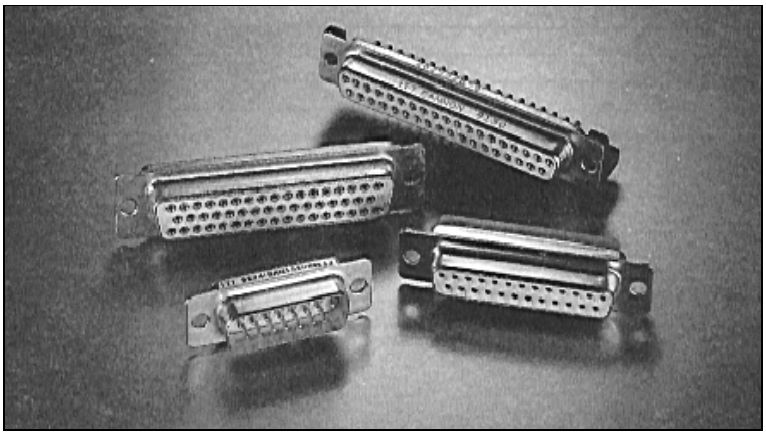
DSubminiature Space Connectors — General

High performance D Subminiature connectors, ESA or MIL qualified, for space applications.

Space/High reliability D*M and D*MA connectors meet stringent tests for outgassing and residual magnetism and are suitable for use in space, medical, and high performance military/aerospace applications.

D*M and D*MA connectors meet the performance and dimensional requirements of the ESA/ESCC 3401 and MIL-DTL-24308 specifications.

D*M and D*MA connectors are available in standard and high density layouts.



Product Features

- Non-magnetic
- Non-outgassing
- Standard density layout : 9, 15, 25, 37, 50 contacts
- High density layout : 15, 26, 44, 62, 78, 104 contacts
- 6 shell sizes : E, A, B, C, D,F
- Machined contacts

Materials and Finishes

Shells	Copper alloy Finish : 0,70 µm (28 µin) min Gold over Copper (ESA/ESCC and FR022 quality levels) Finish : 1,27 µm (50 µin) min Gold over Copper (FR023 quality level)
Insulators, and saver spacers	High performance thermoplastic type PCT, UL 94-V0, glass filled, natural color
Female signal contacts	Housings : Copper alloy Finish : 1,27 µm (50 µin) min Gold over Copper Clips : Berylium Copper alloy Finish : 1,27 µm (50 µin) min Gold over Nickel
Male signal contacts	Copper alloy Finish : 1,27 µm (50 µin) min Gold over Copper
Coaxial and power contacts Delivered separately (section coax and power contacts)	Copper alloy Finish : 1,27 µm (50 µin) min Gold over Copper Insulator (coaxial contacts) : PTFE (Teflon)
Screwlocks	Copper alloy Finish : 0,70 µm (28 µin) min Gold over Copper (ESA/ESCC and FR022 quality levels) Finish : 1,27 µm (50 µin) min Gold over Copper (FR023 quality level) Stainless Steel Finish : Passivated
Backshells	Copper alloy Finish : 0,70 µm (28 µin) min Gold over Copper (ESA/ESCC and FR022 quality levels) Finish : 1,27 µm (50 µin) min Gold over Copper (FR023 quality level)
Other metal parts	Copper alloy Finish : 0,70 µm (28 µin) min Gold over Copper (ESA/ESCC and FR022 quality levels) Finish : 1,27 µm (50 µin) min Gold over Copper (FR023 quality level)
Dust caps	Standard : High density Polyethylene, red color. Delivered with the connector for ESA version only. Antistatic (on request) : High density Polyethylene, black color
For 104 contacts connectors refers to D*M/D*MA High density 104 contacts section	

Dimensions are shown in mm (inch)
Dimensions subject to change

Quality Levels

ESA/ESCC Quality Level.

The Dole plant (France) is qualified by ESA for the supply of D*Subminiature connectors and accessories, according to the Generic Specification ESA/ESCC 3401, and the applicable Detail Specifications :

- ESA/ESCC 3401/001 (D*M connectors)
- ESA/ESCC 3401/002 (D*MA connectors)
- ESA/ESCC 3401/004 (D*M Coaxial contacts)
- ESA/ESCC 3401/005 (D*MA Crimp contacts)
- ESA/ESCC 3401/020 (D*BMA connectors saver)
- ESA/ESCC 3401/021 (D*BMA contacts saver)
- ESA/ESCC 3401/022 (Accessories)
- ESA/ESCC 3401/040 (D*M Power contacts)

First qualification obtained in 1981, and renewed every 2 years.
Qualification certificates : 71 (D*M), and 72 (D*MA).

Applications : Flight equipments, satellites, launchers (ESA/ESCC requirements).

FR023 Quality Level.

"MIL Class M" and similar.

Connector Specification FR023, based on the MIL-DTL-24308 Specification for Class M, and covering :

- the MIL qualified variants (QPL) for space applications (marked M24308/x-xx).
- by similarity, other variants manufactured and controlled according to the MIL-DTL-24308 Specification, for space applications.

The suffix –FR023 is used in the description, when no M24308 reference is available.

The Dole plant (France) is MIL qualified for the supply of D*Sub connectors, according to the MIL-DTL-24308 Specification.

Applications : Flight equipments, satellites, launchers (MIL requirements).

FR022 Quality Level.

"Commercial Space Grade".

Connector Specification FR022, amendment to the ESA/ESCC Generic Specification 3401, for low cost products manufactured :

- in the same ESA qualified site
- through the same manufacturing and control processes
- with the same piece parts
- with lighter controls, documentation and traceability

This Commercial Space Grade is replacing the previous –K47 and –K52 series.

Applications : Engineering models, ground equipments, testing, some flight equipments (no need for high requirements).
The connectors and accessories, supplied according to these 3 quality levels, are totally compatible, interchangeable, and intermateable, as they are manufactured with the same piece parts in the same ESA and MIL qualified site.

Performance Specifications

Operating Temperature range	-55°C / +125°C (-67°F / +257°F)
Storage Temperature range	-65°C / +125°C (-85°F / +257°F)

Working Voltage (between contacts and contact and shell)

Contact Type	Sea level	33000 m (108,240 feet) altitude	
D*M size 20	300 Vrms	250 Vrms	
D*M size 22	250 Vrms	200 Vrms	
D*M Coax	100 Vrms	100 Vrms	(center contact to coax shell)
D*M Coax	100 Vrms	100 Vrms	(coax shell to connector)
D*M Power	250 Vrms	250 Vrms	
D*MA size 20	300 Vrms	250 Vrms	
D*MA size 22	250 Vrms	250 Vrms	

Insulation Resistance (500 V DC)	10000 MΩ min
Voltage Proof	1250 Vrms / 2.0 mA max leakage current (Standard Density) 1000 Vrms / 2.0 mA max leakage current (High Density)
Contact Retention in insert	40 N max. / contact axial displacement 0,30 mm (.011 in) max

Mating Force (N max)

Shell Size	Standard Density	High Density
E	30	46
A	50	77
B	83	127
C	123	177
D	166	222
F		295

Unmating Force (N min / N max)

Shell Size	Standard Density	High Density
E	3.5 / 20	3.4 / 28
A	4.5 / 34	4.5 / 46
B	8.0 / 55	7.9 / 77
C	11.0 / 83	11.3 / 109
D	14.5 / 120	14.7 / 136
F		20.3 / 177

Engagement/Separation Forces	Engagement Force (Contacts size 20) : 3.33 N max, pin dia 1,04 (.041) Engagement Force (Contacts size 22) : 3.33 N max, pin dia 0,775 (.031) Separation Force (Contacts size 20) : 0.28 N min, pin dia 0,99 (.039) / 2.22 N max, pin dia 1,04 (.041) Separation Force (Contacts size 22) : 0.20 N min, pin dia 0,749 (.029) / 2.22 N max, pin dia 0,775 (.031)
Contact Resistance	Low level current (10 mA / 20 mV DC) : 6.0 mΩ max Rated current : 5.0 mΩ max

Maximum Rated Current

Contact Type	Rated Current (A)
Size 20 solder	7.5
Size 20 wrap	3.0
Size 22 solder	5.0
Coax center contact	7.5
Power	40.0
Size 20/20 crimp	7.5
Size 20/26 crimp	3.0
Size 20/18 crimp	7.5
Size 22/22 crimp	5.0

Residual Magnetism Level (ESA/ESCC)

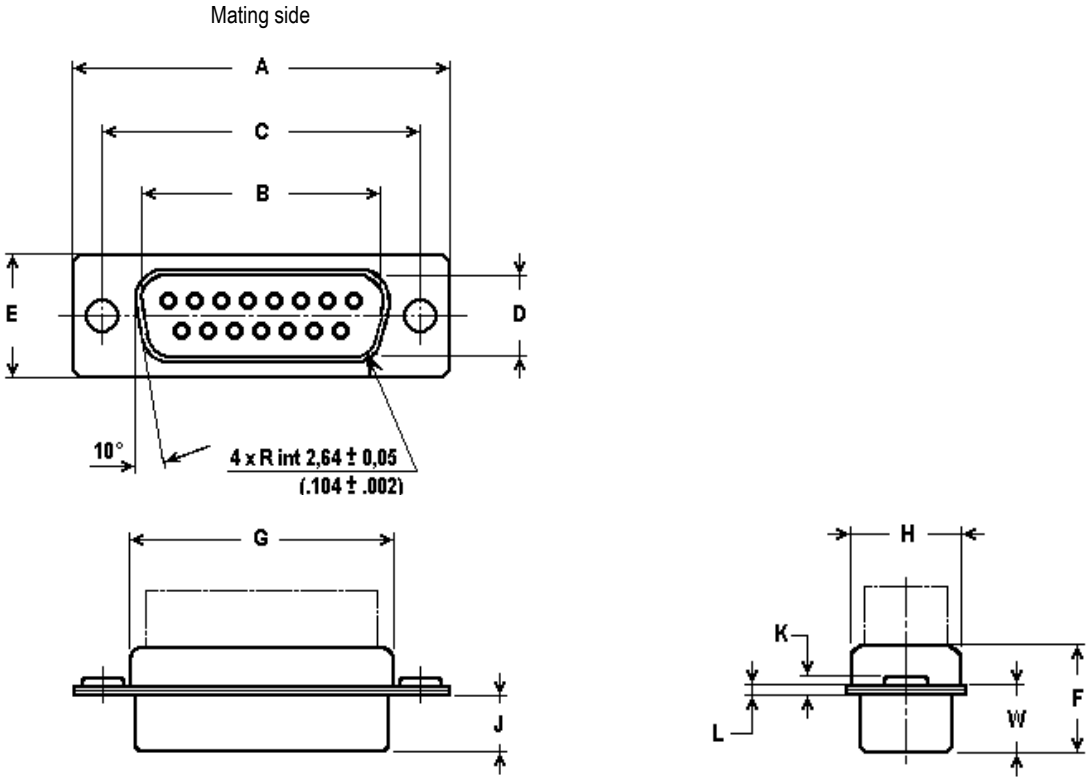
Residual Magnetism	Suffix code
200 Gamma	NMB
20 Gamma	NMC (On special request. Consult factory)

Magnetic Permeability (MIL Class M)	Relative Permeability : 2 mμ max (measurement with instrument conforming to ASTM A342)

Dimensions are shown in mm (inch)

Dimensions are shown in mm (inch)
Dimensions subject to change

Shell Dimensions - Plug



Shell Size mm	A ± 0,38	B ± 0,13	C ± 0,13	D ± 0,13	E ± 0,38	F ± 0,25	G ± 0,25	H ± 0,25	W ± * / **	J ± * / **	K ± * / **	L ± 0,25
E	30,81	16,92	24,99	8,36	12,55	10,72	19,28	10,72	6,69 *	5,94 *	1,21 *	0,77
A	39,14	25,25	33,32	8,36	12,55	10,72	27,51	10,72	6,69 *	5,94 *	1,21 *	0,77
B	53,04	38,96	47,04	8,36	12,55	10,82	41,28	10,72	6,84 **	5,84 **	1,52 **	0,99
C	69,32	55,42	63,50	8,36	12,55	10,82	57,71	10,72	6,84 **	5,84 **	1,52 **	0,99
D	66,93	52,81	61,11	11,07	15,37	10,82	55,33	13,57	6,84 **	5,84 **	1,52 **	0,99
F*												
									* ± 0,37 ** ± 0,41	* ± 0,12 ** ± 0,15	* ± 0,32 ** ± 0,25	

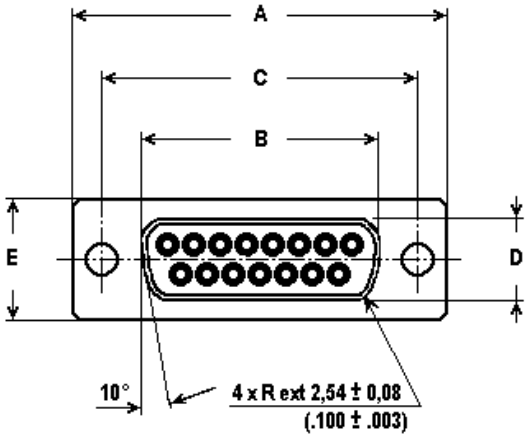
Shell Size (inch)	A ± .015	B ± .005	C ± .005	D ± .005	E ± .015	F ± .010	G ± .010	H ± .010	W ± * / **	J ± * / **	K ± * / **	L ± .010
E	1.213	.666	.984	.329	.494	.422	.759	.422	.264 *	.234	.048 *	.030
A	1.541	.994	1.312	.329	.494	.422	1.083	.422	.264 *	.234	.048 *	.030
B	2.088	1.534	1.852	.329	.494	.426	1.625	.422	.269 **	.230	.060 **	.039
C	2.729	2.182	2.500	.329	.494	.426	2.272	.422	.269 **	.230	.060 **	.039
D	2.635	2.079	2.406	.436	.605	.426	2.178	.534	.269 **	.230	.060 **	.039
F *												
									* ± .015 ** ± .016	* ± .005 ** ± .006	* ± .013 ** ± .010	

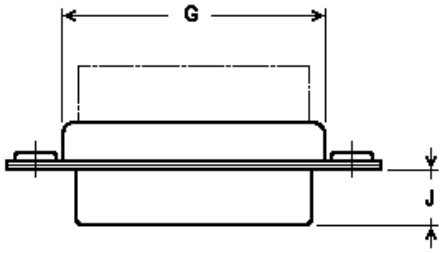
F* : Shell dimensions for 104 contacts connectors refers to D*M/D*MA High density 104 contacts section.

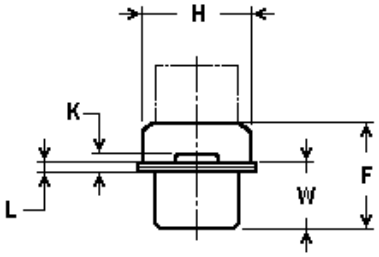
Dimensions are shown in mm (inch)
Dimensions subject to change

Shell Dimensions - Receptacle

Mating side







Shell Size mm	A ± 0,38	B ± 0,13	C ± 0,13	D ± 0,13	E ± 0,38	F ± 0,25	G ± 0,25	H ± 0,25	W ± 0,38	J ± 0,13	K ± 0,32	L ± 0,25
E	30,81	16,33	24,99	7,90	12,55	10,90	19,28	10,72	6,94	6,18	1,21	0,77
A	39,14	24,66	33,32	7,90	12,55	10,90	27,51	10,72	6,94	6,18	1,21	0,77
B	53,04	38,38	47,04	7,90	12,55	10,90	41,28	10,72	6,94	6,18	1,21	0,77
C	69,32	54,84	63,50	7,90	12,55	10,90	57,71	10,72	6,94	6,18	1,21	0,77
D	66,93	52,42	61,11	10,74	15,37	10,90	55,33	13,57	6,94	6,18	1,21	0,77
F*												

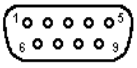
Shell Size (inch)	A ± .015	B ± .005	C ± .005	D ± .005	E ± .015	F ± .010	G ± .010	H ± .010	W ± .015	J ± .005	K ± .013	L ± .010
E	1.213	.643	.984	.311	.494	.429	.759	.422	.273	.243	.048	.030
A	1.541	.971	1.312	.311	.494	.429	1.083	.422	.273	.243	.048	.030
B	2.088	1.511	1.852	.311	.494	.429	1.625	.422	.273	.243	.048	.030
C	2.729	2.159	2.500	.311	.494	.429	2.272	.422	.273	.243	.048	.030
D	2.635	2.064	2.406	.423	.605	.429	2.178	.534	.273	.243	.048	.030
F*												

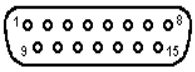
F* : Shell dimensiosn for 104 contacts connectors, refers page to D*M/D*MA High density 104 contacts section.

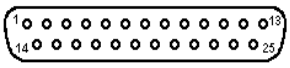
Dimensions are shown in mm (inch)
Dimensions subject to change

Standard Density Contact Cavity Arrangements

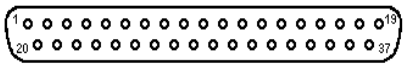
Face view plug inserts (use a mirror image for receptacle inserts)

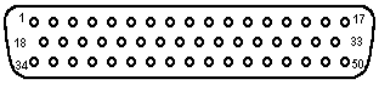






Shell Size	E	A	B
Contact Arrangement	9	15	25
Contact Size	# 20	# 20	# 20

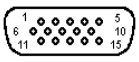


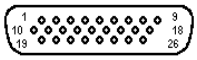


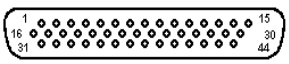
Shell Size	C	D
Contact Arrangement	37	50
Contact Size	# 20	# 20

High Density Contact Cavity Arrangements

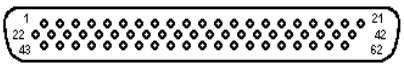
Face view pin inserts (use a mirror image for receptacle inserts)

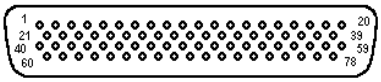




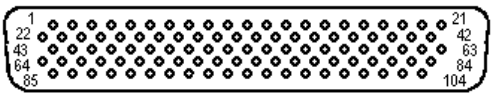


Shell Size	E	A	B
Contact Arrangement	15	26	44
Contact Size	# 22	# 22	# 22





Shell Size	C	D
Contact Arrangement	62	78
Contact Size	# 22	# 22

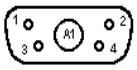


Shell Size	F
Contact Arrangement	104
Contact Size	# 22

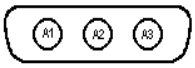
Dimensions are shown in mm (inch)
Dimensions subject to change

Standard Density Contact Cavity Combination Arrangements for D*M connectors :

Face view pin inserts (use a mirror image for receptacle inserts)

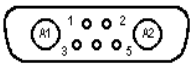


Shell Size	E
Contact Arrangement	5W1
Nb. of Size 20 Cavities	4
Nb. of Size 8 Cavities	1

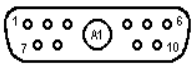


Shell Size	A
Contact Arrangement	3W3
Nb. of Size 20 Cavities	0
Nb. of Size 8 Cavities	3

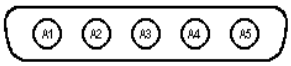
Shell Size	A
Contact Arrangement	3WK3
Nb. of Size 20 Cavities	0
Nb. of Size 8 Cavities	3



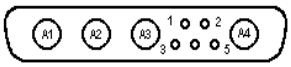
Shell Size	A
Contact Arrangement	7W2
Nb. of Size 20 Cavities	5
Nb. of Size 8 Cavities	2



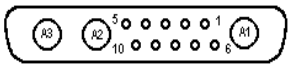
Shell Size	A
Contact Arrangement	11W1
Nb. of Size 20 Cavities	10
Nb. of Size 8 Cavities	1



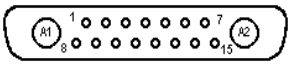
Shell Size	B
Contact Arrangement	5W5
Nb. of Size 20 Cavities	0
Nb. of Size 8 Cavities	5



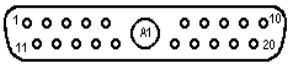
Shell Size	B
Contact Arrangement	9W4
Nb. of Size 20 Cavities	5
Nb. of Size 8 Cavities	4



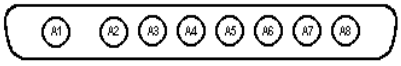
Shell Size	B
Contact Arrangement	13W3
Nb. of Size 20 Cavities	10
Nb. of Size 8 Cavities	3



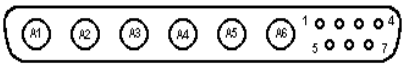
Shell Size	B
Contact Arrangement	17W2
Nb. of Size 20 Cavities	15
Nb. of Size 8 Cavities	2



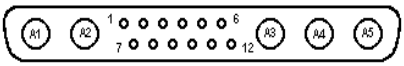
Shell Size	B
Contact Arrangement	21W1
Nb. of Size 20 Cavities	20
Nb. of Size 8 Cavities	1



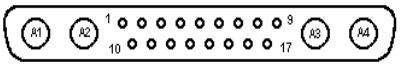
Shell Size	C
Contact Arrangement	8W8
Nb. of Size 20 Cavities	0
Nb. of Size 8 Cavities	8



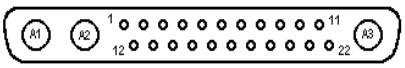
Shell Size	C
Contact Arrangement	13W6
Nb. of Size 20 Cavities	7
Nb. of Size 8 Cavities	6



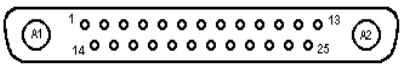
Shell Size	C
Contact Arrangement	17W5
Nb. of Size 20 Cavities	12
Nb. of Size 8 Cavities	5



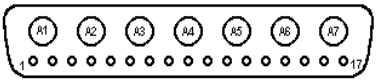
Shell Size	C
Contact Arrangement	21WA4
Nb. of Size 20 Cavities	17
Nb. of Size 8 Cavities	4



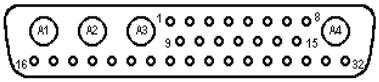
Shell Size	C
Contact Arrangement	25W3
Nb. of Size 20 Cavities	22
Nb. of Size 8 Cavities	3



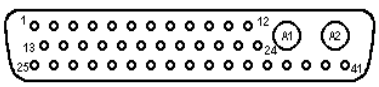
Shell Size	C
Contact Arrangement	27W2
Nb. of Size 20 Cavities	25
Nb. of Size 8 Cavities	2



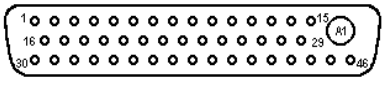
Shell Size	D
Contact Arrangement	24W7
Nb. of Size 20 Cavities	17
Nb. of Size 8 Cavities	7



Shell Size	D
Contact Arrangement	36W4
Nb. of Size 20 Cavities	32
Nb. of Size 8 Cavities	4



Shell Size	D
Contact Arrangement	43W2
Nb. of Size 20 Cavities	41
Nb. of Size 8 Cavities	2

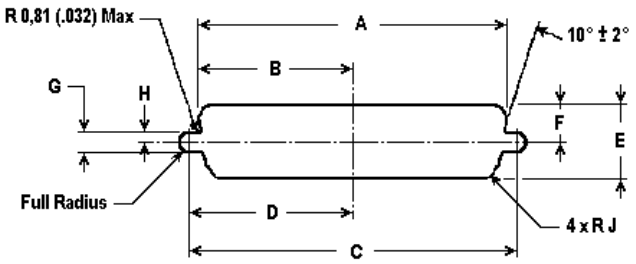


Shell Size	D
Contact Arrangement	47W1
Nb. of Size 20 Cavities	46
Nb. of Size 8 Cavities	1

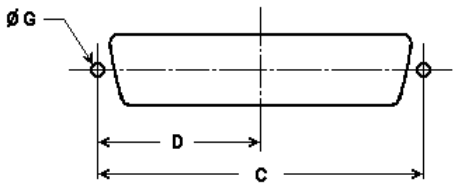
Dimensions are shown in mm (inch)
Dimensions subject to change

Panel Cutouts

Standard Cutout



Rear Mounting Cutout (Optional)



Standard Shell

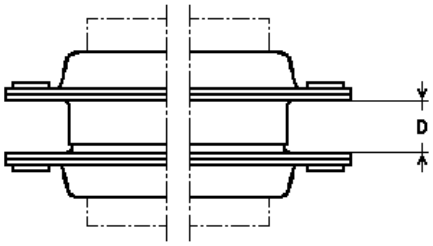
Shell Size mm (inch)	Mounting Method	A ± 0,13 (.005)	B ± 0,13 (.005)	C ± 0,13 (.005)	D ± 0,13 (.005)	E ± 0,13 (.005)	F ± 0,13 (.005)	G ± 0,05 (.002)	H ± 0,05 (.002)	J ± 0,05 (.002)
E	Front	22,19 (.874)	11,09 (.437)	24,99 (.984)	12,49 (.492)	13,03 (.513)	6,52 (.257)	3,04 (.120)	1,52 (.060)	2,10 (.083)
E	Rear	20,47 (.806)	10,23 (.403)	24,99 (.984)	12,49 (.492)	11,40 (.449)	5,71 (.225)	3,04 (.120)	1,52 (.060)	3,35 (.132)
A	Front	30,53 (1.202)	15,26 (.601)	33,32 (1.312)	16,66 (.656)	13,03 (.513)	6,52 (.257)	3,04 (.120)	1,52 (.060)	2,10 (.083)
A	Rear	28,80 (1.134)	14,40 (.567)	33,32 (1.312)	16,66 (.656)	11,40 (.449)	5,71 (.225)	3,04 (.120)	1,52 (.060)	3,35 (.132)
B	Front	44,27 (1.743)	22,14 (.872)	47,04 (1.852)	23,52 (.926)	13,03 (.513)	6,52 (.257)	3,04 (.120)	1,52 (.060)	2,10 (.083)
B	Rear	42,51 (1.674)	21,25 (.837)	47,04 (1.852)	23,52 (.926)	11,40 (.449)	5,71 (.225)	3,04 (.120)	1,52 (.060)	3,35 (.132)
C	Front	60,73 (2.391)	30,37 (1.196)	63,50 (2.500)	31,75 (1.250)	13,03 (.513)	6,52 (.257)	3,04 (.120)	1,52 (.060)	2,10 (.083)
C	Rear	59,08 (2.326)	29,54 (1.163)	63,50 (2.500)	31,75 (1.250)	11,40 (.449)	5,71 (.225)	3,04 (.120)	1,52 (.060)	3,35 (.132)
D	Front	58,34 (2.297)	29,18 (1.149)	61,11 (2.406)	30,55 (1.203)	15,82 (.623)	7,92 (.312)	3,04 (.120)	1,52 (.060)	2,10 (.083)
D	Rear	56,33 (2.218)	28,16 (1.109)	61,11 (2.406)	30,55 (1.203)	14,09 (.555)	7,06 (.278)	3,04 (.120)	1,52 (.060)	3,35 (.132)
F	Front	59,60 (2.346)	29,80 (1.173)	63,50 (2.500)	31,75 (1.250)	19,10 (.752)	9,55 (.376)	3,04 (.120)	1,52 (.060)	2,10 (.083)
F	Rear	58,10 (2.287)	29,05 (1.144)	63,50 (2.500)	31,75 (1.250)	14,56 (.573)	7,28 (.287)	3,04 (.120)	1,52 (.060)	3,35 (.132)

Dual Float Mount Shell

Shell Size mm (inch)	Mounting Method	A ± 0,13 (.005)	B ± 0,13 (.005)	C ± 0,13 (.005)	D ± 0,13 (.005)	E ± 0,13 (.005)	F ± 0,13 (.005)	G ± 0,05 (.002)	H ± 0,05 (.002)	J ± 0,05 (.002)
E	Front	23,01 (.906)	11,50 (.453)	24,99 (.984)	12,49 (.492)	13,84 (.545)	6,93 (.273)	2,23 (.088)	1,11 (.044)	2,10 (.083)
E	Rear	21,28 (.838)	10,64 (.419)	24,99 (.984)	12,49 (.492)	12,21 (.481)	6,12 (.241)	2,23 (.088)	1,11 (.044)	3,35 (.132)
A	Front	31,34 (1.234)	15,67 (.617)	33,32 (1.312)	16,66 (.656)	13,84 (.545)	6,93 (.273)	2,23 (.088)	1,11 (.044)	2,10 (.083)
A	Rear	29,61 (1.166)	14,80 (.583)	33,32 (1.312)	16,66 (.656)	12,21 (.481)	6,12 (.241)	2,23 (.088)	1,11 (.044)	3,35 (.132)
B	Front	45,08 (1.775)	22,55 (.888)	47,04 (1.852)	23,52 (.926)	13,84 (.545)	6,93 (.273)	2,23 (.088)	1,11 (.044)	2,10 (.083)
B	Rear	43,33 (1.706)	21,66 (.853)	47,04 (1.852)	23,52 (.926)	12,21 (.481)	6,12 (.241)	2,23 (.088)	1,11 (.044)	3,35 (.132)
C	Front	61,54 (2.423)	30,78 (1.212)	63,50 (2.500)	31,75 (1.250)	13,84 (.545)	6,93 (.273)	2,23 (.088)	1,11 (.044)	2,10 (.083)
C	Rear	59,79 (2.354)	29,89 (1.177)	63,50 (2.500)	31,75 (1.250)	12,21 (.481)	6,12 (.241)	2,23 (.088)	1,11 (.044)	3,35 (.132)
D	Front	59,15 (2.329)	29,59 (1.165)	61,11 (2.406)	30,55 (1.203)	16,63 (.655)	8,33 (.328)	2,23 (.088)	1,11 (.044)	2,10 (.083)
D	Rear	57,15 (2.250)	28,57 (1.125)	61,11 (2.406)	30,55 (1.203)	14,90 (.587)	7,46 (.294)	2,23 (.088)	1,11 (.044)	3,35 (.132)
F	Front	60,40 (2.378)	30,20 (1.189)	63,50 (2.500)	31,75 (1.250)	19,90 (.783)	9,95 (.392)	2,23 (.088)	1,11 (.044)	2,10 (.083)
F	Rear	58,90 (2.319)	29,45 (1.159)	63,50 (2.500)	31,75 (1.250)	15,16 (.597)	7,58 (.298)	2,23 (.088)	1,11 (.044)	3,35 (.132)

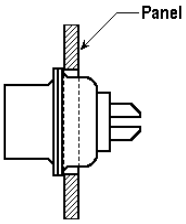
Dimensions are shown in mm (inch)
Dimensions subject to change

Mounting Conditions

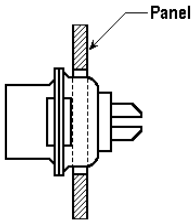


Shell Size	D min	D max
E	6,35 (.250)	7,11 (.280)
A	6,35 (.250)	7,11 (.280)
B	6,12 (.241)	6,88 (.271)
C	6,12 (.241)	6,88 (.271)
D	6,12 (.241)	6,88 (.271)
F	6,12 (.241)	6,88 (.271)

Front Panel Mounting

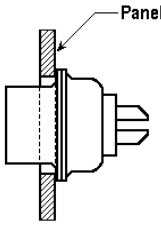


Standard Shell

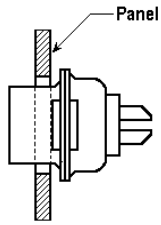


Dual Float Mount Shell

Rear Panel Mounting



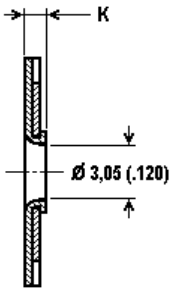
Standard Shell



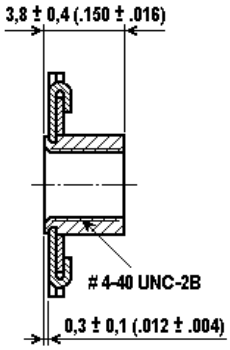
Dual Float Mount Shell

Fixing Options

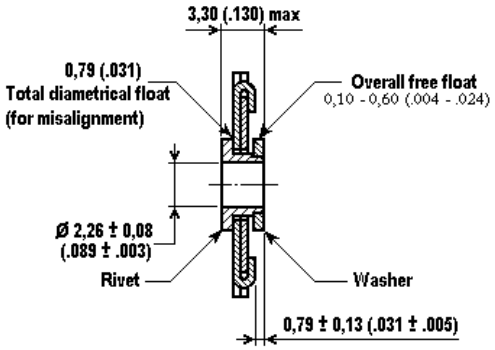
Through Hole (Eyelet)



Captive Nut (E)



Dual Float Mount (Y)



Dimension K - Plug

Shell Size	± 0,33 (.013)	± 0,25 (.010)
E	1,21 (.048)	
A	1,21 (.048)	
B		1,52 (.060)
C		1,52 (.060)
D		1,52 (.060)
F	0.9± 0,1 (.035± 0,004)	

Dimension K – Receptacle

Shell Size	± 0,318 (.013)
E	1,21 (.048)
A	1,21 (.048)
B	1,21 (.048)
C	1,21 (.048)
D	1,21 (.048)

Dimensions are shown in mm (inch)
Dimensions subject to change

Product Features

Connectors with crimp, snap-in, removable contacts .

