

D-Sub Series

D*MA HD Connectors

ESCC 3401/002 Certified



Type	Mating force (N max)	Unmating force (N min)	Unmating force (N max)	Weight with male contacts (g)	Weight with female contacts (g)
Size E 15 Ways	46	3.4	28	6.4	7.65
Size A 26 Ways	77	4.5	46	9.48	10.86
Size B 44 Ways	127	7.9	77	14.52	16.84
Size C 62 Ways	177	11.3	109	20.56	23.82
Size D 78 Ways	222	14.7	136	24.44	28.58
Size F 104 Ways	295	20.3	177	31.32	36.44

Max weight per contact 22/22	Pin ct	Skt ct
	0.08 g	0.11 g

Add : 0.6 g for float mount (code Y)

Add : 0.65 g for captive nut (code E)

Quality Level

ESA / ESCC : code 3401 (Flying model).
Qualification reviewed every 2 years.

Options

Optional captive nuts or float mounting.

Packaging

Individual ESD plastic bag.
Traceability and documentation according to ESA/ESCC specifications.
Each D*MA connector is sold with a dust cap and an insertion / extraction tool.

Description

High performance D-Sub, High Density (HD), ESA qualified for space applications.

Connectors compliant to ESCC specification 3401/002.

Removable contacts compliant to ESCC specification 3401/005.

Compatible with ESCC specifications 3401/022 and 3401/072 (Accessories) and 3401/020 (Savers connectors).

Suitable for use in space.

High military performances and aerospace applications :

Board to Board, Board to Cable or Cable to Cable applications.

High Density Size 22 (HD) available :

15, 26, 44, 62, 78 and 104 ways

Pitch between two contact rows :

- Size E, A, B, C: 1.98mm (.078 inch)

- Size D, F: 2.08 mm (.082 inch)

Pitch between two horizontally adjacent contacts :

- Size E, A, B: 2.29mm (.090 inch)

- Size C, D, F: 2.41mm (.095 inch)

Features and Benefits

- Compliant with ESA specifications
- Socket Starclip contact system
- Removable crimp type contacts
- Harnesses length flexibility
- Non-Outgassing

Applications

- Space equipment
- Satellites harnesses and payloads

Electrical & Mechanical Characteristics

Characteristics	Specifications
Working voltage	250 Vrms max (at sea level) 250 Vrms max (33000m of altitude)
Rated current	5 A max
Contact resistance (Low level current)	6 mΩ max (10 mA / 20 mV DC)
Contact resistance	5 mΩ max (Rated current)
Insulation resistance	5000 MΩ min (500 V DC)
Voltage proof	1000 Vrms / 2 mA (Leakage Current)
Contact retention in insulator	40 N max (axial move 0.3 mm max)
Engagement force	3.33 N max per contact
Seperation force	0.20 N min / 2.22 N max per ct
Temperature range	-55+125 °C
Storage temperature range	-65+125 °C

