

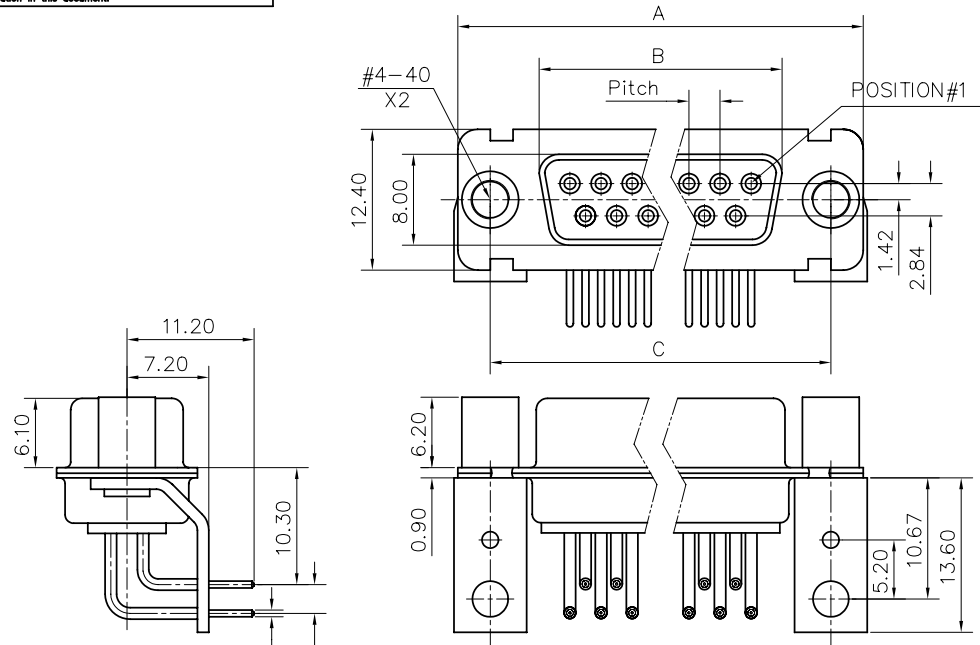
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REVISIONS

SYM	ECN	DESCRIPTION	DATE	APPROVED
1			12/11/07	

D-SUB TECHNICAL DATA

SHELL : Steel 2.5um(100u") min tin over 1.25um(50u") min nickel
 BODY : Glass filled thermoplastic.
 Flame retardant to UL94 V-0 Color Black
 CONTACTS : Phosphor bronze.
 0.4um(15u") min gold over 1.25um(50u") min nickel
 BRACKET : Steel.100u" min tin over 50u" nickel
 ELECTRICAL : Voltage rating :300 V RMS at 50 Hz
 Current rating 7.5A.
 Insulation resistance >5000 M Ohms
 Contact resistance 20 mOhms max.
 CLIMATIC : Temperature range -55 °C up to 125°C
 Damp heat 56 days(40 °C-95% HR)
 MACHANICAL : Mating force 0.341kg max
 Unmating force 0.021kg min
 MARKING : Amphenol...(Series No.)
 Commercial reference
 Manufacturing date



RECOMMENDED P.C.B LAYOUT

(TOLERANCE +/-0.03)

Customer drawing

DIM.S SHELL	A	B	C	D	Pitch
9	30.70	16.40	25.00	10.96	2.74
15	39.00	24.80	33.30	19.18	2.74
25	52.90	38.50	47.00	33.12	2.77
37	69.20	54.90	63.50	49.68	2.77

