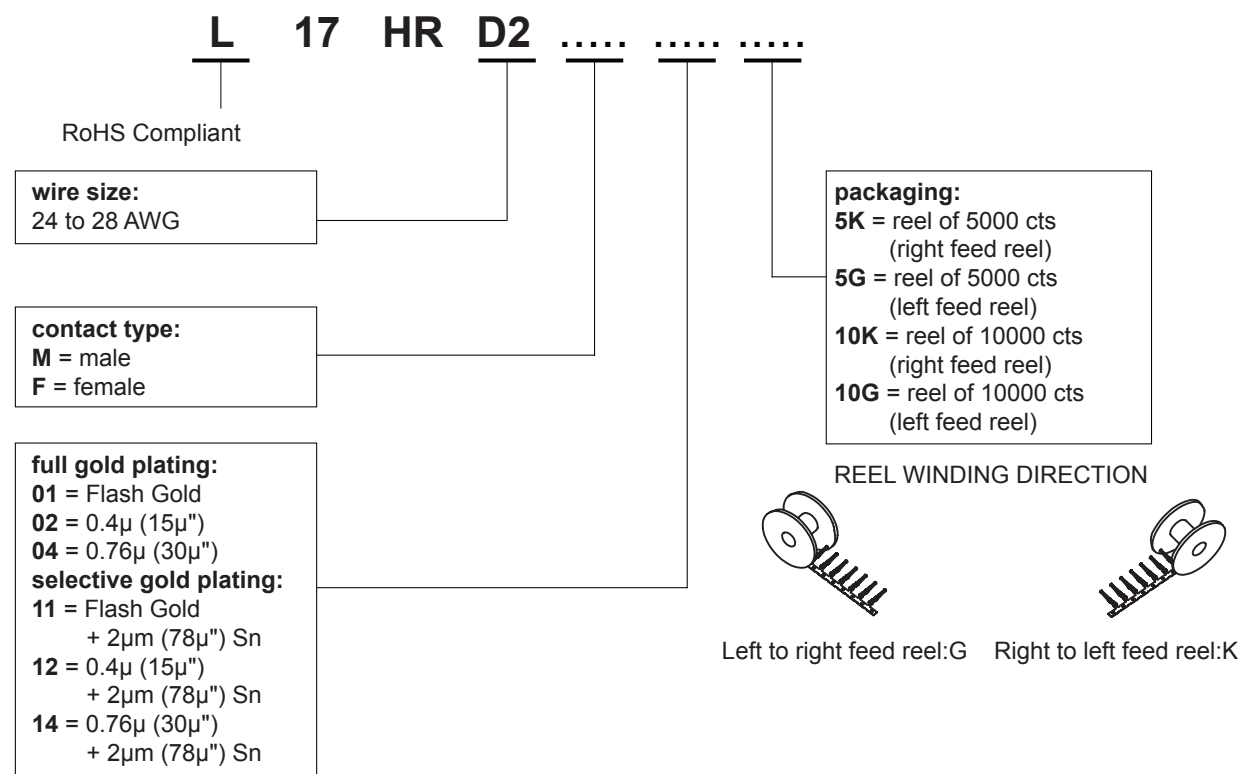


For special request, please consult factory

Housings



Contacts



For special request, please consult factory

RR-HR / E11

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

Do not hesitate to contact us for further information

Amphenol

Amphenol IT & Communication Products

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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>



FLAT RIBBON D-SUB CONNECTORS

CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shells	Steel with nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Pin contacts	Brass, selected gold in mating area; 2.54µm (100µ") min. tin on termination area over 1.27µm (50µ") min. nickel
Socket contact	Phosphor bronze, selected gold in mating area; 2.54µm (100µ") min. tin on termination area over 1.27µm (50µ") min. nickel
Rear insert	Brass, 2.54µm (100µ") min. nickel plated
Screwlock	Brass, 2.54µm (100µ") min. nickel plated

Electrical Data	
Current rating	5A
Voltage rating	250V AC/rms 60Hz
Withstanding voltage	1000V AC/rms 60Hz for one minute
Insulation resistance	1000MΩ
Contact resistance	20mΩ max

Climatic Data	
Operating temperature	-40°C to +125°C

Mechanical Data		
Single contact insertion force	0.54kg (1.19lb) max	
Single contact withdrawal force	0.06kg (0.13lb) min	
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	Mate (max)	Unmate (min)
9 (size E)	3.05 (6.74)	0.36 (0.79)
15 (size A)	5.09 (11.24)	0.46 (1.01)
25 (size B)	8.44 (18.66)	0.81 (1.8)
37 (size C)	12.51 (27.65)	1.1 (2.47)
Standard plating thicknesses		
• gold flash		
• 0.4µm (15µ") gold		
• 0.76 µm (30µ") gold		

DESCRIPTION

These connectors are suitable for compact requirement of modern peripheral equipment.

Special contact design allows usage of standard 1.27mm (.05") flat cable. Suitable with all standard D-Sub hoods.

*Simplify
Your cable
assemblies!*

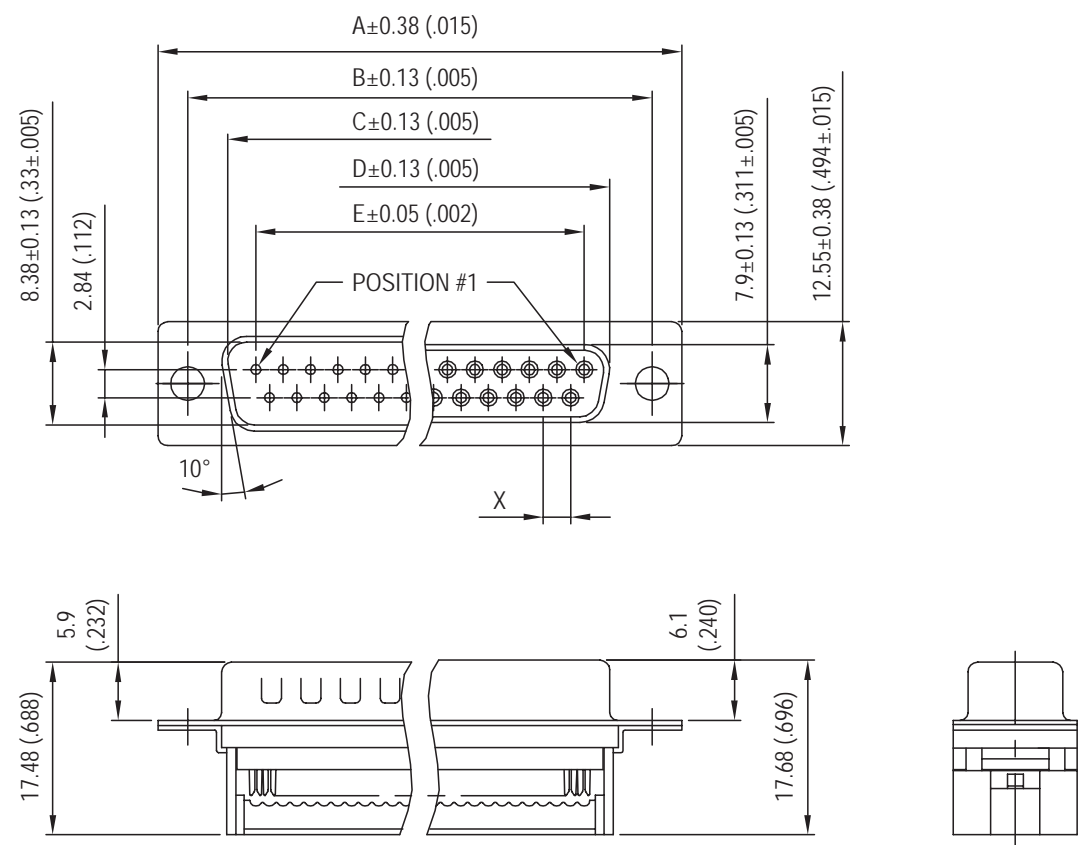
APPLICATIONS

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

DFR / E12

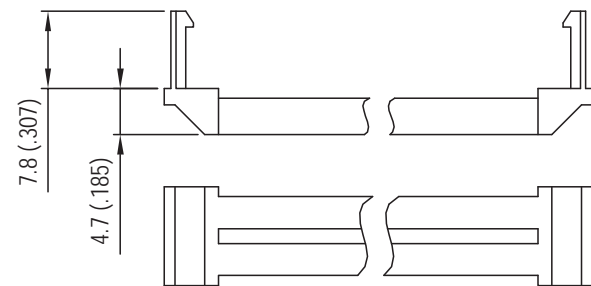


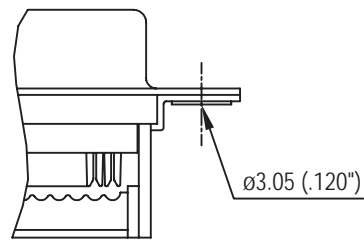
Amphenol



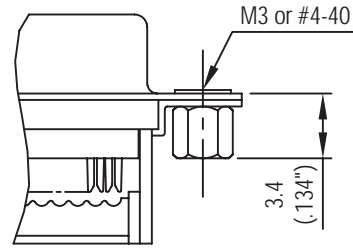
Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	X
9	30.84 (1.21)	24.99 (.984)	16.92 (.666)	16.24 (.639)	11.09 (.437)	2.74
15	39.24 (1.54)	33.32 (1.31)	24.70 (.972)	24.56 (.967)	19.39 (.763)	2.74
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	2.77
37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	2.77

STRAIN RELIEF

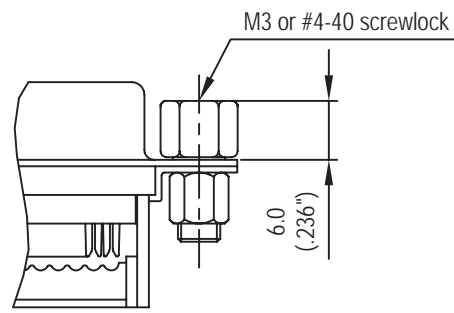




Standard rivet \varnothing 3.05mm
no digit

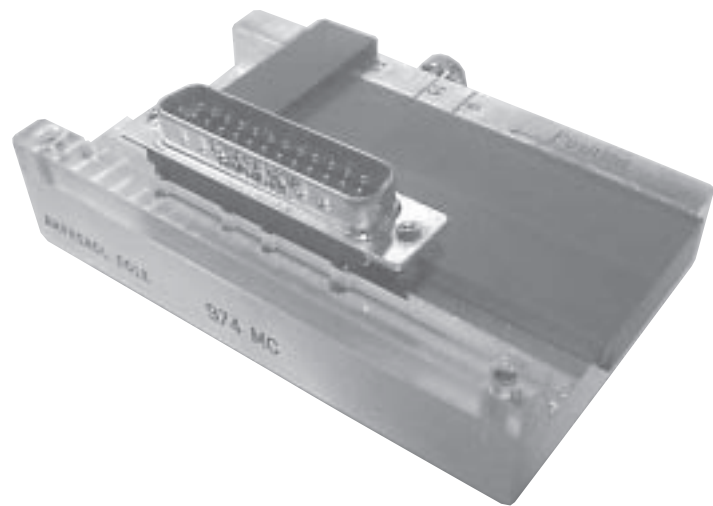


Threaded rear insert
B / D



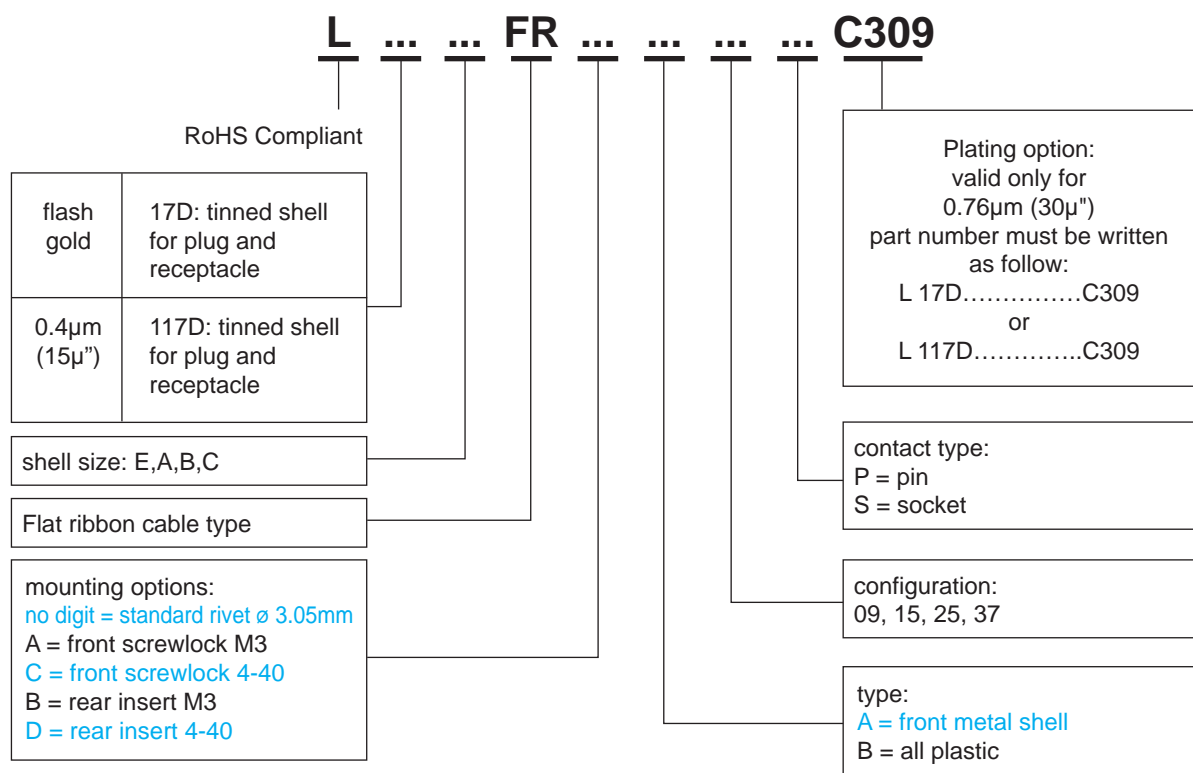
Front female screwlock
A / C

Tool



Support for hand termination tool:
974MC





■ : Standard options

For special request, please consult factory

Do not hesitate to contact us for further information

Amphenol

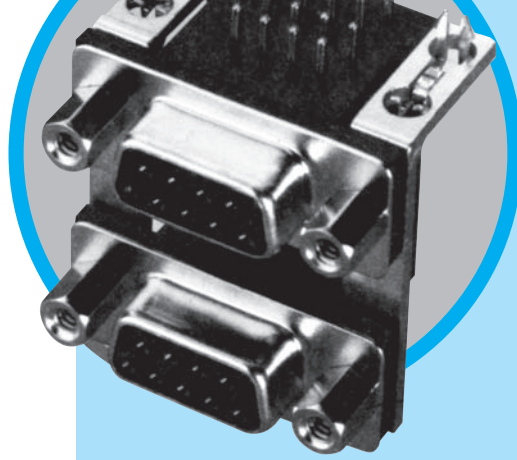
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 Industrial Headquarters, Dong Keng Road
 Gong Ming Town, Shen Zhen China
 Fax:+86(0)755 2754 9955

Technical Support

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

DUAL PORT D-SUB CONNECTORS



DESCRIPTION

Amphenol's G17H dual port connectors are a state of the art design. The front metal shell helps reduce EMI / RFI emissions.

Designed to save PC board space, Amphenol's dual port provides two I / O connectors in a minimal amount of board space.

Economical dual port connectors

APPLICATIONS

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

17H / E13



Amphenol

MAIN CHARACTERISTICS

Specifications

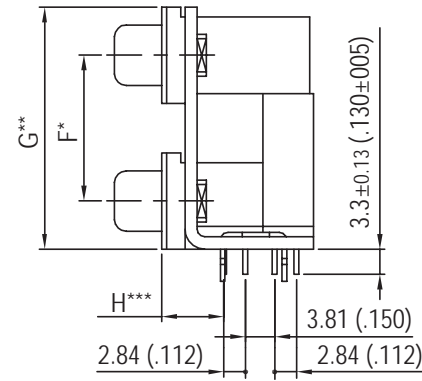
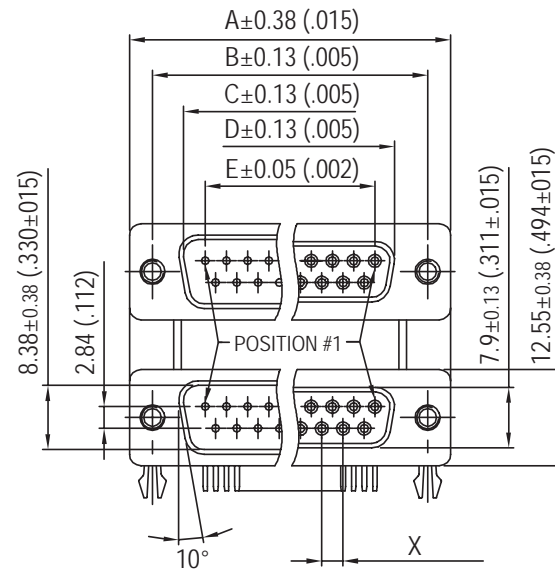
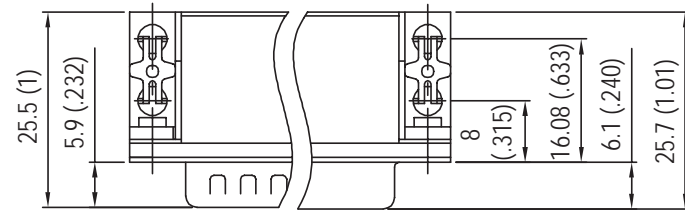
- Connectors according to MIL C24308

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

Electrical Data	
Current rating	3A
Voltage rating	250V AC/rms 60Hz
Withstanding voltage	1000V AC/rms 60Hz for one minute
Insulation resistance	1000MΩ
Contact resistance	20mΩ max

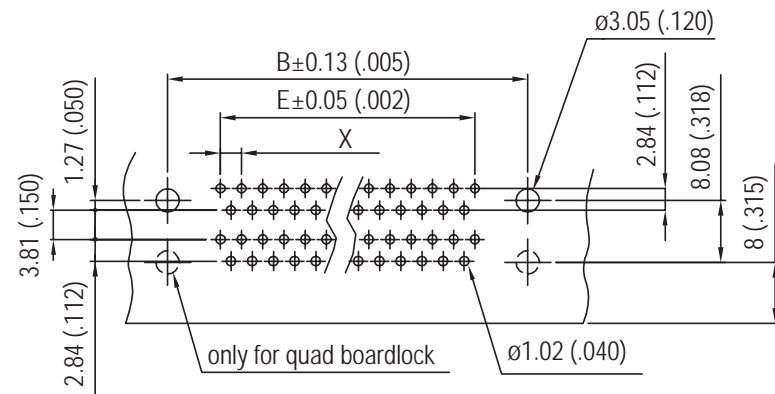
Climatic Data	
Operating temperature	-55°C to +125°C
Salt spray	24 hours

Mechanical Data		
Single contact insertion force	0.54kg (1.19lb) max	
Single contact withdrawal force	0.06kg (0.13lb) min	
Mating and unmating force	Unit: kg (lb)	
	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)
15 (Hi-den)	3.81 (8.42)	0.52 (1.14)
Standard plating thicknesses	<ul style="list-style-type: none"> • gold flash • 0.4µm (15µ") gold • 0.76 µm (30µ") gold 	



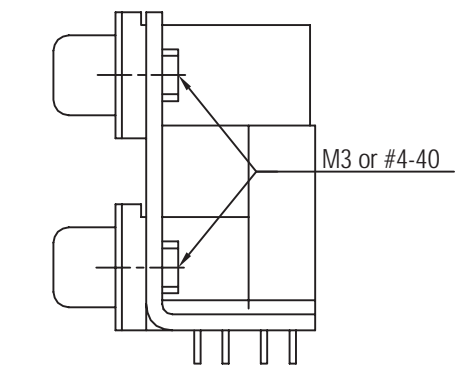
* spacing between ports (see "how to order" for dimensions)
 ** profile distance (see "how to order" for dimensions)
 *** Footprint options (see "how to order" for dimensions)
 H*** Standard Density (SD)
 High Density (HD)
 SD / SD = 8.08mm (.318")
 SD / HD = 5.08mm (.200")
 = 8.89mm (.350")
 HD / HD = 8.89mm (.350")
 = 5.08mm (.200")