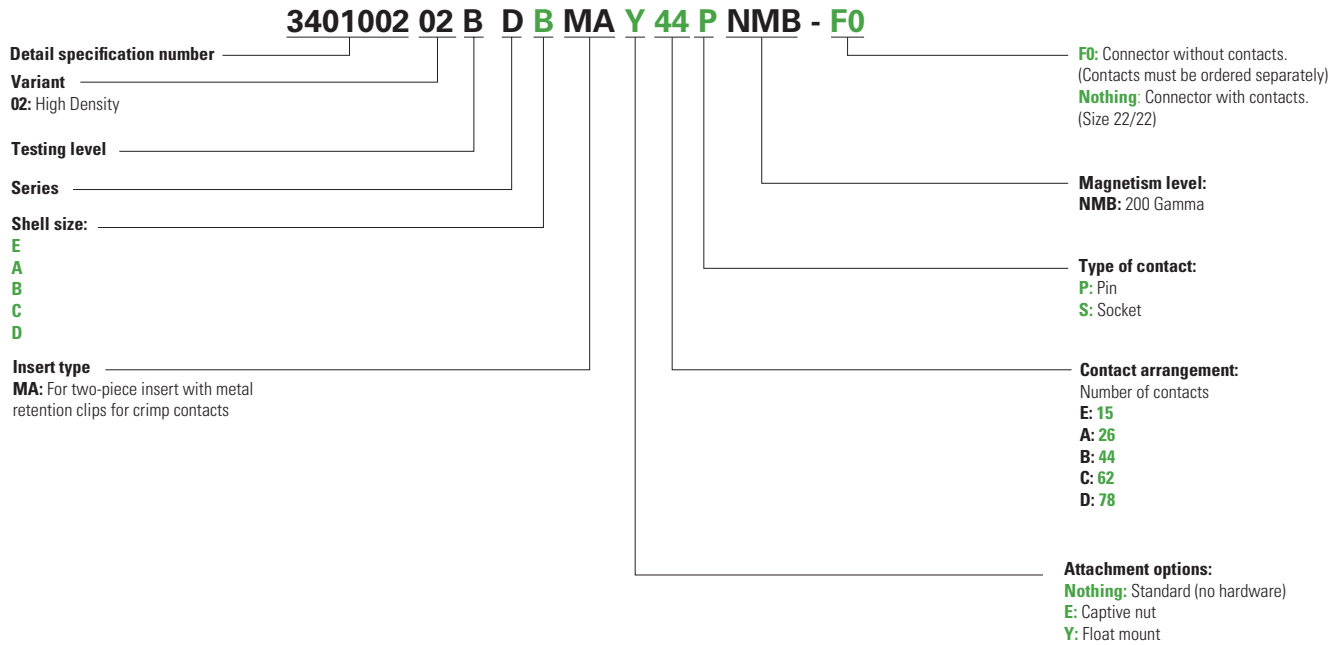
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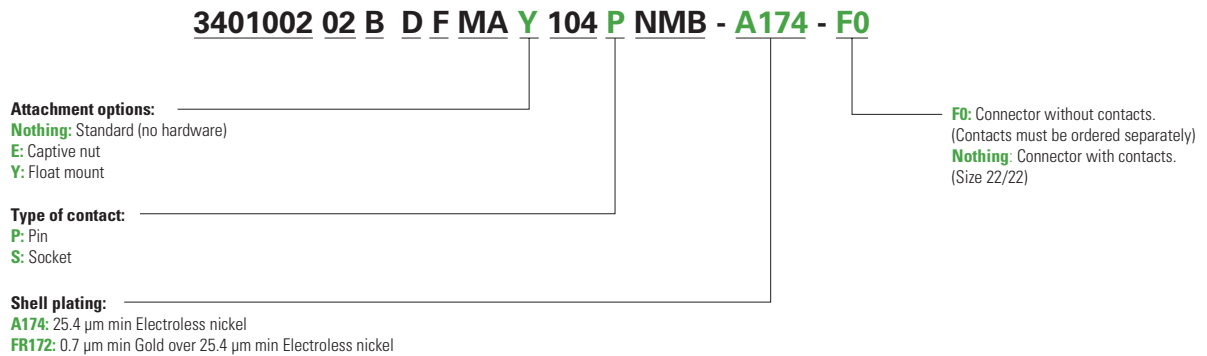
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How To Order Connector

ESA / ESCC specification:



ESA / ESCC specification for size F only:

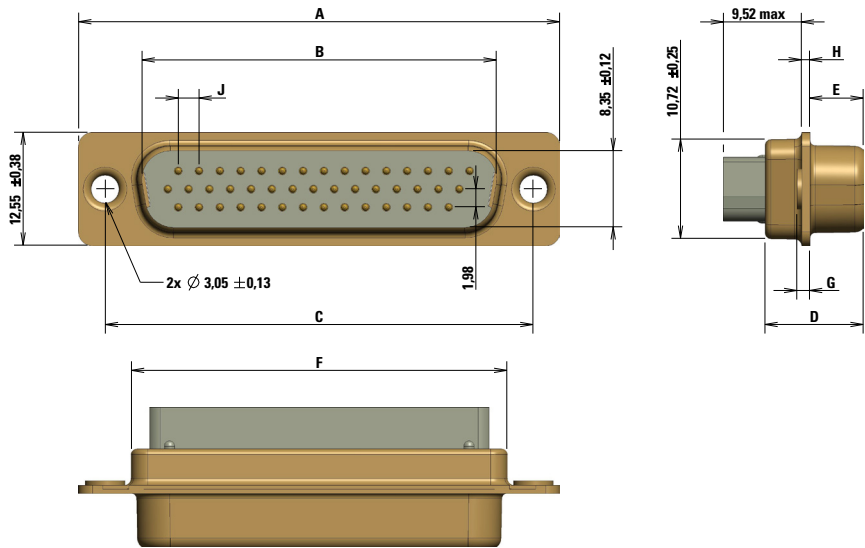


Materials & Finishes

Components	Materials	Finishes
Shell sizes E, A, B, C, D	Copper alloy	0.70 µm min Gold over Copper
Shell size F	Aluminum alloy	A174 : 25.4 µm min Electroless Nickel FR172 : 0.70 µm min Gold over 25.4 µm min Electroless Nickel
Insulator	LCP	UL 94-V0, Glass-filled, Black color
Contact retaining clip	Beryllium copper	None
Contact bodies	Copper alloy Copper alloy	1.27 µm min Gold over Nickel 1.27 µm min Gold over Copper
Dust cap	Polyethylene	Black color, antistatic
Male screwlocks	Copper alloy Stainless steel	0.70 µm min Gold over Copper Passivated