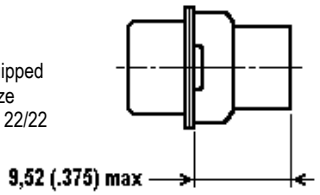
Connectors normally supplied without contacts (suffix F0 in the description, not marked on the connector)

When supplied with contacts (no suffix F0), the connectors are equiped with contacts :
Size 20/20 for standard density
Size 22/22 for high density

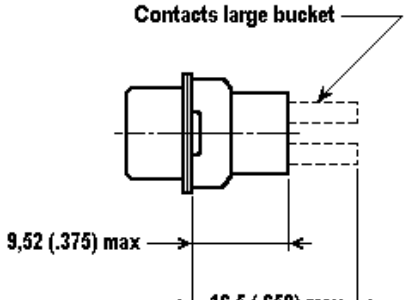
Packaging unit : 1 piece (plastic bag)
Dust cap and insertion/extraction tool supplied with each connector, only for quality level ESA/ESCC

Specific Dimensions

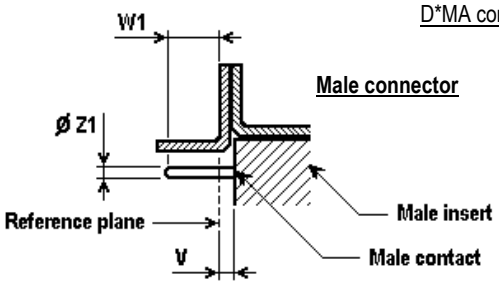
Connectors equipped with contacts size 20/20 – 20/26 – 22/22

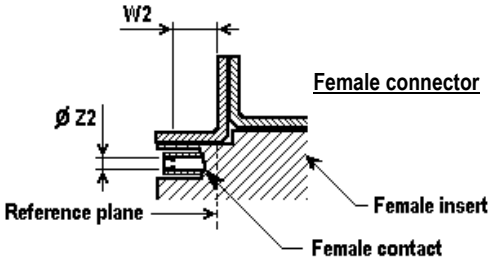


Connectors equipped with contacts size 20/18



D*MA connectors with contacts





Shell Size	V max	W1 min (Full pin diameter)		W1 max (Full pin diameter)		W2 min (Square ended pin)	
		S.D. (# 20)	H.D. (# 22)	S.D. (# 20)	H.D. (# 22)	S.D. (# 20)	H.D. (# 22)
E	0,40 (.016)	4,36 (.172)	4,43 (.174)	5,48 (.216)	5,45 (.215)	3,77 (.148)	3,63 (.143)
A	0,40 (.016)	4,36 (.172)	4,43 (.174)	5,48 (.216)	5,45 (.215)	3,77 (.148)	3,63 (.143)
B	0,60 (.024)	4,26 (.168)	4,33 (.170)	5,38 (.212)	5,45 (.215)	3,77 (.148)	3,63 (.143)
C	0,60 (.024)	4,26 (.168)	4,33 (.170)	5,38 (.212)	5,45 (.215)	3,77 (.148)	3,63 (.143)
D	0,60 (.024)	4,26 (.168)	4,33 (.170)	5,38 (.212)	5,45 (.215)	3,77 (.148)	3,63 (.143)

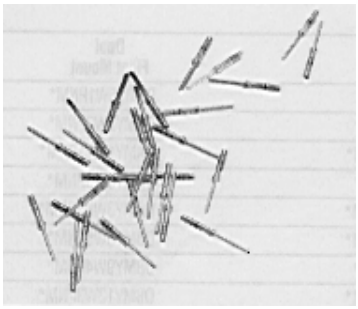
∅ Z1 : 0,99 (.039) / 1,04 (.041) S.D. (# 20), or 0,75 (.0295) / 0,77 (.0305) H.D. (# 22)
∅ Z2 : to accomodate a 1,02 (.040) diameter pin S.D. (# 20), or a 0,76 (.030) diameter pin H.D. (# 22)

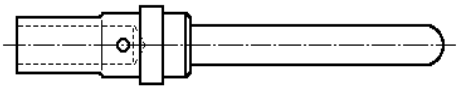
Weights

Max Weight (grams) without contacts	Shell Size	Standard Density	High Density
	E	6.0	6.0
	A	8.3	8.0
	B	13.6	12.0
	C	18.9	17.0
	D	22.3	20.0

Dimensions are shown in mm (inch)
Dimensions subject to change

Male (Pin) Crimp Contacts





Contact Type	Max Weight (grams)
Pin 20/20	0.16
Pin 20/26	0.18
Pin 20/18	0.30
Pin 22/22	0.08

Bucket Type	Size	Wire Size	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		AWG	Description	Part Number	Description	Part Number	Description	Part Number
Standard	20/20	20 / 22 / 24	340100501B	330-8996-101H	330-8996-101-FR023	330-8996-101E	330-8996-101-FR022	330-8996-101D
Reduced	20/26	26 / 28 / 30*	340100503B	330-8997-101H	330-8997-101-FR023	330-8997-101E	330-8997-101-FR022	330-8997-101D
Large	20/18	18 / 20 / 2x22*	340100505B	330-8995-101H	330-8995-101-FR023	330-8995-101E	330-8995-101-FR022	330-8995-101D
Standard	22/22	22 / 24 / 26 / 28*	340100507B	330-8998-101H	330-8998-101-FR023	330-8998-101E	330-8998-101-FR022	330-8998-101D

Female (Socket) Crimp Contacts

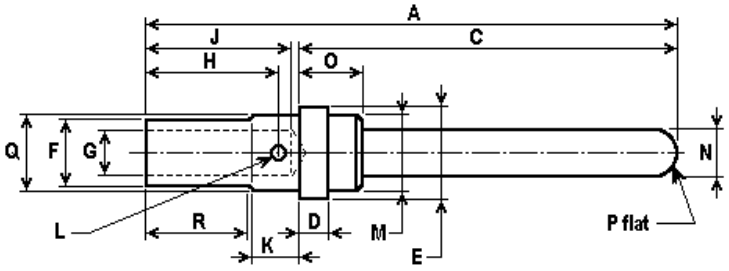
Contact Type	Max Weight (grams)
Skt 20/20	0.18
Skt 20/26	0.21
Skt 20/18	0.32
Skt 22/22	0.11

Bucket Type	Size	Wire Size	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		AWG	Description	Part Number	Description	Part Number	Description	Part Number
Standard	20/20	20 / 22 / 24	340100502B	031-8996-101H	031-8996-101-FR023	031-8996-101E	031-8996-101-FR022	031-8996-101D
Reduced	20/26	26 / 28 / 30*	340100504B	031-8997-101H	031-8997-101-FR023	031-8997-101E	031-8997-101-FR022	031-8997-101D
Large	20/18	18 / 20 / 2x22*	340100506B	031-8995-101H	031-8995-101-FR023	031-8995-101E	031-8995-101-FR022	031-8995-101D
Standard	22/22	22 / 24 / 26 / 28*	340100508B	031-8998-101H	031-8998-101-FR023	031-8998-101E	031-8998-101-FR022	031-8998-101D

Note * : Not approved by ESA
Contacts are without marking and without ink color coding (non-outgassing)
Residual magnetism level NMB (200 Gamma max)
For other residual magnetism level, consult factory
Packaging unit : 250 pieces (plastic bag)

Dimensions are shown in mm (inch)
Dimensions subject to change

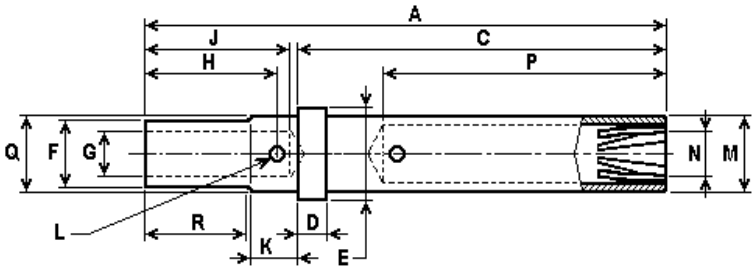
Male Contact Size 20/20



mm	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	O	Ø P	Ø Q	R
Min	-	9,80	0,74	2,08	1,65	1,09	3,40	3,81	1,01	0,64	1,78	0,99	1,65	-	1,73	2,40
Max	14,14	10,00	0,84	2,16	1,73	1,17	3,68	4,70	1,24	0,80	1,85	1,04	1,75	0,30	1,80	-

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	O	Ø P	Ø Q	R
Min	-	.386	.029	.082	.065	.043	.134	.150	.040	.025	.070	.039	.065	-	.068	.094
Max	.557	.394	.033	.085	.068	.046	.145	.185	.049	.031	.073	.041	.069	.012	.071	-

Female Contact Size 20/20

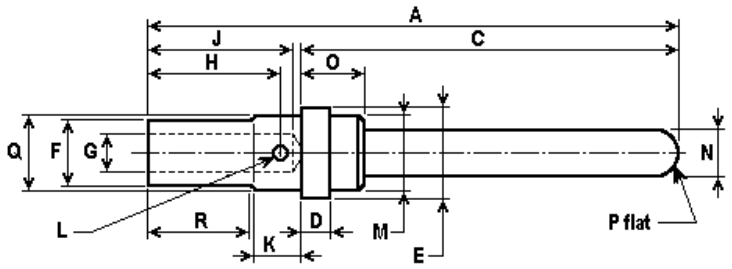


mm	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	P	Ø Q	R
Min	-	9,45	0,74	2,08	1,65	1,09	3,40	3,81	1,01	0,64	1,75	1,07	7,37	1,73	2,40
Max	13,80	9,65	0,84	2,16	1,73	1,17	3,68	4,70	1,24	0,80	1,85	1,14	7,87	1,80	-

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	P	Ø Q	R
Min	-	.373	.029	.082	.065	.043	.134	.150	.040	.025	.069	.042	.29	.068	.094
Max	.543	.379	.033	.085	.068	.046	.145	.185	.049	.031	.073	.045	.31	.071	-

Dimensions are shown in mm (inch)
Dimensions subject to change

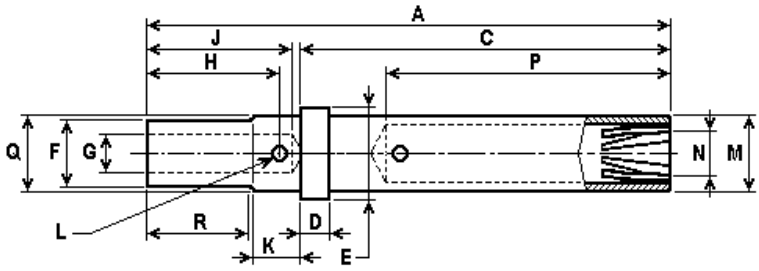
Male Contact Size 20/26



mm	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	O	Ø P	Ø Q	R
Min	-	9,80	0,74	2,08	1,65	0,59	3,40	3,81	1,01	0,45	1,78	0,99	1,65	-	1,73	2,40
Max	14,14	10,00	0,84	2,16	1,73	0,66	3,68	4,70	1,24	0,55	1,85	1,04	1,75	0,30	1,80	-

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	O	Ø P	Ø Q	R
Min	-	.386	.029	.082	.065	.023	.134	.150	.040	.018	.070	.039	.065	-	.068	.094
Max	.557	.394	.033	.085	.068	.026	.145	.185	.049	.022	.073	.041	.069	.012	.071	-

Female Contact Size 20/26

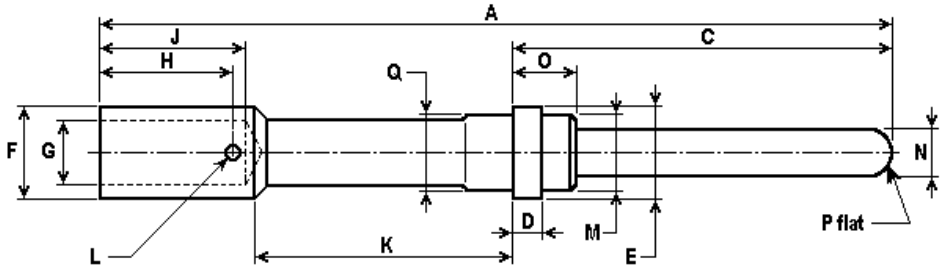


mm	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	P	Ø Q	R
Min	-	9,45	0,74	2,08	1,65	0,59	3,40	3,81	1,01	0,45	1,75	1,07	7,37	1,73	2,40
Max	13,80	9,65	0,84	2,16	1,73	0,66	3,68	4,70	1,24	0,55	1,85	1,14	7,87	1,80	-

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	P	Ø Q	R
Min	-	.373	.029	.082	.065	.023	.134	.150	.040	.018	.069	.042	.29	.068	.094
Max	.543	.379	.033	.085	.068	.026	.145	.185	.049	.022	.073	.045	.31	.071	-

Dimensions are shown in mm (inch)
Dimensions subject to change

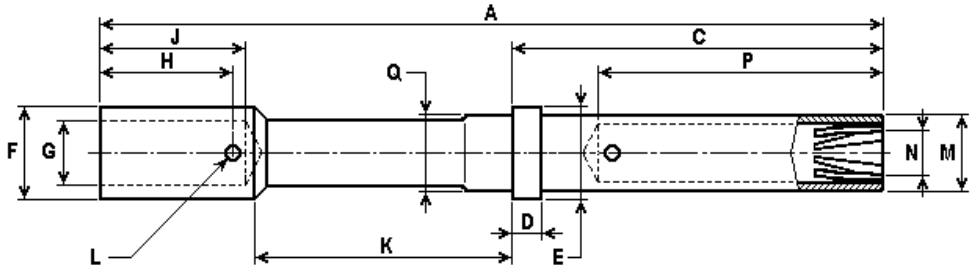
Male Contact Size 20/18



mm	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	O	Ø P	Ø Q
Min	-	9,80	0,74	2,08	2,09	1,65	3,81	4,32	6,15	0,60	1,78	0,99	1,65	-	1,73
Max	21,13	10,00	0,84	2,16	2,18	1,74	4,00	4,70	6,45	0,80	1,85	1,04	1,75	0,30	1,80

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	O	Ø P	Ø Q
Min	-	.386	.029	.082	.082	.065	.150	.170	.242	.024	.070	.039	.065	-	.068
Max	.832	.394	.033	.085	.086	.069	.157	.185	.254	.031	.073	.041	.069	.012	.071

Female Contact Size 20/18

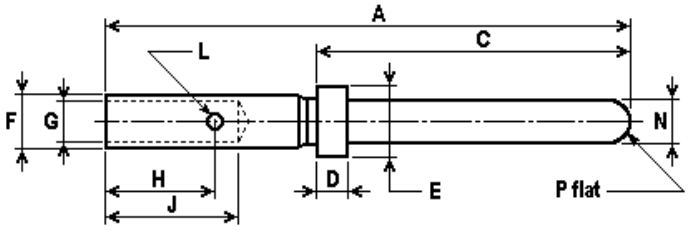


mm	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	P	Ø Q
Min	-	9,45	0,74	2,08	2,09	1,65	3,81	4,32	6,15	0,60	1,75	1,07	7,37	1,73
Max	20,80	9,65	0,84	2,16	2,18	1,74	4,00	4,70	6,45	0,80	1,85	1,14	7,87	1,80

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	K	Ø L	Ø M	Ø N	P	Ø Q
Min	-	.373	.029	.082	.082	.065	.150	.170	.242	.024	.069	.042	.29	.068
Max	.819	.379	.033	.085	.086	.069	.157	.185	.254	.031	.073	.045	.31	.071

Dimensions are shown in mm (inch)
Dimensions subject to change

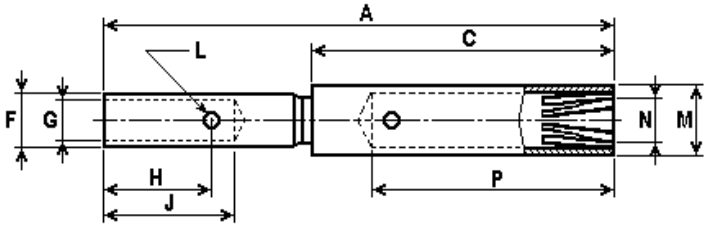
Male Contact Size 22/22



mm	A	C	D	Ø E	Ø F	Ø G	H	J	Ø L	Ø N	Ø P
Min	-	7,49	0,74	1,52	1,17	0,85	3,09	3,58	0,46	0,75	-
Max	13,64	7,62	0,84	1,57	1,22	0,90	3,27	3,99	0,56	0,77	0,20

(Inch)	A	C	D	Ø E	Ø F	Ø G	H	J	Ø L	Ø N	Ø P
Min	-	.295	.029	.060	.046	.0335	.122	.141	.018	.0295	-
Max	.537	.300	.033	.062	.048	.0355	.129	.157	.022	.0305	.008

Female Contact Size 22/22

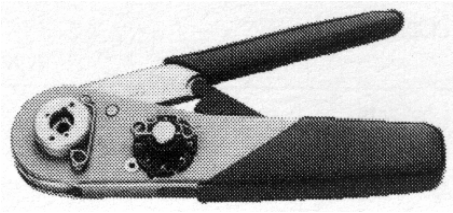


mm	A	C	Ø F	Ø G	H	J	Ø L	Ø M	Ø N	P
Min	-	7,08	1,17	0,85	3,09	3,58	0,46	1,52	0,78	5,55
Max	13,41	7,34	1,22	0,90	3,27	3,99	0,56	1,57	-	5,85

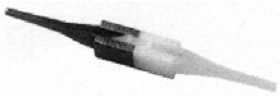
(Inch)	A	C	Ø F	Ø G	H	J	Ø L	Ø M	Ø N	P
Min	-	.279	.046	.0335	.122	.141	.018	.060	.031	.219
Max	.528	.289	.048	.0355	.129	.157	.022	.062	-	.230

Dimensions are shown in mm (inch)
Dimensions subject to change

Application Tools



Hand Crimp Tool +locator should be ordered separately



Insertion/Extraction Tool
Supplied with each connector, for quality level ESA/ESCC
To be ordered separately for quality levels FR023 and FR022

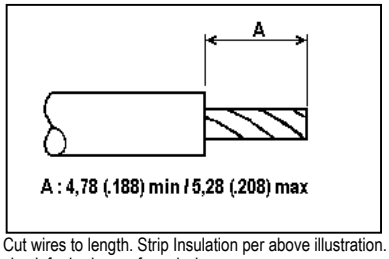
Contact	Plastic Insertion/Extraction Tool		Plastic Extraction Tool	
	Description	Part Number	Description	Part Number
20/20	CIET-20-HD	980-2000-426	CET-20-11	323-7010-000
20/26	CIET-20-HD	980-2000-426	CET-20-11	323-7010-000
20/18	-	-	CET-20-15	274-5016-002
22/22	CIET-22D	274-7048-000	-	-

Contact	Wire Size	Crimp Tool description	Crimp tool Part Number	Locator description	Locator Part Number	Selector Position *
20/20	AWG 20	M22520/2-01	995-0001-584	M22520/2-08	995-0001-604	7
	AWG 22	M22520/2-01	995-0001-584	M22520/2-08	995-0001-604	6
	AWG 24	M22520/2-01	995-0001-584	M22520/2-08	995-0001-604	5
20/26	AWG 26	M22520/2-01	995-0001-584	M22520/2-08 **	995-0001-604	7
	AWG 28	M22520/2-01	995-0001-584	M22520/2-08 **	995-0001-604	6
	AWG 30	M22520/2-01	995-0001-584	M22520/2-08 **	995-0001-604	6
20/18	AWG 18	M22520/2-01	995-0001-584	K250	980-0005-722	8
	AWG 20	M22520/2-01	995-0001-584	K250	980-0005-722	7
22/22	AWG 22	M22520/2-01	995-0001-584	M22520/2-09 (Pin) or /2-06 (Skt)	995-0001-734 or -739	4
	AWG 24	M22520/2-01	995-0001-584	***	995-0001-734 or -739	3
	AWG 26	M22520/2-01	995-0001-584	M22520/2-09 (Pin) or /2-06 (Skt)	995-0001-734 or -739	2
	AWG 28	M22520/2-01	995-0001-584	***	995-0001-734 or -739	1
				M22520/2-09 (Pin) or /2-06 (Skt)		
				***		
				M22520/2-09 (Pin) or /2-06 (Skt)		
				***		

* For information only. Wire tensile strength test shall govern. For ESA/ESCC, see ECSS-Q-70-26 (replaces ESA PSS-01-726).
** Locator L3198-20HD (Part number 995-0001-325) can also be used for contacts 20/26.
*** Locator M22520/2-06 (Part number 995-0001-739) can also be used for both Pin and Skt contacts.

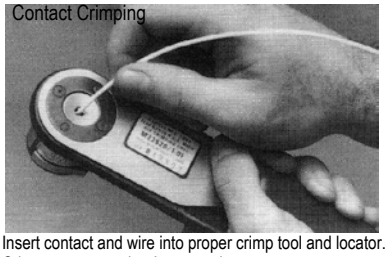
Assembly Instructions

Wire Stripping



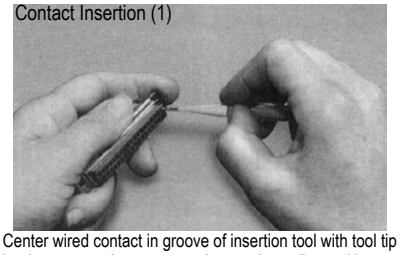
Cut wires to length. Strip Insulation per above illustration. check for broken or frayed wires.

Contact Crimping



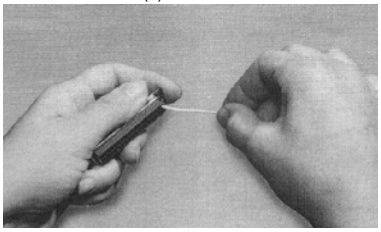
Insert contact and wire into proper crimp tool and locator. Crimp contact to wire. Inspect crimp.

Contact Insertion (1)



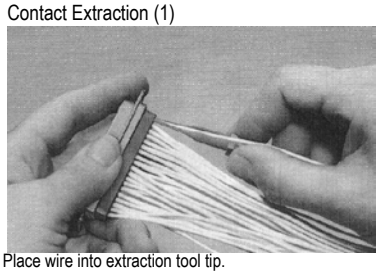
Center wired contact in groove of insertion tool with tool tip butting contact. Insert contact into cavity until a positive stop is felt. Inspect insertion.

Contact Insertion (2)



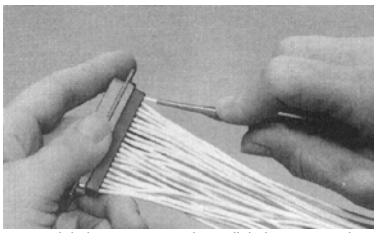
To be sure contact is locked securely, pull back lightly on wire. Repeat for balance of contacts working row by row across the insulator

Contact Extraction (1)



Place wire into extraction tool tip.

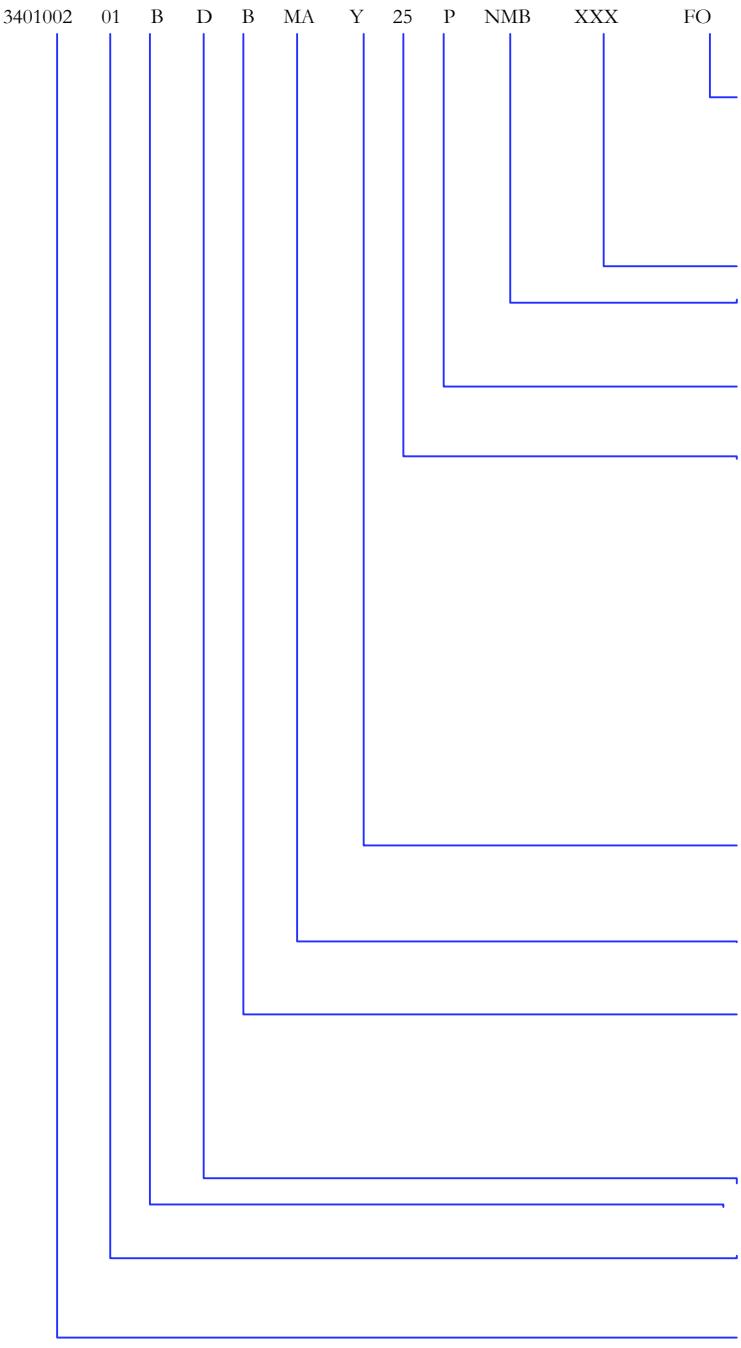
Contact Extraction (2)



Insert tool tip into contact cavity until tip bottoms against contact shoulder, releasing tines. Hold wire against tool with finger and remove tool and contact. Repeat for balance of contacts.