Recommended P.C.B. Layout

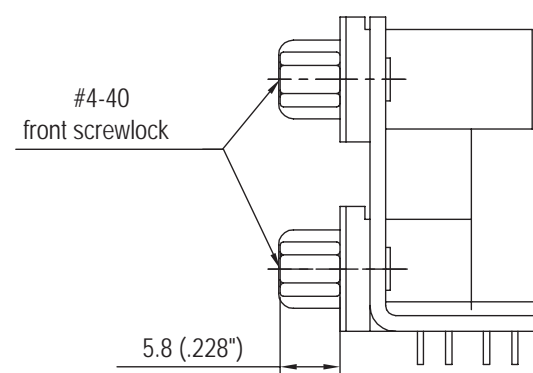


Shell Size	Nb OF CONTACTS	DIMENSIONS mm (inch)				
		A	B	C PLUG	D SOCKET	E
E	9/HD 15	30.84 (1.21)	24.99 (.984)	16.92 (.666)	16.24 (.639)	11.09 (.437)
A	15/HD 26	39.24 (1.54)	33.32 (1.31)	24.7 (.972)	24.56 (.967)	19.39 (.763)
B	25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)
E	15 (Hi-den)	30.84 (1.21)	24.99 (.984)	16.92 (.666)	16.24 (.639)	10.31 (.406)
C	37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)

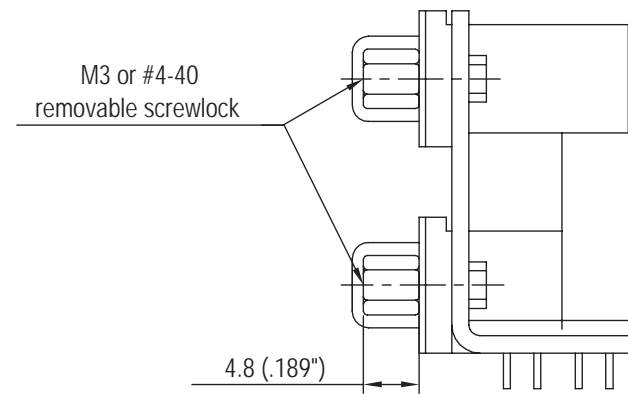
Flange mounting options:



Threaded rear insert
0 / 4

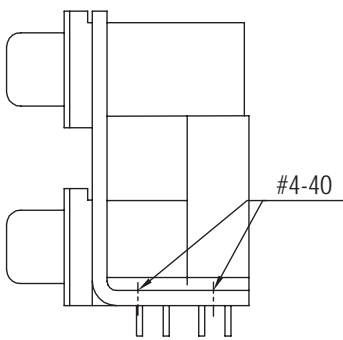


Fixed front female screwlock
7

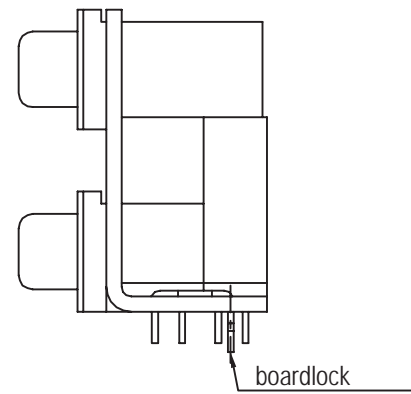


Removable female screwlock
1 / 5

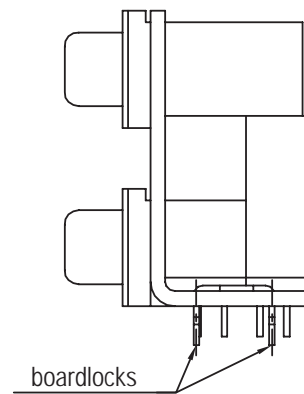
Board mounting options:



Threaded hole
1



Dual arrowhead boardlock
2



Quad arrowhead boardlock
3



L17H X X X X X X X X

Spacing Between Ports

- 1 - F = 15.88mm (.625")
G = 28.42mm (1.12")
- 2 - F = 19.05mm (.750")
G = 31.60mm (1.24")
- 3 - F = 22.86mm (.900")
G = 35.41mm (1.39")
- 4 - **SCSI**
G = 12.80mm (.504")
- 7 - F = 20.70mm (.815")
G = 32.20mm (1.26")

Top Connector

- 1 = 9 Pos. Male
- 2 = 9 Pos. Female
- 3 = 15 Pos. Male
- 4 = 15 Pos. Female
- 5 = 25 Pos. Male
- 6 = 25 Pos. Female
- 7 = 15 Pos. High Density Female
- 8 = 50 Pos. Female SCSI
- 9 = 26 Pos. High Density Female
- J = 15 Pos. High Density Male
- D = 37 Pos. Male
- E = 37 Pos. Female
- F = 44 Pos. High Density Male
- G = 44 Pos. High Density Female
- M = 62 Pos. High Density Male
- N = 62 Pos. High Density Female
- P = 78 Pos. High Density Male
- Q = 78 Pos. High Density Female

Bottom Connector

- 1 = 9 Pos. Male
- 2 = 9 Pos. Female
- 3 = 15 Pos. Male
- 4 = 15 Pos. Female
- 5 = 25 Pos. Male
- 6 = 25 Pos. Female
- 7 = 15 Pos. High Density Female
- 8 = 50 Pos. Female SCSI
- 9 = 26 Pos. High Density Female
- K = 15 Pos. High Density Male
- D = 37 Pos. Male
- E = 37 Pos. Female
- F = 44 Pos. High Density Male
- G = 44 Pos. High Density Female
- M = 62 Pos. High Density Male
- N = 62 Pos. High Density Female
- P = 78 Pos. High Density Male
- Q = 78 Pos. High Density Female
- R = 9 Pos. Male + 9 Pos. Male
- S = 9 Pos. Female + 9 Pos. Female

Footprint Options

- SD / SD
BLANK = 8.08mm (.318")
- SD / HD
BLANK = 5.08mm (.200")
889 = 8.89mm (.350")
- HD / HD
BLANK = 8.89mm (.350")
508 = 5.08mm (.200")

Flange Mounting Options

- 0 = 4-40unc Rear Insert
- 1 = 4-40unc Removable Screwlock
- 3 = 3.05mm (.120") Clear Hole
- 4 = M3 Rear Insert
- 5 = M3 Removable Screwlock
- 7 = 4-40unc Fixed Front Screwlock

Board Mounting Options

- 1 = 4 * Threaded 4-40unc Inserts
- 2 = Dual Arrowhead Boardlocks
- 3 = Quad Arrowhead Boardlocks
- 4 = 3.18mm (.125") Clear Hole

Shell Plating

- 1 = Bright Tin / Nickel
- 2 = Nickel

Contact Plating

- 0 = Flash Gold
- 1 = 0.4µm (15µ") Gold
- 2 = 0.76µm (30µ") Gold
- 3 = Full Flash Gold
- 4 = 1.27µm (50µ") Gold

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

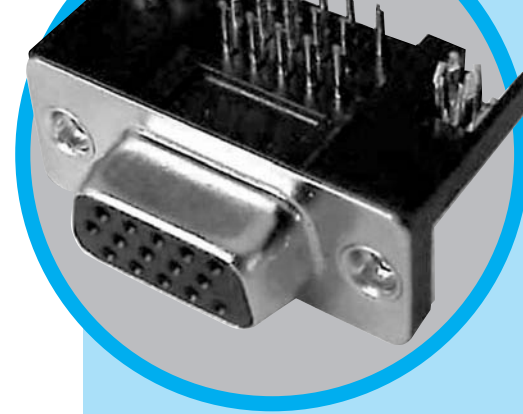
Technical Support

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

HT

D-Sub connectors - Stamped and Formed Contacts

RIGHT ANGLE HIGH TEMPERATURE AND HIGH DENSITY CONNECTORS



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shell	Steel, tin over nickel plating
Insulator	Glass filled thermoplastic, UL 94V-0
Contacts	Copper alloy, selective gold plating
Rear insert	Brass with nickel plating
Screwlock	Brass with nickel plating
Grounding clip	Copper alloy with tin plating

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	-55°C to +150°C, resist to short term (30s) at 260°C

Mechanical Data		
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	Mate (max)	Unmate (min)
15	3.81 (8.42)	0.52 (1.14)
26	5.95 (13.16)	1.05 (2.32)
44	9.26 (20.46)	1.37 (3.02)
62	13.48 (29.78)	1.76 (3.88)
Standard plating thicknesses		
<ul style="list-style-type: none"> • gold flash • 0.4 μm (15μ") gold • 0.76 μm (30μ") gold 		

DESCRIPTION

The Amphenol "HT" series allows the customers to use through hole connectors with reflow soldering process.

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

*Economical
right angle PCB,
high temperature
connectors*

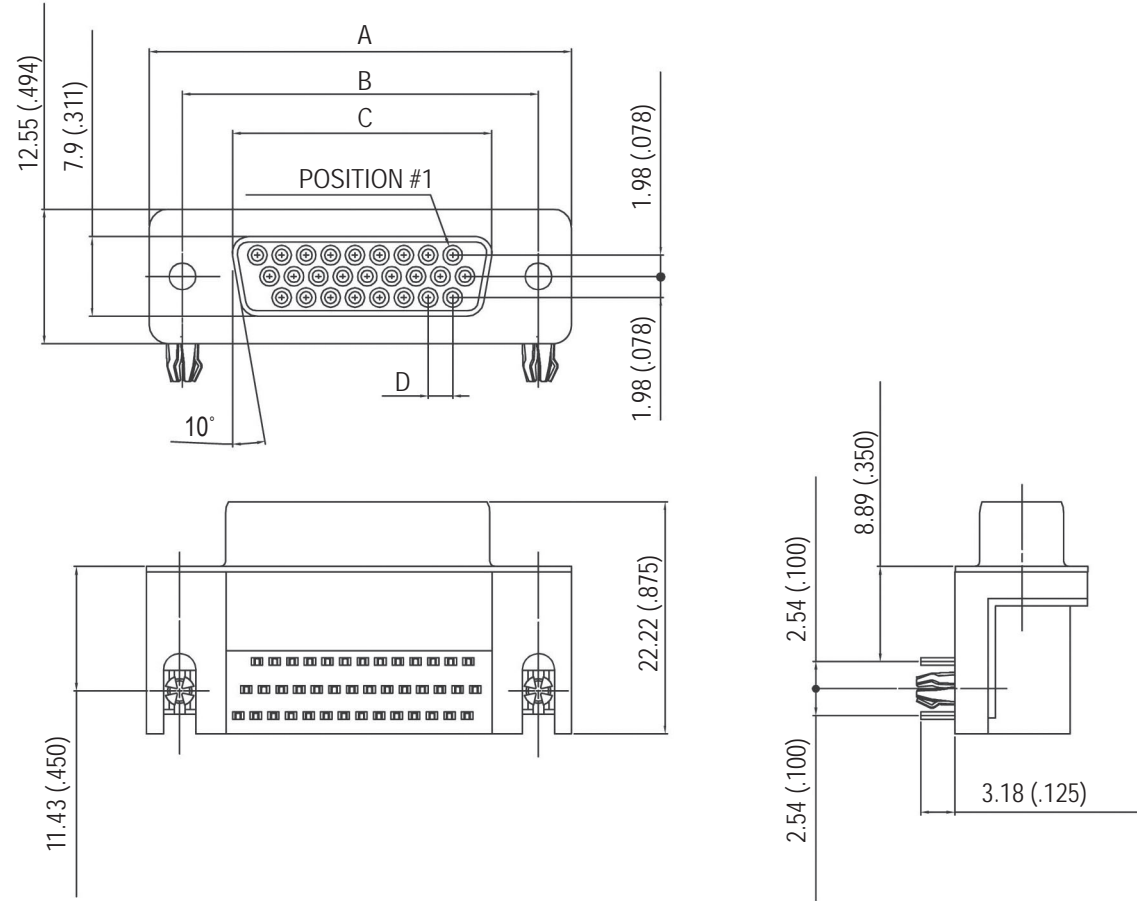
APPLICATIONS

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

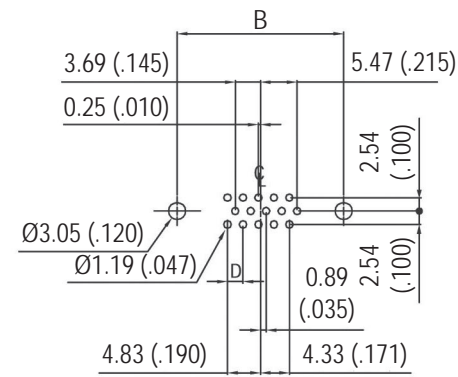
HT / E14



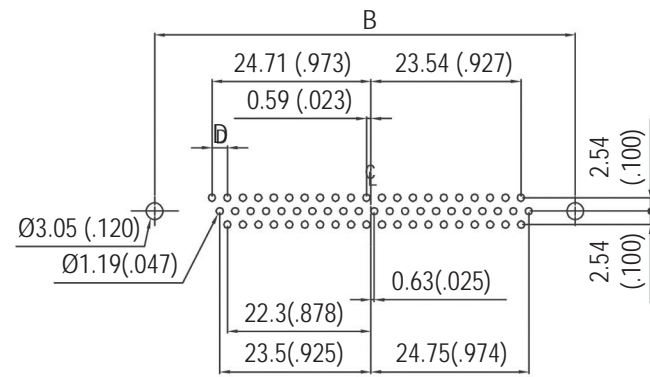
Amphenol



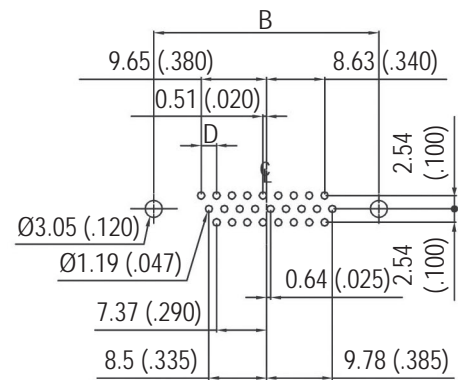
Nb OF CONTACTS	Dimensions mm (inch)			
	A	B	C	D
15	30.84 (1.214)	24.99 (.984)	16.26 (.640)	2.29 (.090)
26	39.24 (1.545)	33.32 (1.312)	24.56 (.967)	2.29 (.090)
44	53.04 (2.088)	47.04 (1.852)	38.30 (1.508)	2.29 (.090)
62	69.34 (2.730)	63.50 (2.500)	54.76 (2.156)	2.41 (.095)



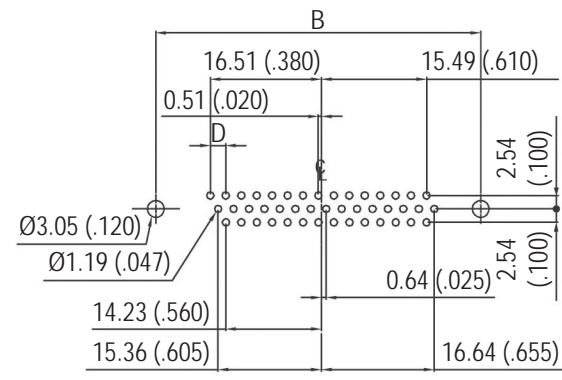
15 PIN



62 PIN

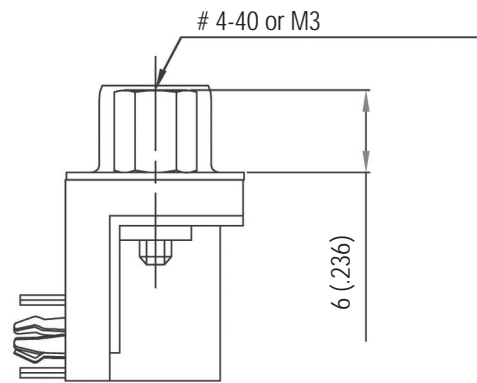


26 PIN

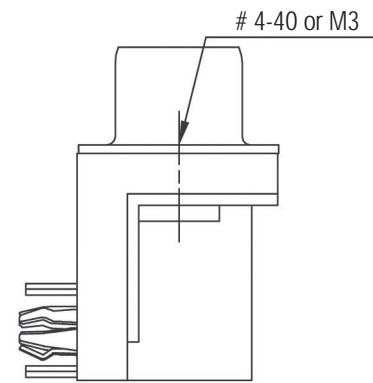


44 PIN

Panel mounting option



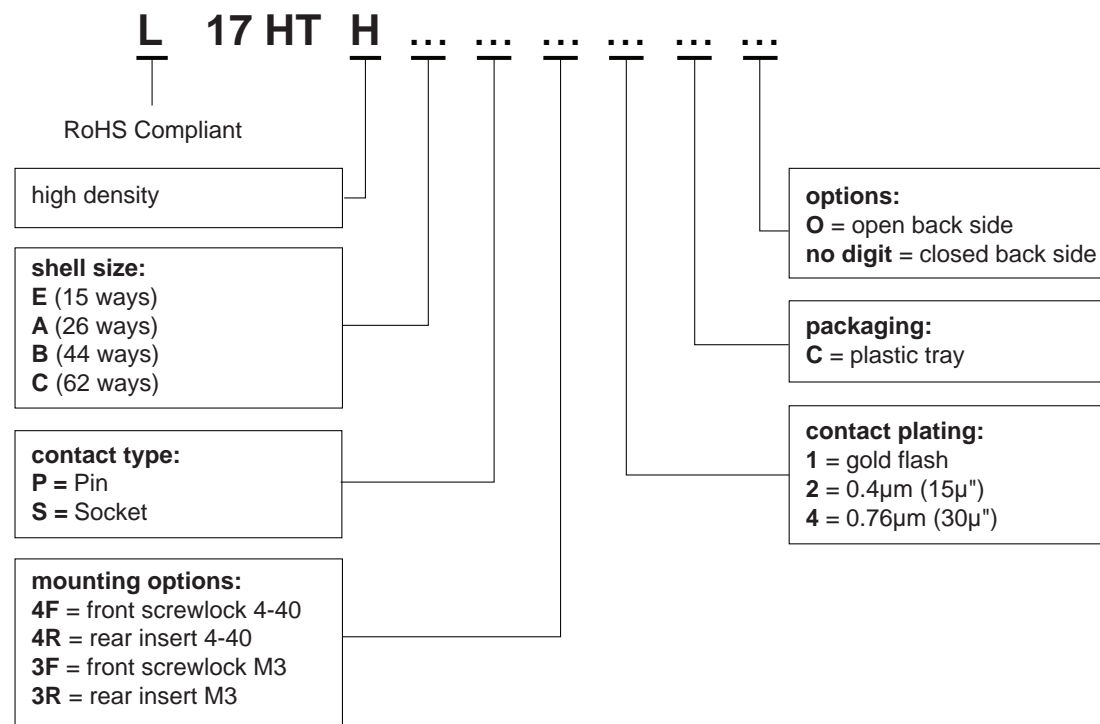
Front female screwlock
4F/3F



Threaded rear insert
4F/3F

HT / E14





For special request, please consult factory

Do not hesitate to contact us for further information

Amphenol

Amphenol IT & Communication Products

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 Industrial Headquarters, Dong Keng Road
 Gong Ming Town, Shen Zhen China
 Fax:+86(0)755 2754 9955

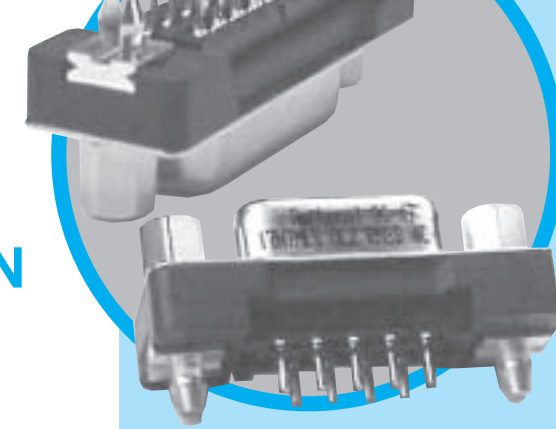
Technical Support

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

HT

D-Sub connectors - Stamped and Formed Contacts

STRAIGHT PCB TERMINATION HIGH TEMPERATURE CONNECTORS



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shell	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Contacts	Copper alloy, selective gold plating
Boardlock	Brass with nickel plating
Screwlock	Brass with nickel plating

Electrical Data	
Current rating	5A
Voltage rating	600V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	5000MΩ
Contact resistance	10mΩ max

Climatic Data	
Operating temperature	-55°C to +150°C, resist to short term (30s) at 260°C

Mechanical Data		
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	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)
Standard plating thicknesses		
• gold flash		
• 0.76 μm (30μ") gold		

DESCRIPTION

The Amphenol "HT" series allows the customers to use through hole connectors with reflow soldering process.