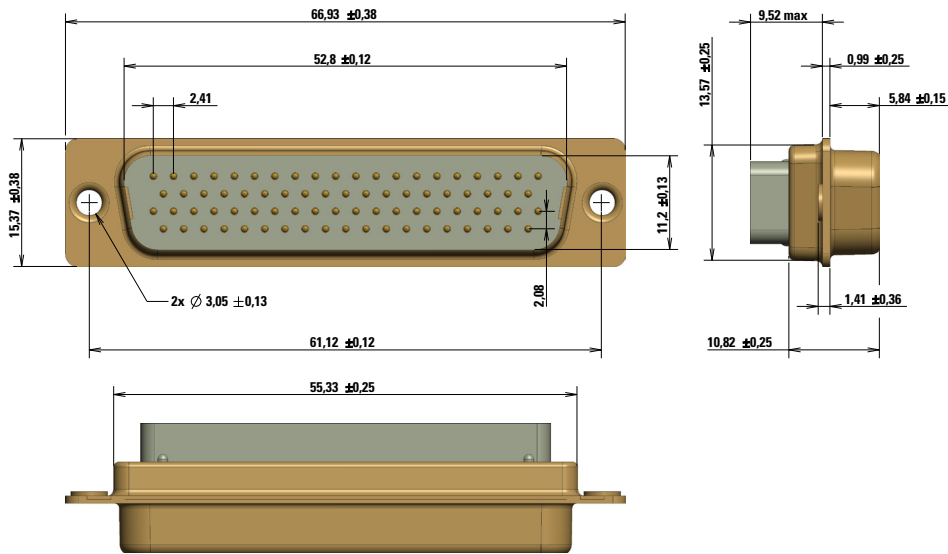
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Pin connector dimensions - Sizes E-A-B-C



Shell Size	Contact Arrangement	Gender	A ±0.38	B ±0.12	C ±0.12	D ±0.25	E ±0.11	F ±0.25	G ±0.31	H ±0.25	J
E	15	Pin	30.81	16.91	24.99	10.72	5.94	19.28	1.21	0.77	2.29
A	26	Pin	39.14	25.24	33.32	10.72	5.94	27.51	1.21	0.77	2.29
B	44	Pin	53.04	38.96	47.04	10.82	5.84±0.15	41.28	1.41±0.36	0.99	2.29
C	62	Pin	69.32	55.42	63.50	10.82	5.84±0.15	57.71	1.41±0.36	0.99	2.41

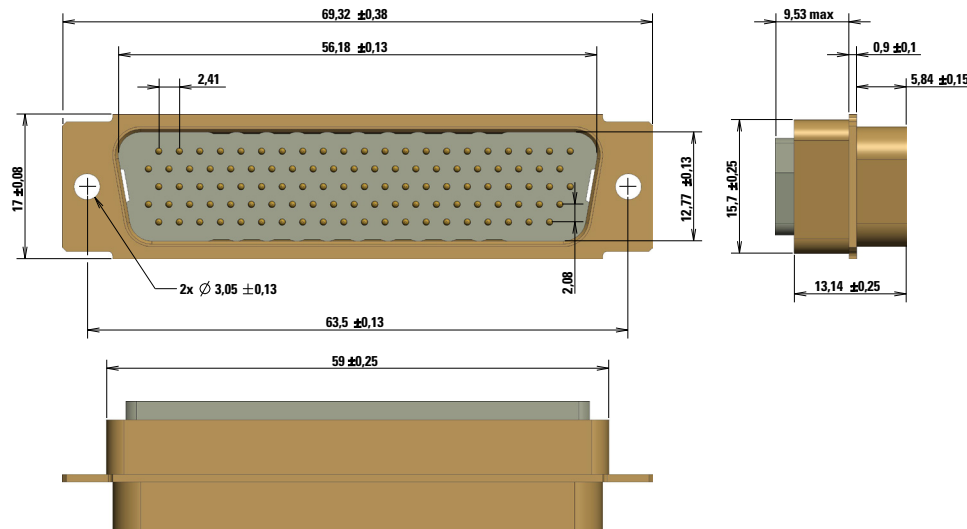
Pin connector dimensions - Size D (78 pos)