PRODUCT CODE

L 77DF X XX S 1ATN

L: RoHS Compliance

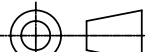
77DF: tinned shell for receptacle

Shell Size :E,A,B,C

Right angle connector
metal bracket:
1ATN=2.54mm

Contact type:
S :Female

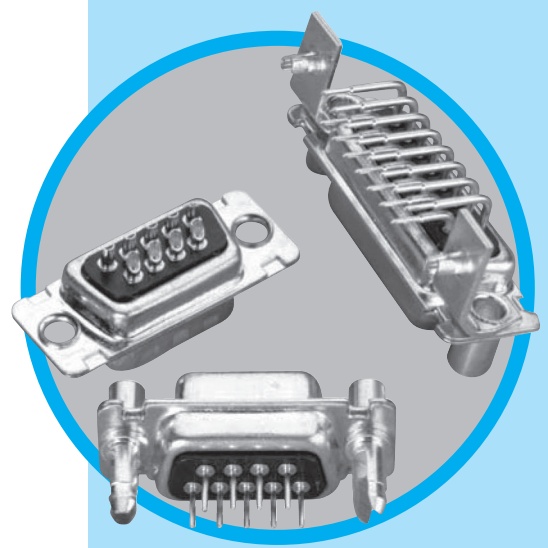
Configuration: 09,15,25,37

UNLESS OTHERWISE SPECIFIED TOLERANCES		APPROVAL		DATE		Amphenol			
U.S. METRIC		DRAWN		Christina.cui				12/11/07	
.X +/- 0.50		CHECKED		lik.wang				12/11/07	
.XX +/- 0.30		CHECKED							
.XXX +/- 0.20									
FRACTIONS +/-									
ANGLES +/- 2°									
FOR MATERIALS AND FINISHES SEE NOTES		DRAWING FILE :		TITLE		Machined contacts connector, DF series			
REMOVE SHARP EDGES		ANGLE OF PROJECTION		SIZE		DRAWING NO.			
DIMENSIONS				A4		C L77DFXXXS1ATN			
U.S. INCHES				SCALE		NONE			
METRIC MM				SHEET		1 OF 1			
						REV. 1			

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 are 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

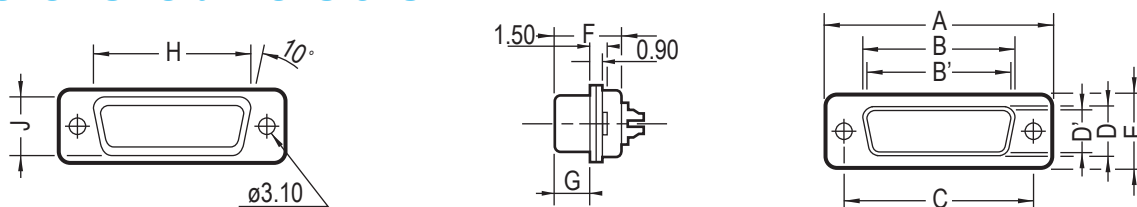
- Medical
- Industrial
- Telecom
- Any industry standard I / O connections



Amphenol

D-DF / E18

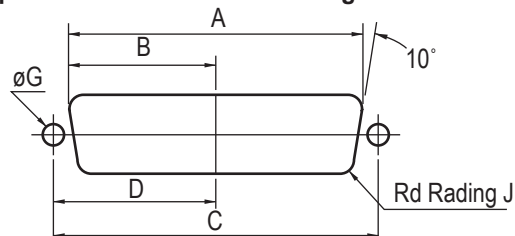
Shell size dimensions



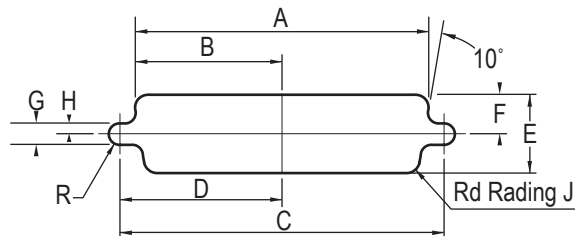
Shell size	Contact P: Pin S: Socket	A ±0.25 (±.010)	B 0/-0.20 (0/- .008)	B' +0.20/0 (+.008/0)	C ±0.10 (±.004)	D 0/-0.25 (0/- .010)	D' +0.25/0 (+.010/0)	E ±0.20 (±.008)	F +0.05/-0.20 (+.002/- .008)	F' +0.10/-0.20 (+.004/- .008)	G +0.10/-0.20 (+.004/- .008)	G' ±0.10 (±.004)	H +0.10/-0.40 (+.004/- .016)	J 0/-0.50 (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