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – ESA/ESCC Quality Level



Contact information
F0: without contacts (marked on the documentation / not marked on the connector)
Nothing : with contacts (size 20/20 for Standard Density / size 22/22 for High Density)

Shell Finish for F size only : A174 (25.4 µm Ni), FR172 : 0.7µm gold over 25.4µm Ni
Magnetism level
NMB : 200 Gamma
NMC : 20 Gamma (on special request)
Type of contact
P : Pin (Male)
S : Socket (Female)
Contact arrangement (number of contacts)
Number of contacts for variant 01 :
E : 9
A : 15
B: 25
C:: 37
D 50
Number of contacts for variant 02 :
E: 15
A: 26
B: 44
C: 62
D: 78
F: 104
Fixing option
Nothing : Standard through hole
E: Captive nut (not applicable for size F)
Y: Dual float mount
Insert type : MA for two-piece insert with metal retention clips for crimp contacts
Shell size
E
A
B
C
D
F
Series
Testing level
Variant
01: Standard density
02: High density
Detail specification number

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – FR023 Quality Level

D B MA M Y 25 P NMB -XXX-FO FR023 FO

Contact information
- F0: without contacts (marked on the documentation / not marked on the connector)
- Nothing : with contacts (size 20/20 for Standard Density / size 22/22 for High Density)

Suffix for MIL Class Level (Connector Specification FR023)

Shell Finish for F size only : A174 (25.4 µm Ni), FR172 : 0.7µm gold over 25.4µm Ni

Magnetism level
- NMB : 200 Gamma
- NMC : 20 Gamma (on special request)

Type of contact
- P : Pin (Male)
- S : Socket (Female)

Contact arrangement (number of contacts)

Number of contacts for variant 01 :
- E : 9
- A : 15
- B: 25
- C:: 37
- D 50

Number of contacts for High Density versions (contacts size 22):
- E: 15
- A: 26
- B: 44
- C: 62
- D: 78
- F: 104

Fixing option
- Nothing : Standard through hole
- E: Captive nut (not applicable for size F)
- Y: Dual float mount

According to MIL-DTL-24308 Specification

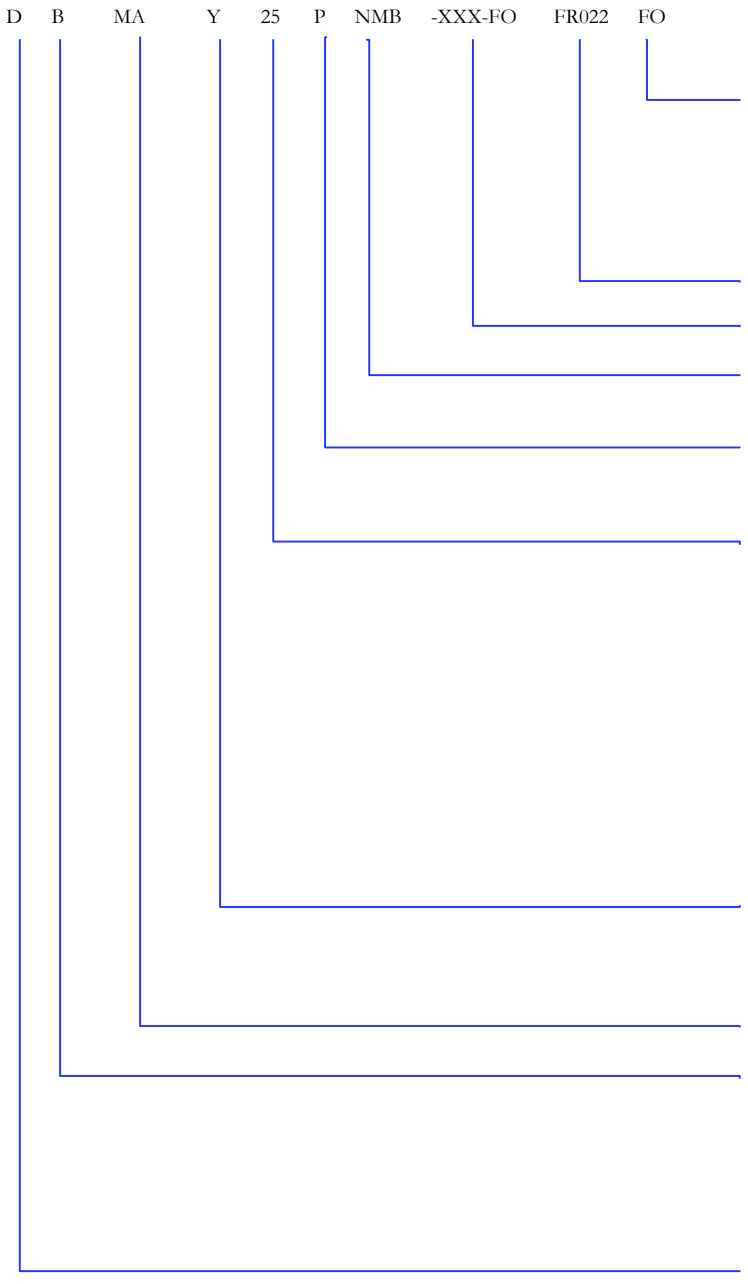
Insert type : MA for two-piece insert with metal retention clips for crimp contacts

Shell size
- E
- A
- B
- C
- D
- F

Series

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – FR022 Quality Level



Contact information

F0: without contacts (marked on the documentation / not marked on the connector)

Nothing : with contacts (size 20/20 for Standard Density / size 22/22 for High Density)

Suffix for Commercial Space Grade Quality Level (Connector Specification FR022)

Shell Finish for F size only : A174 (25.4 µm Ni), FR172 : 0.7µm gold over 25.4µm Ni

Magnetism level

NMB : 200 Gamma

NMC : 20 Gamma (on special request)

Type of contact

P : Pin (Male)

S : Socket (Female)

Contact arrangement (number of contacts)

Number of contacts for variant 01 :

E : 9

A : 15

B: 25

C:: 37

D 50

Number of contacts for High Density versions (contacts size 22):

E: 15

A: 26

B: 44

C: 62

D: 78

F: 104

Fixing option

Nothing : Standard through hole

E: Captive nut (not applicable for size F)

Y: Dual float mount

Insert type : MA for two-piece insert with metal retention clips for crimp contacts

Shell size

E

A

B

C

D

F

Series

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
Without contacts	340100201B DEMA*9PNMBF0	DEMAM*9PNMB-FR023-F0	DEMA*9PNMB-FR022-F0
	340100201B DEMA*9SNMBF0	DEMAM*9SNMB-FR023-F0	DEMA*9SNMB-FR022-F0
	340100201B DAMA*15PNMBF0	DAMAM*15PNMB-FR023-F0	DAMA*15PNMB-FR022-F0
	340100201B DAMA*15SNMBF0	DAMAM*15SNMB-FR023-F0	DAMA*15SNMB-FR022-F0
	340100201B DBMA*25PNMBF0	DBMAM*25PNMB-FR023-F0	DBMA*25PNMB-FR022-F0
	340100201B DBMA*25SNMBF0	DBMAM*25SNMB-FR023-F0	DBMA*25SNMB-FR022-F0
	340100201B DCMA*37PNMBF0	DCMAM*37PNMB-FR023-F0	DCMA*37PNMB-FR022-F0
	340100201B DCMA*37SNMBF0	DCMAM*37SNMB-FR023-F0	DCMA*37SNMB-FR022-F0
	340100201B DDMA*50PNMBF0	DDMAM*50PNMB-FR023-F0	DDMA*50PNMB-FR022-F0
	340100201B DDMA*50SNMBF0	DDMAM*50SNMB-FR023-F0	DDMA*50SNMB-FR022-F0
	340100202B DEMA*15PNMBF0	DEMAM*15PNMB-FR023-F0	DEMA*15PNMB-FR022-F0
	340100202B DEMA*15SNMBF0	DEMAM*15SNMB-FR023-F0	DEMA*15SNMB-FR022-F0
	340100202B DAMA*26PNMBF0	DAMAM*26PNMB-FR023-F0	DAMA*26PNMB-FR022-F0
	340100202B DAMA*26SNMBF0	DAMAM*26SNMB-FR023-F0	DAMA*26SNMB-FR022-F0
	340100202B DBMA*44PNMBF0	DBMAM*44PNMB-FR023-F0	DBMA*44PNMB-FR022-F0
	340100202B DBMA*44SNMBF0	DBMAM*44SNMB-FR023-F0	DBMA*44SNMB-FR022-F0
	340100202B DCMA*62PNMBF0	DCMAM*62PNMB-FR023-F0	DCMA*62PNMB-FR022-F0
	340100202B DCMA*62SNMBF0	DCMAM*62SNMB-FR023-F0	DCMA*62SNMB-FR022-F0
	340100202B DDMA*78PNMBF0	DDMAM*78PNMB-FR023-F0	DDMA*78PNMB-FR022-F0
	340100202B DDMA*78SNMBF0	DDMAM*78SNMB-FR023-F0	DDMA*78SNMB-FR022-F0
	340100202B DFMA*104PNMB-A174-F0	DFMAM*104PNMB-A174-FR023-F0	DFMA*104PNMB-A174-FR022-F0
	340100202B DFMA*104SNMB-A174-F0	DFMAM*104SNMB-A174-FR023-F0	DFMA*104SNMB-A174-FR022-F0
	340100202B DFMA*104PNMB-FR172-F0	DFMAM*104PNMB-FR172-FR023-F0	DFMA*104SPMB-FR172-FR022-F0
	340100202B DFMA*104SNMB-FR172-F0	DFMAM*104SNMB-FR172-FR023-F0	DFMA*104SSMB-FR172-FR022-F0
With contacts	340100201B DEMA*9PNMB	DEMAM*9PNMB-FR023	DEMA*9PNMB-FR022
	340100201B DEMA*9SNMB	DEMAM*9SNMB-FR023	DEMA*9SNMB-FR022
	340100201B DAMA*15PNMB	DAMAM*15PNMB-FR023	DAMA*15PNMB-FR022
	340100201B DAMA*15SNMB	DAMAM*15SNMB-FR023	DAMA*15SNMB-FR022
	340100201B DBMA*25PNMB	DBMAM*25PNMB-FR023	DBMA*25PNMB-FR022
	340100201B DBMA*25SNMB	DBMAM*25SNMB-FR023	DBMA*25SNMB-FR022
	340100201B DCMA*37PNMB	DCMAM*37PNMB-FR023	DCMA*37PNMB-FR022
	340100201B DCMA*37SNMB	DCMAM*37SNMB-FR023	DCMA*37SNMB-FR022
	340100201B DDMA*50PNMB	DDMAM*50PNMB-FR023	DDMA*50PNMB-FR022
	340100201B DDMA*50SNMB	DDMAM*50SNMB-FR023	DDMA*50SNMB-FR022
	340100202B DEMA*15PNMB	DEMAM*15PNMB-FR023	DEMA*15PNMB-FR022
	340100202B DEMA*15SNMB	DEMAM*15SNMB-FR023	DEMA*15SNMB-FR022
	340100202B DAMA*26PNMB	DAMAM*26PNMB-FR023	DAMA*26PNMB-FR022
	340100202B DAMA*26SNMB	DAMAM*26SNMB-FR023	DAMA*26SNMB-FR022
	340100202B DBMA*44PNMB	DBMAM*44PNMB-FR023	DBMA*44PNMB-FR022
	340100202B DBMA*44SNMB	DBMAM*44SNMB-FR023	DBMA*44SNMB-FR022
	340100202B DCMA*62PNMB	DCMAM*62PNMB-FR023	DCMA*62PNMB-FR022
	340100202B DCMA*62SNMB	DCMAM*62SNMB-FR023	DCMA*62SNMB-FR022
	340100202B DDMA*78PNMB	DDMAM*78PNMB-FR023	DDMA*78PNMB-FR022
	340100202B DDMA*78SNMB	DDMAM*78SNMB-FR023	DDMA*78SNMB-FR022
	340100202B DFMA*104PNMB-A174	DFMAM*104PNMB-A174-FR023	DFMA*104PNMB-A174-FR022
	340100202B DFMA*104SNMB-A174	DFMAM*104SNMB-A174-FR023	DFMA*104SNMB-A174-FR022
	340100202B DFMA*104PNMB-FR172	DFMAM*104PNMB-FR172-FR023	DFMA*104SPMB-FR172-FR022
	340100202B DFMA*104SNMB-FR172	DFMAM*104SNMB-FR172-FR023	DFMA*104SSMB-FR172-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "E" when the captive nut option is required (not available for 104 contacts type)
♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

Product Features

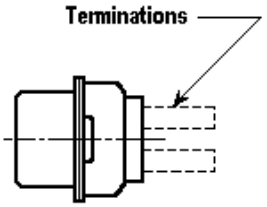
Connectors with solder type or wire-wrap type termination contacts size 20 inserted into one-piece insulators.

Termination types available :
- Solder Bucket terminations
- Straight PCB solder terminations
- 90° bent PCB solder terminations
- Wire-wrap terminations

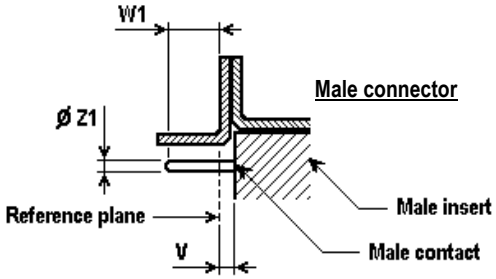
Combination arrangements available for size 8 snap-in coaxial, power, or high voltage contacts
Connectors supplied without coaxial power or high voltage contacts. Contacts have to be ordered separately.

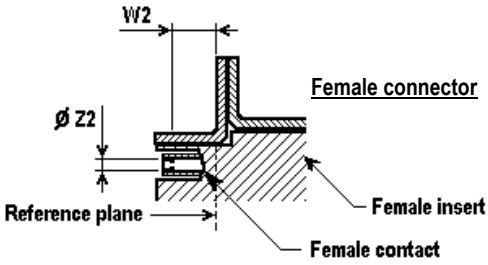
Packaging unit : 1 piece (plastic bag)
Dust cap supplied with each connector, only for quality level ESA/ESCC

Specific Dimensions



Termination Types
Solder Bucket
Straight PCB Solder
90° Bent PCB Solder / Without Bracket
90° Bent PCB Solder / With Brackets / European Footprint
90° Bent PCB Solder / With Brackets / U.S. Footprint
Wire-Wrap





Ø Z2 : to accomodate a 0,99 (.039) / 1,04 (.041) diameter pin

Shell Size	**V** max	**W1** min (Full pin diameter)	**W1** max (Full pin length)	**Ø Z1** min	**Ø Z1** max	**W2** min (Square ended pin)
E	0,40 (.016)	4,47 (.176)	5,33 (.210)	0,99 (.039)	1,04 (.041)	4,36 (.172)
A	0,40 (.016)	4,47 (.176)	5,33 (.210)	0,99 (.039)	1,04 (.041)	4,36 (.172)
B	0,60 (.024)	4,47 (.176)	5,33 (.210)	0,99 (.039)	1,04 (.041)	4,36 (.172)
C	0,60 (.024)	4,47 (.176)	5,33 (.210)	0,99 (.039)	1,04 (.041)	4,36 (.172)
D	0,60 (.024)	4,47 (.176)	5,33 (.210)	0,99 (.039)	1,04 (.041)	4,36 (.172)

Weights

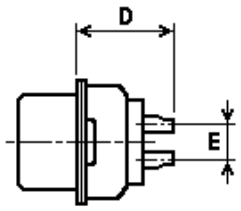
Max Weight (grams) without contacts or accessories	Shell Size	Weight (Grams)
For the total connector weight, add the weight of the contacts and of the eventual accessories.	E	4.5
	A	5.5
	B	9.0
	C	12.5
	D	13.5

Dimensions are shown in mm (inch)
Dimensions subject to change

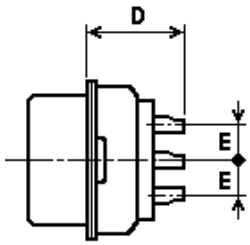
Solder Bucket Terminations type OL3 –M and Z :

Specific Dimensions

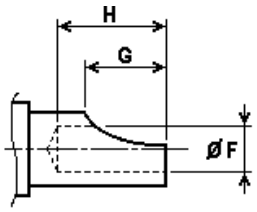
Sizes E, A, B, C



Size D



Termination



Contacts	Shell Size	**D** ± 0,60 (.024)	**E** Typical	**F** + 0,05 (.002) / 0	**G** ± 0,55 (.022)	**H** min	**Pitch** between contacts
Male	E	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,74 (.108)
	A	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,74 (.108)
	B	9,80 (.386)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,76 (.109)
	C	9,80 (.386)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,76 (.109)
	D	9,80 (.386)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,76 (.109)
Female	E	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,74 (.108)
	A	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,74 (.108)
	B	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,76 (.109)
	C	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,76 (.109)
	D	9,60 (.378)	2,84 (.112)	1,10 (.043)	1,95 (.077)	2,40 (.094)	2,76 (.109)

Termination Modifier : Nothing

Weights

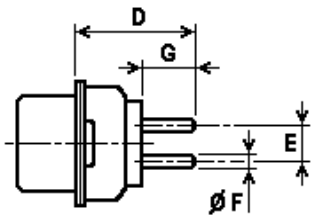
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.19	0.22
Max Weight (grams) of all contacts per size	E	1.71	1.98
	A	2.85	3.30
	B	4.75	5.50
	C	7.03	8.14
	D	9.50	11.00

Dimensions are shown in mm (inch)
Dimensions subject to change

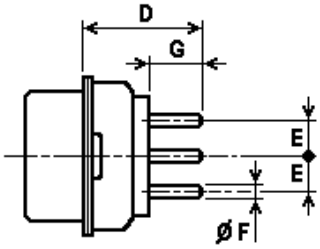
Straight PCB solder Terminations type OL3, M, Z

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,05 (.002)	G ± 0,20 (.008)
OL3	0,60 (.024)	4,15 (.163)
M	0,76 (.030)	3,65 (.144)
Z	0,76 (.030)	4,65 (.183)

Contacts	Shell Size	D min	D max	E Typical	Pitch between contacts
Male	E	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,74 (.108)
	A	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,74 (.108)
	B	10,20 (.402)	11,40 (.449)	2,84 (.112)	2,76 (.109)
	C	10,20 (.402)	11,40 (.449)	2,84 (.112)	2,76 (.109)
	D	10,20 (.402)	11,40 (.449)	2,84 (.112)	2,76 (.109)
Female	E	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,74 (.108)
	A	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,74 (.108)
	B	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,76 (.109)
	C	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,76 (.109)
	D	10,00 (.394)	11,20 (.441)	2,84 (.112)	2,76 (.109)

Termination Modifier : OL3, M, Z
For other termination modifier, consult factory

Weights

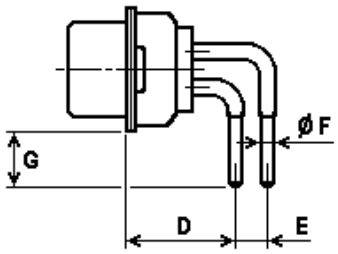
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.17	0.20
Max Weight (grams) of all contacts per size	E	1.53	1.80
	A	2.55	3.00
	B	4.25	5.00
	C	6.29	7.40
	D	8.50	10.00

Dimensions are shown in mm (inch)
Dimensions subject to change

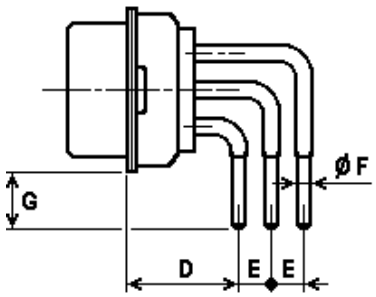
90° Bent PCB solder Terminations / Without Brackets / European Footprint type 1AON – 1BON – 2AON – 2BON.

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,05 (.002)	E Typical
1A0N	0,60 (.024)	2,54 (.100)
1B0N	0,60 (.024)	2,84 (.112)
2A0N	0,76 (.030)	2,54 (.100)
2B0N	0,76 (.030)	2,84 (.112)

Contacts	Shell Size	D min	D max	G ± 0.30 (.012)	Pitch between contacts
Male	E	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,74 (.108)
	A	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,74 (.108)
	B	10,30 (.406)	10,50 (.413)	5,00 (.197)	2,76 (.109)
	C	10,30 (.406)	10,50 (.413)	5,00 (.197)	2,76 (.109)
	D	10,30 (.406)	10,50 (.413)	5,00 (.197)	2,76 (.109)
Female	E	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,74 (.108)
	A	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,74 (.108)
	B	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,76 (.109)
	C	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,76 (.109)
	D	10,10 (.398)	10,30 (.406)	5,00 (.197)	2,76 (.109)

Termination Modifier : 1A0N, 1B0N, 2A0N, 2B0N
For other termination modifier, consult factory

Weights

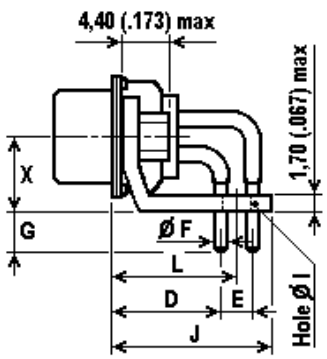
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.24 / 0.28 / 0.32	0.29 / 0.34 / 0.37
Max Weight (grams) of all contacts per size	E	2.36	2.86
	A	3.92	4.75
	B	6.52	7.90
	C	9.64	11.68
	D	14.00	16.66

Dimensions are shown in mm (inch)
Dimensions subject to change

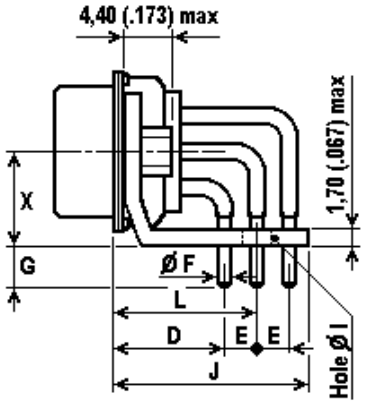
90° Bent PCB solder Terminations / With Brackets / European Footprint Type 1A7N – 1A9N – 1B7N – 1B9N – 2A7N - 2A9N – 2B7N – 2B9N.

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,05 (.002)	E Typical
1A7N / 1A9N	0,60 (.024)	2,54 (.100)
1B7N / 1B9N	0,60 (.024)	2,84 (.112)
2A7N / 2A9N	0,76 (.030)	2,54 (.100)
2B7N / 2B9N	0,76 (.030)	2,84 (.112)

2 pieces metal brackets :
"7N" : fixed with captive nuts 4-40 UNC-2B
"9N" : fixed with captive nuts M3
Hole ∅ I : 3,22 (.127) ± 0,10 (.004)
Bracket width (onto PCB) :
Shell sizes E, A, B, C : 6,10 (.240) max
Shell size D : 5,50 (.217) max

Contacts	Shell Size	D min	D max	G ± 0,40 (.016)	J max	L Typical	X ± 0,15 (.006)	Pitch between contacts
Male	E	10,10 (.398)	10,30 (.406)	4,00 (.157)	15,60 (.614)	11,52 (.454)	7,35 (.289)	2,74 (.108)
	A	10,10 (.398)	10,30 (.406)	4,00 (.157)	15,60 (.614)	11,52 (.454)	7,35 (.289)	2,74 (.108)
	B	10,30 (.406)	10,50 (.413)	4,00 (.157)	15,80 (.622)	11,74 (.462)	7,35 (.289)	2,76 (.109)
	C	10,30 (.406)	10,50 (.413)	4,00 (.157)	15,80 (.622)	11,74 (.462)	7,35 (.289)	2,76 (.109)
	D	10,30 (.406)	10,50 (.413)	4,00 (.157)	17,70 (.697)	13,16 (.518)	8,70 (.343)	2,76 (.109)
Female	E	10,10 (.398)	10,30 (.406)	4,00 (.157)	15,60 (.614)	11,52 (.454)	7,35 (.289)	2,74 (.108)
	A	10,10 (.398)	10,30 (.406)	4,00 (.157)	15,60 (.614)	11,52 (.454)	7,35 (.289)	2,74 (.108)
	B	10,10 (.398)	10,30 (.406)	4,00 (.157)	15,60 (.614)	11,52 (.454)	7,35 (.289)	2,76 (.109)
	C	10,10 (.398)	10,30 (.406)	4,00 (.157)	15,60 (.614)	11,52 (.454)	7,35 (.289)	2,76 (.109)
	D	10,10 (.398)	10,30 (.406)	4,00 (.157)	17,50 (.689)	12,94 (.509)	8,70 (.343)	2,76 (.109)

Termination Modifier : 1A7N, 1B7N, 1A9N, 1B9N, 2A7N, 2B7N, 2A9N, 2B9N
For other termination modifier, consult factory

Weights

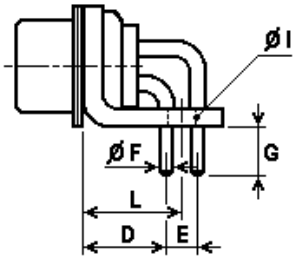
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.24 / 0.28 / 0.32	0.29 / 0.34 / 0.37
Max Weight (grams) of all contacts per size	E	2.36	2.86
	A	3.92	4.75
	B	6.52	7.90
	C	9.64	11.68
	D	14.00	16.66
Max Weight (grams) of Brackets	Sizes E, A, B, C	2.82	2.82
	Size D	3.52	3.52

Dimensions are shown in mm (inch)
Dimensions subject to change

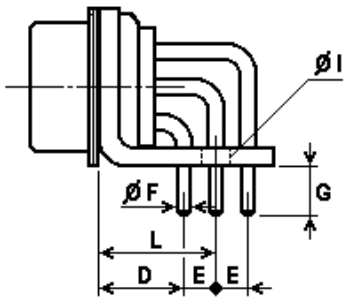
90° Bent PCB solder Terminations / With Brackets / U.S. Footprint type D and L.

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,05 (.002)	G ± 0,37 (.015)
D	0,76 (.030)	3,21 (.126)
L	0,76 (.030)	4,33 (.170)

1 piece plastic bracket
Hole ∅ I : 3,05 (.120) ± 0,13 (.005)

Contacts	Shell Size	D min	D max	E Typical	L ± 0,25 (.010)	Pitch between contacts
Male	E	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,74 (.108)
	A	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,74 (.108)
	B	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,76 (.109)
	C	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,76 (.109)
	D	6,93 (.273)	7,43 (.293)	2,84 (.112)	1,.02 (.394)	2,76 (.109)
Female	E	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,74 (.108)
	A	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,74 (.108)
	B	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,76 (.109)
	C	6,93 (.273)	7,43 (.293)	2,84 (.112)	8,60 (.339)	2,76 (.109)
	D	6,93 (.273)	7,43 (.293)	2,84 (.112)	1,.02 (.394)	2,76 (.109)

Termination Modifier : D, L
For other termination modifier, consult factory

Weights

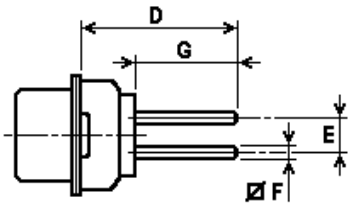
	Shell Size	Male Contact	Female Contact	Plastic Bracket
Max Weight (grams) per contact		0.24 / 0.28 / 0.32	0.29 / 0.34 / 0.37	
Max Weight (grams) of all contacts per size	E	2.36	2.86	1.49
	A	3.92	4.75	1.72
	B	6.52	7.90	2.05
	C	9.64	11.68	2.41
	D	14.00	16.66	3.22

Dimensions are shown in mm (inch)
Dimensions subject to change

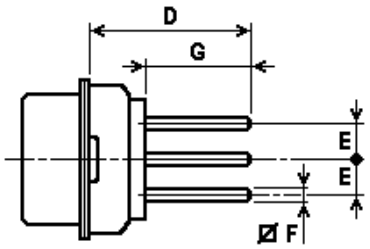
Wire-Wrap Terminations type F179A.