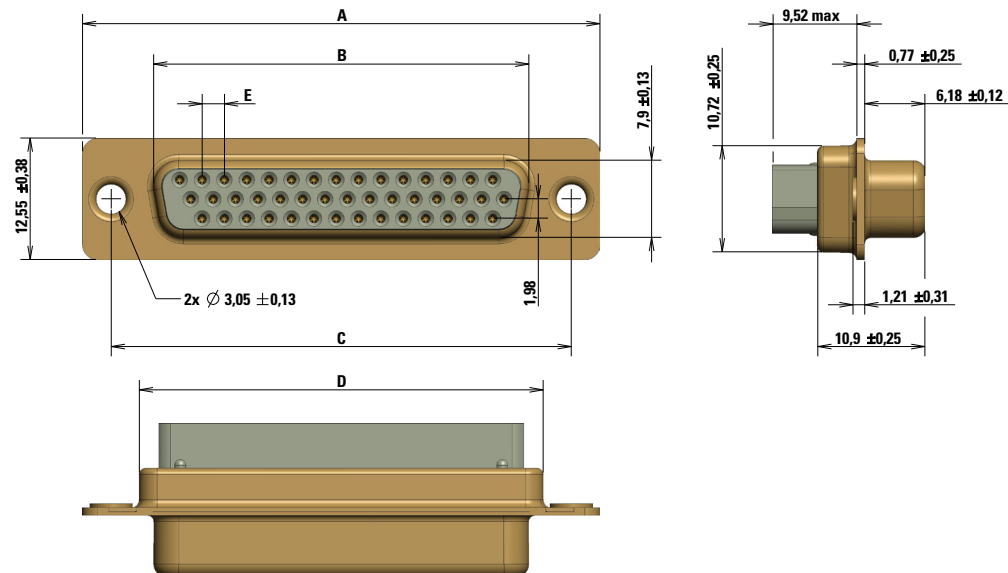
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Pin connector dimensions - Size F (104 pos)



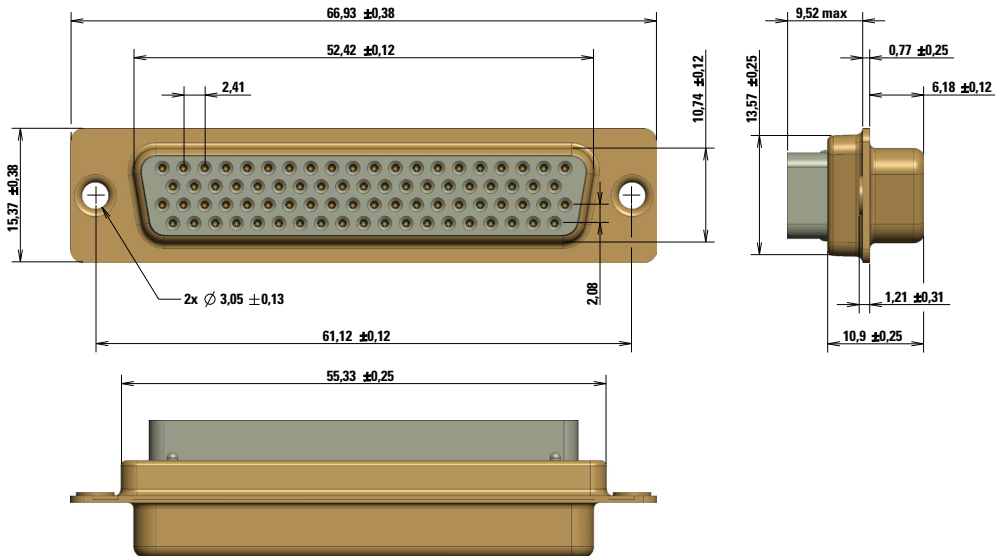
Socket connector dimensions - Sizes E-A-B-C



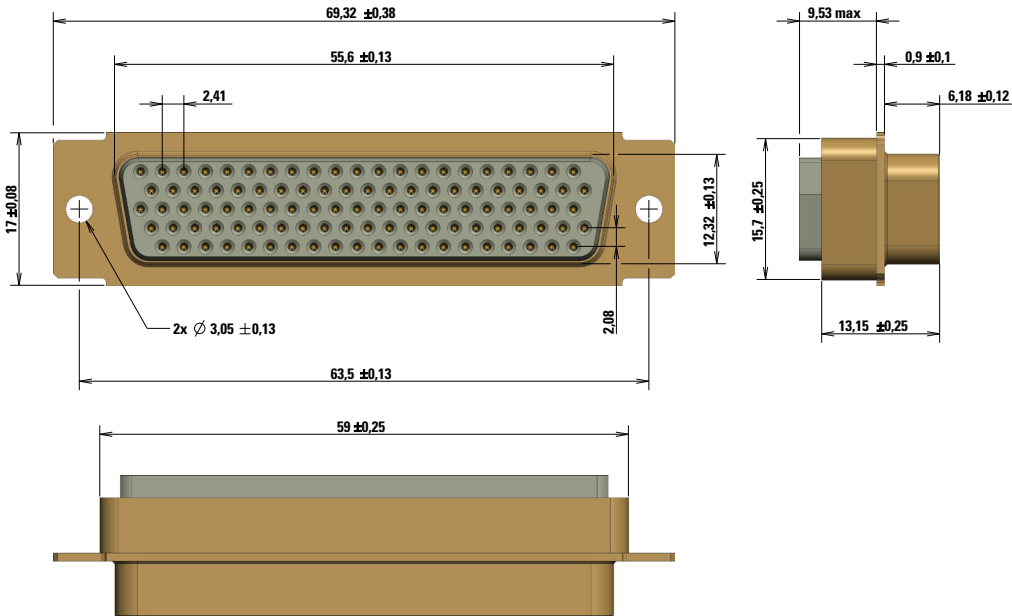
Shell Size	Contact Arrangement	Gender	A ±0.38	B ±0.12	C ±0.12	D ±0.25	E
E	15	SKT	30.81	16.33	24.99	19.28	2.29
A	26	SKT	39.14	24.66	33.32	27.51	2.29
B	44	SKT	53.04	38.38	47.04	41.28	2.29
C	62	SKT	69.32	54.84	63.50	57.71	2.41