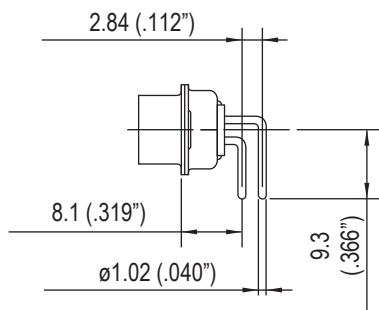
Shell size	Mounting method	A ±0.20 (±.008)	B ±0.20 (±.008)	C ±0.20 (±.008)	D ±0.20 (±.008)	E ±0.20 (±.008)	F ±0.20 (±.008)	G ±0.20 (±.008)	H ±0.20 (±.008)	J ±0.20 (±.008)
E	Front	22.2 (.874")	11.1 (.437")	25.0 (.984")	12.5 (.492")	13.0 (.512")	6.5 (.256")	3.0 (.118")	1.5 (.059")	2.1 (.083")
	Rear	20.5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

Termination

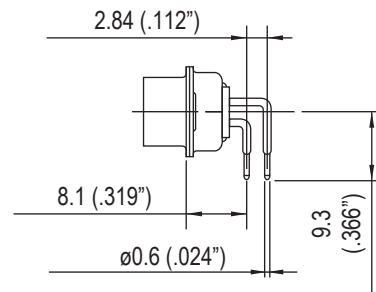
Right angle

MIL Footprint

without bracket:

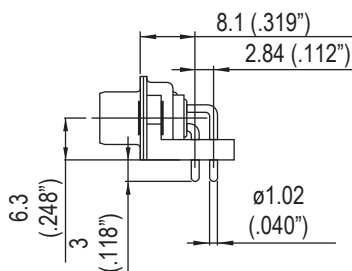


C

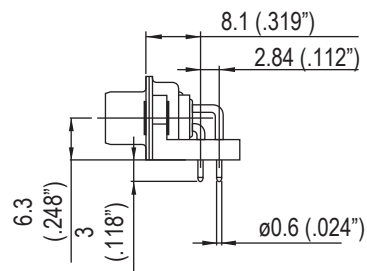


A4

plastic bracket:

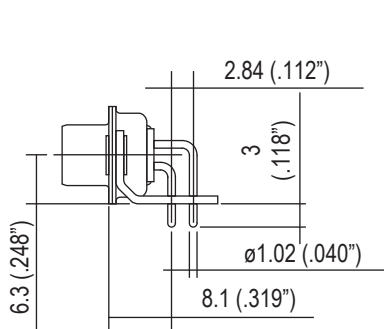


AJ3

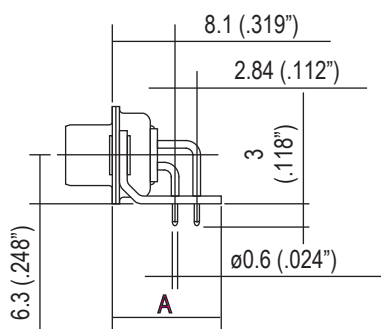


AJ4

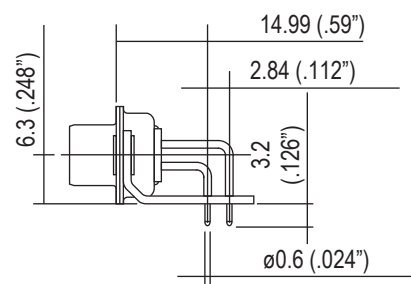
metal bracket:



A

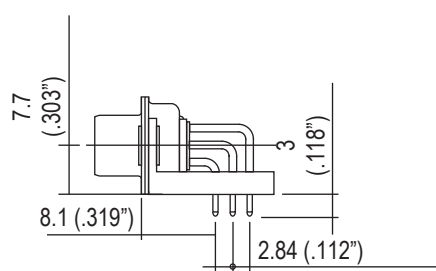


AM4: A=13.2mm
AZ4: A=11.5mm



AM4B

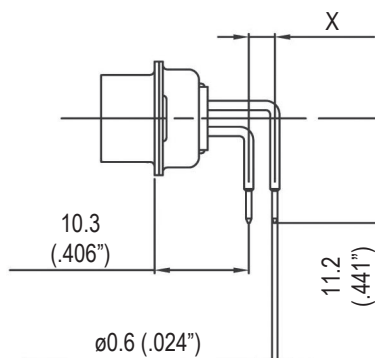
50 contacts:



Termination

European footprint

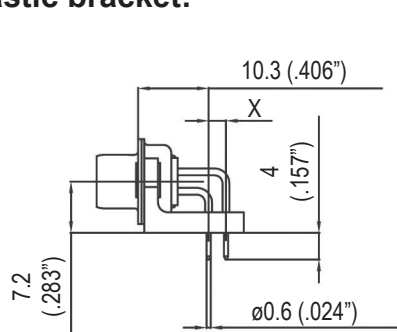
without bracket:



1AON: X=2.54mm

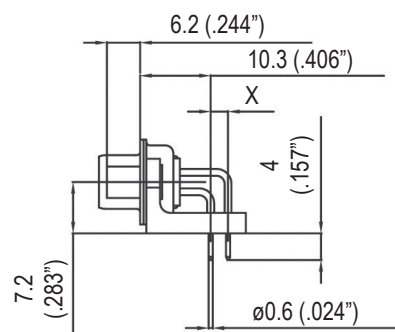
1BON: X=2.84mm

plastic bracket:



1APN: X=2.54mm

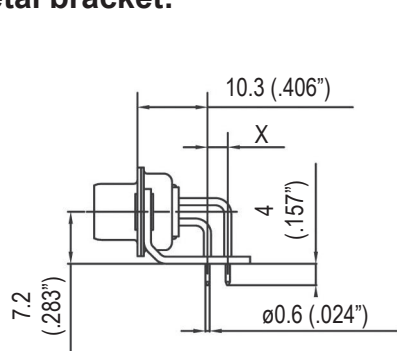
1BPN: X=2.84mm



1AUN: X=2.54mm

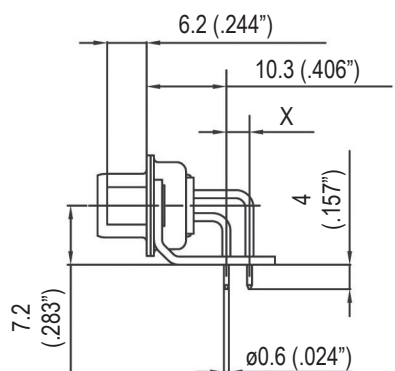
1BUN: X=2.84mm

metal bracket:



1AMN: X=2.54mm

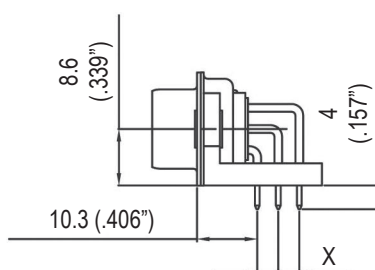
1BMN: X=2.84mm



1ATN: X=2.54mm

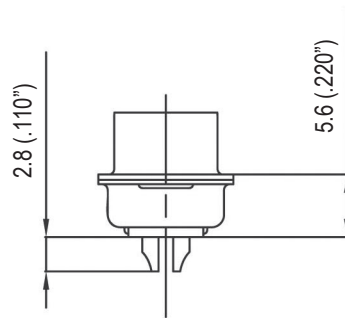
1BTN: X=2.84mm

50 contacts:

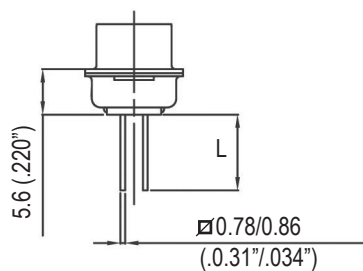


Termination

Solder Cup:

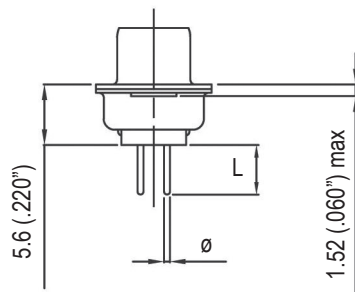


Wire Wrap:



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

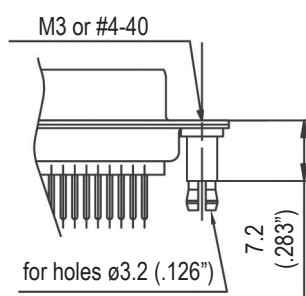
Straight PCB:



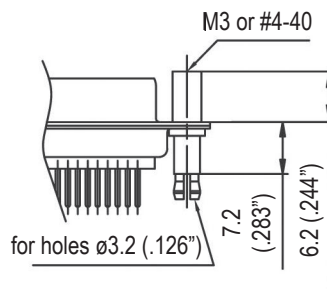
termination	Ø	L
U	0.6mm (.024")	3.2mm (.126")
V	1.02mm (.040")	2.4mm (.095")
T	0.6mm (.024")	4mm (.157")
OL2	0.6mm (.024")	5.5mm (.217")

Grounding tabs:

For straight termination



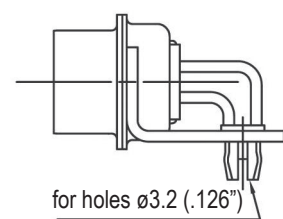
RM5



RM8

For R/A termination

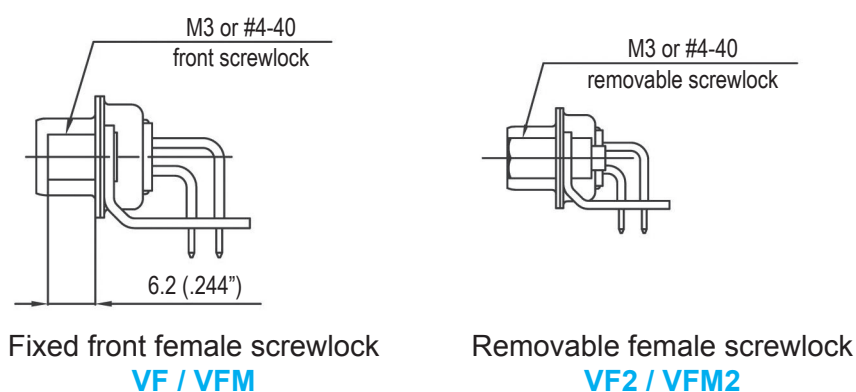
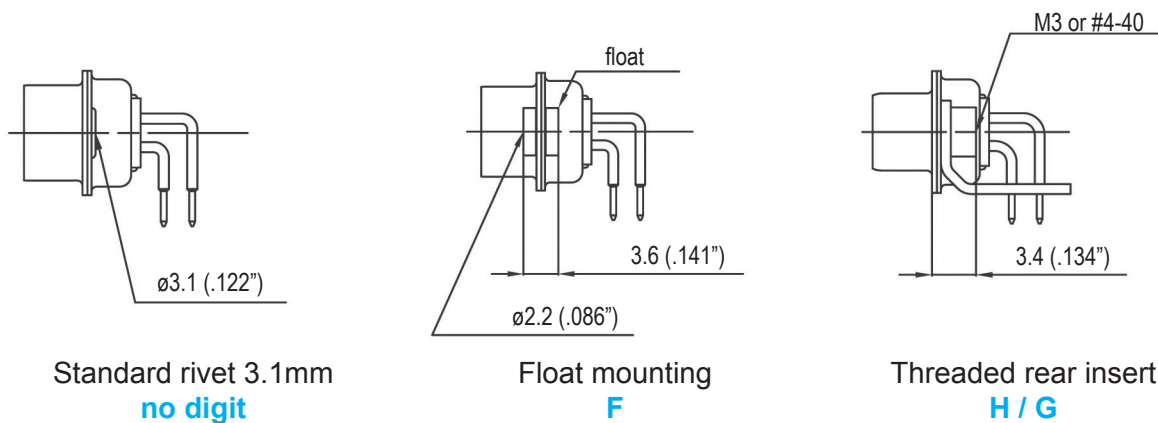
FOR PCB 1.6