Specific Dimensions

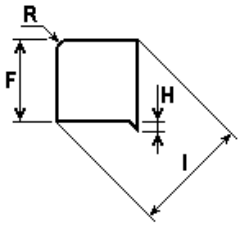
Sizes E, A, B, C



Size D



Section of termination



R : 0,05 (.002) max
H : 0,02 (.001) max
G : length for 3 wraps with cable AWG 30

Contacts	**Shell Size**	**D** max	**G** ± 0,10 (.004)	**E** Typical	**F** ± 0,01 (.0004)	**I** ± 0,038 (.0015)	**Pitch** between contacts
Male	E	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,74 (.108)
	A	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,74 (.108)
	B	20,30 (.799)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,76 (.109)
	C	20,30 (.799)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,76 (.109)
	D	20,30 (.799)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,76 (.109)
Female	E	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,74 (.108)
	A	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,74 (.108)
	B	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,76 (.109)
	C	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,76 (.109)
	D	20,10 (.791)	12,70 (.500)	2,84 (.112)	0,60 (.024)	0,826 (.0325)	2,76 (.109)

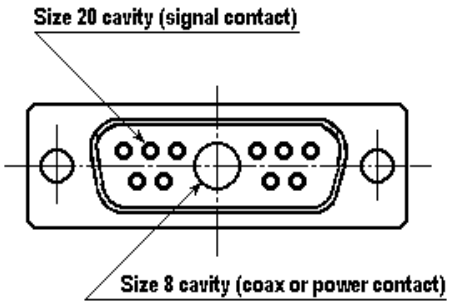
Termination Modifier : F179A
For other termination modifier, consult factory

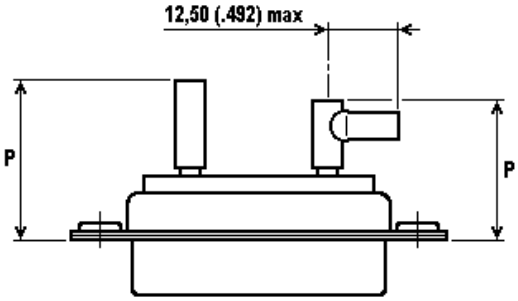
Weights

	Shell Size	**Male Contact**	**Female Contact**
Max Weight (grams) per contact		0.28	0.34
Max Weight (grams) of all contacts per size	E	2.52	3.06
	A	4.20	5.10
	B	7.00	8.50
	C	10.36	12.58
	D	14.00	17.00

Dimensions are shown in mm (inch)
Dimensions subject to change

Combination Arrangements





		P max (Coaxial Contacts)				P max (Power Contacts)			
Contacts	**Shell Size**	**Note 1**	**Note 2**	**Note 3**	**Note 4**	**Note 5**	**Note 6**	**Note 7**	**Note 8**
Male	E	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)
	A	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)
	B	19,80 (.780)	22,50 (.886)	14,50 (.571)	14,60 (.575)	17,90 (.705)	20,00 (.787)	17,10 (.673)	14,80 (.583)
	C	19,80 (.780)	22,50 (.886)	14,50 (.571)	14,60 (.575)	17,90 (.705)	20,00 (.787)	17,10 (.673)	14,80 (.583)
	D	19,80 (.780)	22,50 (.886)	14,50 (.571)	14,60 (.575)	17,90 (.705)	20,00 (.787)	17,10 (.673)	14,80 (.583)
Female	E	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)
	A	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)
	B	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)
	C	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)
	D	19,60 (.772)	22,30 (.878)	14,30 (.563)	14,40 (.567)	17,70 (.697)	19,80 (.780)	16,90 (.665)	14,60 (.575)

Note 1 : ESA/ESCC 3401/004 variants 01 / 02 / 05 / 06 / 11 / 12 / 15 / 16
Note 2 : ESA/ESCC 3401/004 variants 09 / 10 / 19 / 20
Note 3 : ESA/ESCC 3401/004 variants 03 / 04 / 07 / 08
Note 4 : ESA/ESCC 3401/004 variants 13 / 14 / 17 / 18

Note 5 : ESA/ESCC 3401/040 variants 01 / 02 / 03 / 04 / 05 / 06
Note 6 : ESA/ESCC 3401/040 variants 07 / 08
Note 7 : ESA/ESCC 3401/040 variants 09 / 10
Note 8 : ESA/ESCC 3401/040 variants 11 / 12

Combination Arrangements

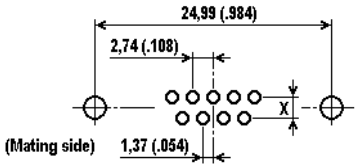
Shell Size						
E	5W1					
A	3W3	3WK3	7W2	11W1		
B	5W5	9W4	13W3	17W2	21W1	
C	8W8	13W6	17W5	21WA4	25W3	27W2
D	24W7	36W4	43W2	47W1		

Dimensions are shown in mm (inch)
Dimensions subject to change

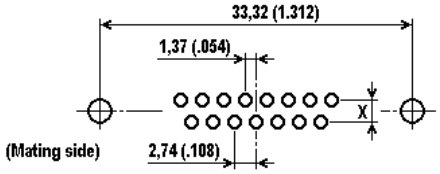
PCB Hole Pattern

Face view, pin insert

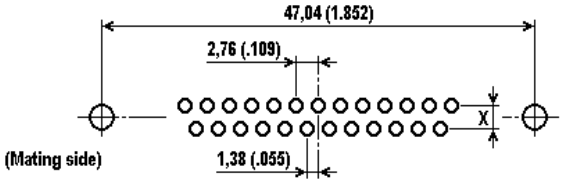
Size E
9 contacts



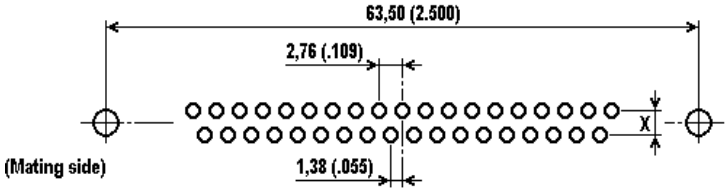
Size A
15 contacts



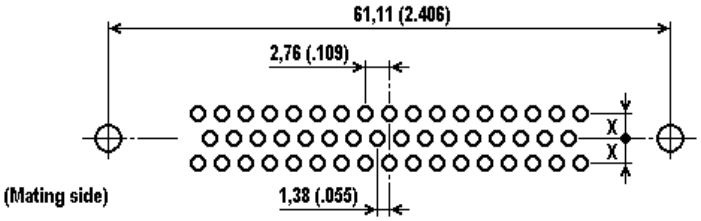
Size B
25 contacts



Size C
37 contacts



Size D
50 contacts



Dimension X

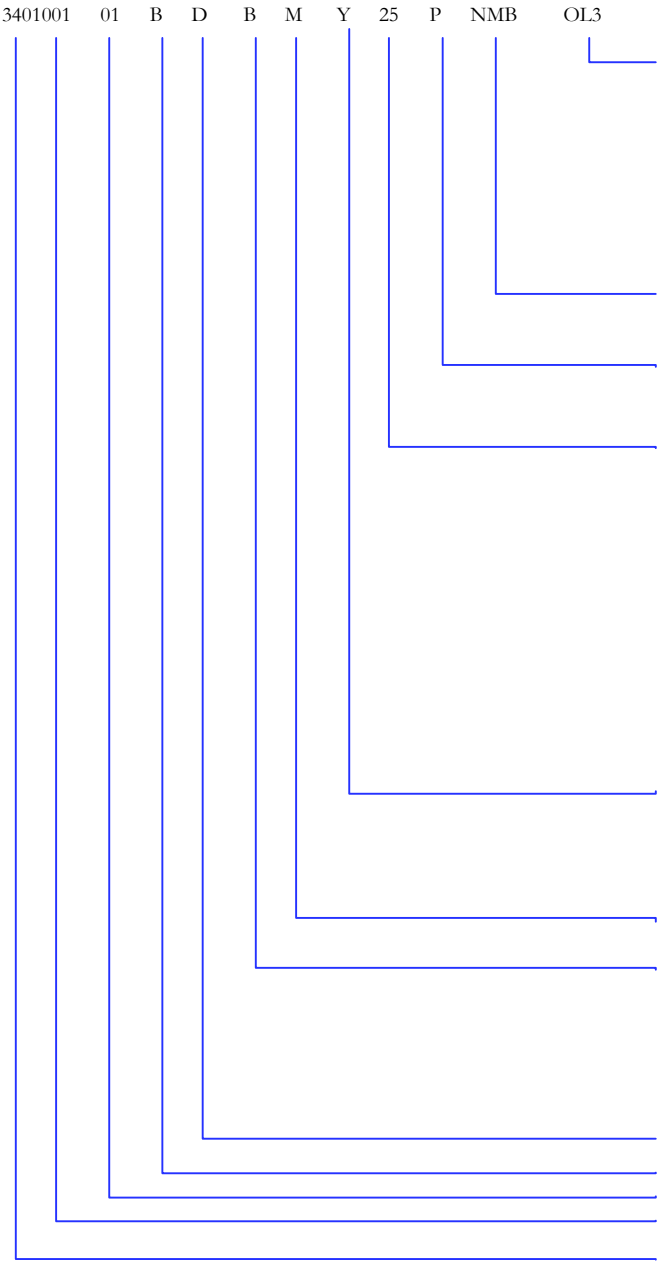
- 2,54 (.100) for "90° bent PCB / European Footprint Type 1AxN and 2AxN"
- 2,84 (.112) for "Straight PCB", "90° bent PCB / European Footprint Type 1BxN and 2BxN", and "90° bent PCB / U.S. Footprint"

Recommended PCB hole for signal contacts

- ∅ 1,00 (.040) min for terminations ∅ 0,60 (.024)
- ∅ 1,15 (.045) min for terminations ∅ 0,76 (.030)

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – ESA/ESCC Quality Level



Termination modifier

Solder buckets:	Nothing
Straight PCB:	OL3, Z
90° bent PCB without brackets	1A0N, 1B0N, 2A0N, 2B0N
90° bent PCB with brackets	1A7N, 1B7N, 1A9N, 1B9N, 2A7N, 2B9N
Wire-wrap:	F179A

Magnetism level
- NMB : 200 Gamma
- NMC : 20 Gamma (on special request)

Type of contact
- P : Pin (Male)
- S : Socket (Female)

Contact arrangement (number of contacts)

Number of contacts for variant 01 :
- E : 9
- A : 15
- B: 25
- C:: 37
- D 50

Number of contacts for combination arrangements:
- E: 5W1
- A: 3W3, 3WK3, 7W2, 11W1
- B: 5W5, 9W4, 13W3, 21W1
- C: 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2
- D: 24W7, 36W4, 43W2, 47W1

Fixing option : Except for terminations
- Nothing : Standard through hole– 1(2)A(B)7(9)N, D, L
- E: Captive nut (not applicable for size F)
- Y: Dual float mount

Insert type : M for one-piece insert

Shell size
- E
- A
- B
- C
- D
- F

Series

Testing level

Variant
- 01: Standard density

Detail specification number

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – FR023 Quality Level

D B M M Y 25 P NMB M FR023

Suffix for MIL Class M Quality Level (Connector Specification FR023)

Termination modifier

Solder buckets:	Nothing
Straight PCB:	OL3, M, Z
90° bent PCB without brackets	1A0N, 1B0N, 2A0N, 2B0N
90° bent PCB with brackets	1A7N, 1B7N, 1A9N, 1B9N, 2A7N, 2B9N, D, L
Wire-wrap:	F179A

Magnetism level

NMB : 200 Gamma
NMC : 20 Gamma (on special request)

Type of contact

P : Pin (Male)
S : Socket (Female)

Contact arrangement (number of contacts)

Number of contacts for variant 01 :

E : 9
A : 15
B: 25
C:: 37
D 50

Number of contacts for combination arrangements:

E: 5W1
A: 3W3, 3WK3, 7W2, 11W1
B: 5W5, 9W4, 13W3, 21W1
C: 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2
D: 24W7, 36W4, 43W2, 47W1

Fixing option : Except for terminations

Nothing : Standard through hole– 1(2)A(B)7(9)N, D, L
E: Captive nut (not applicable for size F)
Y: Dual float mount

According to MIL-DTL-24308 Specification

Insert type : M for one-piece insert

Shell size

E
A
B
C
D
F

Series

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – FR022 Quality Level

D B M Y 25 P NMB M FR022

Suffix for MIL Class M Quality Level (Connector Specification FR022)

Termination modifier

Solder buckets:	Nothing
Straight PCB:	OL3, M, Z
90° bent PCB without brackets	1A0N, 1B0N, 2A0N, 2B0N
90° bent PCB with brackets	1A7N, 1B7N, 1A9N, 1B9N, 2A7N, 2B9N, D, L
Wire-wrap:	F179A

Magnetism level

NMB : 200 Gamma
NMC : 20 Gamma (on special request)

Type of contact

P : Pin (Male)
S : Socket (Female)

Contact arrangement (number of contacts)

Number of contacts for variant 01 :

E : 9
A : 15
B: 25
C:: 37
D 50

Number of contacts for combination arrangements:

E: 5W1
A: 3W3, 3WK3, 7W2, 11W1
B: 5W5, 9W4, 13W3, 21W1
C: 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2
D: 24W7, 36W4, 43W2, 47W1

Fixing option : Except for terminations

Nothing : Standard through hole– 1(2)A(B)7(9)N, D, L
E: Captive nut (not applicable for size F)
Y: Dual float mount

Insert type : M for one-piece insert

Shell size

E
A
B
C
D
F

Series

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
Solder bucket	340100101B DEM*9PNMB	DEMM*9PNMB-FR023	DEM*9PNMB-FR022
	340100101B DEM*9SNMB	DEMM*9SNMB-FR023	DEM*9SNMB-FR022
	340100101B DAM*15PNMB	DAMM*15PNMB-FR023	DAM*15PNMB-FR022
	340100101B DAM*15SNMB	DAMM*15SNMB-FR023	DAM*15SNMB-FR022
	340100101B DBM*25PNMB	DBMM*25PNMB-FR023	DBM*25PNMB-FR022
	340100101B DBM*25SNMB	DBMM*25SNMB-FR023	DBM*25SNMB-FR022
	340100101B DCM*37PNMB	DCMM*37PNMB-FR023	DCM*37PNMB-FR022
	340100101B DCM*37SNMB	DCMM*37SNMB-FR023	DCM*37SNMB-FR022
	340100101B DDM*50PNMB	DDMM*50PNMB-FR023	DDM*50PNMB-FR022
	340100101B DDM*50SNMB	DDMM*50SNMB-FR023	DDM*50SNMB-FR022
Straight PCB	340100101B DEM*9PNMBOL3	DEMM*9PNMBOL3-FR023	DEM*9PNMBOL3-FR022
	340100101B DEM*9SNMBOL3	DEMM*9SNMBOL3-FR023	DEM*9SNMBOL3-FR022
	340100101B DAM*15PNMBOL3	DAMM*15PNMBOL3-FR023	DAM*15PNMBOL3-FR022
	340100101B DAM*15SNMBOL3	DAMM*15SNMBOL3-FR023	DAM*15SNMBOL3-FR022
	340100101B DBM*25PNMBOL3	DBMM*25PNMBOL3-FR023	DBM*25PNMBOL3-FR022
	340100101B DBM*25SNMBOL3	DBMM*25SNMBOL3-FR023	DBM*25SNMBOL3-FR022
	340100101B DCM*37PNMBOL3	DCMM*37PNMBOL3-FR023	DCM*37PNMBOL3-FR022
	340100101B DCM*37SNMBOL3	DCMM*37SNMBOL3-FR023	DCM*37SNMBOL3-FR022
	340100101B DDM*50PNMBOL3	DDMM*50PNMBOL3-FR023	DDM*50PNMBOL3-FR022
	340100101B DDM*50SNMBOL3	DDMM*50SNMBOL3-FR023	DDM*50SNMBOL3-FR022
		DEMM*9PNMBM-FR023	DEM*9PNMBM-FR022
		DEMM*9SNMBM-FR023	DEM*9SNMBM-FR022
		DAMM*15PNMBM-FR023	DAM*15PNMBM-FR022
		DAMM*15SNMBM-FR023	DAM*15SNMBM-FR022
		DBMM*25PNMBM-FR023	DBM*25PNMBM-FR022
		DBMM*25SNMBM-FR023	DBM*25SNMBM-FR022
		DCMM*37PNMBM-FR023	DCM*37PNMBM-FR022
		DCMM*37SNMBM-FR023	DCM*37SNMBM-FR022
		DDMM*50PNMBM-FR023	DDM*50PNMBM-FR022
		DDMM*50SNMBM-FR023	DDM*50SNMBM-FR022
	340100101B DEM*9PNMBZ	DEMM*9PNMBZ-FR023	DEM*9PNMBZ-FR022
	340100101B DEM*9SNMBZ	DEMM*9SNMBZ-FR023	DEM*9SNMBZ-FR022
	340100101B DAM*15PNMBZ	DAMM*15PNMBZ-FR023	DAM*15PNMBZ-FR022
	340100101B DAM*15SNMBZ	DAMM*15SNMBZ-FR023	DAM*15SNMBZ-FR022
	340100101B DBM*25PNMBZ	DBMM*25PNMBZ-FR023	DBM*25PNMBZ-FR022
	340100101B DBM*25SNMBZ	DBMM*25SNMBZ-FR023	DBM*25SNMBZ-FR022
	340100101B DCM*37PNMBZ	DCMM*37PNMBZ-FR023	DCM*37PNMBZ-FR022
	340100101B DCM*37SNMBZ	DCMM*37SNMBZ-FR023	DCM*37SNMBZ-FR022
	340100101B DDM*50PNMBZ	DDMM*50PNMBZ-FR023	DDM*50PNMBZ-FR022
	340100101B DDM*50SNMBZ	DDMM*50SNMBZ-FR023	DDM*50SNMBZ-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "E" when the captive nut option is required
♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
90° bent PCB (without brackets)	340100101B DEM*9PNMB1A0N	DEMM*9PNMB1A0N-FR023	DEM*9PNMB1A0N-FR022
	340100101B DEM*9SNMB1A0N	DEMM*9SNMB1A0N-FR023	DEM*9SNMB1A0N-FR022
	340100101B DAM*15PNMB1A0N	DAMM*15PNMB1A0N-FR023	DAM*15PNMB1A0N-FR022
	340100101B DAM*15SNMB1A0N	DAMM*15SNMB1A0N-FR023	DAM*15SNMB1A0N-FR022
	340100101B DBM*25PNMB1A0N	DBMM*25PNMB1A0N-FR023	DBM*25PNMB1A0N-FR022
	340100101B DBM*25SNMB1A0N	DBMM*25SNMB1A0N-FR023	DBM*25SNMB1A0N-FR022
	340100101B DCM*37PNMB1A0N	DCMM*37PNMB1A0N-FR023	DCM*37PNMB1A0N-FR022
	340100101B DCM*37SNMB1A0N	DCMM*37SNMB1A0N-FR023	DCM*37SNMB1A0N-FR022
	340100101B DDM*50PNMB1A0N	DDMM*50PNMB1A0N-FR023	DDM*50PNMB1A0N-FR022
	340100101B DDM*50SNMB1A0N	DDMM*50SNMB1A0N-FR023	DDM*50SNMB1A0N-FR022
	340100101B DEM*9PNMB1B0N	DEMM*9PNMB1B0N-FR023	DEM*9PNMB1B0N-FR022
	340100101B DEM*9SNMB1B0N	DEMM*9SNMB1B0N-FR023	DEM*9SNMB1B0N-FR022
	340100101B DAM*15PNMB1B0N	DAMM*15PNMB1B0N-FR023	DAM*15PNMB1B0N-FR022
	340100101B DAM*15SNMB1B0N	DAMM*15SNMB1B0N-FR023	DAM*15SNMB1B0N-FR022
	340100101B DBM*25PNMB1B0N	DBMM*25PNMB1B0N-FR023	DBM*25PNMB1B0N-FR022
	340100101B DBM*25SNMB1B0N	DBMM*25SNMB1B0N-FR023	DBM*25SNMB1B0N-FR022
	340100101B DCM*37PNMB1B0N	DCMM*37PNMB1B0N-FR023	DCM*37PNMB1B0N-FR022
	340100101B DCM*37SNMB1B0N	DCMM*37SNMB1B0N-FR023	DCM*37SNMB1B0N-FR022
	340100101B DDM*50PNMB1B0N	DDMM*50PNMB1B0N-FR023	DDM*50PNMB1B0N-FR022
	340100101B DDM*50SNMB1B0N	DDMM*50SNMB1B0N-FR023	DDM*50SNMB1B0N-FR022
	340100101B DEM*9PNMB2A0N	DEMM*9PNMB2A0N-FR023	DEM*9PNMB2A0N-FR022
	340100101B DEM*9SNMB2A0N	DEMM*9SNMB2A0N-FR023	DEM*9SNMB2A0N-FR022
	340100101B DAM*15PNMB2A0N	DAMM*15PNMB2A0N-FR023	DAM*15PNMB2A0N-FR022
	340100101B DAM*15SNMB2A0N	DAMM*15SNMB2A0N-FR023	DAM*15SNMB2A0N-FR022
	340100101B DBM*25PNMB2A0N	DBMM*25PNMB2A0N-FR023	DBM*25PNMB2A0N-FR022
	340100101B DBM*25SNMB2A0N	DBMM*25SNMB2A0N-FR023	DBM*25SNMB2A0N-FR022
	340100101B DCM*37PNMB2A0N	DCMM*37PNMB2A0N-FR023	DCM*37PNMB2A0N-FR022
	340100101B DCM*37SNMB2A0N	DCMM*37SNMB2A0N-FR023	DCM*37SNMB2A0N-FR022
	340100101B DDM*50PNMB2A0N	DDMM*50PNMB2A0N-FR023	DDM*50PNMB2A0N-FR022
	340100101B DDM*50SNMB2A0N	DDMM*50SNMB2A0N-FR023	DDM*50SNMB2A0N-FR022
	340100101B DEM*9PNMB2B0N	DEMM*9PNMB2B0N-FR023	DEM*9PNMB2B0N-FR022
	340100101B DEM*9SNMB2B0N	DEMM*9SNMB2B0N-FR023	DEM*9SNMB2B0N-FR022
	340100101B DAM*15PNMB2B0N	DAMM*15PNMB2B0N-FR023	DAM*15PNMB2B0N-FR022
	340100101B DAM*15SNMB2B0N	DAMM*15SNMB2B0N-FR023	DAM*15SNMB2B0N-FR022
	340100101B DBM*25PNMB2B0N	DBMM*25PNMB2B0N-FR023	DBM*25PNMB2B0N-FR022
	340100101B DBM*25SNMB2B0N	DBMM*25SNMB2B0N-FR023	DBM*25SNMB2B0N-FR022
	340100101B DCM*37PNMB2B0N	DCMM*37PNMB2B0N-FR023	DCM*37PNMB2B0N-FR022
	340100101B DCM*37SNMB2B0N	DCMM*37SNMB2B0N-FR023	DCM*37SNMB2B0N-FR022
	340100101B DDM*50PNMB2B0N	DDMM*50PNMB2B0N-FR023	DDM*50PNMB2B0N-FR022
	340100101B DDM*50SNMB2B0N	DDMM*50SNMB2B0N-FR023	DDM*50SNMB2B0N-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "E" when the captive nut option is required
♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
90° bent PCB (with brackets)	340100101B DEM9PNMB1A7N	DEMM9PNMB1A7N-FR023	DEM9PNMB1A7N-FR022
	340100101B DEM9SNMB1A7N	DEMM9SNMB1A7N-FR023	DEM9SNMB1A7N-FR022
	340100101B DAM15PNMB1A7N	DAMM15PNMB1A7N-FR023	DAM15PNMB1A7N-FR022
	340100101B DAM15SNMB1A7N	DAMM15SNMB1A7N-FR023	DAM15SNMB1A7N-FR022
	340100101B DBM25PNMB1A7N	DBMM25PNMB1A7N-FR023	DBM25PNMB1A7N-FR022
	340100101B DBM25SNMB1A7N	DBMM25SNMB1A7N-FR023	DBM25SNMB1A7N-FR022
	340100101B DCM37PNMB1A7N	DCMM37PNMB1A7N-FR023	DCM37PNMB1A7N-FR022
	340100101B DCM37SNMB1A7N	DCMM37SNMB1A7N-FR023	DCM37SNMB1A7N-FR022
	340100101B DDM50PNMB1A7N	DDMM50PNMB1A7N-FR023	DDM50PNMB1A7N-FR022
	340100101B DDM50SNMB1A7N	DDMM50SNMB1A7N-FR023	DDM50SNMB1A7N-FR022
	340100101B DEM9PNMB1B7N	DEMM9PNMB1B7N-FR023	DEM9PNMB1B7N-FR022
	340100101B DEM9SNMB1B7N	DEMM9SNMB1B7N-FR023	DEM9SNMB1B7N-FR022
	340100101B DAM15PNMB1B7N	DAMM15PNMB1B7N-FR023	DAM15PNMB1B7N-FR022
	340100101B DAM15SNMB1B7N	DAMM15SNMB1B7N-FR023	DAM15SNMB1B7N-FR022
	340100101B DBM25PNMB1B7N	DBMM25PNMB1B7N-FR023	DBM25PNMB1B7N-FR022
	340100101B DBM25SNMB1B7N	DBMM25SNMB1B7N-FR023	DBM25SNMB1B7N-FR022
	340100101B DCM37PNMB1B7N	DCMM37PNMB1B7N-FR023	DCM37PNMB1B7N-FR022
	340100101B DCM37SNMB1B7N	DCMM37SNMB1B7N-FR023	DCM37SNMB1B7N-FR022
	340100101B DDM50PNMB1B7N	DDMM50PNMB1B7N-FR023	DDM50PNMB1B7N-FR022
	340100101B DDM50SNMB1B7N	DDMM50SNMB1B7N-FR023	DDM50SNMB1B7N-FR022
	340100101B DEM9PNMB1A9N	DEMM9PNMB1A9N-FR023	DEM9PNMB1A9N-FR022
	340100101B DEM9SNMB1A9N	DEMM9SNMB1A9N-FR023	DEM9SNMB1A9N-FR022
	340100101B DAM15PNMB1A9N	DAMM15PNMB1A9N-FR023	DAM15PNMB1A9N-FR022
	340100101B DAM15SNMB1A9N	DAMM15SNMB1A9N-FR023	DAM15SNMB1A9N-FR022
	340100101B DBM25PNMB1A9N	DBMM25PNMB1A9N-FR023	DBM25PNMB1A9N-FR022
	340100101B DBM25SNMB1A9N	DBMM25SNMB1A9N-FR023	DBM25SNMB1A9N-FR022
	340100101B DCM37PNMB1A9N	DCMM37PNMB1A9N-FR023	DCM37PNMB1A9N-FR022
	340100101B DCM37SNMB1A9N	DCMM37SNMB1A9N-FR023	DCM37SNMB1A9N-FR022
	340100101B DDM50PNMB1A9N	DDMM50PNMB1A9N-FR023	DDM50PNMB1A9N-FR022
	340100101B DDM50SNMB1A9N	DDMM50SNMB1A9N-FR023	DDM50SNMB1A9N-FR022
	340100101B DEM9PNMB1B9N	DEMM9PNMB1B9N-FR023	DEM9PNMB1B9N-FR022
	340100101B DEM9SNMB1B9N	DEMM9SNMB1B9N-FR023	DEM9SNMB1B9N-FR022
	340100101B DAM15PNMB1B9N	DAMM15PNMB1B9N-FR023	DAM15PNMB1B9N-FR022
	340100101B DAM15SNMB1B9N	DAMM15SNMB1B9N-FR023	DAM15SNMB1B9N-FR022
	340100101B DBM25PNMB1B9N	DBMM25PNMB1B9N-FR023	DBM25PNMB1B9N-FR022
	340100101B DBM25SNMB1B9N	DBMM25SNMB1B9N-FR023	DBM25SNMB1B9N-FR022
	340100101B DCM37PNMB1B9N	DCMM37PNMB1B9N-FR023	DCM37PNMB1B9N-FR022
	340100101B DCM37SNMB1B9N	DCMM37SNMB1B9N-FR023	DCM37SNMB1B9N-FR022
	340100101B DDM50PNMB1B9N	DDMM50PNMB1B9N-FR023	DDM50PNMB1B9N-FR022
	340100101B DDM50SNMB1B9N	DDMM50SNMB1B9N-FR023	DDM50SNMB1B9N-FR022