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Socket connector dimensions - Size D (78 pos)

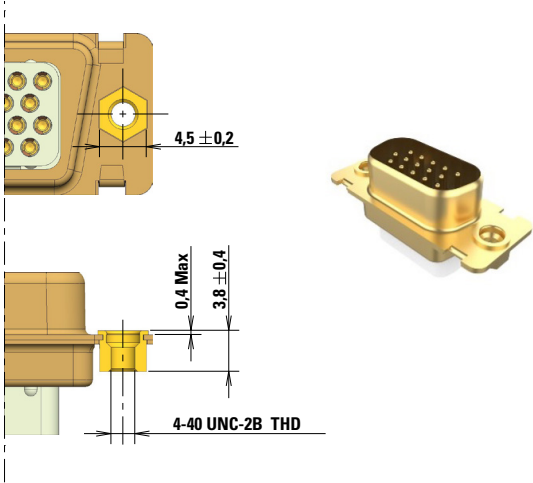


Socket connector dimensions - Size F (104 pos)

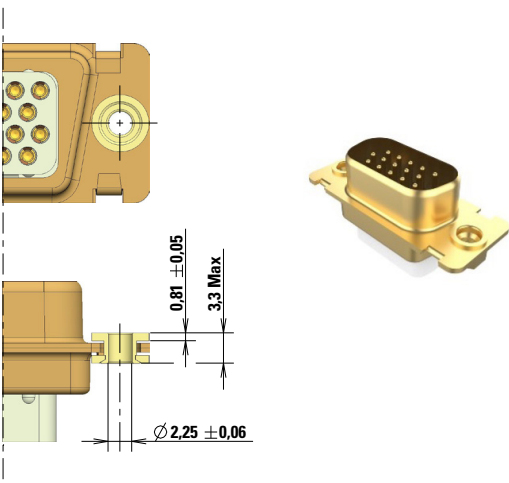


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Captive nut (Option E)



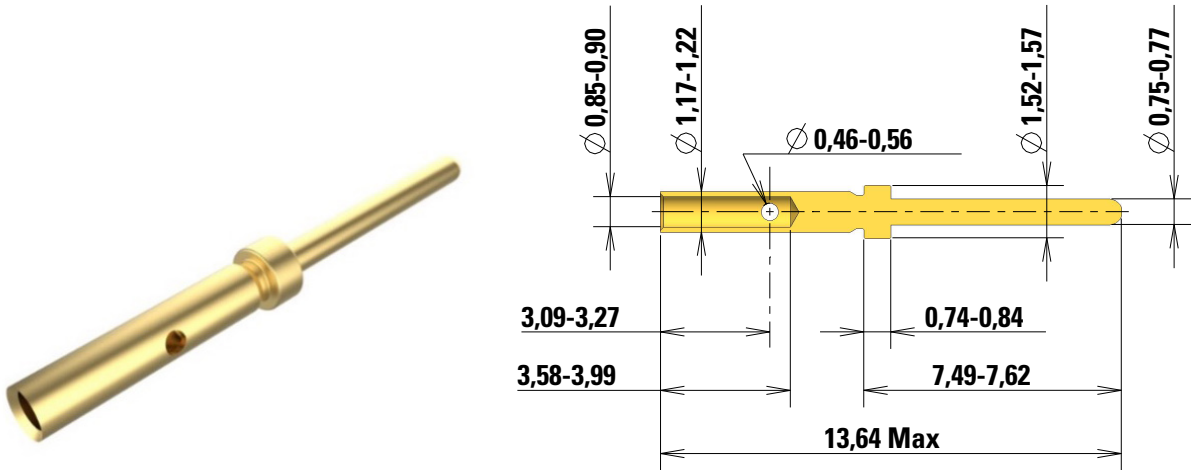
Floating mount (Option Y)