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

*Economical
straight PCB,
high temperature
connectors*

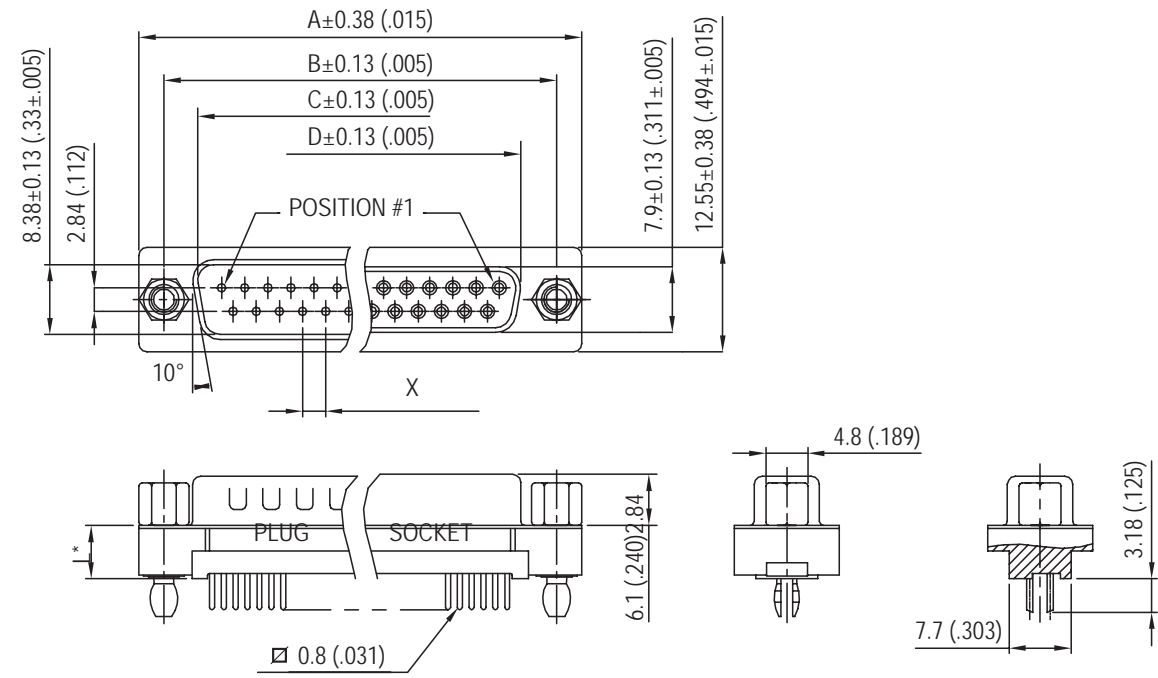
APPLICATIONS

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

HT / E15

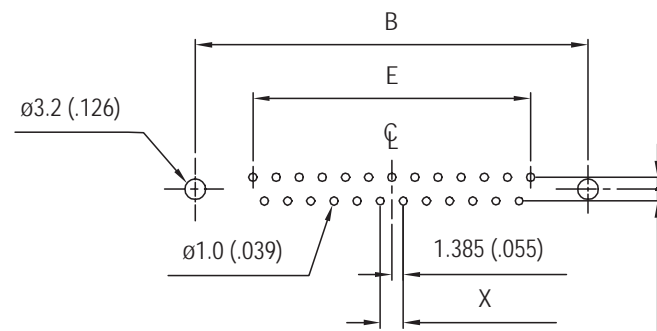


Amphenol

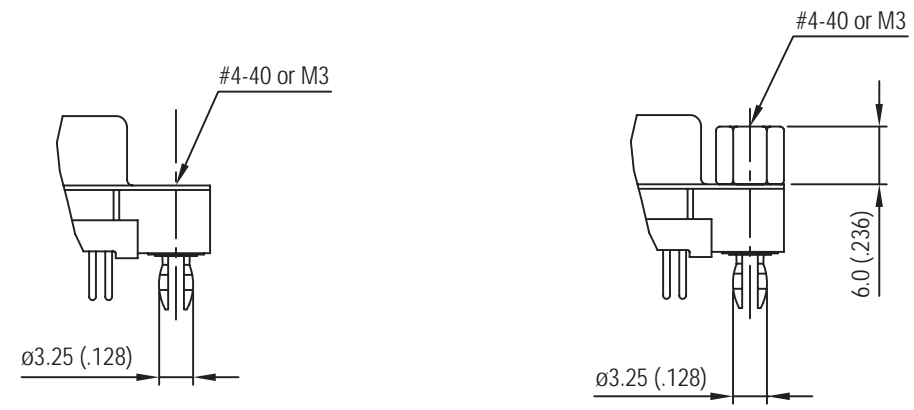


*see chart "how to order"

Recommended P.C.B.Layout



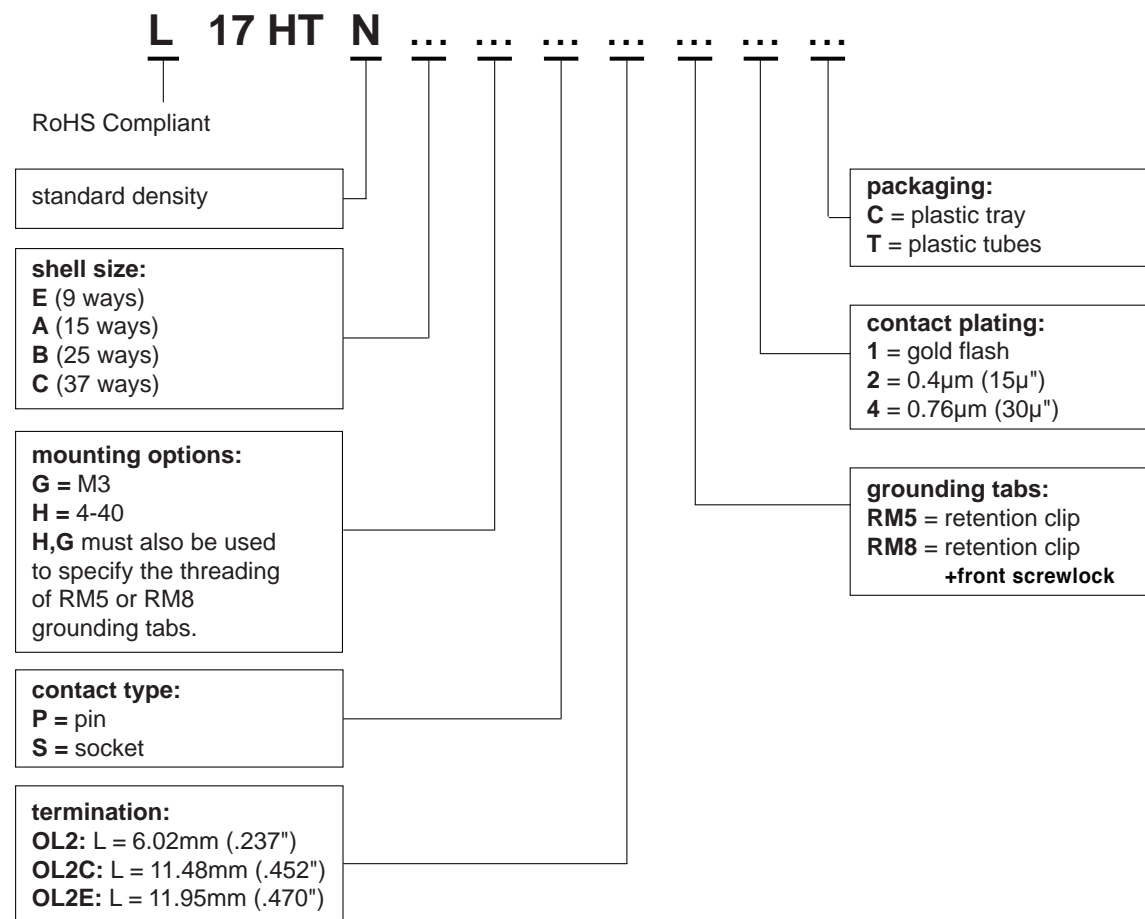
Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	X
9	30.84 (1.21)	24.99 (.984)	16.92 (.666)	16.26 (.640)	11.08 (.436)	2.74
15	39.24 (1.54)	33.32 (1.31)	25.25 (.994)	24.56 (.967)	19.39 (.763)	2.74
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	2.77
37	69.34 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	2.77



Standoff boardlock
RM5

Standoff boardlock
RM8

How to order

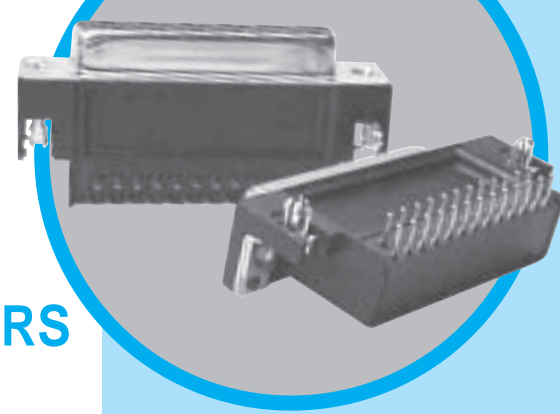


For special request, please consult factory

HT

D-Sub connectors - Stamped and Formed Contacts

RIGHT ANGLE HIGH TEMPERATURE CONNECTORS FOOTPRINT 14.99mm (.590")



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shells	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Contacts	Copper alloy, selective gold plating
Rear insert	Brass with nickel plating
Screwlock	Brass with nickel plating
Grounding clip	Copper alloy with tin plating

Electrical Data	
Current rating	5A
Voltage rating	600V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	5000MΩ
Contact resistance	10mΩ max

Climatic Data	
Operating temperature	-55°C to +150°C, resist to short term (30s) at 260°C

Mechanical Data		
Mating and unmating force Unit: kg (lb)		
No. of Cts	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)
Standard plating thicknesses		
<ul style="list-style-type: none"> • gold flash • 0.4 μm (15μ") gold • 0.76 μm (30μ") gold 		

DESCRIPTION

The Amphenol "HT" series allows the customers to use through hole connectors with reflow soldering process.

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

*Economical
right angle PCB,
high temperature
connectors*

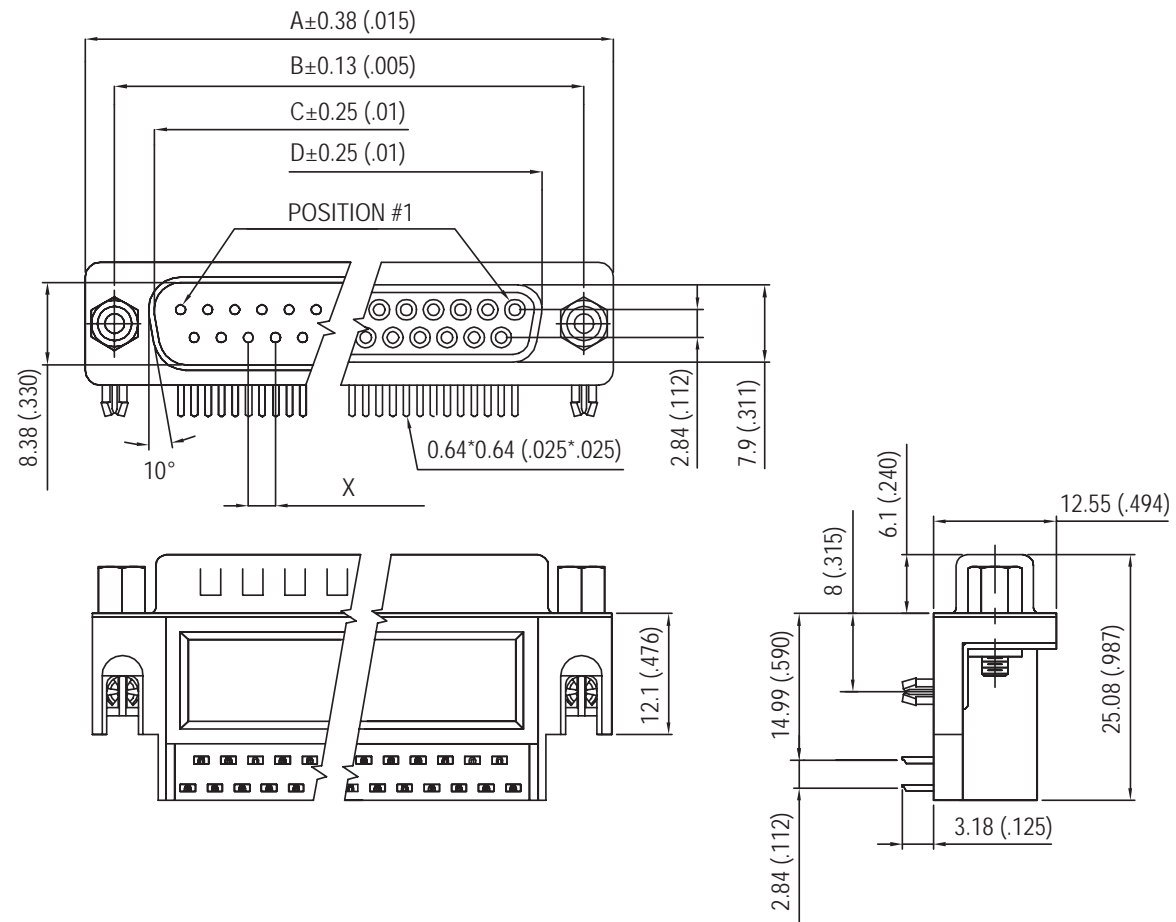
APPLICATIONS

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

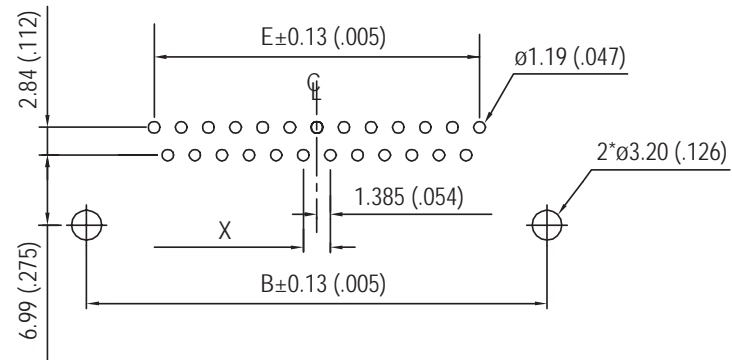
HT / E16



Amphenol

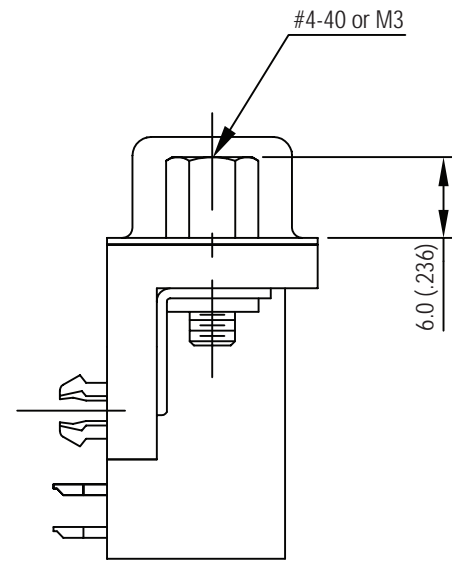


Recommended P.C.B.Layout

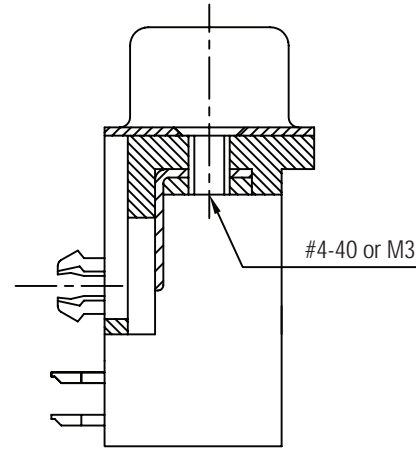


Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	X
9	30.84 (1.214)	24.99 (.984)	16.92 (.666)	16.26 (.640)	11.08 (.436)	2.74
15	39.24 (1.545)	33.32 (1.312)	25.25 (.994)	24.56 (.967)	19.39 (.763)	2.74
25	53.04 (2.088)	47.04 (1.852)	38.96 (1.534)	38.30 (1.508)	33.24 (1.309)	2.77
37	69.34 (2.730)	63.50 (2.500)	55.42 (2.182)	54.76 (2.156)	49.86 (1.963)	2.77

Panel mounting option



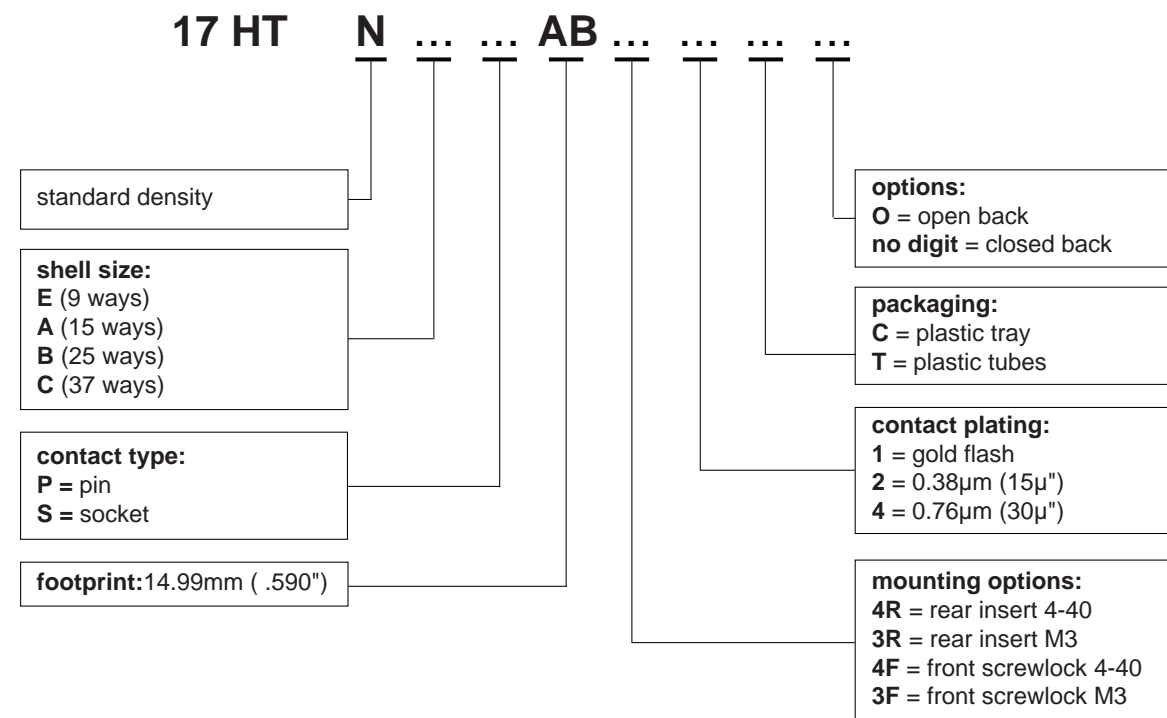
Front female screwlock
4F/3F



Threaded rear insert
4R/3R

HOW TO ORDER

How to order



For special request, please consult factory

HT / E16

RIGHT ANGLE HIGH TEMPERATURE CONNECTORS



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shell	Steel, tin over nickel plating
Insulator	Glass-filled thermoplastic, UL 94V-0
Contacts	Copper alloy, selective gold plating
Rear insert	Brass, tin over nickel plating
Screwlock	Brass, tin over nickel plating
Grounding clip	Copper alloy with tin plating

Electrical Data	
Current rating	5A
Voltage rating	600V AC/rms 50Hz
Withstanding voltage	1000V AC/rms 50Hz for one minute
Insulation resistance	5000MΩ
Contact resistance	10mΩ max

Climatic Data	
Operating temperature	-55°C to +150°C, resist to short term soldering at 260°C for 20sec.

Mechanical Data		
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	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)
Standard plating thicknesses		
<ul style="list-style-type: none"> • Gold flash • 0.4 μm (15μ") Gold • 0.76 μm (30μ") Gold 		

DESCRIPTION

The Amphenol HTN series allows the use of a through hole connector with reflow soldering process. This series gives you Amphenol's high standard of quality and reliability, to meet all of your commercial requirements.