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
90° bent PCB (with brackets)	340100101B DEM9PNMB2A7N	DEMM9PNMB2A7N-FR023	DEM9PNMB2A7N-FR022
	340100101B DEM9SNMB2A7N	DEMM9SNMB2A7N-FR023	DEM9SNMB2A7N-FR022
	340100101B DAM15PNMB2A7N	DAMM15PNMB2A7N-FR023	DAM15PNMB2A7N-FR022
	340100101B DAM15SNMB2A7N	DAMM15SNMB2A7N-FR023	DAM15SNMB2A7N-FR022
	340100101B DBM25PNMB2A7N	DBMM25PNMB2A7N-FR023	DBM25PNMB2A7N-FR022
	340100101B DBM25SNMB2A7N	DBMM25SNMB2A7N-FR023	DBM25SNMB2A7N-FR022
	340100101B DCM37PNMB2A7N	DCMM37PNMB2A7N-FR023	DCM37PNMB2A7N-FR022
	340100101B DCM37SNMB2A7N	DCMM37SNMB2A7N-FR023	DCM37SNMB2A7N-FR022
	340100101B DDM50PNMB2A7N	DDMM50PNMB2A7N-FR023	DDM50PNMB2A7N-FR022
	340100101B DDM50SNMB2A7N	DDMM50SNMB2A7N-FR023	DDM50SNMB2A7N-FR022
	340100101B DEM9PNMB2B7N	DEMM9PNMB2B7N-FR023	DEM9PNMB2B7N-FR022
	340100101B DEM9SNMB2B7N	DEMM9SNMB2B7N-FR023	DEM9SNMB2B7N-FR022
	340100101B DAM15PNMB2B7N	DAMM15PNMB2B7N-FR023	DAM15PNMB2B7N-FR022
	340100101B DAM15SNMB2B7N	DAMM15SNMB2B7N-FR023	DAM15SNMB2B7N-FR022
	340100101B DBM25PNMB2B7N	DBMM25PNMB2B7N-FR023	DBM25PNMB2B7N-FR022
	340100101B DBM25SNMB2B7N	DBMM25SNMB2B7N-FR023	DBM25SNMB2B7N-FR022
	340100101B DCM37PNMB2B7N	DCMM37PNMB2B7N-FR023	DCM37PNMB2B7N-FR022
	340100101B DCM37SNMB2B7N	DCMM37SNMB2B7N-FR023	DCM37SNMB2B7N-FR022
	340100101B DDM50PNMB2B7N	DDMM50PNMB2B7N-FR023	DDM50PNMB2B7N-FR022
	340100101B DDM50SNMB2B7N	DDMM50SNMB2B7N-FR023	DDM50SNMB2B7N-FR022
	340100101B DEM9PNMB2A9N	DEMM9PNMB2A9N-FR023	DEM9PNMB2A9N-FR022
	340100101B DEM9SNMB2A9N	DEMM9SNMB2A9N-FR023	DEM9SNMB2A9N-FR022
	340100101B DAM15PNMB2A9N	DAMM15PNMB2A9N-FR023	DAM15PNMB2A9N-FR022
	340100101B DAM15SNMB2A9N	DAMM15SNMB2A9N-FR023	DAM15SNMB2A9N-FR022
	340100101B DBM25PNMB2A9N	DBMM25PNMB2A9N-FR023	DBM25PNMB2A9N-FR022
	340100101B DBM25SNMB2A9N	DBMM25SNMB2A9N-FR023	DBM25SNMB2A9N-FR022
	340100101B DCM37PNMB2A9N	DCMM37PNMB2A9N-FR023	DCM37PNMB2A9N-FR022
	340100101B DCM37SNMB2A9N	DCMM37SNMB2A9N-FR023	DCM37SNMB2A9N-FR022
	340100101B DDM50PNMB2A9N	DDMM50PNMB2A9N-FR023	DDM50PNMB2A9N-FR022
	340100101B DDM50SNMB2A9N	DDMM50SNMB2A9N-FR023	DDM50SNMB2A9N-FR022
	340100101B DEM9PNMB2B9N	DEMM9PNMB2B9N-FR023	DEM9PNMB2B9N-FR022
	340100101B DEM9SNMB2B9N	DEMM9SNMB2B9N-FR023	DEM9SNMB2B9N-FR022
	340100101B DAM15PNMB2B9N	DAMM15PNMB2B9N-FR023	DAM15PNMB2B9N-FR022
	340100101B DAM15SNMB2B9N	DAMM15SNMB2B9N-FR023	DAM15SNMB2B9N-FR022
	340100101B DBM25PNMB2B9N	DBMM25PNMB2B9N-FR023	DBM25PNMB2B9N-FR022
	340100101B DBM25SNMB2B9N	DBMM25SNMB2B9N-FR023	DBM25SNMB2B9N-FR022
	340100101B DCM37PNMB2B9N	DCMM37PNMB2B9N-FR023	DCM37PNMB2B9N-FR022
	340100101B DCM37SNMB2B9N	DCMM37SNMB2B9N-FR023	DCM37SNMB2B9N-FR022
	340100101B DDM50PNMB2B9N	DDMM50PNMB2B9N-FR023	DDM50PNMB2B9N-FR022
	340100101B DDM50SNMB2B9N	DDMM50SNMB2B9N-FR023	DDM50SNMB2B9N-FR022

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
90° bent PCB (with brackets)		DEMM9PNMBD-FR023	DEM9PNMBD-FR022
		DEMM9SNMBD-FR023	DEM9SNMBD-FR022
		DAMM15PNMBD-FR023	DAM15PNMBD-FR022
		DAMM15SNMBD-FR023	DAM15SNMBD-FR022
		DBMM25PNMBD-FR023	DBM25PNMBD-FR022
		DBMM25SNMBD-FR023	DBM25SNMBD-FR022
		DCMM37PNMBD-FR023	DCM37PNMBD-FR022
		DCMM37SNMBD-FR023	DCM37SNMBD-FR022
		DDMM50PNMBD-FR023	DDM50PNMBD-FR022
		DDMM50SNMBD-FR023	DDM50SNMBD-FR022
		DEMM9PNMBL-FR023	DEM9PNMBL-FR022
		DEMM9SNMBL-FR023	DEM9SNMBL-FR022
		DAMM15PNMBL-FR023	DAM15PNMBL-FR022
		DAMM15SNMBL-FR023	DAM15SNMBL-FR022
		DBMM25PNMBL-FR023	DBM25PNMBL-FR022
		DBMM25SNMBL-FR023	DBM25SNMBL-FR022
		DCMM37PNMBL-FR023	DCM37PNMBL-FR022
		DCMM37SNMBL-FR023	DCM37SNMBL-FR022
		DDMM50PNMBL-FR023	DDM50PNMBL-FR022
		DDMM50SNMBL-FR023	DDM50SNMBL-FR022
Wire-wrap	340100101B DEM*9PNMBF179A	DEMM*9PNMBF179A-FR023	DEM*9PNMBF179A-FR022
	340100101B DEM*9SNMBF179A	DEMM*9SNMBF179A-FR023	DEM*9SNMBF179A-FR022
	340100101B DAM*15PNMBF179A	DAMM*15PNMBF179A-FR023	DAM*15PNMBF179A-FR022
	340100101B DAM*15SNMBF179A	DAMM*15SNMBF179A-FR023	DAM*15SNMBF179A-FR022
	340100101B DBM*25PNMBF179A	DBMM*25PNMBF179A-FR023	DBM*25PNMBF179A-FR022
	340100101B DBM*25SNMBF179A	DBMM*25SNMBF179A-FR023	DBM*25SNMBF179A-FR022
	340100101B DCM*37PNMBF179A	DCMM*37PNMBF179A-FR023	DCM*37PNMBF179A-FR022
	340100101B DCM*37SNMBF179A	DCMM*37SNMBF179A-FR023	DCM*37SNMBF179A-FR022
	340100101B DDM*50PNMBF179A	DDMM*50PNMBF179A-FR023	DDM*50PNMBF179A-FR022
	340100101B DDM*50SNMBF179A	DDMM*50SNMBF179A-FR023	DDM*50SNMBF179A-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "E" when the captive nut option is required
♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
Combination arrangements With solder bucket**	340100101B DEM*5W1PNMB	DEMM*5W1PNMB-FR023	DEM*5W1PNMB-FR022
	340100101B DEM*5W1SNMB	DEMM*5W1SNMB-FR023	DEM*5W1SNMB-FR022
	340100101B DAM*3W3PNMB	DAMM*3W3PNMB-FR023	DAM*3W3PNMB-FR022
	340100101B DAM*3W3SNMB	DAMM*3W3SNMB-FR023	DAM*3W3SNMB-FR022
	340100101B DAM*3WK3PNMB	DAMM*3WK3PNMB-FR023	DAM*3WK3PNMB-FR022
	340100101B DAM*3WK3SNMB	DAMM*3WK3SNMB-FR023	DAM*3WK3SNMB-FR022
	340100101B DAM*7W2PNMB	DAMM*7W2PNMB-FR023	DAM*7W2PNMB-FR022
	340100101B DAM*7W2SNMB	DAMM*7W2SNMB-FR023	DAM*7W2SNMB-FR022
	340100101B DAM*11W1PNMB	DAMM*11W1PNMB-FR023	DAM*11W1PNMB-FR022
	340100101B DAM*11W1SNMB	DAMM*11W1SNMB-FR023	DAM*11W1SNMB-FR022
	340100101B DBM*5W5PNMB	DBMM*5W5PNMB-FR023	DBM*5W5PNMB-FR022
	340100101B DBM*5W5SNMB	DBMM*5W5SNMB-FR023	DBM*5W5SNMB-FR022
	340100101B DBM*9W4PNMB	DBMM*9W4PNMB-FR023	DBM*9W4PNMB-FR022
	340100101B DBM*9W4SNMB	DBMM*9W4SNMB-FR023	DBM*9W4SNMB-FR022
	340100101B DBM*13W3PNMB	DBMM*13W3PNMB-FR023	DBM*13W3PNMB-FR022
	340100101B DBM*13W3SNMB	DBMM*13W3SNMB-FR023	DBM*13W3SNMB-FR022
	340100101B DBM*17W2PNMB	DBMM*17W2PNMB-FR023	DBM*17W2PNMB-FR022
	340100101B DBM*17W2SNMB	DBMM*17W2SNMB-FR023	DBM*17W2SNMB-FR022
	340100101B DBM*21W1PNMB	DBMM*21W1PNMB-FR023	DBM*21W1PNMB-FR022
	340100101B DBM*21W1SNMB	DBMM*21W1SNMB-FR023	DBM*21W1SNMB-FR022
	340100101B DCM*8W8PNMB	DCMM*8W8PNMB-FR023	DCM*8W8PNMB-FR022
	340100101B DCM*8W8SNMB	DCMM*8W8SNMB-FR023	DCM*8W8SNMB-FR022
	340100101B DCM*13W6PNMB	DCMM*13W6PNMB-FR023	DCM*13W6PNMB-FR022
	340100101B DCM*13W6SNMB	DCMM*13W6SNMB-FR023	DCM*13W6SNMB-FR022
	340100101B DCM*17W5PNMB	DCMM*17W5PNMB-FR023	DCM*17W5PNMB-FR022
	340100101B DCM*17W5SNMB	DCMM*17W5SNMB-FR023	DCM*17W5SNMB-FR022
	340100101B DCM*21WA4PNMB	DCMM*21WA4PNMB-FR023	DCM*21WA4PNMB-FR022
	340100101B DCM*21WA4SNMB	DCMM*21WA4SNMB-FR023	DCM*21WA4SNMB-FR022
	340100101B DCM*25W3PNMB	DCMM*25W3PNMB-FR023	DCM*25W3PNMB-FR022
	340100101B DCM*25W3SNMB	DCMM*25W3SNMB-FR023	DCM*25W3SNMB-FR022
	340100101B DCM*27W2PNMB	DCMM*27W2PNMB-FR023	DCM*27W2PNMB-FR022
	340100101B DCM*27W2SNMB	DCMM*27W2SNMB-FR023	DCM*27W2SNMB-FR022
	340100101B DDM*24W7PNMB	DDMM*24W7PNMB-FR023	DDM*24W7PNMB-FR022
	340100101B DDM*24W7SNMB	DDMM*24W7SNMB-FR023	DDM*24W7SNMB-FR022
	340100101B DDM*36W4PNMB	DDMM*36W4PNMB-FR023	DDM*36W4PNMB-FR022
	340100101B DDM*36W4SNMB	DDMM*36W4SNMB-FR023	DDM*36W4SNMB-FR022
	340100101B DDM*43W2PNMB	DDMM*43W2PNMB-FR023	DDM*43W2PNMB-FR022
	340100101B DDM*43W2SNMB	DDMM*43W2SNMB-FR023	DDM*43W2SNMB-FR022
	340100101B DDM*47W1PNMB	DDMM*47W1PNMB-FR023	DDM*47W1PNMB-FR022
	340100101B DDM*47W1SNMB	DDMM*47W1SNMB-FR023	DDM*47W1SNMB-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "E" when the captive nut option is required
♦ replace by the letter "Y" when the dual float mount option is required

** : For other terminations, consult factory.

Dimensions are shown in mm (inch)
Dimensions subject to change

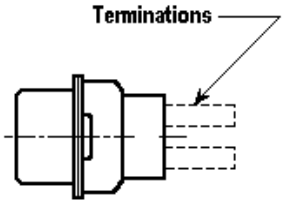
Product Features

Connectors with solder type termination contacts size 22 inserted into two-piece insulators.

Termination types available :
- Straight PCB solder terminations
- 90° bent PCB solder terminations

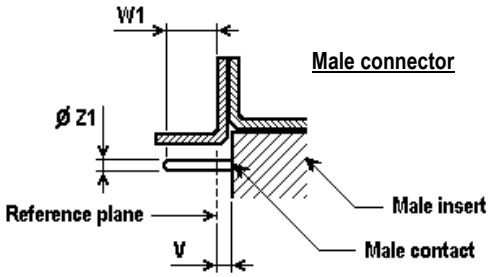
Packaging unit : 1 piece (plastic bag)
Dust cap supplied with each connector, only for quality level ESA/ESCC

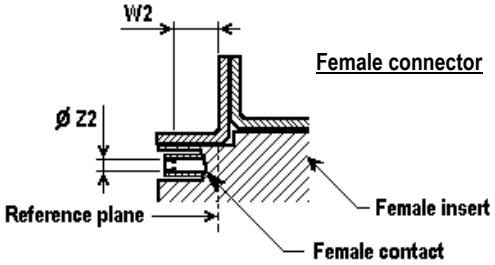
Specific Dimensions



Termination Types :
Straight PCB Solder
90° Bent PCB Solder / Without Bracket
90° Bent PCB Solder / With Monobloc Brackets

Ø Z2 : to accomodate a 0,75 (.0295) / 0,77 (.0305) diameter pin





Shell Size	V max	W1 min (Full pin diameter)	W1 max (Full pin length)	Ø Z1 min	Ø Z1 max	W2 min (Square ended pin)
E	0,40 (.016)	4,43 (.174)	5,45 (.215)	0,75 (.0295)	0,77 (.0305)	3,63 (.143)
A	0,40 (.016)	4,43 (.174)	5,45 (.215)	0,75 (.0295)	0,77 (.0305)	3,63 (.143)
B	0,60 (.024)	4,33 (.170)	5,45 (.215)	0,75 (.0295)	0,77 (.0305)	3,63 (.143)
C	0,60 (.024)	4,33 (.170)	5,45 (.215)	0,75 (.0295)	0,77 (.0305)	3,63 (.143)
D	0,60 (.024)	4,33 (.170)	5,45 (.215)	0,75 (.0295)	0,77 (.0305)	3,63 (.143)
F	0,60 (.024)	4,33 (.170)	5,45 (.215)	0,75 (.0295)	0,77 (.0305)	3,63 (.143)

Weights

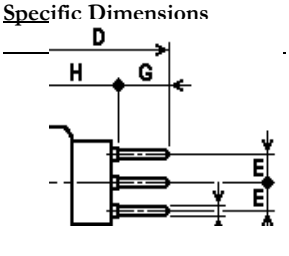
Max Weight (grams) without contacts or accessories	Shell Size	Weight (Grams)
For the total connector weight, add the weight of the contacts and of the eventual accessories.	E	6.0
	A	8.0
	B	12.0
	C	17.0
	D	20.0
	F	25.0

Dimensions are shown in mm (inch)
Dimensions subject to change

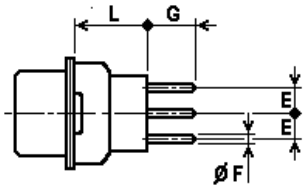
Straight PCB solder Terminations

Termination Modifier	F ± 0,07 (.003)	G
OL3	0,57 (.022)	4,70 (.185) ± 0,1 (.004)
M2	0,51 (.020)	4,00 (.157) ± 0,5 (.020)

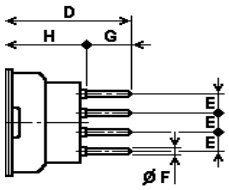
Specific Dimensions



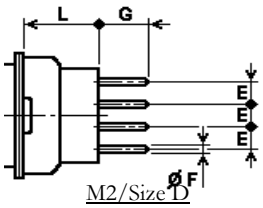
OL3 / Sizes E, A, B, C



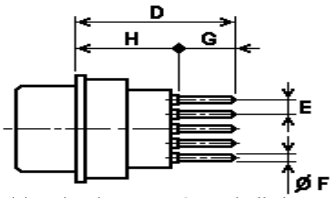
M2/Sizes E, A, B, C



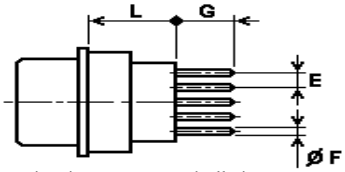
OL3/Size D



M2/Size D



Termination type OL3 shell size F



Termination type M2 shell size F

Contacts	Shell Size	D max	H max	L max	E Typical	Pitch between contacts
Male	E	16,01 (.630)	11,21 (.441)	9,53 (.375)	1,98 (.078)	2,29 (.090)
	A	16,01 (.630)	11,21 (.441)	9,53 (.375)	1,98 (.078)	2,29 (.090)
	B	16,21 (.638)	11,41 (.449)	9,53 (.375)	1,98 (.078)	2,29 (.090)
	C	16,21 (.638)	11,41 (.449)	9,53 (.375)	1,98 (.078)	2,41 (.095)
	D	16,21 (.638)	11,41 (.449)	9,53 (.375)	2,08 (.082)	2,41 (.095)
	F	16,21 (.638)	11,41 (.449)	9,53 (.375)	2,08 (.082)	2,41 (.095)
Female	E	16,17 (.637)	11,37 (.448)	9,53 (.375)	1,98 (.078)	2,29 (.090)
	A	16,17 (.637)	11,37 (.448)	9,53 (.375)	1,98 (.078)	2,29 (.090)
	B	16,17 (.637)	11,37 (.448)	9,53 (.375)	1,98 (.078)	2,29 (.090)
	C	16,17 (.637)	11,37 (.448)	9,53 (.375)	1,98 (.078)	2,41 (.095)
	D	16,17 (.637)	11,37 (.448)	9,53 (.375)	2,08 (.082)	2,41 (.095)
	F	16,17 (.637)	11,37 (.448)	9,53 (.375)	2,08 (.082)	2,41 (.095)

Termination Modifier : OL3, M2; For other termination modifier, consult factory

Weights

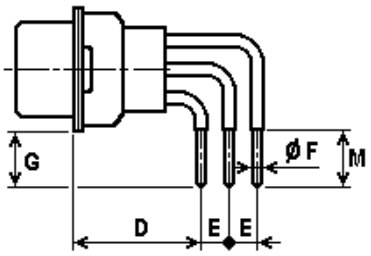
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.17	0.20
Max Weight (grams) of all contacts per size	E	2.55	3.00
	A	4.42	5.20
	B	7.48	8.80
	C	10.64	12.40
	D	13.26	15.60

Dimensions are shown in mm (inch)
Dimensions subject to change

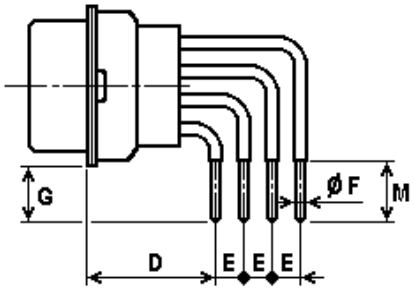
90° Bent PCB solder Terminations / Without Brackets / European Footprint

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,07 (.003)	E Typical
1C0N	0,57 (.022)	1,98 (.078)
1D0N	0,57 (.022)	2,08 (.082)

Contacts	Shell Size	D min	D max	G ± 0,30 (.012)	M min	Pitch between contacts
Male	E	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,29 (.090)
	A	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,29 (.090)
	B	12,18 (.480)	12,68 (.499)	5,00 (.197)	5,30 (.209)	2,29 (.090)
	C	12,18 (.480)	12,68 (.499)	5,00 (.197)	5,30 (.209)	2,41 (.095)
	D	12,18 (.480)	12,68 (.499)	5,00 (.197)	5,30 (.209)	2,41 (.095)
Female	E	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,29 (.090)
	A	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,29 (.090)
	B	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,29 (.090)
	C	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,41 (.095)
	D	11,98 (.472)	12,48 (.491)	5,00 (.197)	5,30 (.209)	2,41 (.095)

Termination Modifier : 1C0N, 1D0N
For other termination modifier, consult factory

Weights

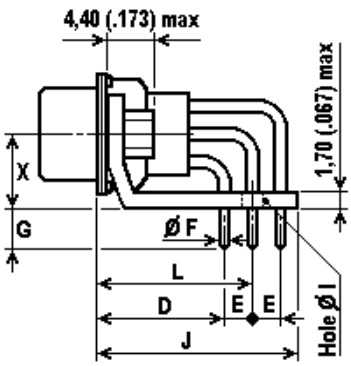
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.19	0.21
Max Weight (grams) of all contacts per size	E	2.85	3.15
	A	4.94	5.46
	B	8.36	9.24
	C	11.78	13.02
	D	14.82	16.38

Dimensions are shown in mm (inch)
Dimensions subject to change

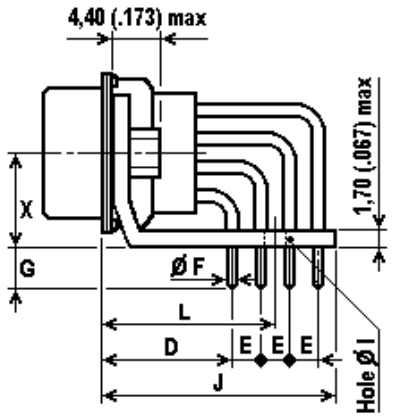
90° Bent PCB solder Terminations / With Brackets / European Footprint

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,07 (.003)	E Typical
1C7N	0,57 (.022)	1,98 (.078)
1D7N	0,57 (.022)	2,08 (.082)
1C9N	0,57 (.022)	1,98 (.078)
1D9N	0,57 (.022)	2,08 (.082)

2 pieces metal brackets :
"7N" : fixed with captive nuts 4-40 UNC-2B
"9N" : fixed with captive nuts M3
Oval hole ∅ I : 3,22 (.127) ± 0,10 (.004)
x 4,90 (.193) ± 0,10 (.004)

Contacts	Shell Size	D min	D max	G ± 0,40 (.016)	J max	L Typical	X ± 0,10 (.004)	Pitch between contacts
Male	E	11,98 (.472)	12,48 (.491)	4,00 (.157)	18,30 (.720)	14,21 (.559)	7,35 (.289)	2,29 (.090)
	A	11,98 (.472)	12,48 (.491)	4,00 (.157)	18,30 (.720)	14,21 (.559)	7,35 (.289)	2,29 (.090)
	B	12,18 (.480)	12,68 (.499)	4,00 (.157)	18,50 (.728)	14,41 (.567)	7,35 (.289)	2,29 (.090)
	C	12,18 (.480)	12,68 (.499)	4,00 (.157)	18,50 (.728)	14,41 (.567)	7,35 (.289)	2,41 (.095)
	D	12,18 (.480)	12,68 (.499)	4,00 (.157)	20,70 (.815)	15,55 (.612)	8,70 (.343)	2,41 (.095)
Female	E	11,98 (.472)	12,48 (.491)	4,00 (.157)	18,30 (.720)	14,21 (.559)	7,35 (.289)	2,29 (.090)
	A	11,98 (.472)	12,48 (.491)	4,00 (.157)	18,30 (.720)	14,21 (.559)	7,35 (.289)	2,29 (.090)
	B	11,98 (.472)	12,48 (.491)	4,00 (.157)	18,30 (.720)	14,21 (.559)	7,35 (.289)	2,29 (.090)
	C	11,98 (.472)	12,48 (.491)	4,00 (.157)	18,30 (.720)	14,21 (.559)	7,35 (.289)	2,41 (.095)
	D	11,98 (.472)	12,48 (.491)	4,00 (.157)	20,50 (.807)	15,35 (.604)	8,70 (.343)	2,41 (.095)

Termination Modifier : 1C7N, 1D7N, 1C9N, 1D9N
For other termination modifier, consult factory

Weights

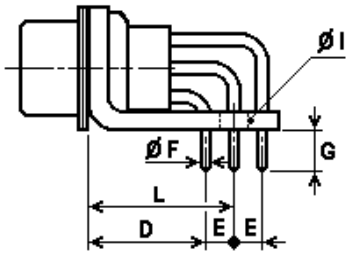
	Shell Size	Male Contact	Female Contact
Max Weight (grams) per contact		0.19	0.21
Max Weight (grams) of all contacts per size	E	2.85	3.15
	A	4.94	5.46
	B	8.36	9.24
	C	11.78	13.02
	D	14.82	16.38
Max Weight (grams) of Brackets	Sizes E, A, B, C	3.80	3.80
	Size D	4.10	4.10

Dimensions are shown in mm (inch)
Dimensions subject to change

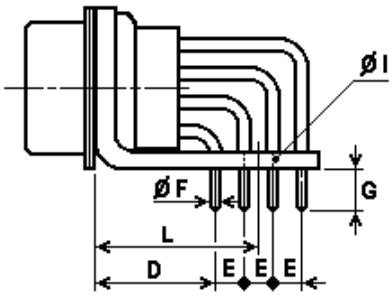
90° Bent PCB solder Terminations / With Brackets / U.S. Footprint

Specific Dimensions

Sizes E, A, B, C



Size D



Termination Modifier	F ± 0,07 (.003)	G ± 0,70 (.027)
D2	0,51 (.020)	3,21 (.126)

Monobloc plastic bracket
Hole ∅ I : 3,05 (.120) ± 0,13 (.005)

Contacts	Shell Size	D min	D max	E Typical	L ± 0,38 (.015)	Pitch between contacts
Male	E	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,29 (.090)
	A	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,29 (.090)
	B	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,29 (.090)
	C	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,41 (.095)
	D	11,18 (.440)	11,68 (.460)	2,08 (.082)	15.39 (.606)	2,41 (.095)
Female	E	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,29 (.090)
	A	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,29 (.090)
	B	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,29 (.090)
	C	11,18 (.440)	11,68 (.460)	1,98 (.078)	13,82 (.544)	2,41 (.095)
	D	11,18 (.440)	11,68 (.460)	2,08 (.082)	15.39 (.606)	2,41 (.095)

Termination Modifier : D2
For other termination modifier, consult factory

Weights

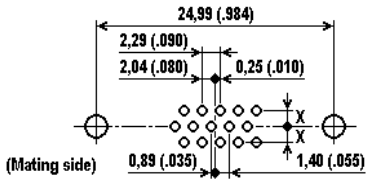
	Shell Size	Male Contact	Female Contact	Brackets + Strap
Max Weight (grams) per contact		0.19	0.21	
Max Weight (grams) of all contacts per size	E	2.85	3.15	To be defined
	A	4.94	5.46	To be defined
	B	8.36	9.24	To be defined
	C	11.78	13.02	To be defined
	D	14.82	16.38	To be defined

Dimensions are shown in mm (inch)
Dimensions subject to change

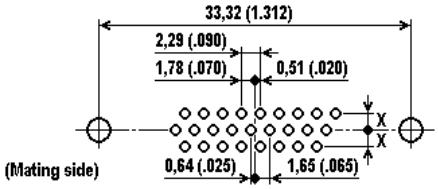
PCB Hole Pattern

Face view, pin insert for plug)
(use a mirror image for receptacle

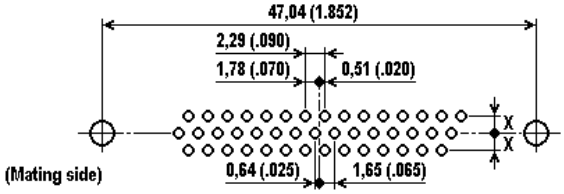
Size E
15 contacts



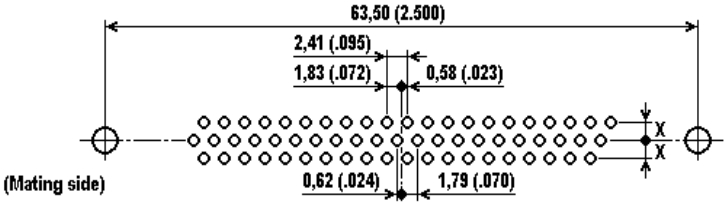
Size A
26 contacts



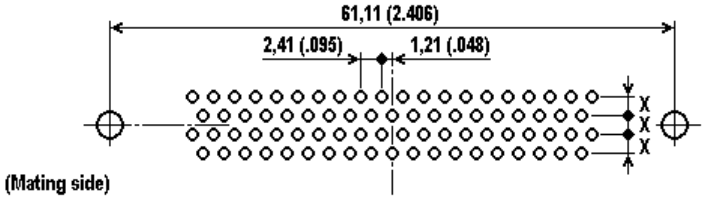
Size B
44 contacts

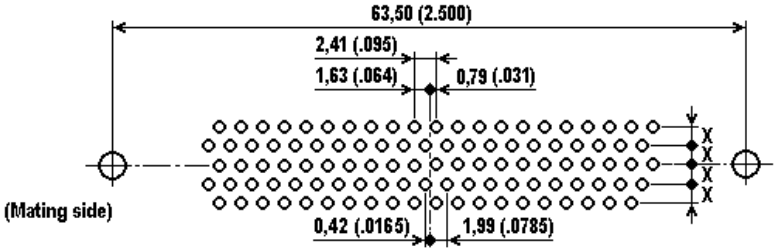


Size C
62 contacts



Size D
78 contacts





Size F
104 contacts

Dimension X
- 1,98 (.078) for sizes E, A, B, C
- 2,08 (.082) for size D and F

Recommended PC hole for signal contacts
- ∅ 0,90 (.035) min for terminations ∅ 0,51 (.020) (M2) Termination
- ∅ 1,00 (.040) min for terminations ∅ 0,57 (.022) (OL3) Termination