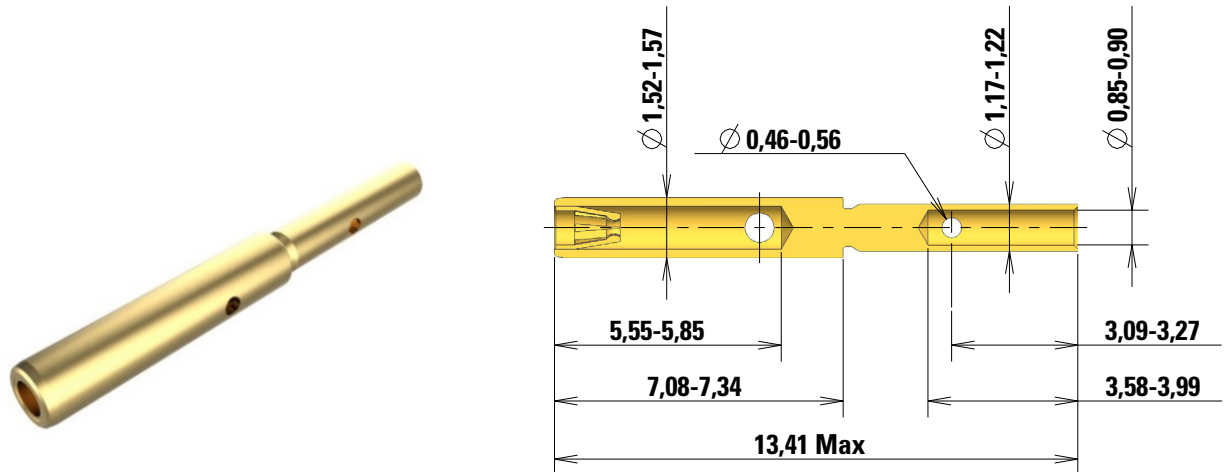
Allowable Float	(mm)
Lateral	0.78
Axial	0.20

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Pin contact – 22/22 – Wire size AWG 22, 24, 26,28



Socket contact – 22/22 – Wire size AWG 22, 24, 26,28



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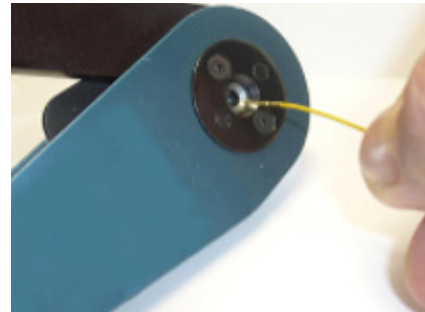
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Crimping process & Cable insertion process

- Previously, strip the jacket of the wire : Length of 5.03mm $\pm$ 0.25
- Contact crimping process:
 1. Choose the dedicated locator corresponding to type of contact and install it on the crimping tool.
 2. Choose the correct selector position in function of the wire AWG, on the crimping tool (see table below).
 3. Insert the wire into the contact body.
 4. Insert the equipped contact into the crimping tool (see picture).
 5. Crimp till opening of the crimping tool.

Crimping tool :
M22520/2-01
P/N : C995-0001-584



Locator for male contact 22/22 :
M22520/2-09
P/N : C995-0001-734



Locator for female contact 22/22 :
M22520/2-06
P/N : C995-0001-739

Wire AWG Sizes	Selector positions
AWG 22	4
AWG 24	3
AWG 26	2
AWG 28	1

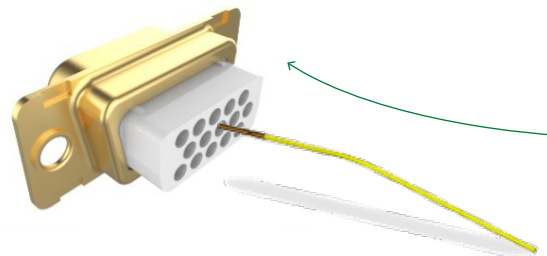
■ Contact insertion process:

1. Insert contact with wire into rear insulator cavity until positive stop.

Possibility to use the green side insertion / extraction tool for connectors size 22 High Density:
M81969/14-01
P/N : C274-7048-000

2. To avoid any stress on the retention clip, insert contact in the axis (without insertion angle).

3. To be sure contact is securely locked, pull back slightly on the wire or use calibrated test retention tool.

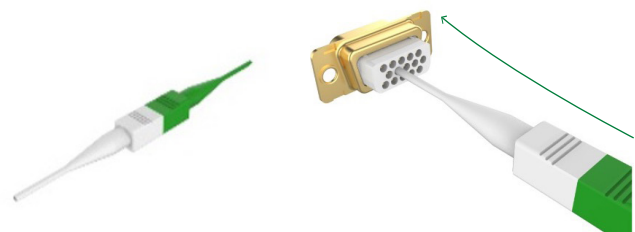


Cable extraction process

1. Select white side insertion / extraction tool for connectors size 22 High Density :
M81969/14-01
P/N : C274-7048-000

2. Insert tool tip into the contact cavity until the tip bottoms against contact shoulder for releasing tine.

3. Hold wire against tool with finger and remove tool and equipped contact.



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Connectors description and Part Numbers