*Economical
right angle PDB,
high temperature
connectors*

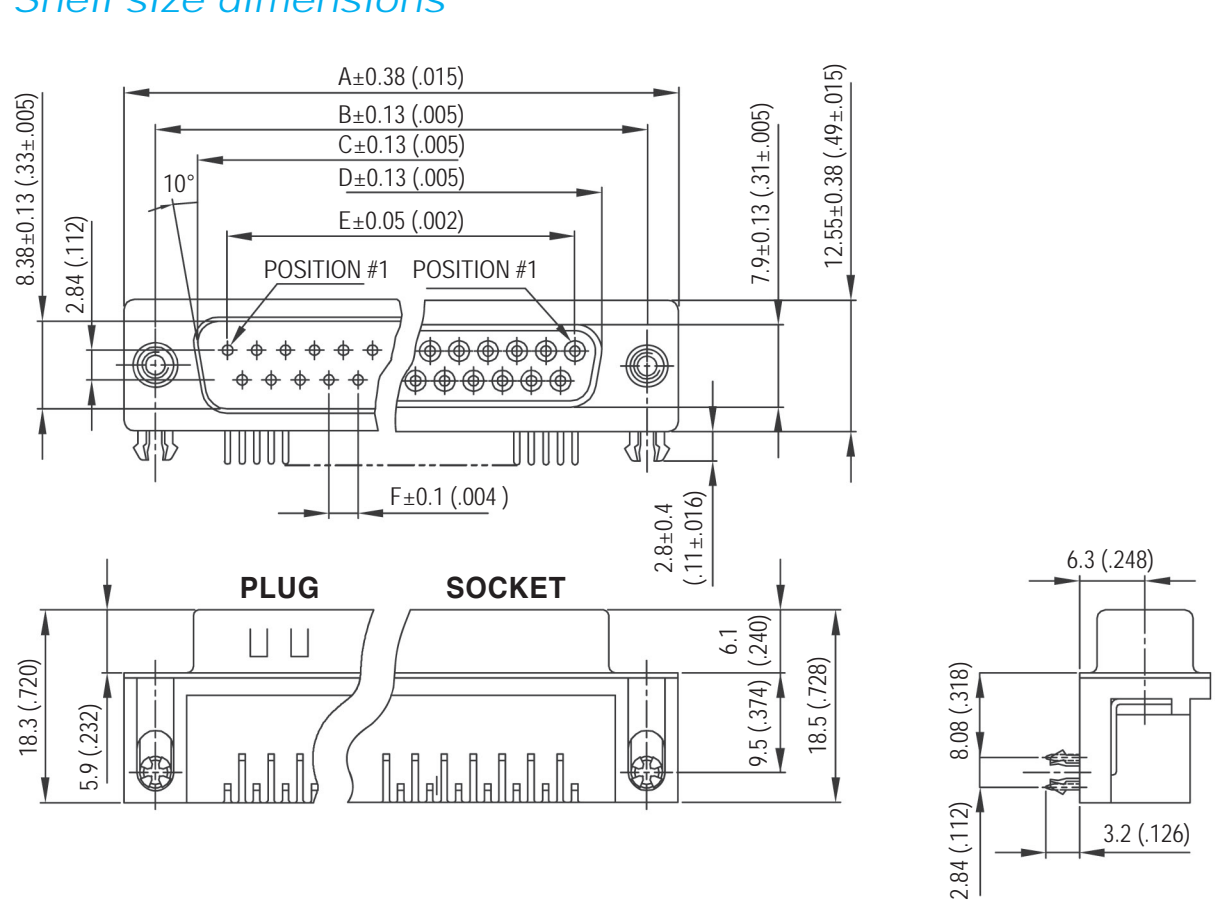
APPLICATIONS

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

HTN / E17

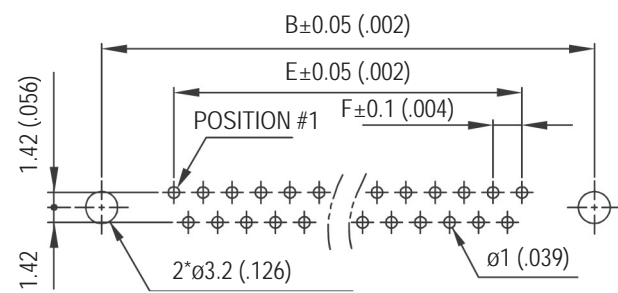


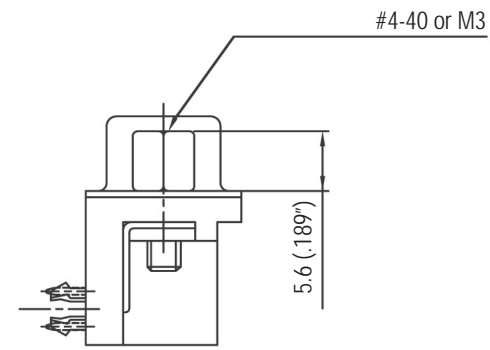
Amphenol



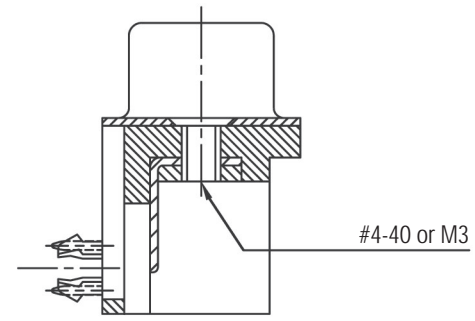
Nb OF CONTACTS	DIMENSIONS mm (inch)					
	A	B	C	D	E	F
9	30.81 (1.21)	24.99 (.98)	16.92 (.67)	16.24 (.64)	11.09 (.44)	2.74 (.108)
15	39.14 (1.54)	33.32 (1.31)	25.25 (.99)	24.56 (.97)	19.39 (.76)	2.74 (.108)
25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)	33.24 (1.31)	2.77 (.109)
37	69.32 (2.73)	63.50 (2.50)	55.42 (2.18)	54.76 (2.16)	49.86 (1.96)	2.77 (.109)

Recommended P.C.B.Layout



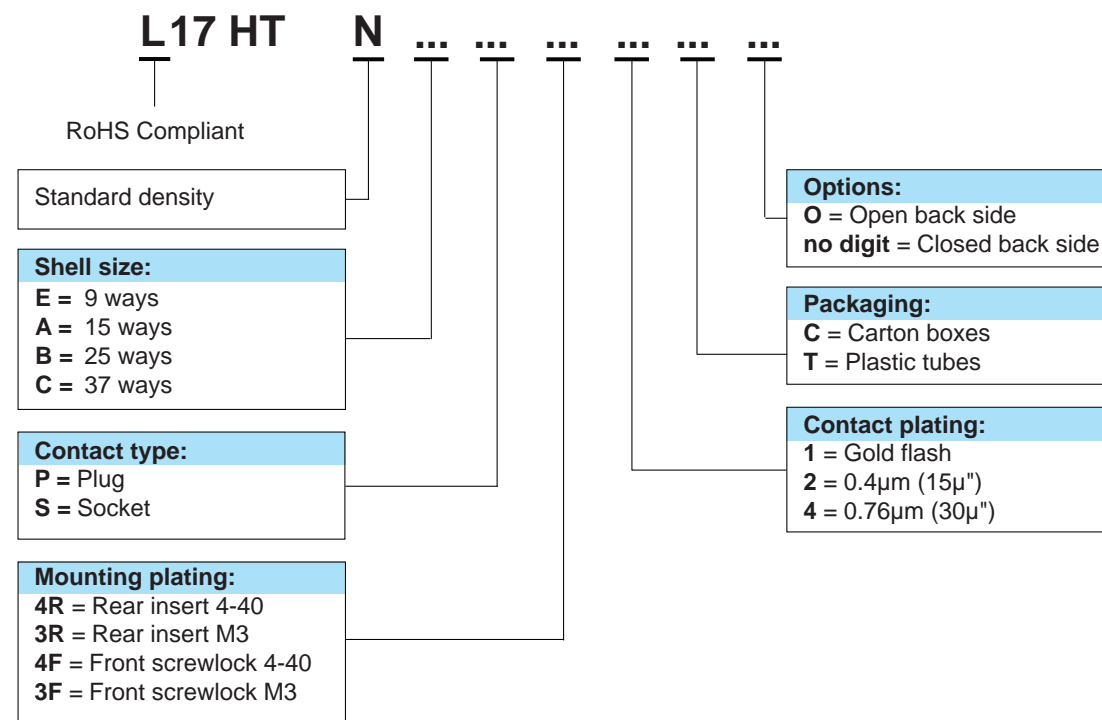


Front female screwlock
4F/3F



Threaded rear insert
4R/3R

How to order



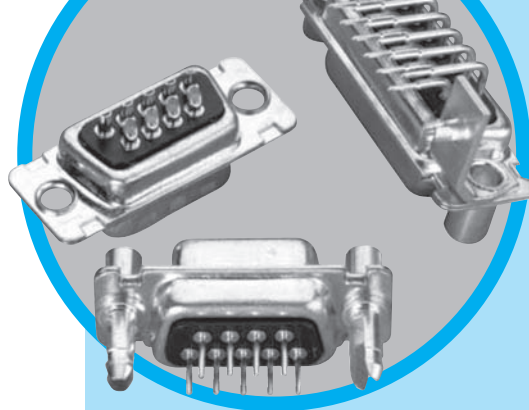
For special request, please consult factory



D-DF

D-Sub connectors - Screw-machined Contacts

FIXED MACHINED CONTACT CONNECTOR



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308 - NFC93425-HE5

Materials and Platings	
Shells	Steel tinned with dimples on plug connector
Insulator	Glass-filled thermoplastic, UL 94V-0
Rear insert	Brass, 3µm up to 5µm (118µ" up to 197µ") tinned over nickel 2µm up to 3µm (78µ" up to 118µ")
Boardlock	Tin plating 4µm up to 6µm (157µ" up to 236µ") over nickel 2µm up to 3µm (78µ" up to 118µ")
Screwlock	Brass, 6µm up to 10µm (236µ" up to 394µ") tinned over nickel 2µm up to 3µm (78µ" up to 118µ")
Contacts	D: brass DF: pin = brass socket = copper alloy Right angle version: full gold plating over 2µm to 3µm nickel Straight version: full gold plating over 2µm up to 3µm (78µ" up to 118µ") nickel

Electrical Data	
Current rating	7.5A
Voltage rating	300V 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 / DF: -55°C to + 125°C
Salt spray	48 hours
Humidity	D: 21 days (40°C - 95% HR) DF: 56 days (40°C - 95% HR)

Mechanical Data		
Mating and unmating force		
Unit: kg (lb)		
No. of Cts	Mate (max)	Unmate (min)
9 (size E)	3.05 (6.74)	0.36 (0.79)
15 (size A)	5.09 (11.24)	0.46 (1.01)
25 (size B)	8.44 (18.66)	0.81 (1.8)
37 (size C)	12.51 (27.65)	1.1 (2.47)
50 (size D)	14.65 (32.38)	1.6 (3.56)

DESCRIPTION

Amphenol's 17D and 17DF series fixed contact D-Subminiature connector is suitable for industrial or telecom use.

The machined contact provide stability and reliability.

This series offers the broadest range of termination options in the Amphenol line.

*Connectors
for industrial
and
telecom use*

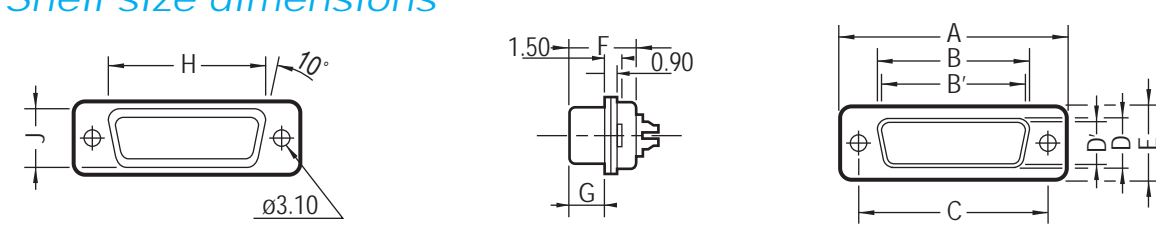
APPLICATIONS

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

D-DF / E18



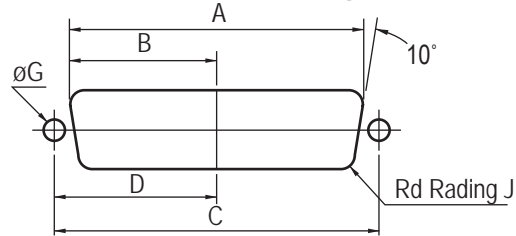
Amphenol



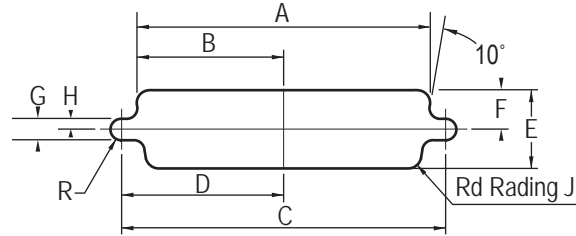
Shell size	Contact P: Pin S: Socket	A ±0.25 (±.010)	B 0/-0.20 (0/-0.008)	B' +0.20/0 (+.008/0)	C ±0.10 (±.004)	D 0/-0.25 (0/-0.010)	D' +0.25/0 (+.010/0)	E ±0.20 (±.008)	F +0.05/-0.20 (+.002/-0.008)	F' +0.10/-0.20 (+.004/-0.008)	G +0.10/-0.20 (+.004/-0.008)	G' ±0.10 (±.004)	H +0.10/-0.40 (+.004/-0.016)	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



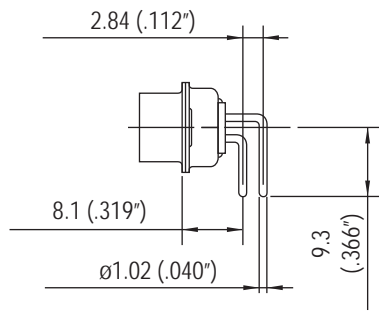
Standard cutout



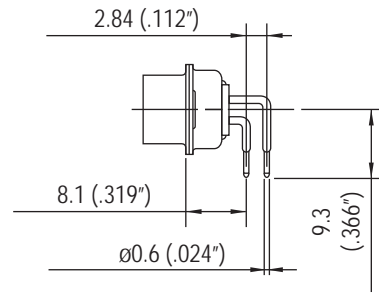
Shell size	Mounting method	A ±0.20 (±.008)	B ±0.20 (±.008)	C ±0.20 (±.008)	D ±0.20 (±.008)	E ±0.20 (±.008)	F ±0.20 (±.008)	G ±0.20 (±.008)	H ±0.20 (±.008)	J ±0.20 (±.008)
E	Front	22.2 (.874")	11.1 (.437")	25.0 (.984")	12.5 (.492")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	20.5 (.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")

MIL Footprint

without bracket:

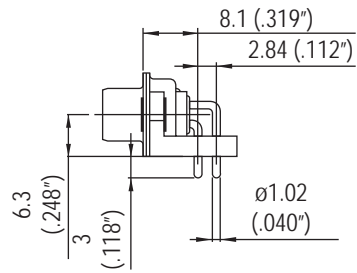


C

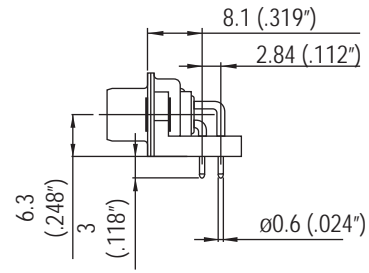


A4

plastic bracket:

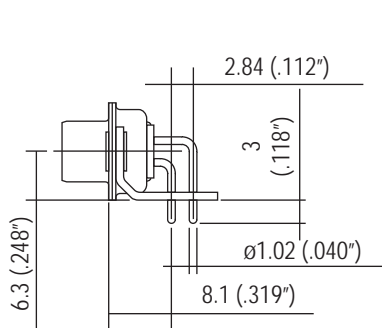


AJ3

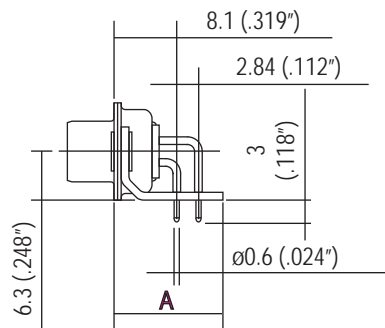


AJ4

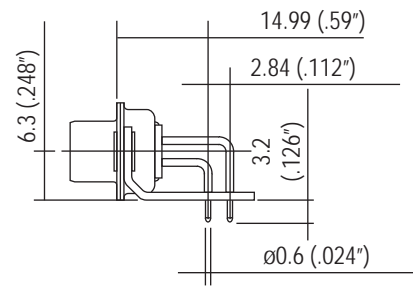
metal bracket:



A

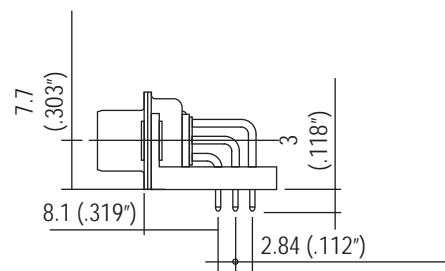


AM4: A=13.2mm
AZ4: A=11.5mm



AM4B

50 contacts:



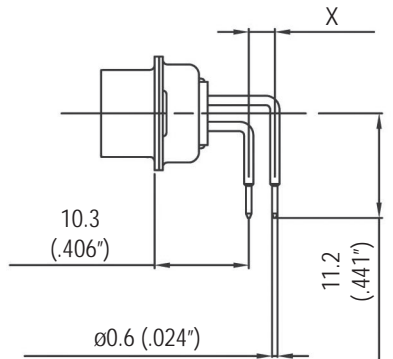
OVERALL DIMENSION

D-DF / E18



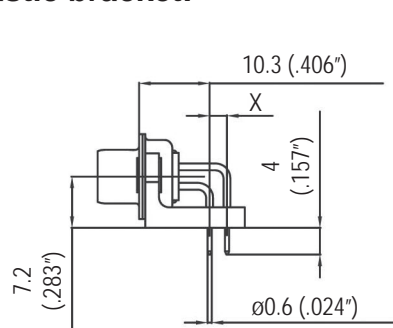
European footprint

without bracket:

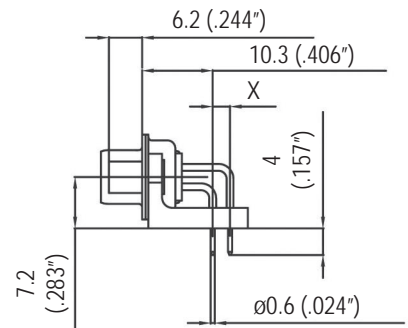


1AON: X=2.54mm
1BON: X=2.84mm

plastic bracket:

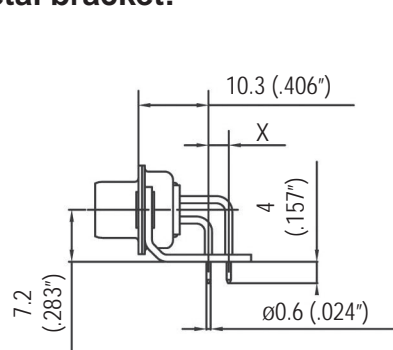


1APN: X=2.54mm
1BPN: X=2.84mm

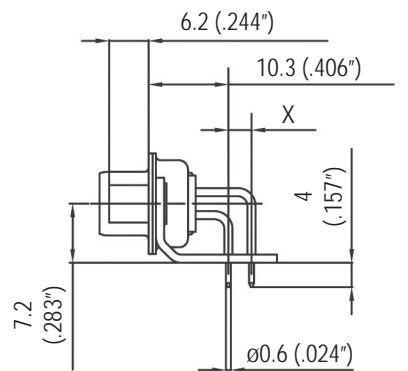


1AUN: X=2.54mm
1BUN: X=2.84mm

metal bracket:

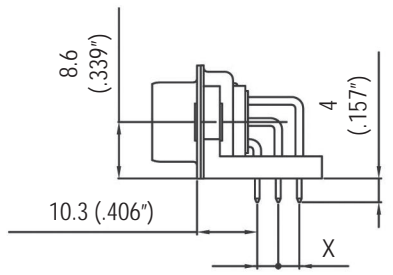


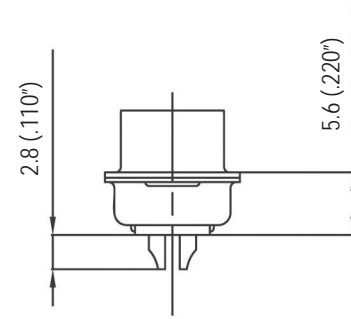
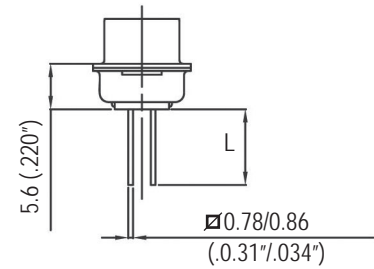
1AMN: X=2.54mm
1BMN: X=2.84mm



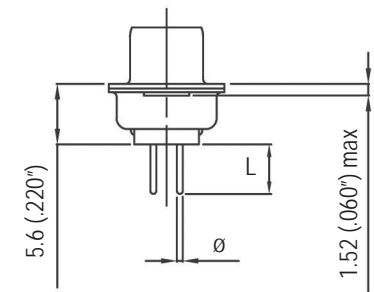
1ATN: X=2.54mm
1BTN: X=2.84mm

50 contacts:

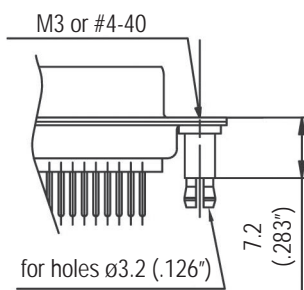
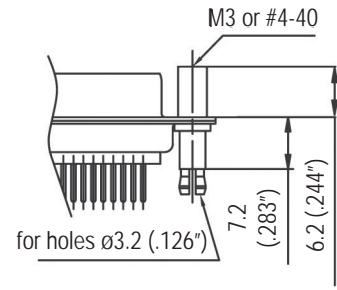
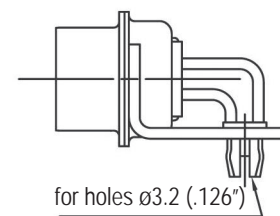


Solder Cup:**Wire Wrap:**

termination	Nb of wraps	L
F179	2	9.6mm (.378")
F179A	3	13mm (.512")

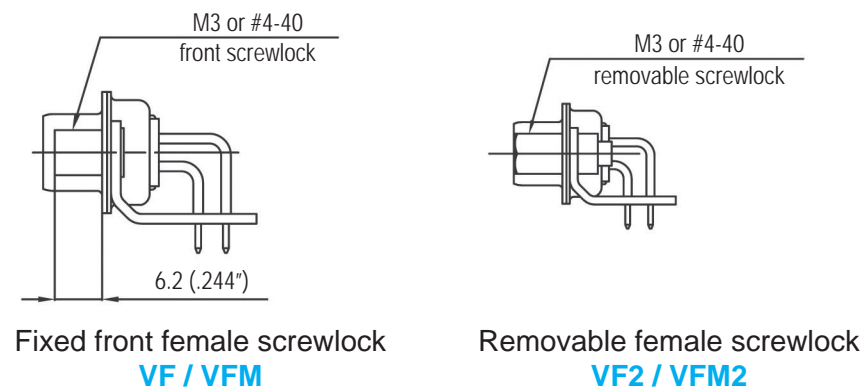
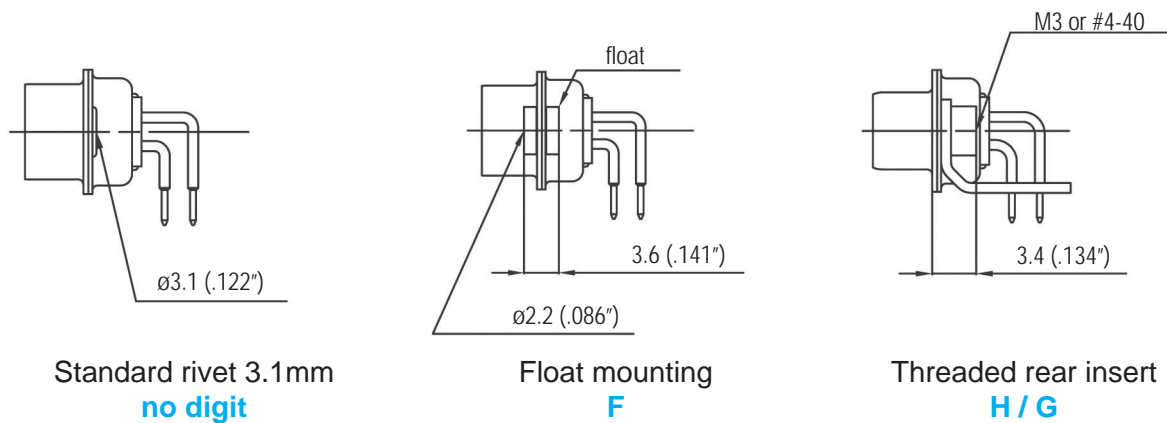
Straight PCB:

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

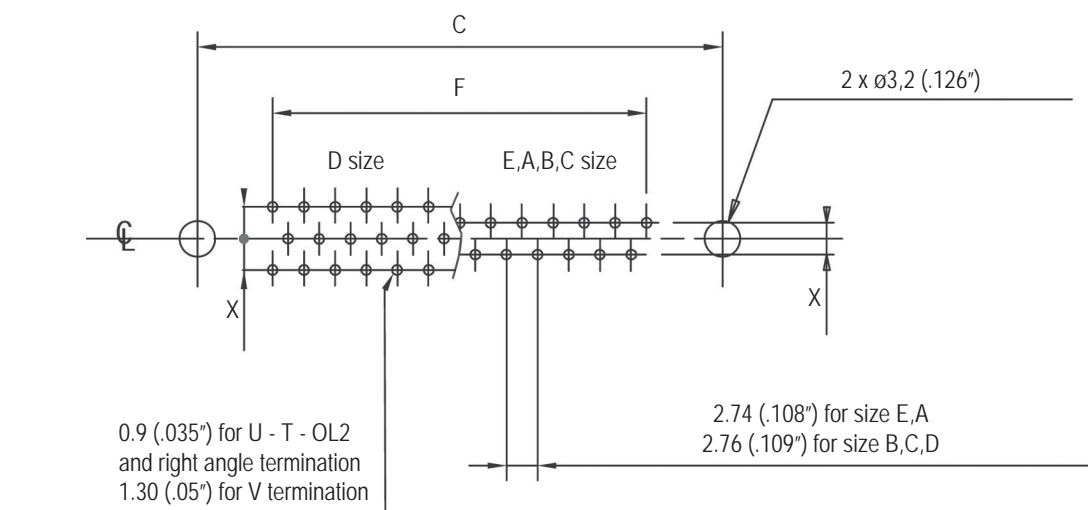
Grounding tabs:**For straight termination****RM5****RM8****For R/A termination****FOR PCB 1.6****RM6**

Panel mounting option

For straight and R/A termination

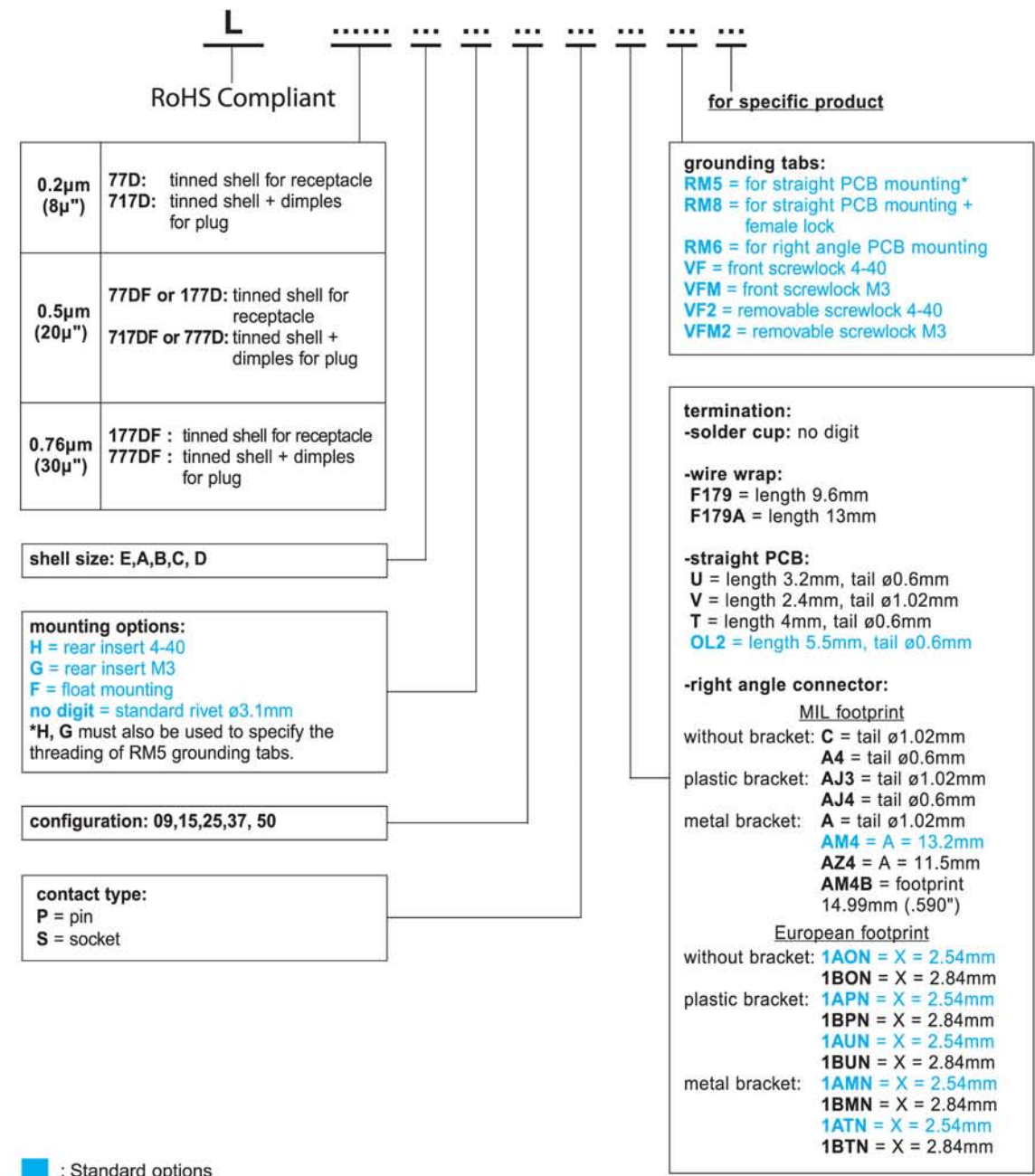


Recommended PCB Layout



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

	size E	size A	size B	size C	size D
C±0,1 (.004)	25 (.984)	33.3 (1.311)	47 (1.85)	63.5 (2.5)	61.1 (2.406)
F±0,05 (.002)	10.96 (.431)	19.18 (.755)	33.12 (1.304)	49.68 (1.956)	44.2 (1.74)



For special request, please consult factory

D-DF / E18



RIGHT ANGLE HIGH DENSITY CONNECTORS

Specifications

- Connectors according to: MIL C24308

Materials and Platings	
Shells	Steel, tin over nickel plating
Body	Glass filled thermoplastic, UL 94V-0
Contacts	Copper alloy, selective gold plating
Rear insert	Brass with nickel plating
Screwlock	Brass with nickel plating
Grounding clip	Copper alloy with tin plating

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	-55°C to +125°C

Mechanical Data		
Mating and unmating force Unit: kg (lb)		
No. of Cts	Mate (max)	Unmate (min)
15	3.81 (8.42)	0.52 (1.14)
26	5.95 (13.16)	1.05 (2.32)
44	9.26 (20.46)	1.37 (3.02)
62	13.48 (29.78)	1.76 (3.88)
Standard plating thickness		
	<ul style="list-style-type: none"> • gold flash • 0.4µm (15µ") gold • 0.76µm (30µ") gold 	

DESCRIPTION

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

The decreased contact spacing accommodates greater signal density in comparison to conventional D-Sub connectors.

*Economical
right angle PCB*

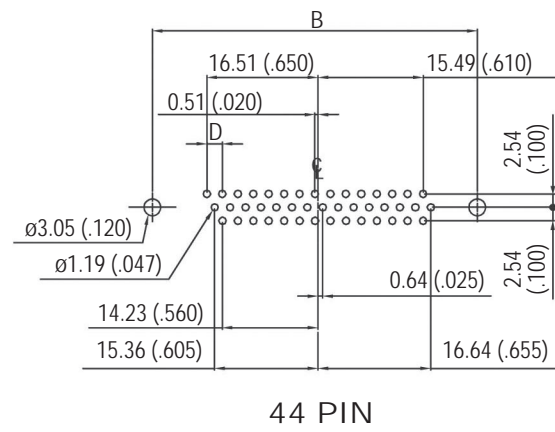
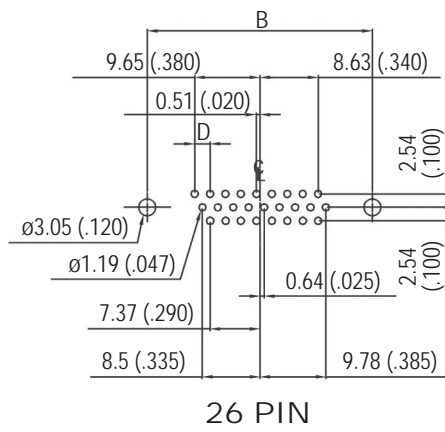
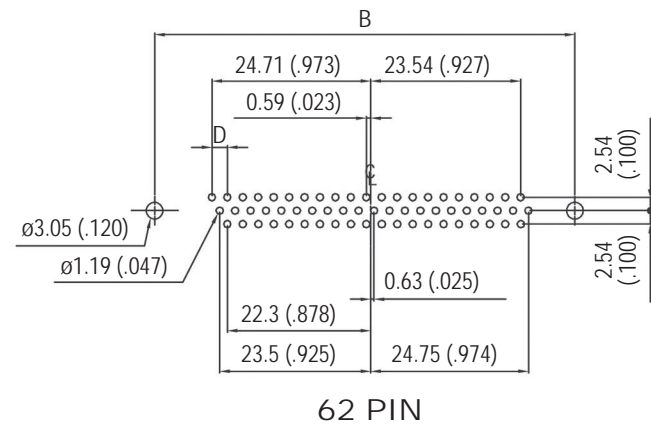
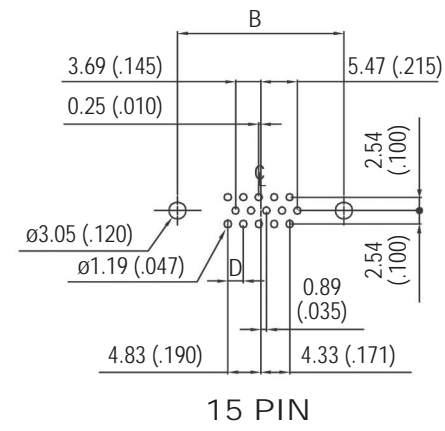
APPLICATIONS

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

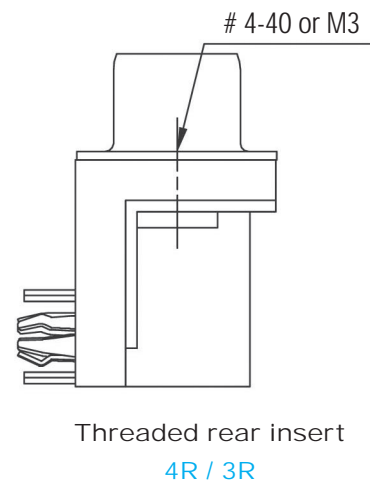
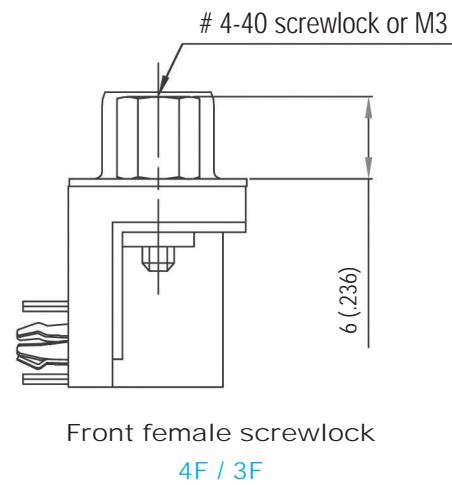
HD / E19

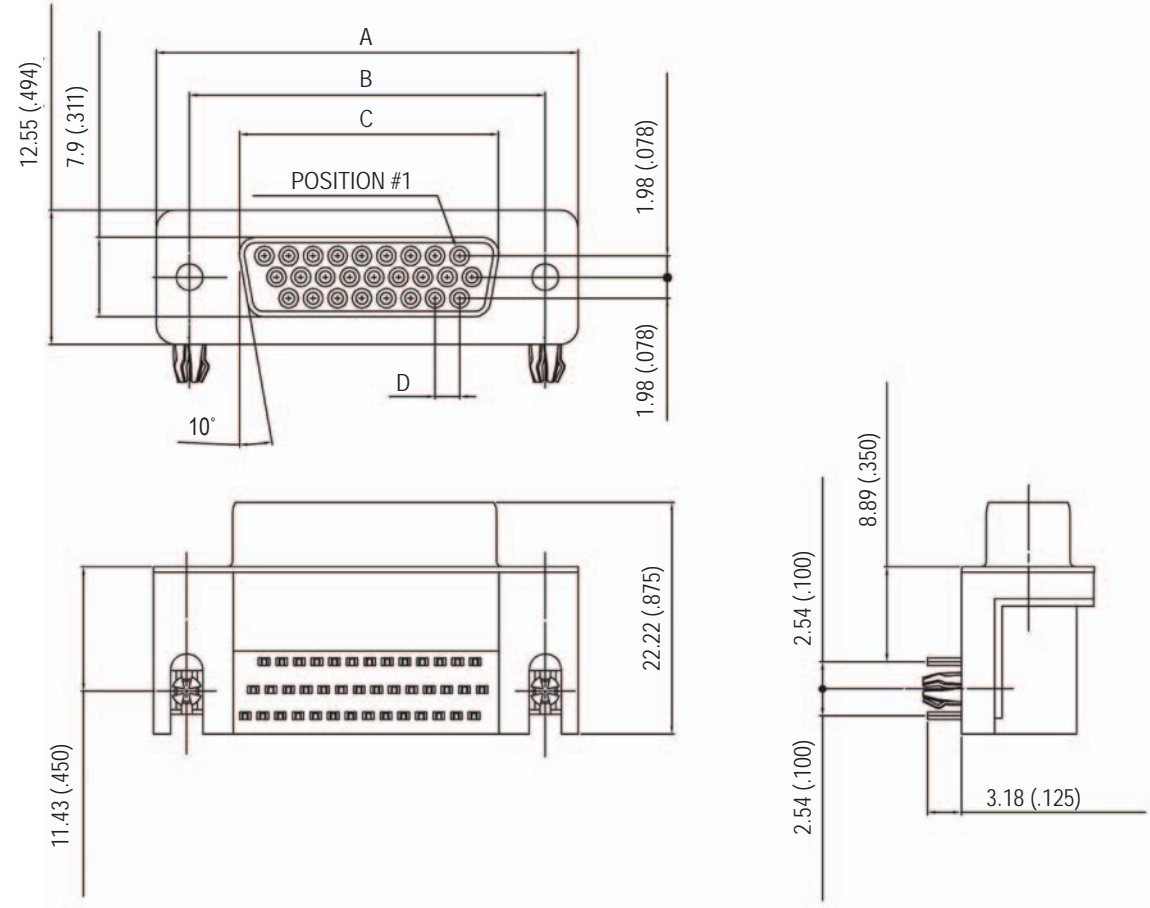


Amphenol

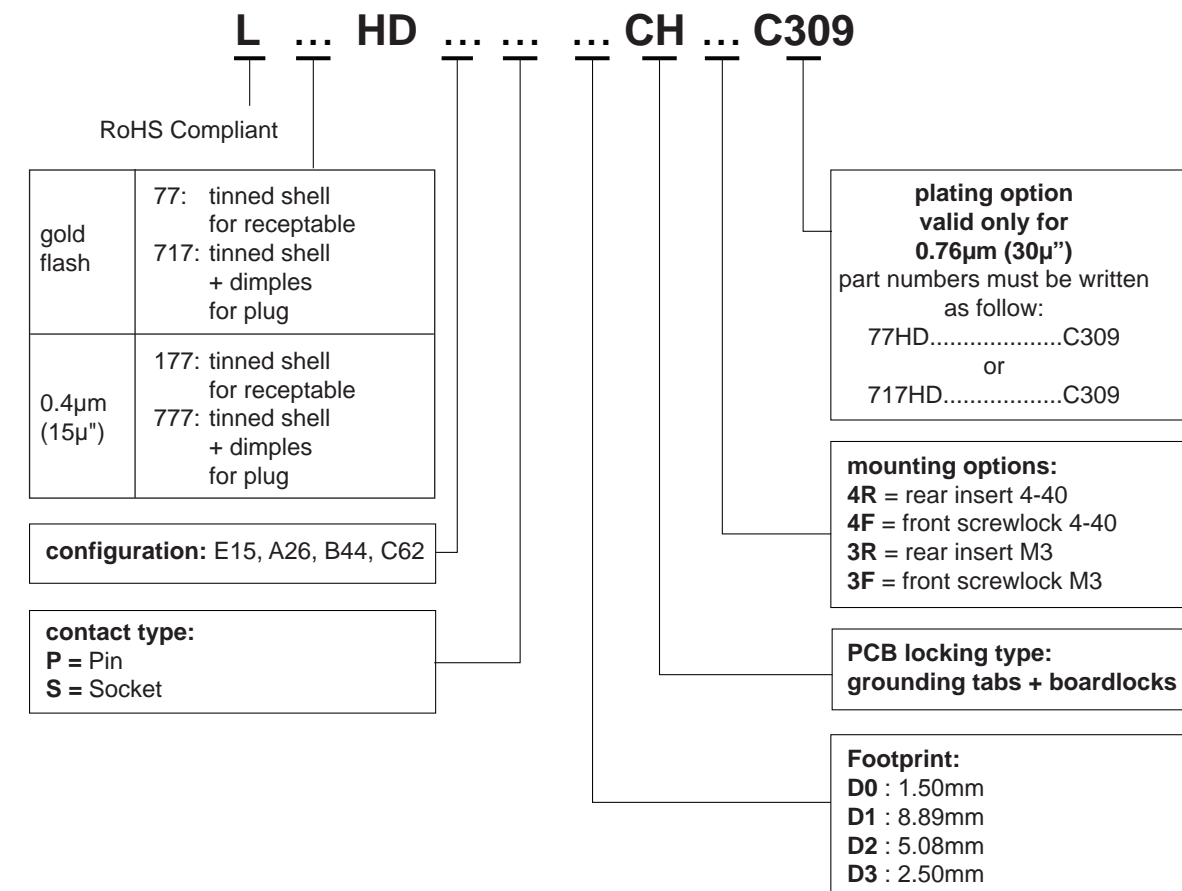


Panel mounting option



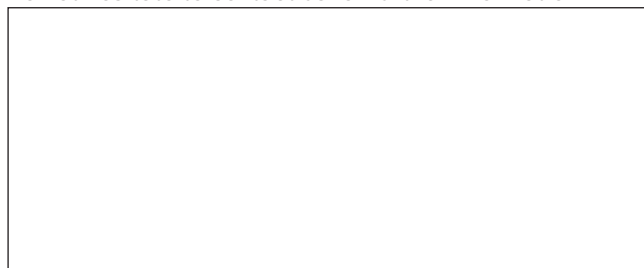


NB OF CONTACTS	DIMENSIONS mm (inch)			
	A	B	C	D
15	30.84 (1.214)	24.99 (.984)	16.26 (.640)	2.29 (.090)
26	39.24 (1.545)	33.32 (1.312)	24.56 (.967)	2.29 (.090)
44	53.04 (2.088)	47.04 (1.852)	38.30 (1.508)	2.29 (.090)
62	69.34 (2.730)	63.50 (2.500)	54.76 (2.156)	2.41 (.095)