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – ESA/ESCC Quality Level

3401001	02	B	D	B	M	Y	44	P	NMB	xxx	OL3

Termination modifier

Straight PCB:	OL3, M2
90° bent PCB without brackets	1C0N, 1D0N – except size F
90° bent PCB with brackets	1C7N, 1D7N, 1C9N, 1D9N –e xcept size F
Shell Finish for F size only:	A174 (25.4µm Ni) FR172: 0.7 µm gold over 25.4 µm Ni

Magnetism level

NMB :	200 Gamma
NMC :	20 Gamma (on special request)

Type of contact

P :	Pin (Male)
S :	Socket (Female)

Contact arrangement (number of contacts)

E:	15
A:	26
B:	44
C:	62
D	78
F:	104

Fixing option

	Except for terminations 1C,(D)7(9)N
Nothing :	Standard through hole
E:	Captive nut (not applicable for size F)
Y:	Dual float mount

Insert type: M for two-piece insert

Shell size

E
A
B
C
D
F

Series

Testing level

Variant

02: High density

Detail specification number

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – FR023 Quality Level

D	B	M	M	Y	44	P	NMB	xxx	M2	FR023

Suffix for MIL Class M Quality (Connector Specification FR023)

Termination modifier

Straight PCB:	OL3, M2
90° bent PCB without brackets	1C0N, 1D0N
90° bent PCB with brackets	1C7N, 1D7N, 1C9N, 1D9N, D2
Shell Finish for F size only:	A174 (25.4µm Ni) FR172: 0.7 µm gold over 25.4 µm Ni

Magnetism level

NMB :	200 Gamma
NMC :	20 Gamma (on special request)

Type of contact

P :	Pin (Male)
S :	Socket (Female)

Contact arrangement (number of contacts)

E:	15
A:	26
B:	44
C:	62
D	78
F	104

Fixing option — Except for terminations 1C,(D)7(9)N

Nothing :	Standard through hole
E:	Captive nut (not applicable for size F)
Y:	Dual float mount

According to MIL-DTL-24308 Specification

Insert type: M for two-piece insert

Shell size

E
A
B
C
D
F

Series

Dimensions are shown in mm (inch)
Dimensions subject to change

How to order – FR022 Quality Level

D	B	M	Y	44	P	NMB	XXX	OL3	FR022

Suffix for Commercial Space Grade Quality Level (Connector Specification FR022)

Termination modifier

Straight PCB:	OL3, M2
90° bent PCB without brackets	1C0N, 1D0N - except size F
90° bent PCB with brackets	1C7N, 1D7N, 1C9N, 1D9N, D2 - except size F
Shell Finish for F size only:	A174 (25.4µm Ni) FR172: 0.7 µm gold over 25.4 µm Ni

Magnetism level

NMB :	200 Gamma
NMC :	20 Gamma (on special request)

Type of contact

P :	Pin (Male)
S :	Socket (Female)

Contact arrangement (number of contacts)

E:	15
A:	26
B:	44
C:	62
D	78
F	104

Fixing option

Except for terminations 1C,(D)7(9)N	
Nothing :	Standard through hole
E:	Captive nut (not applicable for size F)
Y:	Dual float mount

Insert type: M for two-piece insert

Shell size

E
A
B
C
D
F

Series

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
Straight PCB	340100102B DEM*15PNMBOL3	DEMM*15PNMBOL3-FR023	DEM*15PNMBOL3-FR022
	340100102B DEM*15SNMBOL3	DEMM*15SNMBOL3-FR023	DEM*15SNMBOL3-FR022
	340100102B DAM*26PNMBOL3	DAMM*26PNMBOL3-FR023	DAM*26PNMBOL3-FR022
	340100102B DAM*26SNMBOL3	DAMM*26SNMBOL3-FR023	DAM*26SNMBOL3-FR022
	340100102B DBM*44PNMBOL3	DBMM*44PNMBOL3-FR023	DBM*44PNMBOL3-FR022
	340100102B DBM*44SNMBOL3	DBMM*44SNMBOL3-FR023	DBM*44SNMBOL3-FR022
	340100102B DCM*62PNMBOL3	DCMM*62PNMBOL3-FR023	DCM*62PNMBOL3-FR022
	340100102B DCM*62SNMBOL3	DCMM*62SNMBOL3-FR023	DCM*62SNMBOL3-FR022
	340100102B DDM*78PNMBOL3	DDMM*78PNMBOL3-FR023	DDM*78PNMBOL3-FR022
	340100102B DDM*78SNMBOL3	DDMM*78SNMBOL3-FR023	DDM*78SNMBOL3-FR022
		DEMM*15PNMBM2-FR023	DEM*15PNMBM2-FR022
		DEMM*15SNMBM2-FR023	DEM*15SNMBM2-FR022
		DAMM*26PNMBM2-FR023	DAM*26PNMBM2-FR022
		DAMM*26SNMBM2-FR023	DAM*26SNMBM2-FR022
		DBMM*44PNMBM2-FR023	DBM*44PNMBM2-FR022
		DBMM*44SNMBM2-FR023	DBM*44SNMBM2-FR022
		DCMM*62PNMBM2-FR023	DCM*62PNMBM2-FR022
		DCMM*62SNMBM2-FR023	DCM*62SNMBM2-FR022
		DDMM*78PNMBM2-FR023	DDM*78PNMBM2-FR022
		DDMM*78SNMBM2-FR023	DDM*78SNMBM2-FR022

Type	Description ESA/ESCC	Description FR023	Description FR022
Straight PCB	340100102B DFM*104PNMBOL3-A174	DFMM*104PNMBOL3-A174-FR023	DFM*104PNMBOL3-A174-FR022
	340100102B DFM*104SNMBOL3-A174	DFMM*104SNMBOL3-A174-FR023	DFM*104SNMBOL3-A174-FR022
	340100102B DFM*104PNMBOL3-FR172	DFMM*104PNMBOL3-FR172-FR023	DFM*104PNMBOL3-FR172-FR022
	340100102B DFM*104SNMBOL3-FR172	DFMM*104SNMBOL3-FR172-FR023	DFM*104SNMBOL3-FR172-FR022
	340100102B DFM*104PNMBM2-A174	DFMM*104PNMBM2-A174-FR023	DFM*104PNMBM2-A174-FR022
	340100102B DFM*104SNMBM2-A174	DFMM*104SNMBM2-A174-FR023	DFM*104SNMBM2-A174-FR022
	340100102B DFM*104PNMBM2-FR172	DFMM*104PNMBM2-FR172-FR023	DFM*104PNMBM2-FR172-FR022
	340100102B DFM*104SNMBM2-FR172	DFMM*104SNMBM2-FR172-FR023	DFM*104SNMBM2-FR172-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "Y" when the dual float mount option is required

90° bent PCB (without brackets)	340100102B DEM*15PNMB1C0N	DEMM*15PNMB1C0N-FR023	DEM*15PNMB1C0N-FR022
	340100102B DEM*15SNMB1C0N	DEMM*15SNMB1C0N-FR023	DEM*15PNMB1C0N-FR022
	340100102B DAM*26PNMB1C0N	DAMM*26PNMB1C0N-FR023	DAM*26PNMB1C0N-FR022
	340100102B DAM*26SNMB1C0N	DAMM*26SNMB1C0N-FR023	DAM*26SNMB1C0N-FR022
	340100102B DBM*44PNMB1C0N	DBMM*44PNMB1C0N-FR023	DBM*44PNMB1C0N-FR022
	340100102B DBM*44SNMB1C0N	DBMM*44SNMB1C0N-FR023	DBM*44SNMB1C0N-FR022
	340100102B DCM*62PNMB1C0N	DCMM*62PNMB1C0N-FR023	DCM*62PNMB1C0N-FR022
	340100102B DCM*62SNMB1C0N	DCMM*62SNMB1C0N-FR023	DCM*62SNMB1C0N-FR022
	340100102B DDM*78PNMB1D0N	DDMM*78PNMB1D0N-FR023	DDM*78PNMB1D0N-FR022
	340100102B DDM*78SNMB1D0N	DDMM*78SNMB1D0N-FR023	DDM*78SNMB1D0N-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "E" when the captive nut option is required
♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
90° bent PCB (with brackets)	340100102B DEM15PNMB1C7N	DEMM15PNMB1C7N-FR023	DEM15PNMB1C7N-FR022
	340100102B DEM15SNMB1C7N	DEMM15SNMB1C7N-FR023	DEM15SNMB1C7N-FR022
	340100102B DAM26PNMB1C7N	DAMM26PNMB1C7N-FR023	DAM26PNMB1C7N-FR022
	340100102B DAM26SNMB1C7N	DAMM26SNMB1C7N-FR023	DAM26SNMB1C7N-FR022
	340100102B DBM44PNMB1C7N	DBMM44PNMB1C7N-FR023	DBM44PNMB1C7N-FR022
	340100102B DBM44SNMB1C7N	DBMM44SNMB1C7N-FR023	DBM44SNMB1C7N-FR022
	340100102B DCM62PNMB1C7N	DCMM62PNMB1C7N-FR023	DCM62PNMB1C7N-FR022
	340100102B DCM62SNMB1C7N	DCMM62SNMB1C7N-FR023	DCM62SNMB1C7N-FR022
	340100102B DDM78PNMB1D7N	DDMM78PNMB1D7N-FR023	DDM78PNMB1D7N-FR022
	340100102B DDM78SNMB1D7N	DDMM78SNMB1D7N-FR023	DDM78SNMB1D7N-FR022
	340100102B DEM15PNMB1C9N	DEMM15PNMB1C9N-FR023	DEM15PNMB1C9N-FR022
	340100102B DEM15SNMB1C9N	DEMM15SNMB1C9N-FR023	DEM15SNMB1C9N-FR022
	340100102B DAM26PNMB1C9N	DAMM26PNMB1C9N-FR023	DAM26PNMB1C9N-FR022
	340100102B DAM26SNMB1C9N	DAMM26SNMB1C9N-FR023	DAM26SNMB1C9N-FR022
	340100102B DBM44PNMB1C9N	DBMM44PNMB1C9N-FR023	DBM44PNMB1C9N-FR022
	340100102B DBM44SNMB1C9N	DBMM44SNMB1C9N-FR023	DBM44SNMB1C9N-FR022
	340100102B DCM62PNMB1C9N	DCMM62PNMB1C9N-FR023	DCM62PNMB1C9N-FR022
	340100102B DCM62SNMB1C9N	DCMM62SNMB1C9N-FR023	DCM62SNMB1C9N-FR022
	340100102B DDM78PNMB1D9N	DDMM78PNMB1D9N-FR023	DDM78PNMB1D9N-FR022
	340100102B DDM78SNMB1D9N	DDMM78SNMB1D9N-FR023	DDM78SNMB1D9N-FR022
		DEMM15PNMBD2-FR023	DEM15PNMBD2-FR022
		DEMM15SNMBD2-FR023	DEM15SNMBD2-FR022
		DAMM26PNMBD2-FR023	DAM26PNMBD2-FR022
		DAMM26SNMBD2-FR023	DAM26SNMBD2-FR022
		DBMM44PNMBD2-FR023	DBM44PNMBD2-FR022
		DBMM44SNMBD2-FR023	DBM44SNMBD2-FR022
		DCMM62PNMBD2-FR023	DCM62PNMBD2-FR022
		DCMM62SNMBD2-FR023	DCM62SNMBD2-FR022
		DDMM78PNMBD2-FR023	DDM78PNMBD2-FR022
		DDMM78SNMBD2-FR023	DDM78SNMBD2-FR022

DSubminiature Space Connectors
D*M/D*MA High Density 104 Contacts

Introduction.

The ESA / SCC specification 3401 does specify a D Sub High density layout with 104 contacts.
Specified versions are:
3401 001 D*M with straight PCB solder termination
3401 002 D*MA with removeable crimp contacts
3401 020 D*MA Connector Savers

Product Features

High density layout : 104 contacts

Shell size : F

Male screwlock : Same as for the shell size D Pin (Variants 05, 52, 68 and 76 of the ESA/ESCC 3401/022 Detail Specification)

Backshell option : Not available

Fixing option E : Not available

Dust cap : Not available

Materials and Finishes

Shell material : Aluminium alloy

Shell finish A174 : 25,4 µm (1000 µin) min electroless Nickel (Modification code A174)

Shell finish FR172 : 0,70 µm (28 µin) min Gold over 25,4 µm (1000 µin) electroless Nickel (Modification code FR172)

Performance Specifications

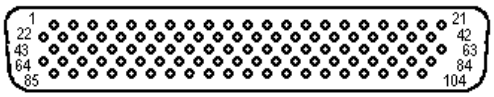
Mating Force : 295 (N max)

Unmating Force : 20.3 / 177 (N min / N max)

Contact Cavity Arrangements

Face view pin inserts (use a mirror image for receptacle inserts)

Shell size	F	
Contact Arrangement		104
Contact Size	# 22	

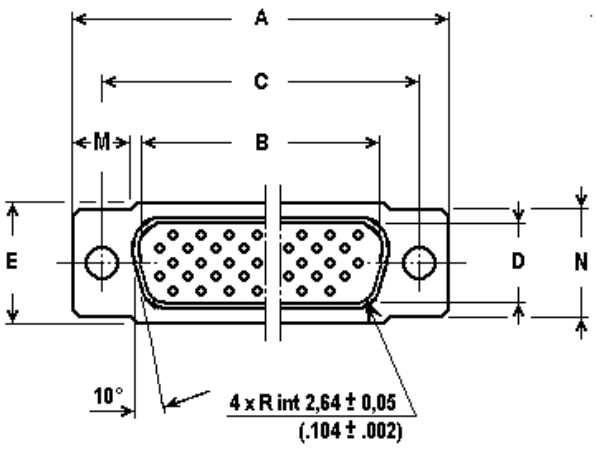


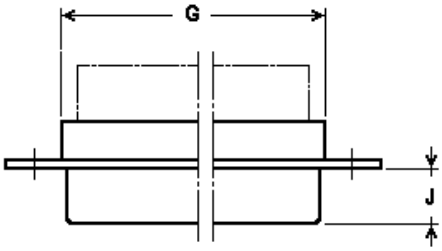
Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*M/D*MA High Density 104 Contacts

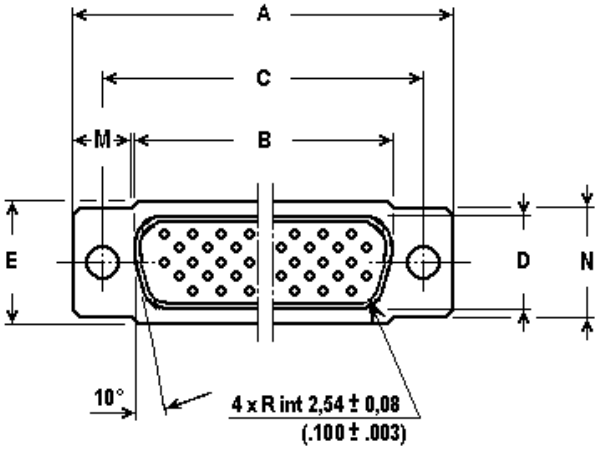
Shell Dimensions

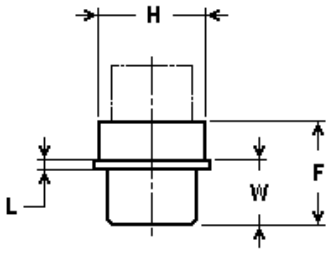
Plug (mating side)





Receptacle (mating side)





Shell Size mm	A ± 0,38	B ± 0,13	C ± 0,13	D ± 0,13	E ± 0,38	F ± 0,25	G ± 0,25	H ± 0,25	W ± 0,15	J ± 0,13	L ± 0,10	M ± 0,13	N ± 0,38
Plug	69,32	56,18	63,50	12,77	17,30	12,85	59,00	15,70	6,74	5,84	0,90	5,30	15,37
Receptacle	69,32	55,60	63,50	12,32	17,30	13,15	59,00	15,70	7,08	6,18	0,90	5,30	15,37

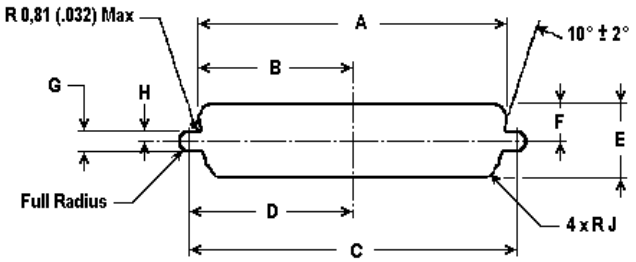
Shell Size (inch)	A ± .015	B ± .005	C ± .005	D ± .005	E ± .015	F ± .010	G ± .010	H ± .010	W ± .006	J ± .005	L ± .004	M ± .005	N ± .015
Plug	2.729	2.212	2.500	.503	.681	.506	2.323	.618	.265	.230	.035	.209	.605
Receptacle	2.729	2.189	2.500	.485	.681	.518	2.323	.618	.279	.243	.035	.209	.605

Dimensions are shown in mm (inch)
Dimensions subject to change

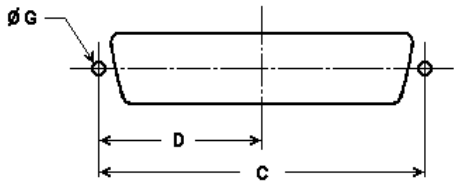
DSubminiature Space Connectors
D*M/D*MA High Density 104 Contacts

Panel Cutouts

Standard Cutout



Rear Mounting Cutout (Optional)



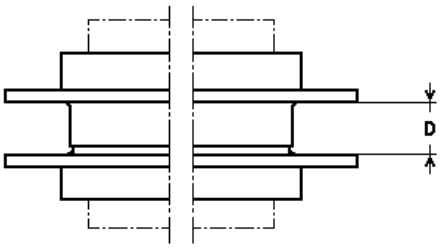
Standard Shell

Shell Size mm (inch)	Mounting Method	A ± 0,13 (.005)	B ± 0,13 (.005)	C ± 0,13 (.005)	D ± 0,13 (.005)	E ± 0,13 (.005)	F ± 0,13 (.005)	G ± 0,05 (.002)	H ± 0,05 (.002)	J ± 0,05 (.002)
F	Front	59,60 (2.346)	29,80 (1.173)	63,50 (2.500)	31,75 (1.250)	19,10 (.752)	9,55 (.376)	3,04 (.120)	1,52 (.060)	2,10 (.083)
F	Rear	58,10 (2.287)	29,05 (1.144)	63,50 (2.500)	31,75 (1.250)	14,56 (.573)	7,28 (.287)	3,04 (.120)	1,52 (.060)	3,35 (.132)

Dual Float Mount Shell

Shell Size mm (inch)	Mounting Method	A ± 0,13 (.005)	B ± 0,13 (.005)	C ± 0,13 (.005)	D ± 0,13 (.005)	E ± 0,13 (.005)	F ± 0,13 (.005)	G ± 0,05 (.002)	H ± 0,05 (.002)	J ± 0,05 (.002)
F	Front	60,40 (2.378)	30,20 (1.189)	63,50 (2.500)	31,75 (1.250)	19,90 (.783)	9,95 (.392)	2,23 (.088)	1,11 (.044)	2,10 (.083)
F	Rear	58,90 (2.319)	29,45 (1.159)	63,50 (2.500)	31,75 (1.250)	15,16 (.597)	7,58 (.298)	2,23 (.088)	1,11 (.044)	3,35 (.132)

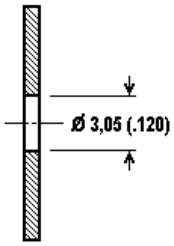
Mounting Conditions



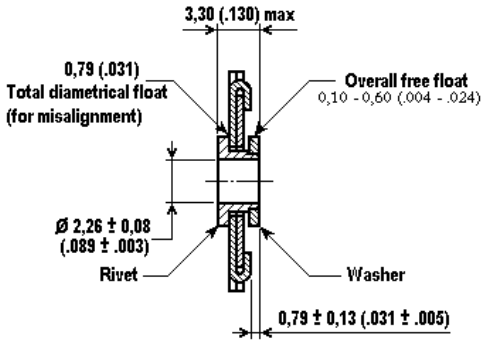
Shell Size	D min	D max
F	6,12 (.241)	6,88 (.271)

Fixing Options

Through Hole (Eyelet)



Dual Float Mount (Y)



Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*M/D*MA High Density 104 Contacts

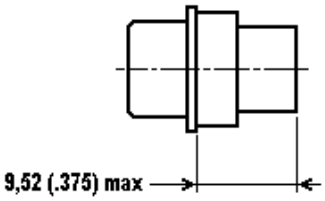
Product Features

Connectors normally supplied without contacts (suffix F0 in the description, not marked on the connector)

When supplied with contacts (no suffix F0), the connectors are equiped with contacts size 22/22

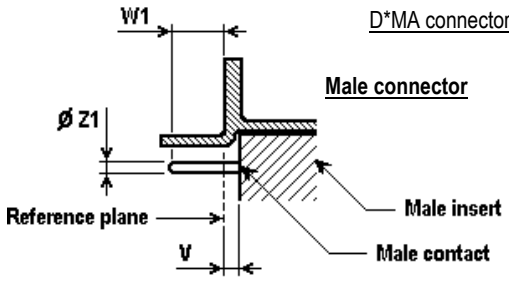
Insertion/extraction tool supplied with each connector, only for quality level ESA/ESCC

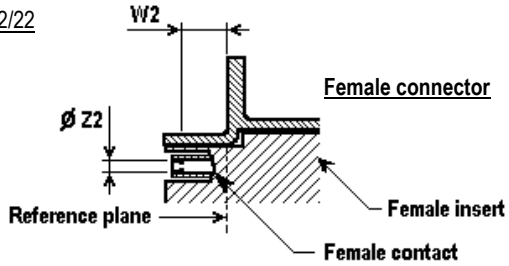
Specific Dimensions



V max	0,60 (.024)
W1 min (Full pin diameter)	4,33 (.170)
W1 max (Full pin diameter)	5,45 (.215)
W2 min (Square ended pin)	3,63 (.143)
∅ Z1	0,75 (.0295) / 0,77 (.0305)
∅ Z2	**∅ Z2** : to accomodate a 0,75 (.0295) / 0,77 (.0305) diameter pin

D*MA connectors with contacts size 22/22





Weights

Max Weight, without contacts : 25 grams

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
Without contacts	340100202B DFMA*104PNMB-A174-F0	DFMAM*104PNMB-A174-FR023-F0	DFMA*104PNMB-A174-FR022-F0
	340100202B DFMA*104SNMB-A174-F0	DFMAM*104SNMB-A174-FR023-F0	DFMA*104SNMB-A174-FR022-F0
	340100202B DFMA*104PNMB-FR172-F0	DFMAM*104PNMB-FR172-FR023-F0	DFMA*104SPMB-FR172-FR022-F0
	340100202B DFMA*104SNMB-FR172-F0	DFMAM*104SNMB-FR172-FR023-F0	DFMA*104SSMB-FR172-FR022-F0
With contacts	340100202B DFMA*104PNMB-A174	DFMAM*104PNMB-A174-FR023	DFMA*104PNMB-A174-FR022
	340100202B DFMA*104SNMB-A174	DFMAM*104SNMB-A174-FR023	DFMA*104SNMB-A174-FR022
	340100202B DFMA*104PNMB-FR172	DFMAM*104PNMB-FR172-FR023	DFMA*104SPMB-FR172-FR022
	340100202B DFMA*104SNMB-FR172	DFMAM*104SNMB-FR172-FR023	DFMA*104SSMB-FR172-FR022

* :
- ♦ remove when the standard through hole option is required
- ♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

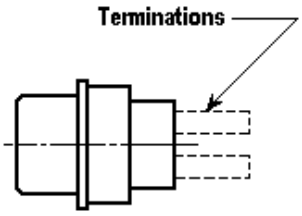
DSubminiature Space Connectors
D*MA High Density 104 Contacts

Product Features

Connectors with solder type termination contacts size 22 inserted into two-piece insulators.

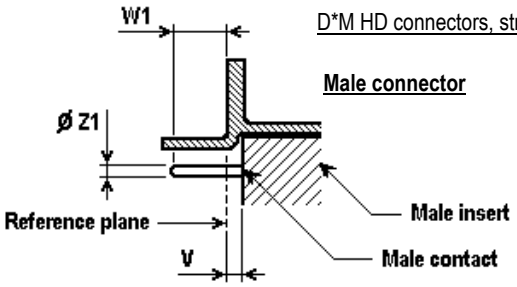
Termination type available : Straight PCB solder terminations

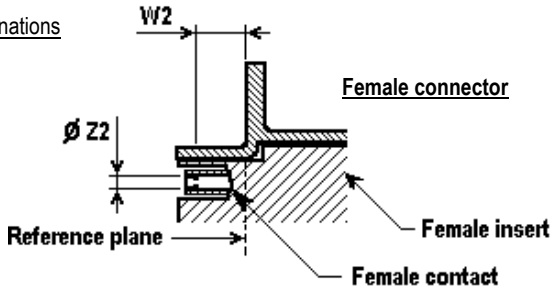
Specific Dimensions



V max	0,60 (.024)
W1 min (Full pin diameter)	4,33 (.170)
W1 max (Full pin diameter)	5,45 (.215)
W2 min (Square ended pin)	3,63 (.143)
∅ Z1	0,75 (.0295) / 0,77 (.0305)
∅ Z2	To accommodate a 0,76 (.030) diameter pin

D*M HD connectors, straight PCB terminations





Weights

Without contacts : 25 grams

With male contacts : 43 grams

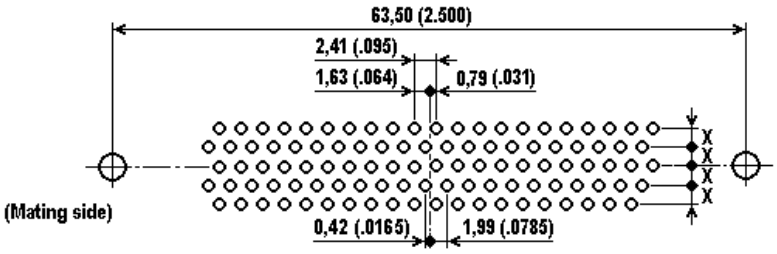
With female contacts : 46 grams

PCB Hole Pattern

Face view, pin insert for plug
(use a mirror image for receptacle)

Size F
104 contacts

Dimension X : 2,08 (.082)



Recommended PC hole for signal contacts
- ∅ 0,90 (.035) min for terminations ∅ 0,51 (.020) (M2) Termination
- ∅ 1,00 (.040) min for terminations ∅ 0,57 (.022) (OL3) Termination

Dimensions are shown in mm (inch)
Dimensions subject to change

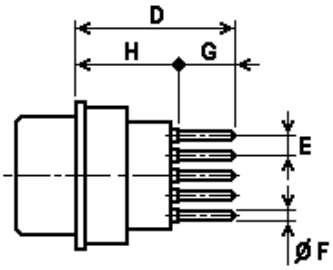
DSubminiature Space Connectors
D*M High Density 104 Contacts

Straight PCB solder Terminations

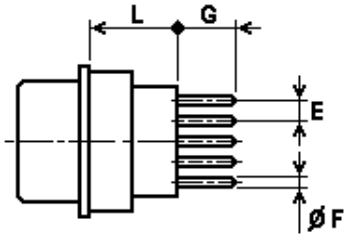
Termination Modifier	F ± 0,07 (.003)	G
OL3	0,57 (.022)	4,70 (.185) ± 0,1 (.004)
M2	0,51 (.020)	4,00 (.157) ± 0,5 (.020)

Specific Dimensions

Termination type OL3



Termination type M2



Contacts	Shell Size	D max	H max	L max	E Typical	Pitch between contacts
Male	F	16,21 (.638)	11,41 (.449)	9,53 (.375)	2,08 (.082)	2,41 (.095)
Female	F	16,17 (.637)	11,37 (.448)	9,53 (.375)	2,08 (.082)	2,41 (.095)