Version	Shell type	Gender type	Size	Attachment options					
				Standard connector		Connector with captive nut (E)		Connector with floating mount (Y)	
				ESA / ESCC description	P/N	ESA / ESCC description	P/N	ESA / ESCC description	P/N
Delivered in ESD bag without contact (Contacts to order separately, see chart below)	Shell gold plated	Pin	E	340100202B DEMA15PNMB-F0	C115368-5030	340100202B DEMA15PNMB-F0	C115368-5070	340100202B DEMAY15PNMB-F0	C115368-5050
			A	340100202B DAMA26PNMB-F0	C115368-5032	340100202B DAMAE26PNMB-F0	C115368-5072	340100202B DAMAY26PNMB-F0	C115368-5052
			B	340100202B DBMA44PNMB-F0	C115368-5034	340100202B DBMAE44PNMB-F0	C115368-5074	340100202B DBMAY44PNMB-F0	C115368-5054
			C	340100202B DCMMA62PNMB-F0	C115368-5036	340100202B DCMMAE62PNMB-F0	C115368-5076	340100202B DCMAY62PNMB-F0	C115368-5056
			D	340100202B DDMA78PNMB-F0	C115368-5038	340100202B DDMAE78PNMB-F0	C115368-5078	340100202B DDMAY78PNMB-F0	C115368-5058
			F	340100202B DFMA104PNMB-FR172-F0	C115368-5082	340100202B DFMAE104PNMB-FR172-F0	C115368-6062	340100202B DFMAY104PNMB-FR172-F0	C115368-5086
	Shell nickel plated	Socket	E	340100202B DEMA15SNMB-F0	C115368-5031	340100202B DEMA15SNMB-F0	C115368-5071	340100202B DEMAY15SNMB-F0	C115368-5051
			A	340100202B DAMA26SNMB-F0	C115368-5033	340100202B DAMAE26SNMB-F0	C115368-5073	340100202B DAMAY26SNMB-F0	C115368-5053
			B	340100202B DBMA44SNMB-F0	C115368-5035	340100202B DBMAE44SNMB-F0	C115368-5075	340100202B DBMAY44SNMB-F0	C115368-5055
			C	340100202B DCMMA62SNMB-F0	C115368-5037	340100202B DCMMAE62SNMB-F0	C115368-5077	340100202B DCMAY62SNMB-F0	C115368-5057
			D	340100202B DDMA78SNMB-F0	C115368-5039	340100202B DDMAE78SNMB-F0	C115368-5079	340100202B DDMAY78SNMB-F0	C115368-5059
			F	340100202B DFMA104SNMB-FR172-F0	C115368-5083	340100202B DFMAE104SNMB-FR172-F0	C115368-6063	340100202B DFMAY104SNMB-FR172-F0	C115368-5087
Delivered in ESD bag with contacts Size 22/22	Shell gold plated	Pin	E	340100202B DEMA15PNMB	C115368-5020	340100202B DEMA15PNMB	C115368-5060	340100202B DEMAY15PNMB	C115368-5040
			A	340100202B DAMA26PNMB	C115368-5022	340100202B DAMAE26PNMB	C115368-5062	340100202B DAMAY26PNMB	C115368-5042
			B	340100202B DBMA44PNMB	C115368-5024	340100202B DBMAE44PNMB	C115368-5064	340100202B DBMAY44PNMB	C115368-5044
			C	340100202B DCMMA62PNMB	C115368-5026	340100202B DCMMAE62PNMB	C115368-5066	340100202B DCMAY62PNMB	C115368-5046
			D	340100202B DDMA78PNMB	C115368-5028	340100202B DDMAE78PNMB	C115368-5068	340100202B DDMAY78PNMB	C115368-5048
			F	340100202B DFMA104PNMB-FR172	C115368-5080	340100202B DFMAE104PNMB-FR172	C115368-6060	340100202B DFMAY104PNMB-FR172	C115368-5084
	Shell nickel plated	Socket	E	340100202B DEMA15SNMB	C115368-5021	340100202B DEMA15SNMB	C115368-5061	340100202B DEMAY15SNMB	C115368-5041
			A	340100202B DAMA26SNMB	C115368-5023	340100202B DAMAE26SNMB	C115368-5063	340100202B DAMAY26SNMB	C115368-5043
			B	340100202B DBMA44SNMB	C115368-5025	340100202B DBMAE44SNMB	C115368-5065	340100202B DBMAY44SNMB	C115368-5045
			C	340100202B DCMMA62SNMB	C115368-5027	340100202B DCMMAE62SNMB	C115368-5067	340100202B DCMAY62SNMB	C115368-5047
			D	340100202B DDMA78SNMB	C115368-5029	340100202B DDMAE78SNMB	C115368-5069	340100202B DDMAY78SNMB	C115368-5049
			F	340100202B DFMA104SNMB-FR172	C115368-5081	340100202B DFMAE104SNMB-FR172	C115368-6061	340100202B DFMAY104SNMB-FR172	C115368-5085
	Shell nickel plated	Pin	F	340100202B DFMA104PNMB-A174	C115368-5090	340100202B DFMAE104PNMB-A174	C115368-6064	340100202B DFMAY104PNMB-A174	C115368-5094
		Socket	F	340100202B DFMA104SNMB-A174	C115368-5091	340100202B DFMAE104SNMB-A174	C115368-6065	340100202B DFMAY104SNMB-A174	C115368-5095