For special request, please consult factory

Do not hesitate to contact us for further information

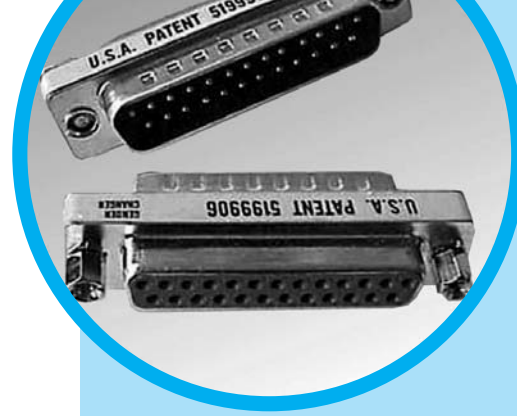


Amphenol
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 http://www.dsubconnector.com

G517-A

D-Sub connectors - Stamped and Formed Contacts

GENDER CHANGER



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shells	Steel, 2.54µm (100µ") tin over 1.27µm (50µ") nickel plated
Insulator	Glass-filled nylon, UL 94V-0
Pin contacts	Brass, gold plated over 1.27µm (50µ") nickel
Screwlock	Brass, 2.54µm (100µ") min. nickel plated

Electrical Data	
Current rating	5A
Voltage rating	250V AC/rms 60Hz
Withstanding voltage	1000V AC/rms 60Hz for one minute
Insulation resistance	1000MΩ
Contact resistance	20mΩ max

Climatic Data	
Operating temperature	-55°C to +105°C

DESCRIPTION

These connectors allow you to change the gender of your cable assembly, and or panel D-Sub connectors.

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

*Economical
gender changer
D-Sub's*

APPLICATIONS

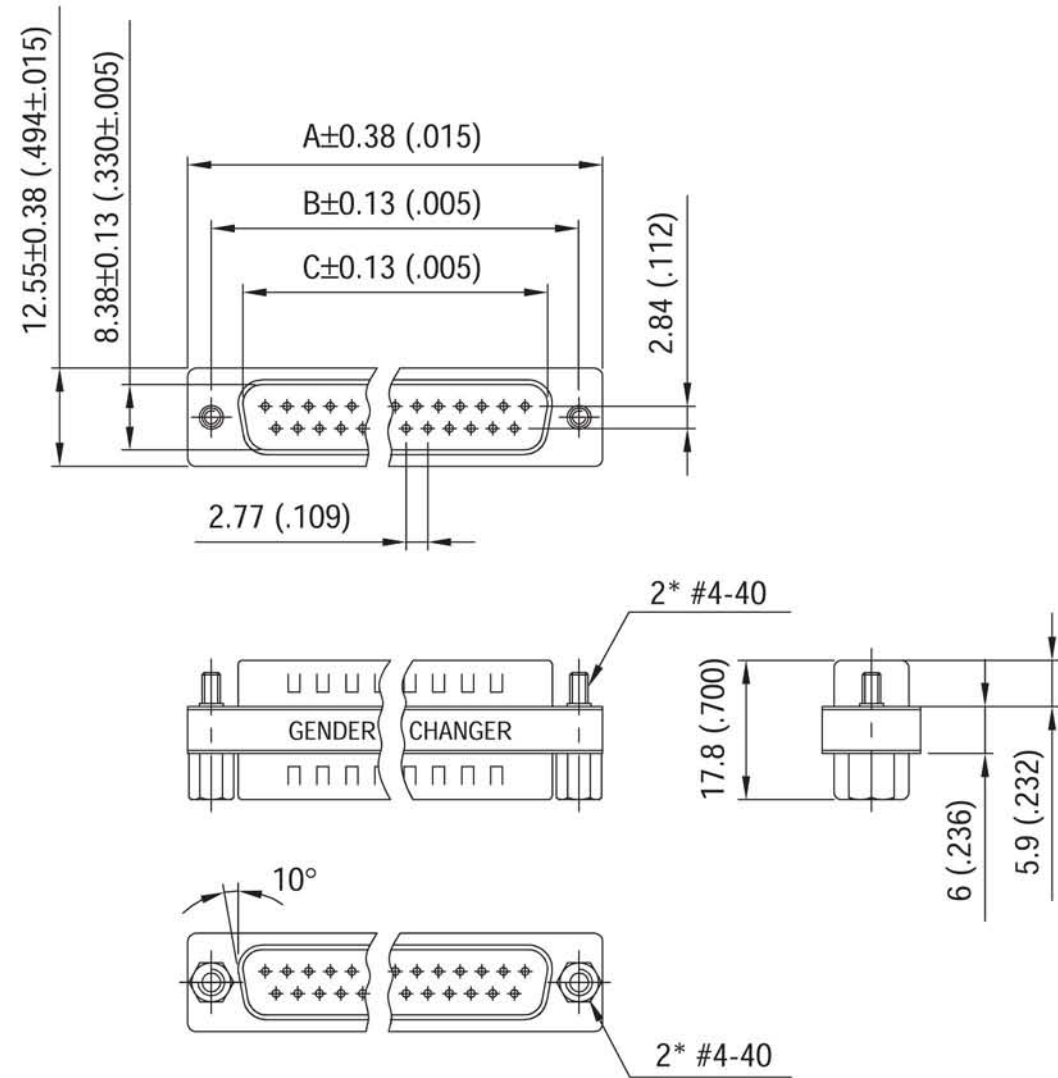
- Industrial
- Telecom
- Any industry standard I/O connections

G517-A / E20



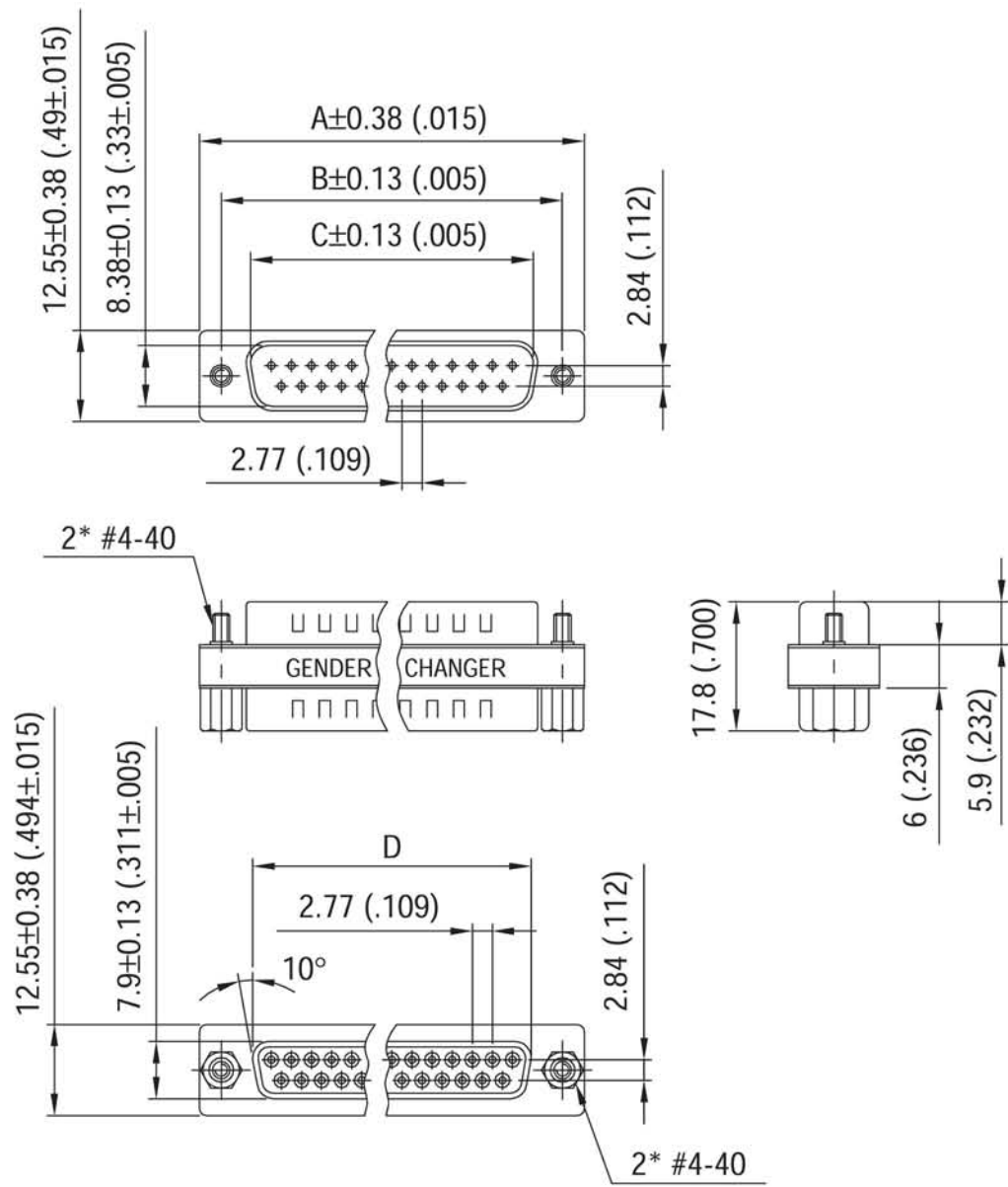
Amphenol

Male to male adaptor



PAPT NUMBER	Nb OF CONTACTS	DIMENSIONS mm (inch)		
		A	B	C
L G517 97001	9	30.81 (1.21)	24.99 (.984)	16.92 (.666)
L G517 97002	15	39.14 (1.54)	33.32 (1.31)	25.25 (.994)
L G517 97003	25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)
L G517 97004	37	69.32 (2.73)	63.5 (2.50)	55.42 (2.18)

Male to female adaptor

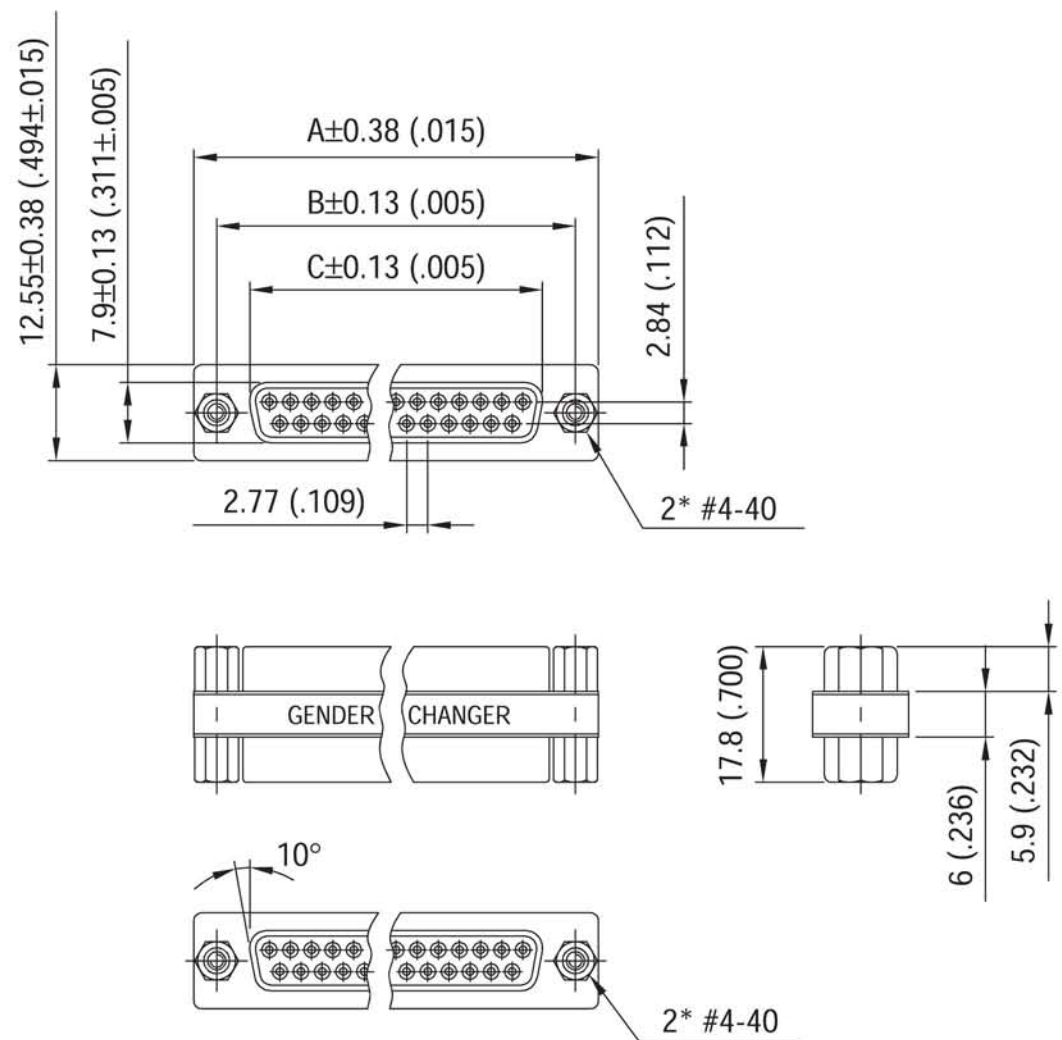


PAPT NUMBER	Nb OF CONTACTS	DIMENSIONS mm (inch)			
		A	B	C	D
L G517 97009	9	30.81 (1.21)	24.99 (.984)	16.92 (.666)	16.33 (.643)
L G517 97010	15	39.14 (1.54)	33.32 (1.31)	25.25 (.994)	24.66 (.971)
L G517 97011	25	53.04 (2.09)	47.04 (1.85)	38.96 (1.53)	38.38 (1.51)
L G517 97012	37	69.32 (2.73)	63.5 (2.50)	55.42 (2.18)	55.84 (2.20)

G517-A / E20

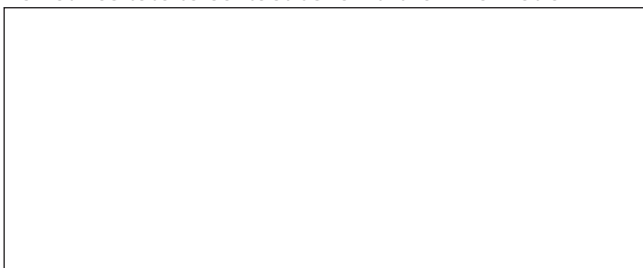
TECHNICAL DAT

Shell size dimensions
Female to female adaptor



PART NUMBER	Nb OF CONTACTS	DIMENSIONS mm (inch)		
		A	B	C
L G517 97005	9	30.81 (1.21)	24.99 (.984)	16.33 (.643)
L G517 97006	15	39.14 (1.54)	33.32 (1.31)	24.66 (.971)
L G517 97007	25	53.04 (2.09)	47.04 (1.85)	38.38 (1.51)
L G517 97008	37	69.32 (2.73)	63.5 (2.50)	55.84 (2.20)

Do not hesitate to contact us for further information



Amphenol

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Technical Support

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

G517-B

D-Sub connectors - Stamped and Formed Contacts

ADAPTORS D-SUB TO D-SUB 9 TO 9 AND 25 TO 25



CHARACTERISTICS

Specifications

- Connectors according to MIL C24308

Materials and Platings	
Shells	Steel, 2.54µm (100µ") tin over 1.27µm (50µ") nickel plated
Insulator	Glass-filled nylon, UL 94V-0
Pin contacts	Brass, gold plated over 1.27µm (50µ") nickel
Socket Contact	Phosphor bronze, gold plated over 1.27µm (50µ") nickel
Overmold	PVC, UL 94V-0
Screw	Brass with nickel plating

Electrical Data	
Current rating	5A
Voltage rating	250V AC/rms 60Hz
Withstanding voltage	1000V AC/rms 60Hz for one minute
Insulation resistance	1000MΩ
Contact resistance	20mΩ max

Climatic Data	
Operating temperature	-55°C to +105°C

DESCRIPTION

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

*Economical
D-Sub
adaptors*

APPLICATIONS

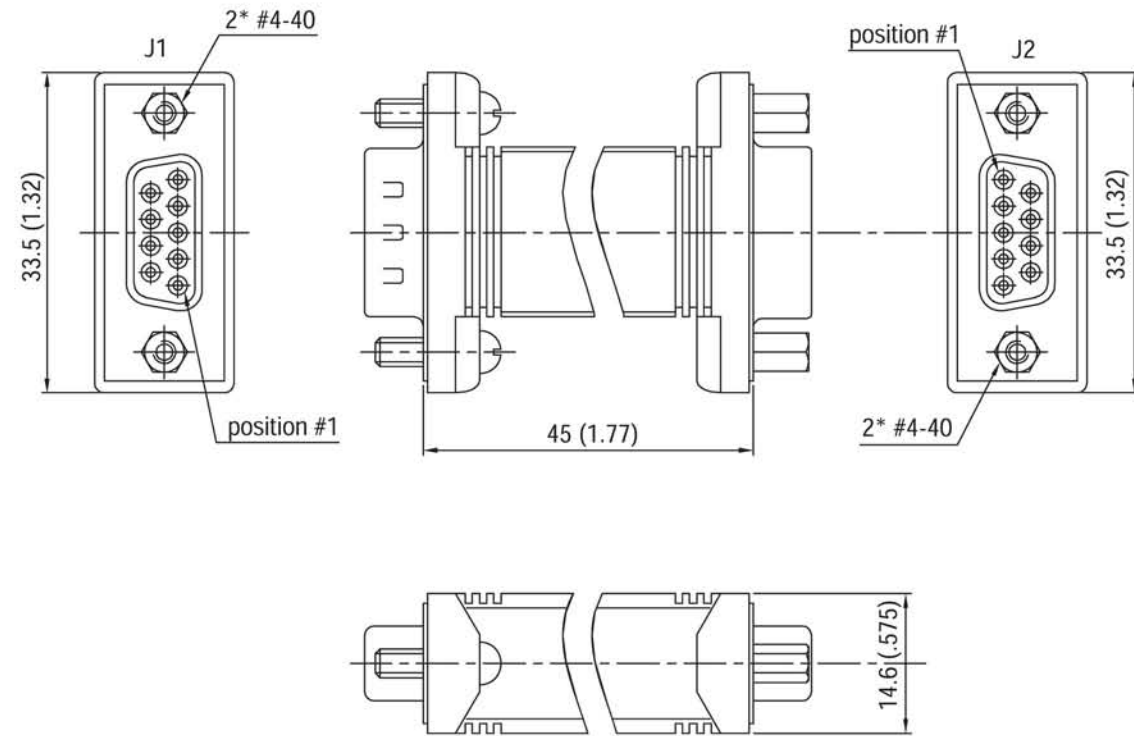
- Industrial
- Telecom
- Any industry standard I/O connections