Termination Modifier : OL3, M2
For other termination modifier, consult factory

Type	Description ESA/ESCC	Description FR023	Description FR022
Straight PCB	340100102B DFM*104PNMBOL3-A174	DFMM*104PNMBOL3-A174-FR023	DFM*104PNMBOL3-A174-FR022
	340100102B DFM*104SNMBOL3-A174	DFMM*104SNMBOL3-A174-FR023	DFM*104SNMBOL3-A174-FR022
	340100102B DFM*104PNMBOL3-FR172	DFMM*104PNMBOL3-FR172-FR023	DFM*104PNMBOL3-FR172-FR022
	340100102B DFM*104SNMBOL3-FR172	DFMM*104SNMBOL3-FR172-FR023	DFM*104SNMBOL3-FR172-FR022
	340100102B DFM*104PNMBM2-A174	DFMM*104PNMBM2-A174-FR023	DFM*104PNMBM2-A174-FR022
	340100102B DFM*104SNMBM2-A174	DFMM*104SNMBM2-A174-FR023	DFM*104SNMBM2-A174-FR022
	340100102B DFM*104PNMBM2-FR172	DFMM*104PNMBM2-FR172-FR023	DFM*104PNMBM2-FR172-FR022
	340100102B DFM*104SNMBM2-FR172	DFMM*104SNMBM2-FR172-FR023	DFM*104SNMBM2-FR172-FR022

* : ♦ remove when the standard through hole option is required
♦ replace by the letter "Y" when the dual float mount option is required

Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*BMA FOR D*M/D*MA Connector Savers

Product Features

Connectors used as connector savers in test equipment applications where more than normal mating and unmating would soon degrade a permanently mounted connector

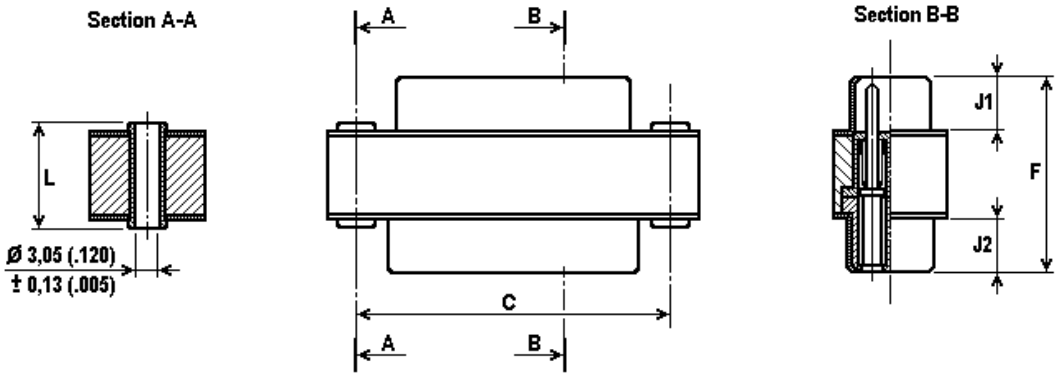
It features the rear release contact retention assembly, making it field repairable

Normally supplied with the contacts installed, it can be supplied without contacts (suffix F0 in the description, not marked on the connector)

Male/Female type contacts, size 20 for standard density, size 22 for high density

Packaging unit : 1 piece (plastic bag)

Specific Dimensions



Shell Size	C ± 0,13 (.005)	F ± 0,25 (.010)	J1 ± * / **	J2 ± 0,13 (.005)	L ± 0,38 (.015)
E	24,99 (.984)	21,87 (.861)	5,94 (.234) *	6,18 (.243)	10,59 (.417)
A	33,32 (1.312)	21,87 (.861)	5,94 (.234) *	6,18 (.243)	10,59 (.417)
B	47,04 (1.852)	21,97 (.865)	5,84 (.230) **	6,18 (.243)	10,59 (.417)
C	63,50 (2.500)	21,97 (.865)	5,84 (.230) **	6,18 (.243)	10,59 (.417)
D	61,11 (2.406)	21,97 (.865)	5,84 (.230) **	6,18 (.243)	10,59 (.417)
F	63,50 (2.500)	21,97 (.865)	5,84 (.230)) **	6,18 (.243)	10,59 (.417)

* ± 0,12 (.005)
** ± 0,15 (.006)

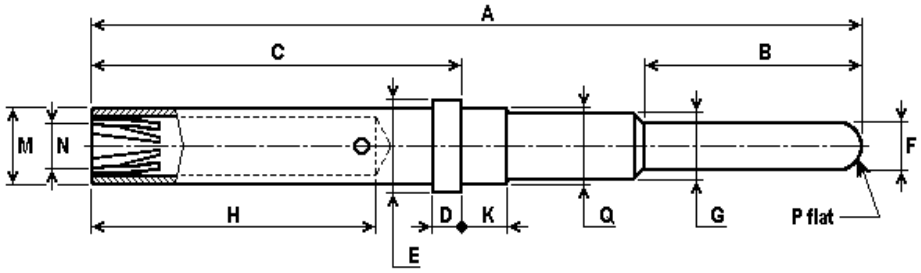
Weights

	Shell Size	Standard Density without contacts	Standard Density with contacts	High Density without contacts	High Density with contacts
Max Weight (grams) per contact			0.25		0.16
Max Weight (grams) per connector saver	E	9.90	12.15	9.50	11.90
	A	13.70	17.45	13.20	17.36
	B	18.40	24.65	17.80	24.84
	C	23.90	33.15	23.20	33.12
	D	26.80	39.30	26.10	38.58
	F			30,50	47,14

Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*BMA FOR D*M/D*MA Connector Savers

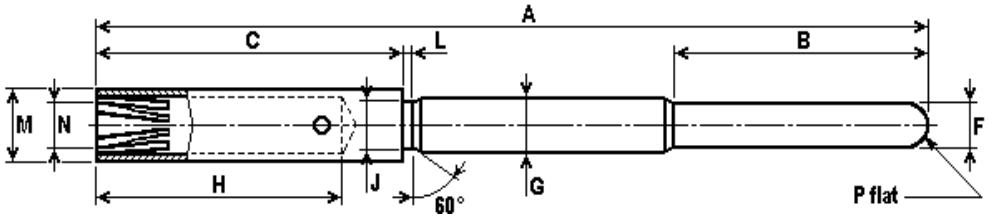
Contact Size 20



mm	A	B	C	D	Ø E	Ø F	Ø G	H	K	Ø M	Ø N	Ø P	Ø Q
Min	19,76	5,50	9,55	0,74	2,08	0,99	1,65	7,60	1,10	1,80	1,07	-	1,73
Max	20,12	5,80	9,63	0,81	2,12	1,04	1,73	7,85	1,20	1,85	1,14	0,30	1,78

(inch)	A	B	C	D	Ø E	Ø F	Ø G	H	K	Ø M	Ø N	Ø P	Ø Q
Min	.778	.217	.376	.029	.082	.039	.065	.299	.043	.071	.042	-	.068
Max	.792	.228	.379	.032	.083	.041	.068	.309	.047	.073	.045	.012	.070

Contact Size 22



Mm	A	B	C	Ø F	Ø G	H	Ø M	Ø N	Ø P	Ø J	L
Min	19,50	5,95	7,28	0,75	1,17	5,55	1,52	0,78	-	0,91	0,20
Max	19,95	6,05	7,34	0,77	1,21	5,85	1,57		0,20	1,01	0,25

(Inch)	A	B	C	Ø F	Ø G	H	Ø M	Ø N	Ø P	Ø J	L
Min	.768	.234	.287	.029	.046	.219	.060	.031	-	.036	.008
Max	.785	.238	.289	.030	.048	.230	.062		.008	.040	.010

Residual magnetism level NMB (200 Gamma max)
For other residual magnetism level, consult factory

Packaging unit : 250 pieces (plastic bag)

Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*BMA FOR D*M/D*MA Connector Savers

How to order – ESA/ESCC Quality Level

3401020	01	B	D	B	B	MA	25	PS	NMB	A174	F0

Contact information
Termination modifier
F0: without contacts (marked on the documentation / not marked on the connector)
Nothing: with contacts (size 20 for Standard Density / size 22 for High Density)
Magnetism level
NMB : 200 Gamma
NMC : 20 Gamma (on special request)
Type of contact
P : Pin (Male)
S : Socket (Female)
Contact arrangement (
Number of contacts for variant 01:
E: 9
A: 15
B: 25
C: 37
D 50
Number of contacts for variant 02:
E: 15
A: 26
B: 44
C: 62
D 78
F: 104 only – FR172*
- A174*
Insert type: MA for two-piece insert with metal retention clips for saver contacts
Saver type
Shell size
E
A
B
C
D
F
Series
Testing level
Variant
01: Standard density
02: High density
Detail specification number

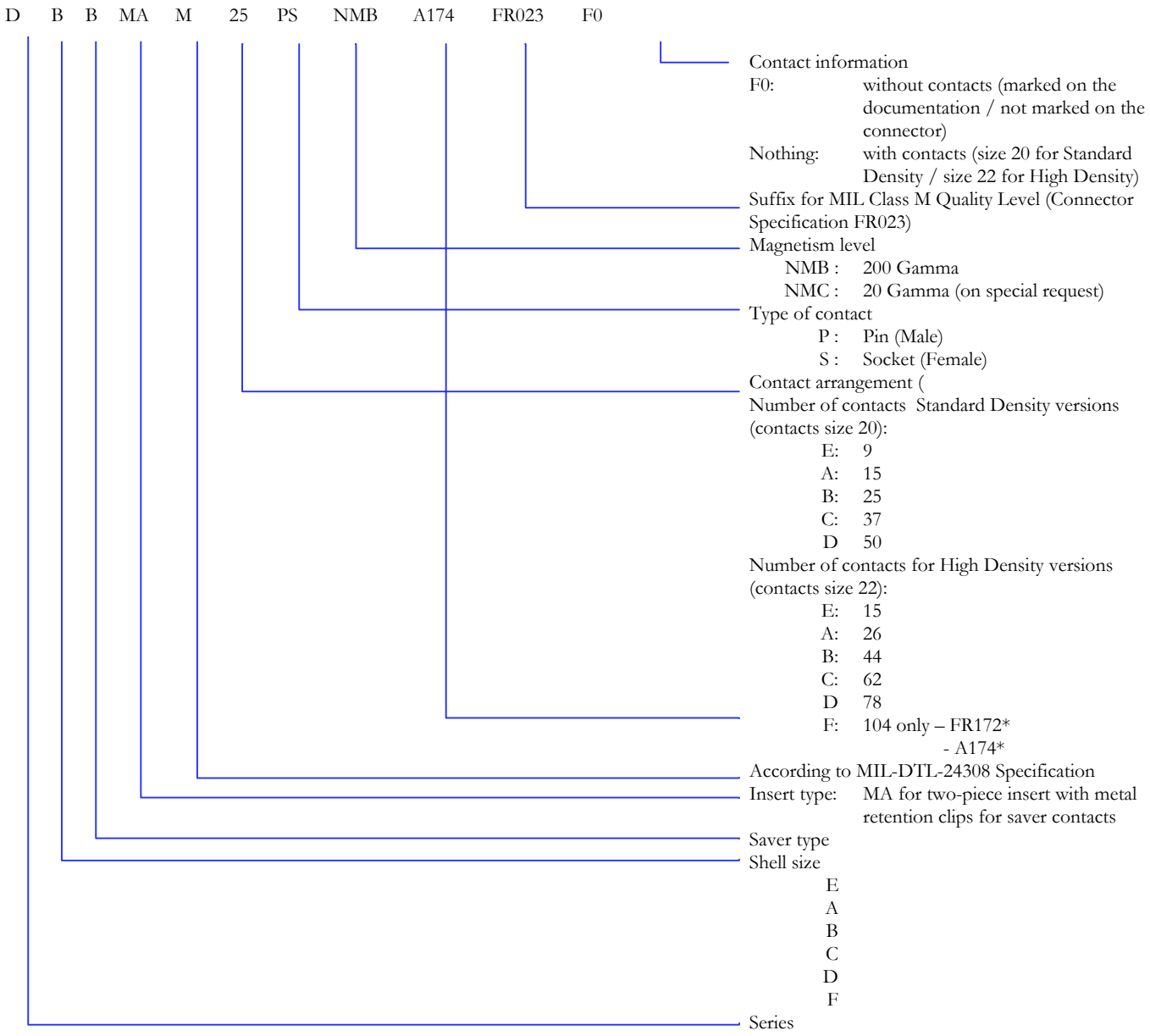
***Materials and Finishes:**

Shell material: Aluminium alloy
Shell finish A174: 25,4µm (1000µin) min electroless Nickel (Modification code A174)
Shell finish FR172: 0.70µm (28µm) min Gold over 25.4µm (1000µm) electroless Nickel (Modification code FR172)

Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*BMA FOR D*M/D*MA Connector Savers

How to order – FR023 Quality Level



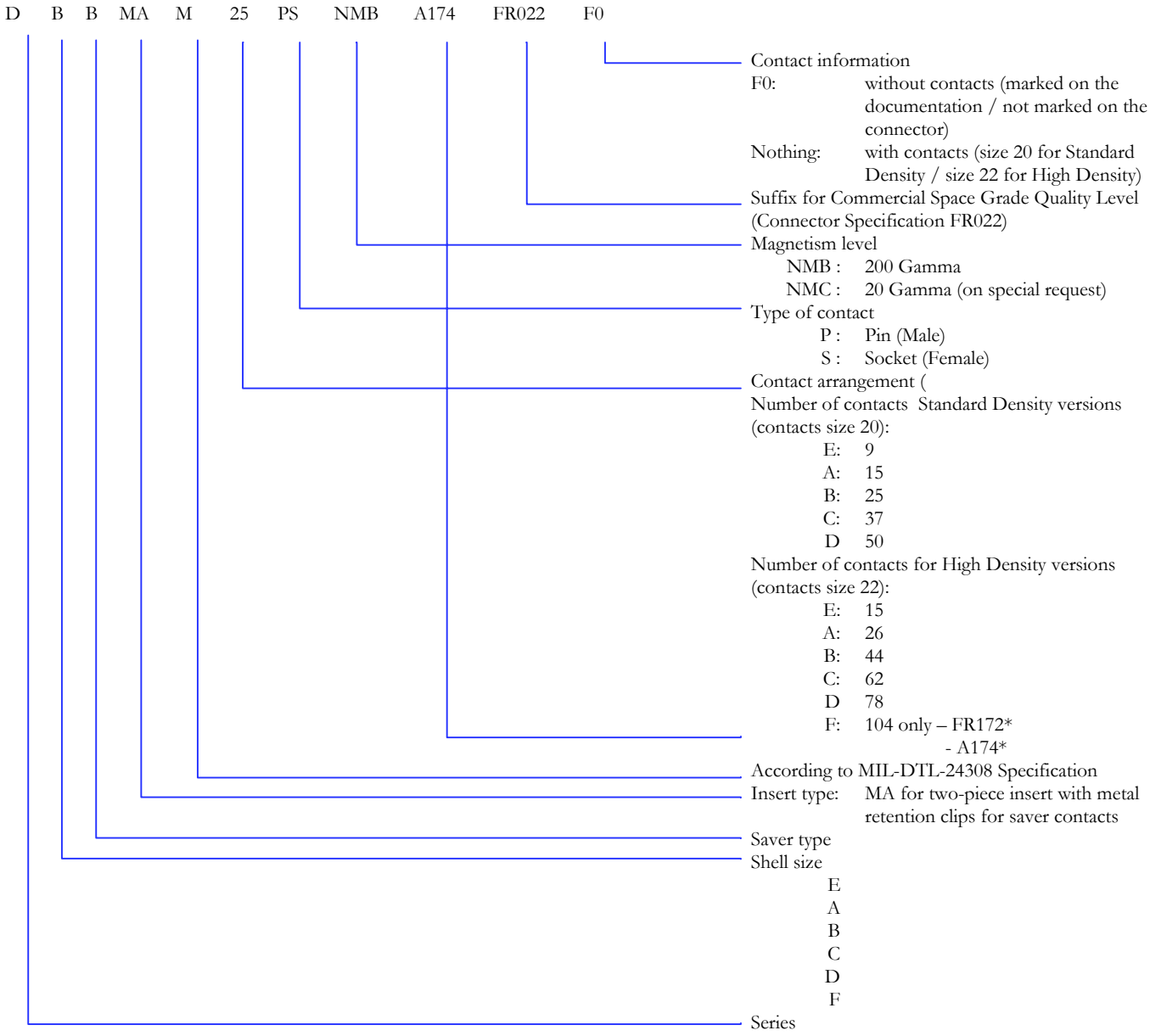
***Materials and Finishes:**

Shell material: Aluminium alloy
Shell finish A174: 25,4µm (1000µin) min electroless Nickel (Modification code A174)
Shell finish FR172: 0.70µm (28µm) min Gold over 25.4µm (1000µm) electroless Nickel (Modification code FR172)

Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*BMA FOR D*M/D*MA Connector Savers

How to order – FR022 Quality Level



***Materials and Finishes:**

Shell material: Aluminium alloy
Shell finish A174: 25,4µm (1000µin) min electroless Nickel (Modification code A174)
Shell finish FR172: 0.70µm (28µm) min Gold over 25.4µm (1000µm) electroless Nickel (Modification code FR172)

Dimensions are shown in mm (inch)
Dimensions subject to change

DSubminiature Space Connectors
D*BMA FOR D*M/D*MA Connector Savers

Cross References

Type	Description ESA/ESCC	Description FR023	Description FR022
Without contacts	340102001B DEBMA9PSNMBF0	DEBMAM9PSNMB-FR023-F0	DEBMA9PSNMB-FR022-F0
	340102001B DABMA15PSNMBF0	DABMAM15PSNMB-FR023-F0	DABMA15PSNMB-FR022-F0
	340102001B DBBMA25PSNMBF0	DBBMAM25PSNMB-FR023-F0	DBBMA25PSNMB-FR022-F0
	340102001B DCBMA37PSNMBF0	DCBMAM37PSNMB-FR023-F0	DCBMA37PSNMB-FR022-F0
	340102001B DDBMA50PSNMBF0	DDBMAM50PSNMB-FR023-F0	DDBMA50PSNMB-FR022-F0
	340102002B DEBMA15PSNMBF0	DEBMAM15PSNMB-FR023-F0	DEBMA15PSNMB-FR022-F0
	340102002B DABMA26PSNMBF0	DABMAM26PSNMB-FR023-F0	DABMA26PSNMB-FR022-F0
	340102002B DBBMA44PSNMBF0	DBBMAM44PSNMB-FR023-F0	DBBMA44PSNMB-FR022-F0
	340102002B DCBMA62PSNMBF0	DCBMAM62PSNMB-FR023-F0	DCBMA62PSNMB-FR022-F0
	340102002B DDBMA78PSNMBF0	DDBMAM78PSNMB-FR023-F0	DDBMA78PSNMB-FR022-F0
	340102002B DFBMA104PSNMB-A174-F0	DFBMAM104PSNMB-A174-FR023-F0	DFBMA104PSNMB-A174-FR022-F0
	340102002B DFBMA104PSNMB-FR172-F0	DFBMAM104PSNMB-FR172-FR023-F0	DFBMA104PSNMB-FR172-FR022-F0
With contacts	340102001B DEBMA9PSNMB	DEBMAM9PSNMB-FR023	DEBMA9PSNMB-FR022
	340102001B DABMA15PSNMB	DABMAM15PSNMB-FR023	DABMA15PSNMB-FR022
	340102001B DBBMA25PSNMB	DBBMAM25PSNMB-FR023	DBBMA25PSNMB-FR022
	340102001B DCBMA37PSNMB	DCBMAM37PSNMB-FR023	DCBMA37PSNMB-FR022
	340102001B DDBMA50PSNMB	DDBMAM50PSNMB-FR023	DDBMA50PSNMB-FR022
	340102002B DEBMA15PSNMB	DEBMAM15PSNMB-FR023	DEBMA15PSNMB-FR022
	340102002B DABMA26PSNMB	DABMAM26PSNMB-FR023	DABMA26PSNMB-FR022
	340102002B DBBMA44PSNMB	DBBMAM44PSNMB-FR023	DBBMA44PSNMB-FR022
	340102002B DCBMA62PSNMB	DCBMAM62PSNMB-FR023	DCBMA62PSNMB-FR022
	340102002B DDBMA78PSNMB	DDBMAM78PSNMB-FR023	DDBMA78PSNMB-FR022
	340102002B DFBMA104PSNMB-A174	DFBMAM104PSNMB-A174-FR023	DFBMA104PSNMB-A174-FR022
	340102002B DFBMA104PSNMB-FR172	DFBMAM104PSNMB-FR172-FR023	DFBMA104PSNMB-FR172-FR022

Contacts

Size	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
	Description	Part Number	Description	Part Number	Description	Part Number
20	340102101B	031-8991-101H	031-8991-101-FR023	031-8991-101E	031-8991-101-FR022	031-8991-101D
22	340102102B	031-8992-101H	031-8992-101-FR023	031-8992-101E	031-8992-101-FR022	031-8992-101D

Dimensions are shown in mm (inch)
Dimensions subject to change

Product Features

Loose size 8 contacts for combination arrangement D*M connectors **must be ordered separately**.

Coaxial contacts, straight or 90°, solder or crimp type
- Plug (male), with female center contact, for installation on D*M plug connectors (and on the central cavity of receptacle connectors 3WK3)
- Receptacle (female), with male center contact, for installation on D*M receptacle connectors (and on the central cavity of plug connectors 3WK3)

Power contacts, straight, solder or crimp type (Mating pin size 8)
- Plug (male), for installation on D*M plug connectors (and on the central cavity of receptacle connectors 3WK3
- Receptacle (female), for installation on D*M receptacle connectors (and on the central cavity of plug connectors 3WK3)

Packaging unit
- 1 piece (plastic bag) for ESA/ESCC quality level
- 25 pieces (plastic bag) for FR023 quality level
- 25 pieces (plastic bag) for FR022 quality level

Specific Performance Specifications

All Contacts

Contact Retention in Insert	65 N max / contact axial displacement 0,50 (.020) max
Contact Insertion Force (from the rear)	55 N min (locking) / 65 N max (no damage)
Retainer Force (from the front)	50 N min (no unlocking)
Residual magnetism level	NMB (200 Gamma max)

Coaxial Contacts

Frequency Range	Up to 1 GHz
VSWR (up to 1 GHz)	1.4
RF Insertion Loss at 1 GHz	0.2 dB
Soldering Temperature	260 °C / 10 seconds max
Contact Engagement Force	Outer contact (Receptacle) : 0.83 N min, pin dia 3,86 (.152) / 6.87 N max, pin dia 3,86 (.152)
	Center contact (Plug) : 0.28 N min, pin dia 0,99 (.039) / 3.33 N max, pin dia 1,04 (.041)
Contact Separation Force	Outer contact (Receptacle) : 0.83 N min, pin dia 3,86 (.152) / 6.87 N max, pin dia 3,86 (.152)
	Center contact (Plug) : 0.28 N min, pin dia 0,99 (.039) / 2.22 N max, pin dia 1,04 (.041)
Contact Resistance (center contact)	8.5 mΩ max (low level current) / 7.0 mΩ max (rated level current)
Voltage Proof (center / outer contacts)	1000 Vrms (straight rear end) / 800 Vrms (90° rear end)

Power Contacts

Rated Current	40 A at T amb 60°C max / Limitation by the current carrying capability of the cable
Soldering Temperature	260 °C / 10 seconds max
Contact Engagement Force	(Receptacle) : 0.83 N min, pin dia 3,58 (.141) / 6.87 N max, pin dia 3,63 (.143)
Contact Separation Force	(Receptacle) : 0.83 N min, pin dia 3,58 (.141) / 5.56 N max, pin dia 3,63 (.143)
Contact Resistance	2.5 mΩ max (low level current) / 2.0 mΩ max (rated level current)

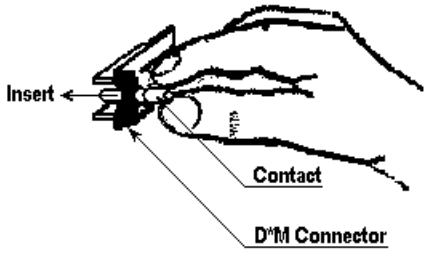
Dimensions are shown in mm (inch)
Dimensions subject to change

Insertion/Extraction Instructions

Insertion Tool

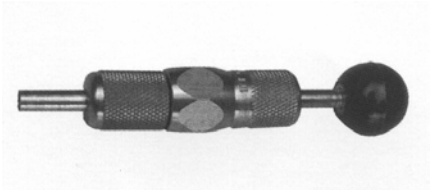
No insertion tool is required.
The contact is easily snapped in from the rear of the connector manually.

Insertion Instructions

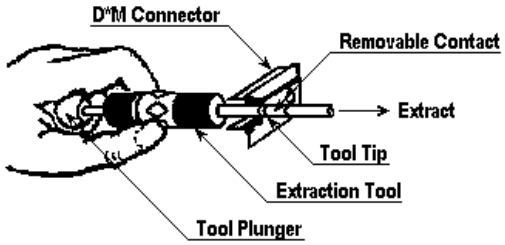


Extraction Tool

Extraction tool CET-C6B-2 (Part number 070064-0002)

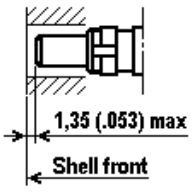


Operating Instructions

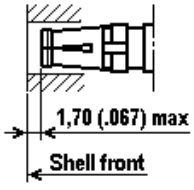


To extract the contact, hold the tool by the body and insert the tip into the the front of the contact cavity until it bottoms and closes the contact retaining ring. Holding the body in this position securely enough to keep contact retaining ring closed, push the plunger. Contact will be pushed out of the rear of the assembly.