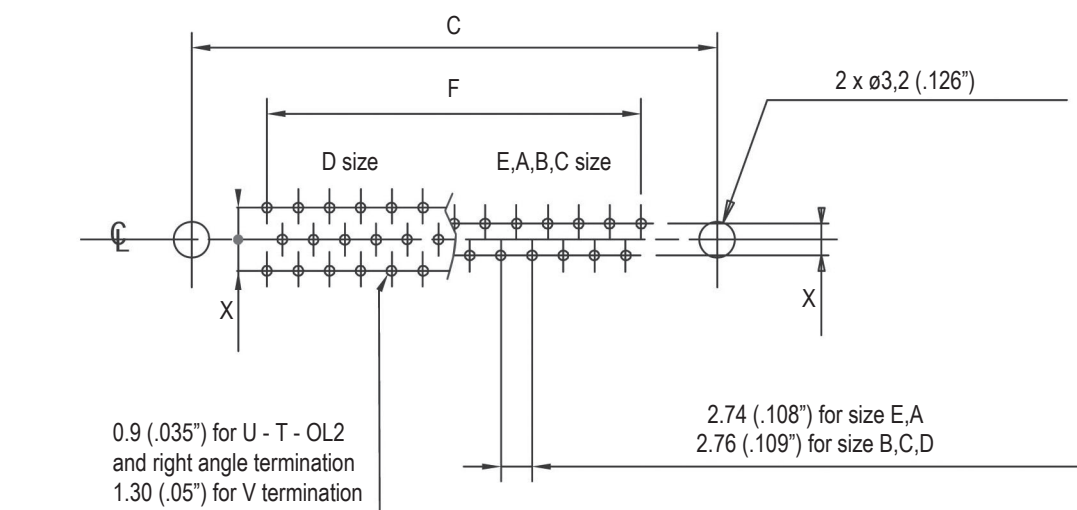
RM6

Panel mounting option

For straight and R/A termination



Recommended PCB Layout



For straight PCB: $X = 2.84\text{mm} (.112")$

For right angle PCB: MIL: $X = 2.84\text{mm} (.112")$

European: $X = 2.54\text{mm} (.100")$, 2.84mm in option

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

How to order

L

RoHS Compliant

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

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

mounting options:
H = rear insert 4-40
G = rear insert M3
F = float mounting
no digit = standard rivet ø3.1mm
 *H, G must also be used to specify the threading of RM5 & RM8 grounding tabs.

configuration: 09,15,25,37, 50

contact type:
P = pin
S = socket

for specific product

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

termination:
-solder cup: no digit

-wire wrap:
F179 = length 9.6mm
F179A = length 13mm

-straight PCB:
U = length 3.2mm, tail ø0.6mm
V = length 2.4mm, tail ø1.02mm
T = length 4mm, tail ø0.6mm
OL2 = length 5.5mm, tail ø0.6mm

-right angle connector:
MIL footprint
 without bracket: **C** = tail ø1.02mm
A4 = tail ø0.6mm
 plastic bracket: **AJ3** = tail ø1.02mm
AJ4 = tail ø0.6mm
 metal bracket: **A** = tail ø1.02mm
AM4 = A = 13.2mm
AZ4 = A = 11.5mm
AM4B = footprint 14.99mm (.590")

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

 : Standard options

For special request, please consult factory

[illegible]

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>