G517-B / E21



Amphenol

9-position to 9-position

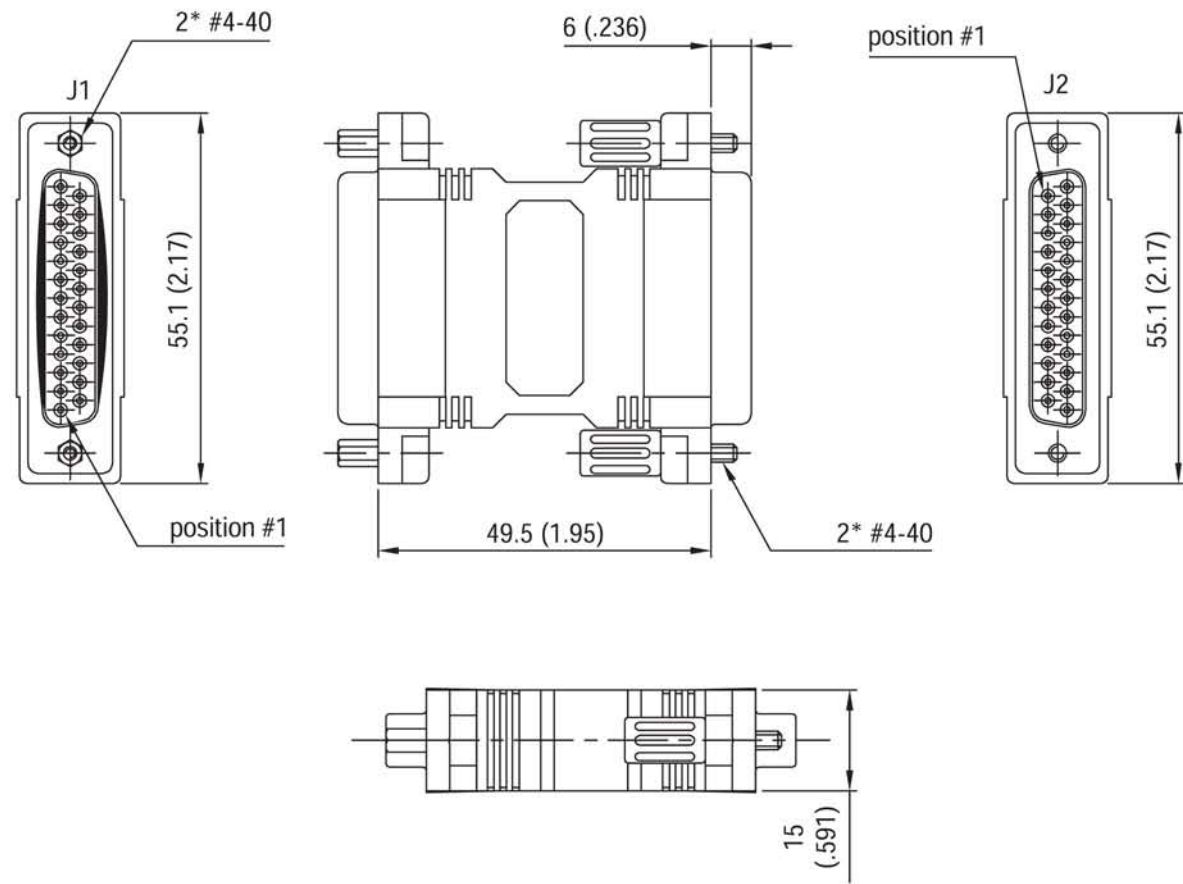


Wiring table

J1	2	3	4	5	6	7	8
J2	3	2	6	5	4	8	7

PAPT NUMBER	Description	Color
L G517 97001 L G517 97002 L G517 97015	D-Sub Male 9-pos. to D-sub Male 9-pos.	beige gray black
L G517 97016 L G517 97017 L G517 97018	D-Sub Female 9-pos. to D-sub Female 9-pos.	beige gray black
L G517 97019 L G517 97020 L G517 97021	D-Sub Male 9-pos. to D-sub Female 9-pos.	beige gray black

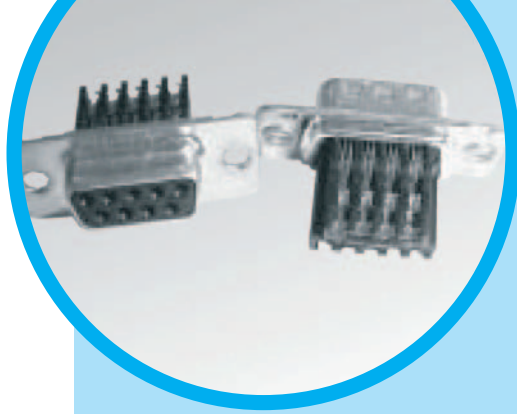
25-position to 25-position



Wiring table

J1	1	2	3	4	...	24	25
J2	1	2	3	4	...	24	25

PAPT NUMBER	Description	Color
L G517 97022 L G517 97023 L G517 97024	D-Sub Male 25-pos. to D-sub Male 25-pos.	beige gray black
L G517 97025 L G517 97026 L G517 97027	D-Sub Female 25-pos. to D-sub Female 25-pos.	beige gray black
L G517 97028 L G517 97029 L G517 97030	D-Sub Male 25-pos. to D-sub Female 25-pos.	beige gray black



IDC DISCRETE WIRE CONNECTORS

CHARACTERISTICS

Materials and Platings	
Shells	Steel, tin over nickel
Contacts	Phosphor bronze
Plating	Contact area: gold over nickel IDC area: tin over nickel
Wire types	Solid and stranded wires AWG 24-28

Electrical Data	
Current rating	5A
Voltage rating	500V AC at sea level
Dielectric	Thermoplastic Polyesther UL 94 VO rated

Climatic Data	
Operating temperature	-55°C to +125°C
Salt spray	24 hours

Mechanical Data	
Mating and unmating force	Size E 30 N Max. 3.5 N Mini. Size A 50 N Max. 4.5 N Mini. Size B 83 N Max. 8.0 N Mini. Size C 123 N Max. 11.0 N Mini.
Standard plating thickness	Gold flash 0.4µm (15µ") Gold 0.76 µm (30µ") Gold

DESCRIPTION

Amphenol IDC discrete D-sub connectors offer a low-profile design that accommodates many of the compact requirements of computer interfacing, instrumentation and, business equipment. Fast, four-point solderless termination ensures reliable connections. This series is available in 9, 15, 25, & 37 contact configurations. Contacts, including stain relief, are easily removable in case of repair.

*Simplify
your cable
assemblies*

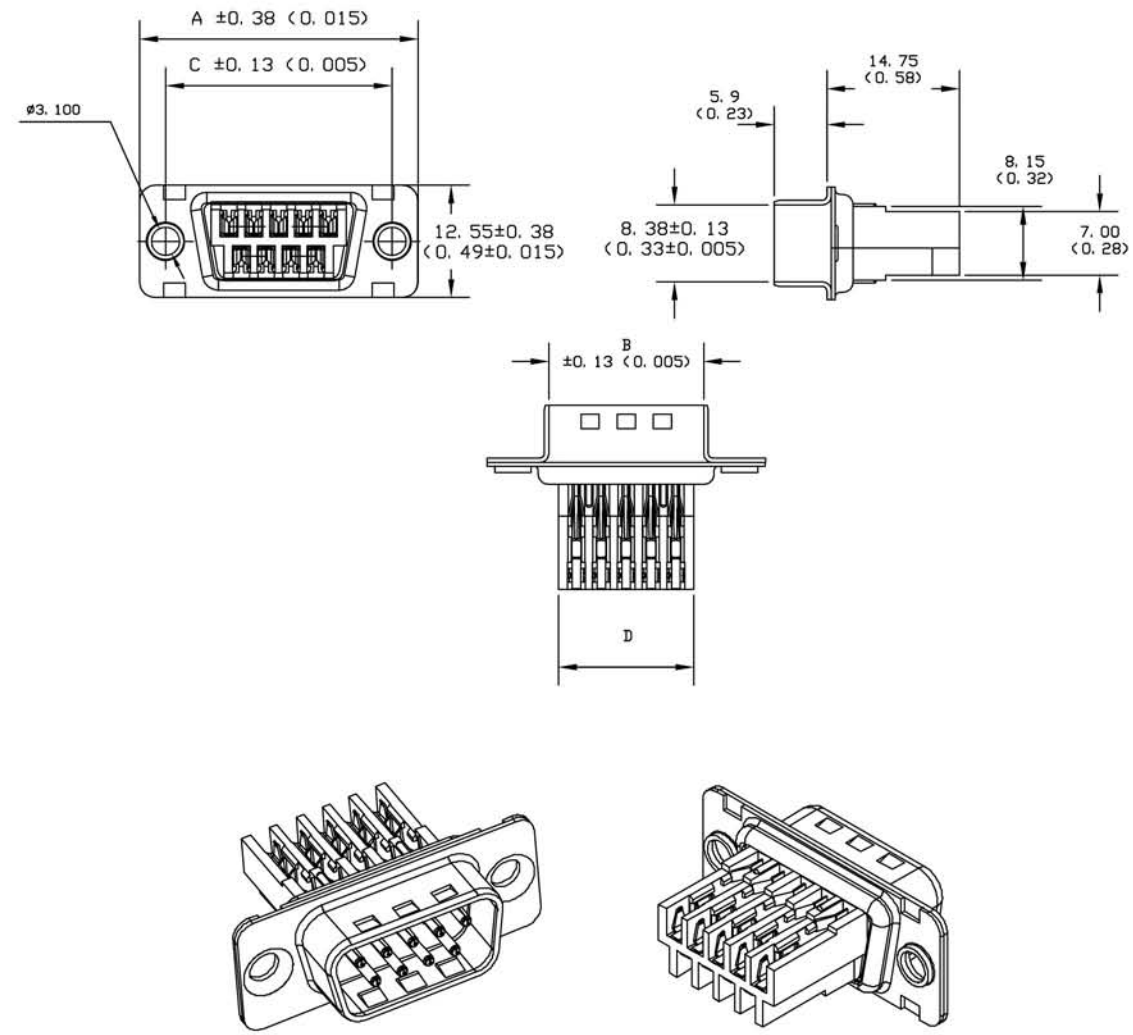
APPLICATIONS

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

IDC / E25



Amphenol

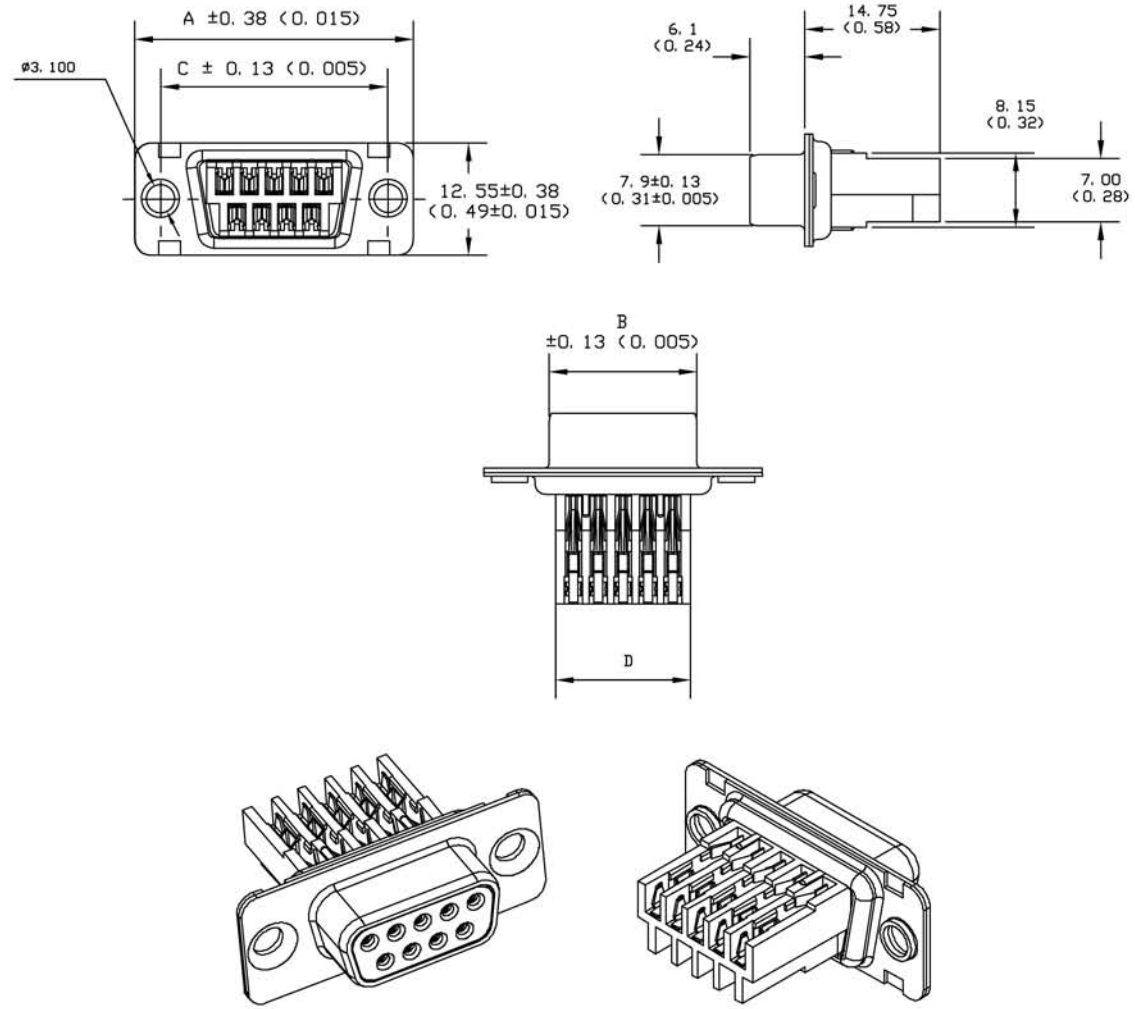


OVERALL DIMENSION

Nb OF CONTACTS	DIMENSIONS mm (inch)			
	A	B	C	D
9	30.81 (1.21)	16.92 (0.67)	24.99 (0.98)	14.90 (0.59)
15	39.14 (1.54)	25.25 (0.99)	33.32 (1.31)	23.00 (0.91)
25	53.04 (2.09)	38.96 (1.53)	47.04 (1.85)	36.90 (1.45)
37	69.32 (2.73)	55.42 (2.18)	63.50 (2.50)	59.30 (2.33)

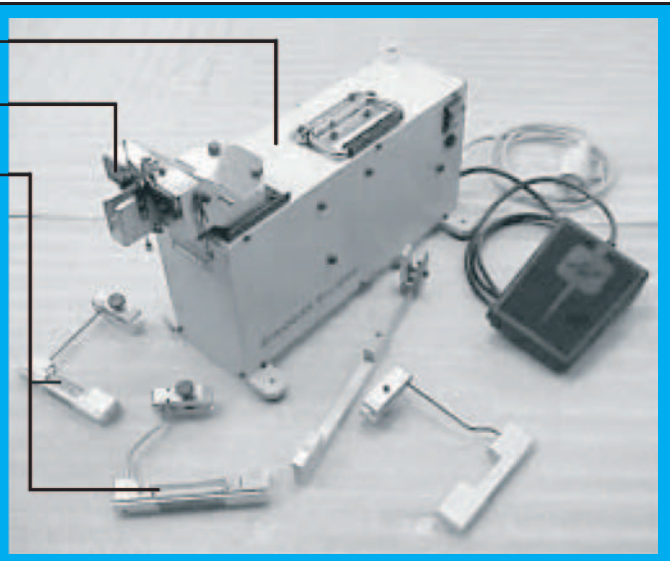
IDC / E25



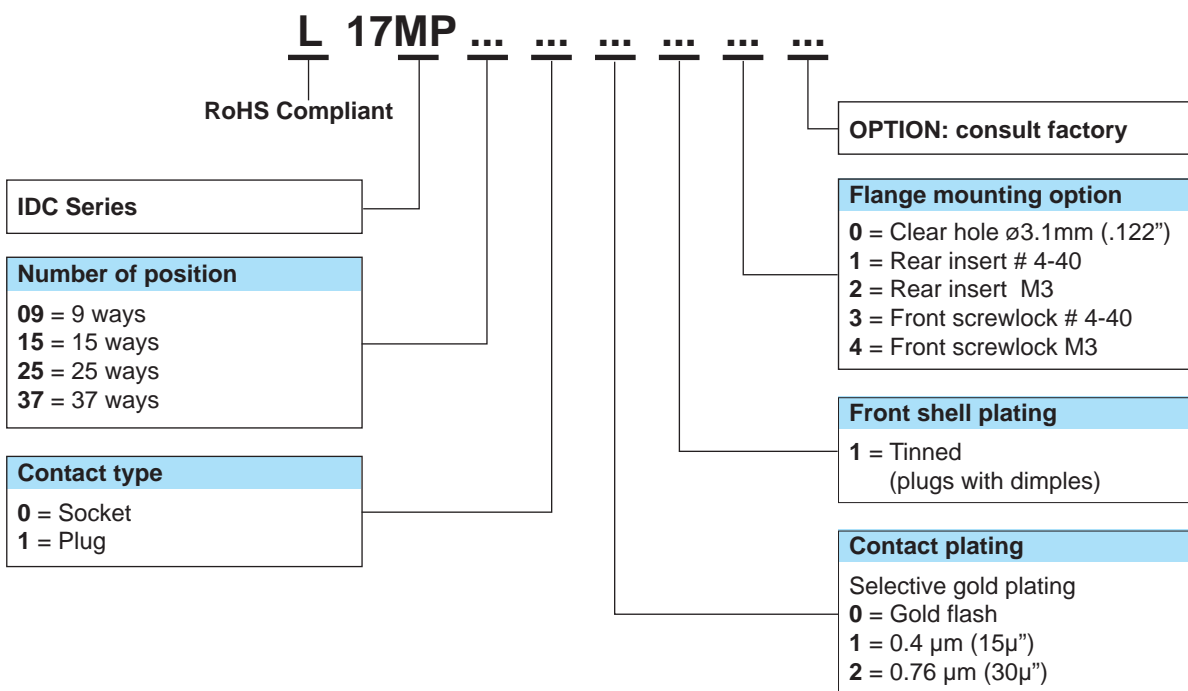


Nb OF CONTACTS	DIMENSIONS mm (<i>inch</i>)			
	A	B	C	D
9	30.81 (1.21)	16.24 (0.64)	24.99 (0.98)	14.90 (0.59)
15	39.14 (1.54)	24.56 (0.97)	33.32 (1.31)	23.00 (0.91)
25	53.04 (2.09)	38.38 (1.51)	47.04 (1.85)	36.90 (1.45)
37	69.32 (2.73)	54.76 (2.16)	63.50 (2.50)	59.30 (2.33)

Terminating frame Ref: 21046		
Terminating head Ref: 976 MC		
Connector holders references		
Number of Contacts	Plug	Socket
09	991 MC	992 MC
15	993 MC	994 MC
25	995 MC	996 MC
37	997 MC	998 MC
Hand tool Ref: 989 MC Single insertion tool		



How to order



Do not hesitate to contact us for further information

Amphenol

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 Info-dsub@amphenol.com.cn
 http://www.dsubconnector.com

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

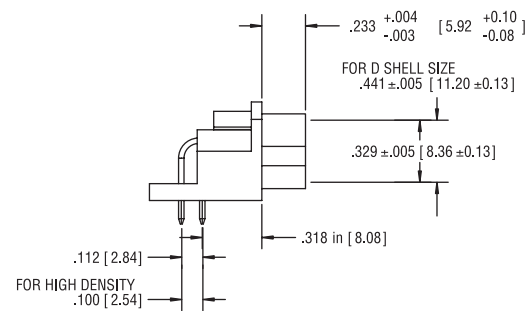
Shells Machined aluminum alloy, tin plated
Inserts High temperature resistant polyethersulfone per mil-p-46185
Contacts Copper alloy, 20µ" (0.51µm) gold plated over nickel.
Seal Silicone elastomer with nickel plated graphite flake

ELECTRICAL DATA

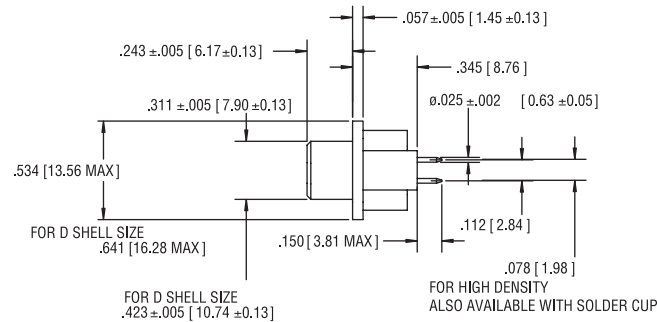
Current Rating 5A
Insulation Resistance 5 GIGOHM @ 500 VDC
Working Voltage 120 VAC
D.W.V. 1,000 VAC pin to pin & pin to shell