Contacts description and Part Numbers

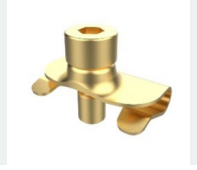
Size	Used for wire size AWG	Contact type	ESA / ESCC description	P/N
22/22	22 / 24 / 26 / 28	Pin, Gold over Nickel	340100507B	C330-8998-101H
		Pin, Gold over Copper	340100517B	C330-8998-104H
		Socket, Gold over Nickel	340100508B	C031-8998-101H
		Socket, Gold over Copper	340100518B	C031-8998-104H

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Accessories description and Part Numbers (To order separately)

Male screwlocks	Application	Backshell	Material	ESA / ESCCC description	P/N
	E, A Pin / E, A, B, C Skt	Without	Brass	340102265B NMB	C115419-0100C
	B, C Pin	Without	Brass	340102266B NMB	C115419-0101C
	D Skt	Without	Brass	340102267B NMB	C115420-0100C
	D Pin	Without	Brass	340102268B NMB	C115420-0101C
	E, A Pin / E, A, B, C Skt	With	Brass	340102269B NMB	C115419-0102C
	B, C Pin	With	Brass	340102270B NMB	C115419-0103C
	D Skt	With	Brass	340102271B NMB	C115420-0102C
	D Pin	With	Brass	340102272B NMB	C115420-0103C
	E, A Pin / E, A, B, C Skt	Without	Stainless Steel	340102273B	C115419-1004C
	B, C Pin	Without	Stainless Steel	340102274B	C115419-1005C
	D Skt	Without	Stainless Steel	340102275B	C115420-1004C
	D Pin	Without	Stainless Steel	340102276B	C115420-1005C
	E, A Pin / E, A, B, C Skt	With	Stainless Steel	340102277B	C115419-1006C
	B, C Pin	With	Stainless Steel	340102278B	C115419-1007C
	D Skt	With	Stainless Steel	340102279B	C115420-1006C
	D Pin	With	Stainless Steel	340102280B	C115420-1007C
	E, A Pin / E, A, B, C Skt	Without	Brass	340102202B NMB	C020419-0074C
	B, C Pin	Without	Brass	340102203B NMB	C020419-0048C
	D Skt	Without	Brass	340102204B NMB	C020420-0067C
	D Pin	Without	Brass	340102205B NMB	C020420-0049C
	E, A Pin / E, A, B, C Skt	With	Brass	340102244B NMB	C020419-0073C
	B, C Pin	With	Brass	340102245B NMB	C020419-0084C
	D Skt	With	Brass	340102246B NMB	C020420-0063C
	D Pin	With	Brass	340102247B NMB	C020420-0088C
	E, A Pin / E, A, B, C Skt	Without	Stainless Steel	340102249B	C115419-1000C
	B, C Pin	Without	Stainless Steel	340102250B	C115419-1001C
	D Skt	Without	Stainless Steel	340102251B	C115420-1000C
	D Pin	Without	Stainless Steel	340102252B	C115420-1001C
	E, A Pin / E, A, B, C Skt	With	Stainless Steel	340102254B	C115419-1002C
	B, C Pin	With	Stainless Steel	340102255B	C115419-1003C
	D Skt	With	Stainless Steel	340102256B	C115420-1002C
	D Pin	With	Stainless Steel	340102257B	C115420-1003C
	All Sizes Pin / Skt	Without	Brass	340102288B NMB	C115366-2409C
	All Sizes Pin / Skt	With	Brass	340102289B NMB	C115366-2410C
	All Sizes Pin / Skt	Without	Brass	340102286B NMB	C115366-2407C
	All Sizes Pin / Skt	With	Brass	340102287B NMB	C115366-2408C