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

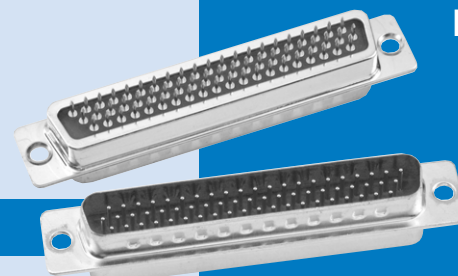
000 = Standard part
 other deviations as required

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



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

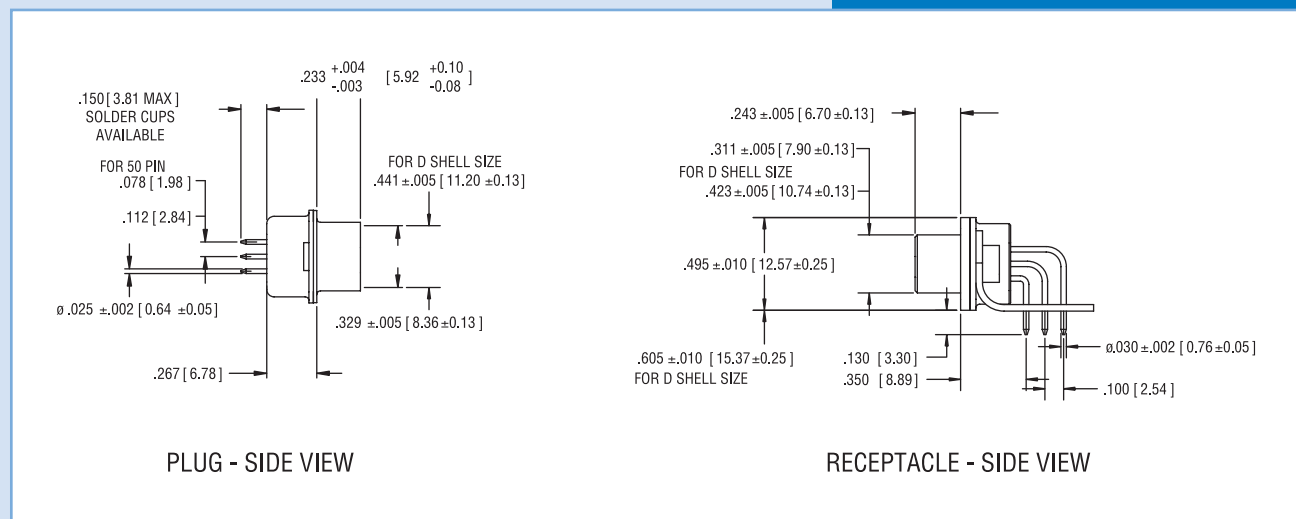
Current Rating 5 A
Insulation Resistance 5 GIGOHM @ 500 VDC
Working Voltage 200 VDC
D.W.V. 500 VDC pin to pin & pin to shell
Capacitance +/- 20% (see P/N description)

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

<p>Series Designation —————</p> <p>Size & Number Of Contacts ————— STD Density E09, A15, B25, C37, D50 High Density E15, A26, B44, C62, D78, 6104</p> <p>Contact Type ————— S = Socket Contact P = Pin Contact</p> <p>Termination Style ————— A = Right Angle pcb B = Vertical pcb C = Solder Cup</p>	<p>000 = Standard part other deviations as required</p> <p>Capacitance Code A2 = 200 PF 02 = 2000 PF A4 = 400 PF 05 = 5000 PF 01 = 1000 PF</p> <p>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</p>
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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>
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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

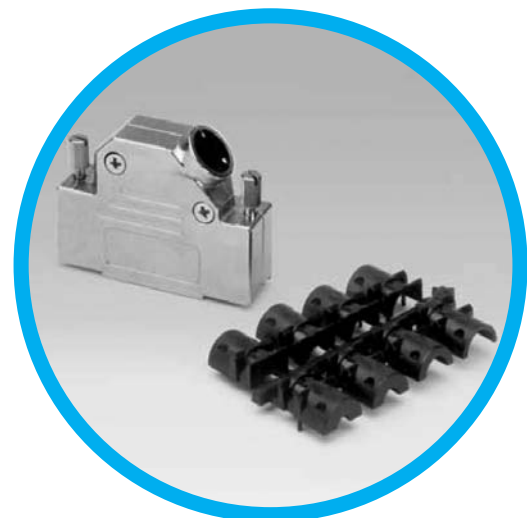
D'Sub Metallic Hoods

DTZK & DVZK series



MAIN CHARACTERISTICS

- **Material and plating:**
Zinc die-cast, nickel plated
- **Cable strainrelief:**
Steel fiber reinforced Polycarbonate UL94V-O
- **Temperature range:**
-40°C to 120°C
- **Cable diameter:**
3 to 13mm
- **Attenuation factor:**
> 40 dB between 30 MHz and 1 GHz
- **Approvals:**
VDE 0871 - FCC 20780 - 89 / 336 / EU



DESCRIPTION

Amphenol metallic hood series for D'Sub connectors offers protection from magnetic and radio interference to cable assemblies.

Easily assembled these hoods are suitable for all industrial and telecom applications.

*Shield
Your cable
assemblies!*

APPLICATIONS

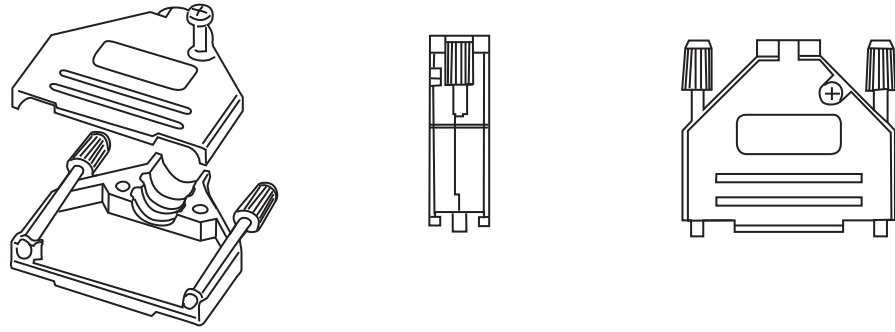
- Industrial
- Military
- Telecom
- Any application requiring EMI/RFI protection



Amphenol

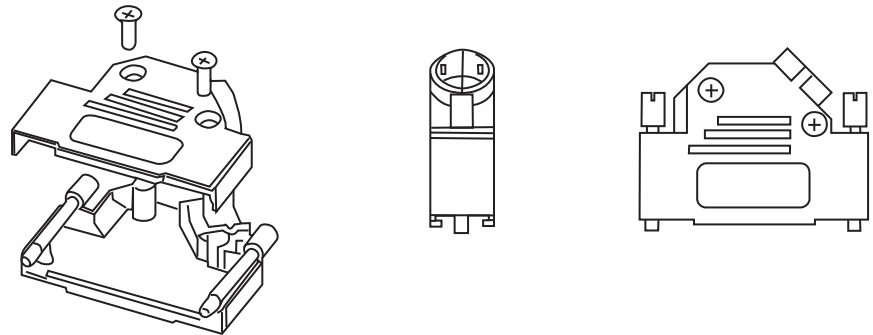
D'SUB ACCESSORIES / E23

DTZK Series

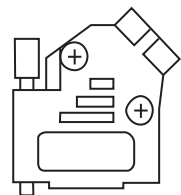


Part number	A	B
L17DTZK9Kxx	21 (.827")	38.3 (1.508")
L17DTZK15Kxx	39.5 (1.555")	40.5 (1.594")
L17DTZK25Kxx	54.4 (2.144")	47.3 (1.862")
L17DTZK37Kxx	70.9 (2.791")	52.2 (2.055")

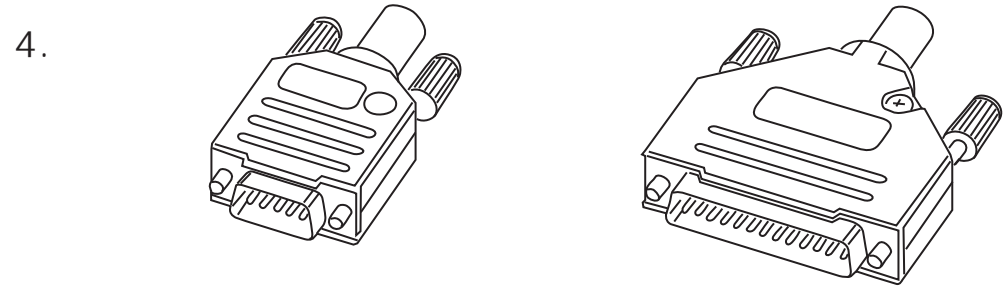
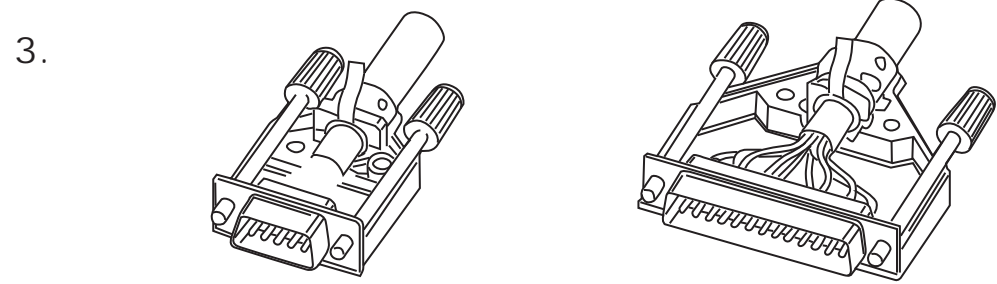
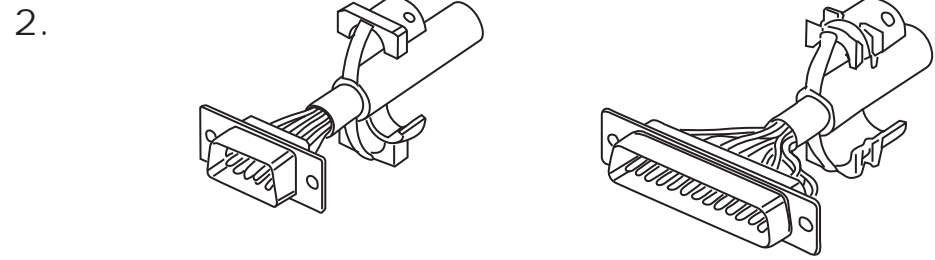
DVZK Series



Part number	A	B
L17DVZK9Kxx	31 (1.220")	36,2 (1.425")
L17DVZK15Kxx	39,5 (1.555")	40,2 (1.583")
L17DVZK25Kxx	53,2 (2.094")	40,2 (1.583")
L17DVZK37Kxx	69,7 (2.744")	40,2 (1.583")

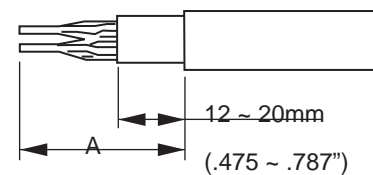


Type	A
L17DTZK9Kxx	30
L17DTZK15Kxx	(1.181")
L17DTZK25Kxx	40
L17DTZK37Kxx	(1.575")

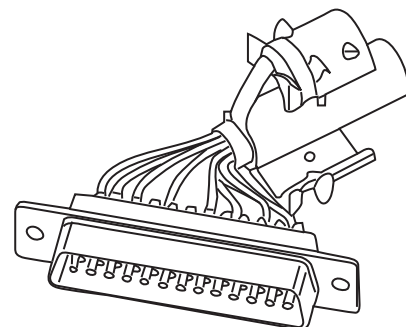


«Assembly Instructions DVZK Series

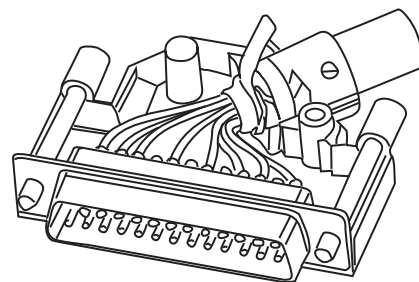
1.



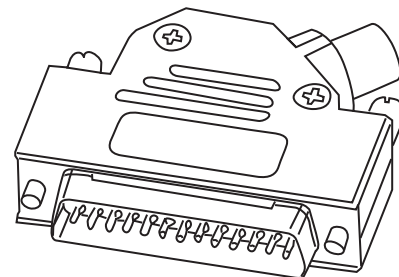
2.



3.

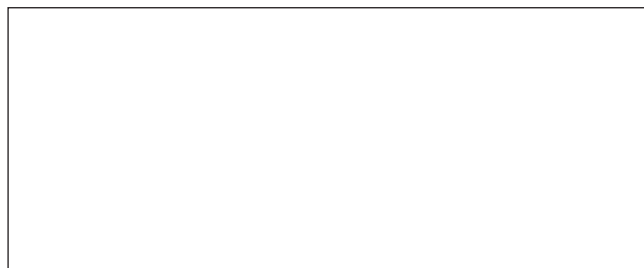


4.



Type	A
L17DVZK9Kxx	30
L17DVZK15Kxx	(1.181")
L17DVZK25Kxx	45
L17DVZK37Kxx	(1.772")

Do not hesitate to contact us for further information



Amphenol

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http://www.dsubconnector.com

ACCESSORIES

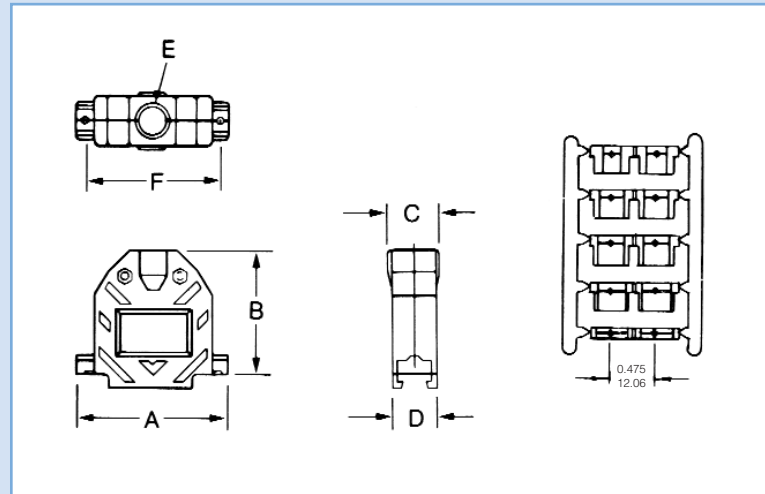


Amphenol's black plastic backshell accommodates most standard and high-density D-Subminiature connectors and is appropriate for most cable assemblies. This version is economical and highly durable. The split-grommet insert provides cable strain relief while making it easy to assemble.

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

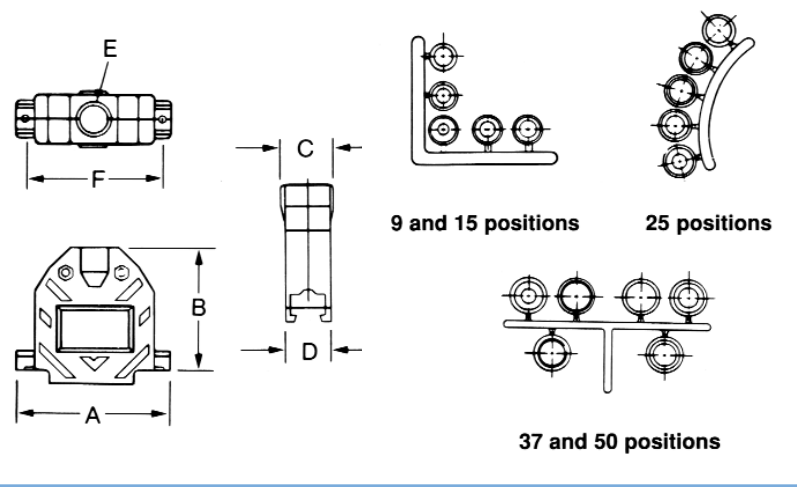
Plated Plastic Backshell

SPECIFICATIONS:

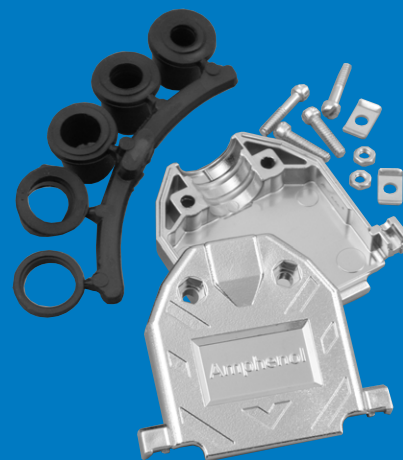
Housing Material: ABS Polymer
Plating: Nickel over copper
Grommet Material: PVC (UL 94 VO)
Mounting Hardware: Steel, clear zinc finish *RoHS Compliant

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



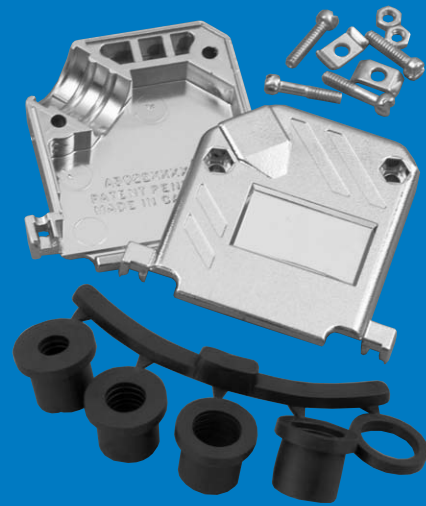
Amphenol's plated plastic backshell accommodates most standard and high-density D-Subminiature connectors and is appropriate for cable assemblies requiring compliance to FCC 20780. This version is highly durable and provides EMI/RFI protection. The rubber grommet compression insert forces the cable's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

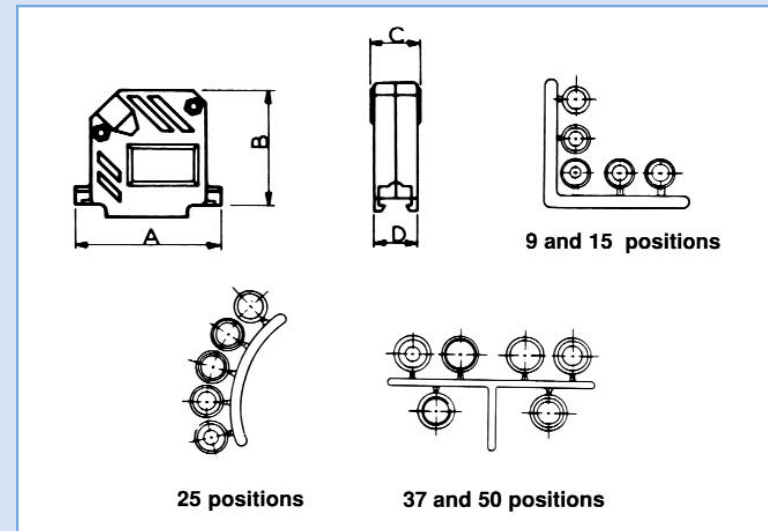
45° Plated Plastic Backshell

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

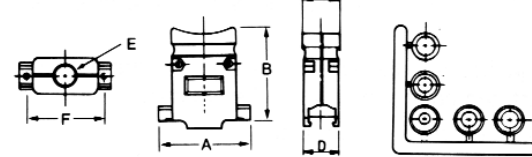
SPECIFICATIONS:

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

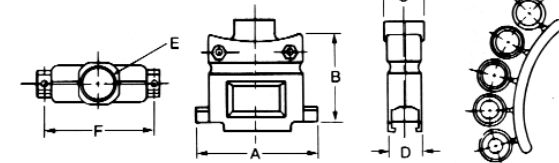
ASSEMBLY INSTRUCTIONS

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.

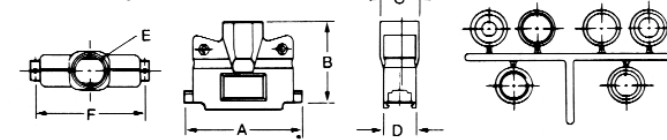
9 and 15 positions



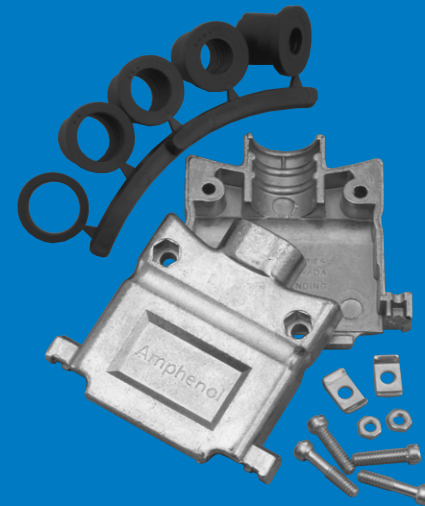
25 positions



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)

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