Maximum Recess of Contacts relative to Shell Front



Male contact

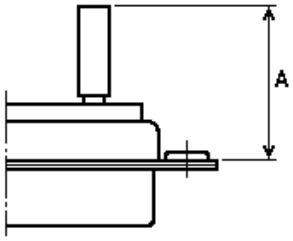


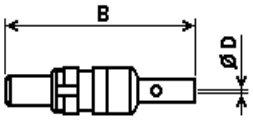
Female contact

Dimensions are shown in mm (inch)
Dimensions subject to change

Coaxial Contacts

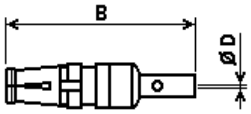
Straight Solder/or Crimp Braid Type



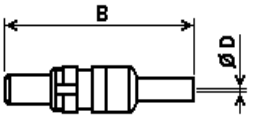


ESCC Variants 01/05/09

Solder Type

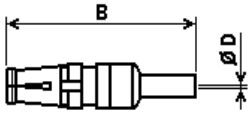


ESCC Variants 02/06/10



ESCC Variants 11/15/19

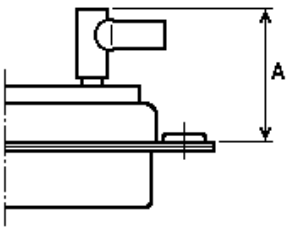
Crimp Type



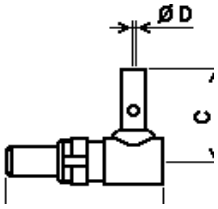
ESCC Variants 12/16/20

ESA/ESCC 3401 Variant	Type	A max	B ± 0,60 (.024)	D ± 0,13 (.005)	Accepted Cables	Max Weight (grams)
01 (solder) / 11 (crimp)	Male	18,80 (.740)	23,62 (.930)	1,02 (.040)	178 B/U - 196 A/U - KX 21A	1.4
02 (solder) / 12 (crimp)	Female	18,80 (.740)	23,90 (.941)	1,02 (.040)	178 B/U - 196 A/U - KX 21A	1.5
05 (solder) / 15 (crimp)	Male	18,80 (.740)	23,62 (.930)	1,70 (.067)	179 B/U - 316 U - 188 A/U - KX 22A - 50 CIS	1.4
06 (solder) / 16 (crimp)	Female	18,80 (.740)	23,90 (.941)	1,70 (.067)	179 B/U - 316 U - 188 A/U - KX 22A - 50 CIS	1.5
09 (solder) / 19 (crimp)	Male	21,50 (.846)	26,34 (1.037)	2,79 (.110)	180 B/U	1.5
10 (solder) / 20 (crimp)	Female	21,50 (.846)	26,83 (1.056)	2,79 (.110)	180 B/U	1.7

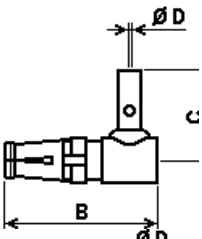
90° Solder/or Crimp Braid Type



Solder Type

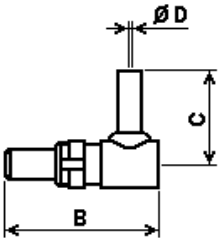


ESCC Variants 03/07

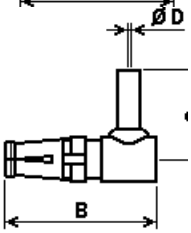


ESCC Variants 04/08

Crimp Type



ESCCVariants 13/17



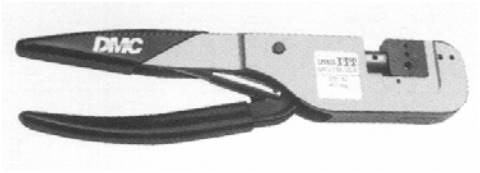
ESCCVariants14/18

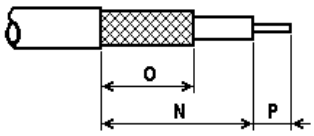
ESA/ESCC 3401 Variant	Type	A max	B ± 0,45 (.018)	C Typical	D ± 0,13 (.005)	Accepted Cables	Max Weight (grams)
03 (solder) / 13 (crimp)	Male	13,60 (.535)	18,67 (.735)	12,50 (.492)	1,02 (.040)	178 B/U - 196 A/U - KX 21A	2.0
04 (solder) / 14 (crimp)	Female	13,60 (.535)	18,98 (.747)	12,50 (.492)	1,02 (.040)	178 B/U - 196 A/U - KX 21A	2.2
07 (solder) / 17 (crimp)	Male	13,60 (.535)	18,67 (.735)	12,50 (.492)	1,70 (.067)	179 B/U - 316 U - 188 A/U - KX 22A - 50 CIS	2.0
08 (solder) / 18 (crimp)	Female	13,60 (.535)	18,98 (.747)	12,50 (.492)	1,70 (.067)	179 B/U - 316 U - 188 A/U - KX 22A - 50 CIS	2.2

Dimensions are shown in mm (inch)
Dimensions subject to change

Coaxial Contacts Assembly Instructions

Recommended Coaxial Cable Trim Dimensions





Crimp tool with integral die set for all contacts
CCT-DM (Part number 070051-0000)

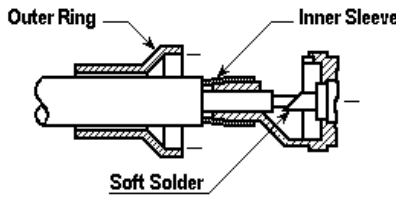
Hand tool HX4 (M22520/5-01)
Die set Y322

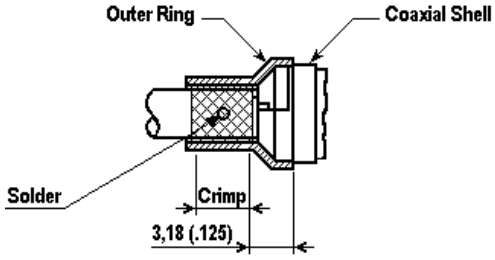
Cable Type	Reference Specification
RG 178 B/U	MIL-C-17
RG 196 A/U	MIL-C-17
RG 179 B/U	MIL-C-17
RG 316 U	MIL-C-17
RG 188 A/U	MIL-C-17
RG 180 B/U	MIL-C-17
KX 21A	NF C 93-550
KX 22A	NF C 93-550
50 CIS	ESA/ESCC 3902/001

Dimensions (mm) / Tolerances ± 0,25	**N** (Straight)	**O** (Straight)	**P** (Straight)	**N** (90°)	**O** (90°)	**P** (90°)	**Tool**	**Closure**
178 B/U – 196 A/U – KX 21A	7,92	6,35	1,98	9,52	5,94	1,57	CCT-DM	C
179 B/U – 316 U – 188 A/U – KX 22A – 50 CIS	7,92	6,35	1,98	9,52	5,94	1,57	CCT-DM	B
180 B/U	9,52	7,92	1,98	10,69	7,92	2,39	CCT-DM	A

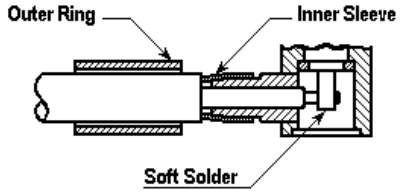
Dimensions (inch) / Tolerances ± .010	**N** (Straight)	**O** (Straight)	**P** (Straight)	**N** (90°)	**O** (90°)	**P** (90°)	**Tool**	**Closure**
178 B/U – 196 A/U – KX 21A	.312	.250	.078	.375	.234	.062	CCT-DM	C
179 B/U – 316 U – 188 A/U – KX 22A – 50 CIS	.312	.250	.078	.375	.234	.062	CCT-DM	B
180 B/U	.375	.312	.078	.422	.312	.094	CCT-DM	A

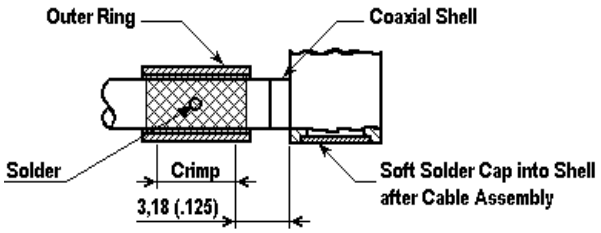
Straight Braid Type





90° Braid Type





Step 1

Slide the outer ring over the cable jacket. Trim the cable as specified in the table. Insert the cable dielectric and center conductor into the inside diameter of the inner sleeve. Then solder the center conductor to the coax center contact.

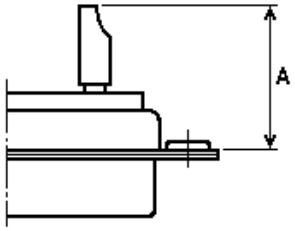
Step 2

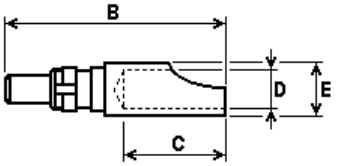
Slide the outer ring forward until it is flush with the coax shell containing the braid between the outer ring and the inner sleeve. For solder type coaxes, soft solder the outer ring to the assembly thru the cross drilled solder hold. For crimp type coaxes, crimp with the appropriate tool in the area defined.

Dimensions are shown in mm (inch)
Dimensions subject to change

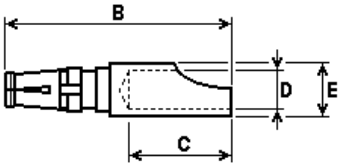
Power Contacts

Solder Braid Type

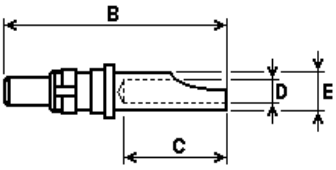




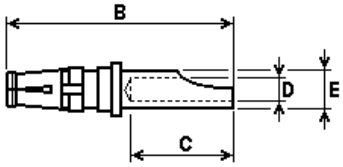
ESCCVariant 01



ESCC Variant 02



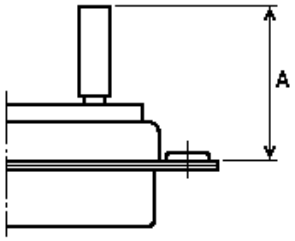
ESCC Variants 03/05

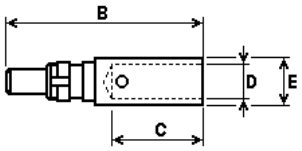


ESCC Variants 04/06

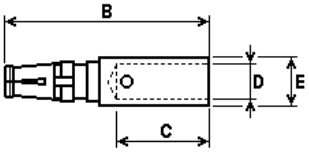
ESA/ESCC 3401 Variant	Type	A max	B max	C max	D max	E max	AWG	Max Weight (grams)
01 (solder)	Male	16,92 (.666)	22,10 (.870)	8,13 (.320)	4,90 (.193)	5,66 (.223)	8	2.20
02 (solder)	Female	16,92 (.666)	21,80 (.858)	8,13 (.320)	4,90 (.193)	5,66 (.223)	8	1.80
03 (solder)	Male	16,92 (.666)	22,10 (.870)	8,13 (.320)	3,00 (.118)	3,76 (.148)	12	2.15
04 (solder)	Female	16,92 (.666)	21,80 (.858)	8,13 (.320)	3,00 (.118)	3,76 (.148)	12	1.80
05 (solder)	Male	16,92 (.666)	22,10 (.870)	8,13 (.320)	1,90 (.075)	2,67 (.105)	16	2.00
06 (solder)	Female	16,92 (.666)	21,80 (.858)	8,13 (.320)	1,90 (.075)	2,67 (.105)	16	1.65

Crimp Braid Type

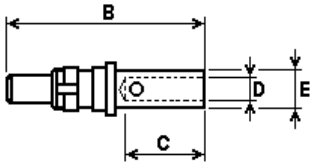




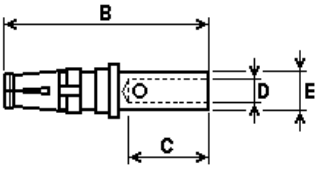
ESCC Variant 07



ESCC Variant 08



ESCC Variants 09/11



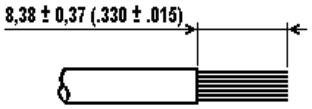
ESCC Variants 10/12

ESA/ESCC 3401 Variant	Type	A max	B max	C max	D min	E max	AWG	Max Weight (grams)
07 (crimp)	Male	19,00 (.748)	24,70 (.972)	11,10 (.437)	4,20 (.165)	5,80 (.228)	8	2.80
08 (crimp)	Female	19,00 (.748)	24,60 (.969)	11,10 (.437)	4,20 (.165)	5,80 (.228)	8	2.45
09 (crimp)	Male	19,00 (.748)	21,60 (.850)	8,40 (.331)	3,25 (.128)	4,70 (.185)	10	2.25
10 (crimp)	Female	19,00 (.748)	21,50 (.846)	8,40 (.331)	3,25 (.128)	4,70 (.185)	10	1.85
11 (crimp)	Male	19,00 (.748)	19,30 (.760)	6,35 (.249)	2,50 (.098)	3,80 (.150)	12	2.00
12 (crimp)	Female	19,00 (.748)	19,20 (.756)	6,35 (.249)	2,50 (.098)	3,80 (.150)	12	1.60

Dimensions are shown in mm (inch)
Dimensions subject to change

Power Contacts Assembly Instructions

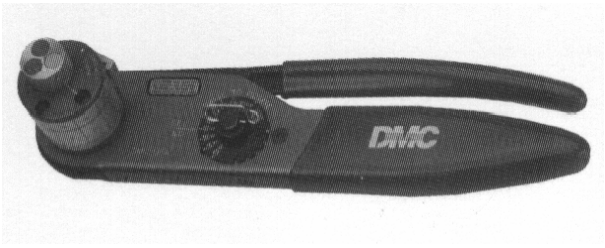
Recommended Wire Trim Length



Hand Crimp Tool

Crimp tool : M300-BT

Locator UH2-5 (Universal positioner M22520/1-05)
(Set the depth D from the front side, with the rear screw, according to the table below)



ESA/ESCC 3401 Variant	Type	Wire Size	Selector Position Note *	Locator Depth D ± 0,02 (.001)	Tensile Strength min
07 (crimp)	Male	AWG 8	6	22,5 (.886)	50 daN
08 (crimp)	Female	AWG 8	6	24,0 (.945)	50 daN
09 (crimp)	Male	AWG 10	2	21,0 (.827)	50 daN
10 (crimp)	Female	AWG 10	2	22,5 (.886)	50 daN
11 (crimp)	Male	AWG 12	1	19,0 (.748)	30 daN
12 (crimp)	Female	AWG 12	1	21,0 (.827)	30 daN

Note * : For information. Crimp tensile strength test shall govern.

Dimensions are shown in mm (inch)
Dimensions subject to change

Cross References / Coaxial Contacts

ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
Description	Part Number	Description	Part Number	Description	Part Number
340100401B	053740-5036C	DM115740-5036-FR023	115740-5036E	DM115740-5036	115740-5036
340100402B	053742-5028C	DM115742-5028-FR023	115742-5028E	DM115742-5028	115742-5028
340100403B	053741-5048C	DM115741-5048-FR023	115741-5048E	DM115741-5048	115741-5048
340100404B	053743-5064C	DM115743-5064-FR023	115743-5064E	DM115743-5064	115743-5064
340100405B	053740-5046C	DM115740-5046-FR023	115740-5046E	DM115740-5046	115740-5046
340100406B	053742-5039C	DM115742-5039-FR023	115742-5039E	DM115742-5039	115742-5039
340100407B	053741-5032C	DM115741-5032-FR023	115741-5032E	DM115741-5032	115741-5032
340100408B	053743-5040C	DM115743-5040-FR023	115743-5040E	DM115743-5040	115743-5040
340100409B	053740-5047C	DM115740-5047-FR023	115740-5047E	DM115740-5047	115740-5047
340100410B	053742-5075C	DM115742-5075-FR023	115742-5075E	DM115742-5075	115742-5075
340100411B	053740-0019C	DM115740-19-FR023	115740-0019E	DM115740-19	115740-0019
340100412B	053742-0015C	DM115742-15-FR023	115742-0015E	DM115742-15	115742-0015
340100413B	053741-0007C	DM115741-7-FR023	115741-0007E	DM115741-7	115741-0007
340100414B	053743-0020C	DM115743-20-FR023	115743-0020E	DM115743-20	115743-0020
340100415B	053740-0013C	DM115740-13-FR023	115740-0013E	DM115740-13	115740-0013
340100416B	053742-0014C	DM115742-14-FR023	115742-0014E	DM115742-14	115742-0014
340100417B	053741-0008C	DM115741-8-FR023	115741-0008E	DM115741-8	115741-0008
340100418B	053743-0022C	DM115743-22-FR023	115743-0022E	DM115743-22	115743-0022
340100419B	053740-0012C	DM115740-12-FR023	115740-0012E	DM115740-12	115740-0012
340100420B	053742-0013C	DM115742-13-FR023	115742-0013E	DM115742-13	115742-0013

Cross References / Power Contacts

ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
Description	Part Number	Description	Part Number	Description	Part Number
340104001B	115224-1040C	DM115224-1040-FR023	115224-1040E	DM115224-1040A	115224-1040A
340104002B	115224-2040C	DM115224-2040-FR023	115224-2040E	DM115224-2040A	115224-2040A
340104003B	115224-1020C	DM115224-1020-FR023	115224-1020E	DM115224-1020A	115224-1020A
340104004B	115224-2020C	DM115224-2020-FR023	115224-2020E	DM115224-2020A	115224-2020A
340104005B	115224-1010C	DM115224-1010-FR023	115224-1010E	DM115224-1010A	115224-1010A
340104006B	115224-2010C	DM115224-2010-FR023	115224-2010E	DM115224-2010A	115224-2010A
340104007B	115224-3040C	DM115224-3040-FR023	115224-3040E	DM115224-3040A	115224-3040A
340104008B	115224-4040C	DM115224-4040-FR023	115224-4040E	DM115224-4040A	115224-4040A
340104009B	115224-3020C	DM115224-3020-FR023	115224-3020E	DM115224-3020A	115224-3020A
340104010B	115224-4020C	DM115224-4020-FR023	115224-4020E	DM115224-4020A	115224-4020A
340104011B	115224-3010C	DM115224-3010-FR023	115224-3010E	DM115224-3010A	115224-3010A
340104012B	115224-4010C	DM115224-4010-FR023	115224-4010E	DM115224-4010A	115224-4010A

Dimensions are shown in mm (inch)
Dimensions subject to change

Product Features

Male or female screwlocks

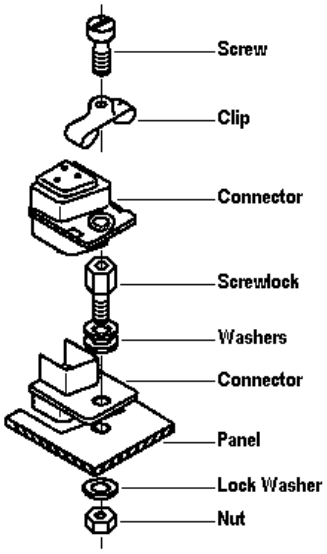
Residual magnetism level
- Brass parts : NMB (200 Gamma max)
- Stainless Steel parts : NMB (200 Gamma max)

1 part number for 1 piece (or kit)
Order 2 pieces (or kits) per connector

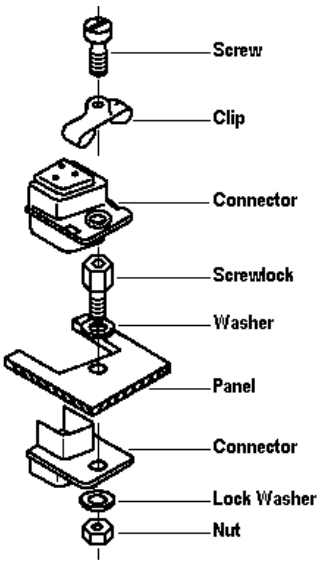
Packaging unit
- 2 pieces (plastic bag) for ESA/ESCC quality level
- 50 pieces (plastic bag) for FR023 quality level
- 50 pieces (plastic bag) for FR022 quality level

Maximum torque value for screws
- 5.5 cm.daN for female (brass)
- 6.6 cm.daN for female (stainless steel)
- 3.3 cm.daN for female-saver/feedthrough (brass)
- 4.4 cm.daN for female-saver/feedthrough (stainless steel)
- 3.3 cm.daN for male (brass)
- 4.4 cm.daN for male (stainless steel)

Front Panel Mount



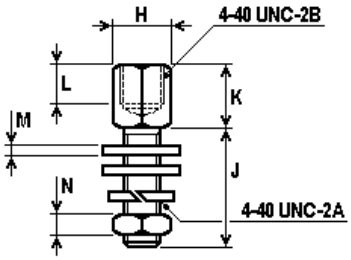
Rear Panel Mount



Female Screwlock

Kit consists of :
- 1 screwlock
- 2 washers
- 1 lock washer
- 1 nut

Two washers are used when front mounting. Remove one washer for each 0,76 (.030) of panel thickness when rear mounting. 1,52 (.060) max panel.



Max weight (grams) : 2.0 (1 piece)

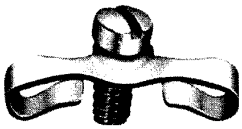
ESA/ESCC 3401 Variant	Application	H ± 0,38 (.015)	J ± 0,15 (.006)	K ± 0,25 (.010)	L min	M ± 0,10 (.004)	N ± 0,10 (.004)
01 / 48	Standard	4,75 (.187)	7,92 (.312)	4,85 (.191)	3,18 (.125)	0,76 (.030)	1,90 (.075)
06 / 53	Savers	4,75 (.187)	14,50 (.571)	4,85 (.191)	3,18 (.125)	0,76 (.030)	1,90 (.075)
58 / 59	Feedthrough	4,75 (.187)	15,87 (.625)	4,85 (.191)	3,18 (.125)	0,76 (.030)	1,90 (.075)

Female Screwlock Cross References

Application	Material	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
Standard	Brass	340102201B NMB	020418-0052C	D115418-52-FR023	115418-0052E	D115418-52	115418-0052
Standard	Stainless Steel	340102248B NMB	115418-1000C	D115418-1000-FR023	115418-1000E	D115418-1000	115418-1000
Savers	Brass	340102206B NMB	020418-0070C	D115418-70-FR023	115418-0070E	D115418-70	115418-0070
Savers	Stainless Steel	340102253B NMB	115418-1001C	D115418-1001-FR023	115418-1001E	D115418-1001	115418-1001
Feedthrough	Brass	340102258B NMB	020418-0101C	D115418-101-FR023	115418-0101E	D115418-101	115418-0101
Feedthrough	Stainless Steel	340102259B NMB	020418-0077C	D115418-77-FR023	115418-0077E	D115418-77	115418-0077

Dimensions are shown in mm (inch)
Dimensions subject to change

Male Screwlock



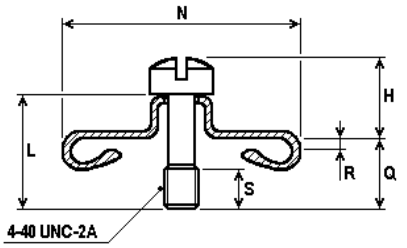
Kit consists of :
- 1 screw
- 1 clip

Max weight (grams)
- 0.9 for sizes E, A, B, C (1 piece)
- 1.0 for size D (1 piece)

Dimension S : 2,80 (.110) min
Dimension D : 2,01 (.080) ± 0,03 (.001)

ESA/ESCC Variant	Application	Backshell	H max	L ± 0,25 (.010)	N ± 0,38 (.015)	Q ± 0,38 (.015)	R ± 0,10 (.004)
02 / 49 / 65 / 73	E, A Pin / E, A, B, C Skt	Without	6,09 (.024)	6,35 (.250)	14,10 (.555)	3,60 (.142)	0,85 (.033)
03 / 50 / 66 / 74	B, C Pin	Without	6,09 (.024)	6,35 (.250)	14,10 (.555)	3,60 (.142)	1,05 (.041)
04 / 51 / 67 / 75	D Skt	Without	6,34 (.250)	7,14 (.281)	16,66 (.656)	4,40 (.173)	0,85 (.033)
05 / 52 / 68 / 76	D Pin	Without	6,34 (.250)	7,14 (.281)	16,66 (.656)	4,40 (.173)	1,05 (.041)
44 / 54 / 69 / 77	E, A Pin / E, A, B, C Skt	With	6,34 (.250)	7,14 (.281)	14,10 (.555)	4,40 (.173)	1,85 (.073)
45 / 55 / 70 / 78	B, C Pin	With	6,34 (.250)	7,14 (.281)	14,10 (.555)	4,40 (.173)	2,10 (.083)
46 / 56 / 71 / 79	D, F Skt	With	6,34 (.250)	7,14 (.281)	16,66 (.656)	4,40 (.173)	1,85 (.073)
47 / 57 / 72 / 80	D, F Pin	With	6,34 (.250)	7,14 (.281)	16,66 (.656)	4,40 (.173)	2,10 (.083)

Male Screwlock Cross References



Slotted head

- Without Backshell / Slotted Head Screw -

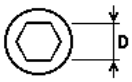
Application	Material	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
E, A Pin / E, A, B, C Skt	Brass	340102202B NMB	020419-0074C	D20419-74	020419-0074	D115419-74	115419-0074
B, C Pin	Brass	340102203B NMB	020419-0048C	D20419-48	020419-0048	D115419-48	115419-0048
D, F Skt	Brass	340102204B NMB	020420-0067C	D20420-67	020420-0067	D115420-67	115420-0067
D, F Pin	Brass	340102205B NMB	020420-0049C	D20420-49	020420-0049	D115420-49	115420-0049
E, A Pin / E, A, B, C Skt	Stainless Steel	340102249B NMB	115419-1000C	D115419-1000-FR023	115419-1000E	D115419-1000	115419-1000
B, C Pin	Stainless Steel	340102250B NMB	115419-1001C	D115419-1001-FR023	115419-1001E	D115419-1001	115419-1001
D, F Skt	Stainless Steel	340102251B NMB	115420-1000C	D115420-1000-FR023	115420-1000E	D115420-1000	115420-1000
D, F Pin	Stainless Steel	340102252B	115420-1001C	D115420-1001-FR023	115420-1001E	D115420-1001	115420-1001

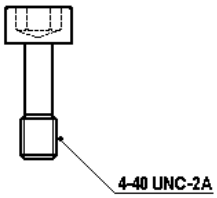
Dimensions are shown in mm (inch)

Dimensions are shown in mm (inch)
Dimensions subject to change

- With Backshell / Slotted Head Screw -

Application	Material	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
E, A Pin / E, A, B, C Skt	Brass	340102244B Nmb	020419-0073C	D20419-73	020419-0073	D115419-73	115419-0073
B, C Pin	Brass	340102245B NMB	020419-0084C	D20419-84	020419-0084	D115419-84	115419-0084
D Skt	Brass	340102246B NMB	020420-0063C	D20420-63	020420-0063	D115420-63	115420-0063
D Pin	Brass	340102247B NMB	020420-0088C	D20420-88	020420-0088	D115420-88	115420-0088
E, A Pin / E, A, B, C Skt	Stainless Steel	340102254B NMB	115419-1002C	D115419-1002-FR023	115419-1002E	D115419-1002	115419-1002
B, C Pin	Stainless Steel	340102255B NMB	115419-1003C	D115419-1003-FR023	115419-1003E	D115419-1003	115419-1003
D Skt	Stainless Steel	340102256B NMB	115420-1002C	D115420-1002-FR023	115420-1002E	D115420-1002	115420-1002
D Pin	Stainless Steel	340102257B NMB	115420-1003C	D115420-1003-FR023	115420-1003E	D115420-1003	115420-1003





Hexagonal hole head

- Without Backshell / Hexagonal Hole Head Screw -

Application	Material	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
E, A Pin / E, A, B, C Skt	Brass	340102265B NMB	115419-0100C	D115419-104	115419-0104	D115419-100	115419-0100
B, C Pin	Brass	340102266B NMB	115419-0101C	D115419-105	115419-0105	D115419-101	115419-0101
D Skt	Brass	340102267B NMB	115420-0100C	D115420-104	115420-0104	D115420-100	115420-0100
D Pin	Brass	340102268B NMB	115420-0101C	D115420-105	115420-0105	D115420-101	115420-0101
E, A Pin / E, A, B, C Skt	Stainless Steel	340102273B NMB	115419-1004C	D115419-1004-FR023	115419-1004E	D115419-1004	115419-1004
B, C Pin	Stainless Steel	340102274B NMB	115419-1005C	D115419-1005-FR023	115419-1005E	D115419-1005	115419-1005
D Skt	Stainless Steel	340102275B NMB	115420-1004C	D115420-1004-FR023	115420-1004E	D115420-1004	115420-1004
D Pin	Stainless Steel	340102276B NMB	115420-1005C	D115420-1005-FR023	115420-1005E	D115420-1005	115420-1005

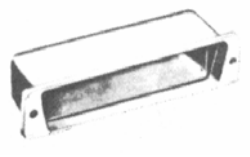
- With Backshell / Hexagonal Hole Head Screw -

Application	Material	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
E, A Pin / E, A, B, C Skt	Brass	340102269B NMB	115419-0102C	D115419-106	115419-0106	D115419-102	115419-0102
B, C Pin	Brass	340102270B NMB	115419-0103C	D115419-107	115419-0107	D115419-103	115419-0103
D Skt	Brass	340102271B NMB	115420-0102C	D115420-106	115420-0106	D115420-102	115420-0102
D Pin	Brass	340102272B NMB	115420-0103C	D115420-107	115420-0107	D115420-103	115420-0103
E, A Pin / E, A, B, C Skt	Stainless Steel	340102277B NMB	115419-1006C	D115419-1006-FR023	115419-1006E	D115419-1006	115419-1006
B, C Pin	Stainless Steel	340102278B NMB	115419-1007C	D115419-1007-FR023	115419-1007E	D115419-1007	115419-1007
D Skt	Stainless Steel	340102279B NMB	115420-1006C	D115420-1006-FR023	115420-1006E	D115420-1006	115420-1006
D Pin	Stainless Steel	340102280B NMB	115420-1007C	D115420-1007-FR023	115420-1007E	D115420-1007	115420-1007

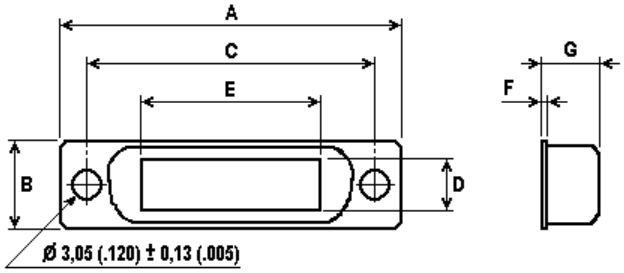
Dimensions are shown in mm (inch)
Dimensions subject to change

Potting Shell (rear open)

Max weight (grams) :
N.A. (not on board)



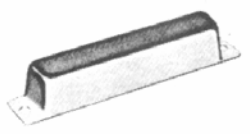
Packaging unit : 1 piece (plastic bag)
Residual magnetism level NMB (200 Gamma max)



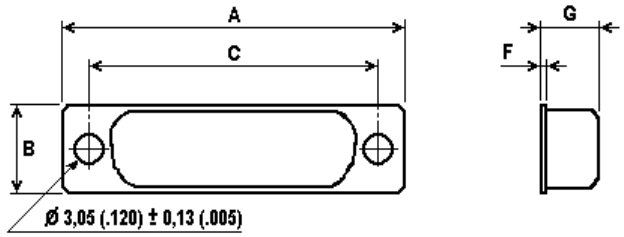
Shell Size	ESA/ESCC Variant	A ± 0,38 (.015)	B ± 0,38 (.015)	C ± 0,13 (.005)	D ± 0,50 (.020)	E ± 0,50 (.020)	F ± 0,13 (.005)	G ± 0,38 (.015)
A	17	38,89 (1.531)	12,70 (.500)	33,33 (1.312)	7,60 (.300)	14,92 (.587)	0,38 (.015)	12,30 (.484)
B	18	52,78 (2.078)	12,70 (.500)	47,04 (1.852)	7,60 (.300)	28,54 (1.124)	0,38 (.015)	12,30 (.484)
C	19	69,04 (2.718)	12,70 (.500)	63,50 (2.500)	7,60 (.300)	44,47 (1.751)	0,38 (.015)	12,30 (.484)
D	20	66,68 (2.625)	15,47 (.609)	61,11 (2.406)	9,90 (.390)	44,47 (1.751)	0,38 (.015)	12,30 (.484)

Switching Shell (rear closed)

Max weight (grams)
Size A : 5.0
Size B : 6.0
Size C : 8.0
Size D : 8.0



Packaging unit : 1 piece (plastic bag)
Residual magnetism level NMB (200 Gamma max)



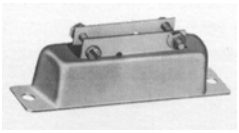
Shell Size	ESA/ESCC Variant	A ± 0,38 (.015)	B ± 0,38 (.015)	C ± 0,13 (.005)	F ± 0,13 (.005)	G ± 0,38 (.015)
A	21	38,89 (1.531)	12,70 (.500)	33,33 (1.312)	0,38 (.015)	12,30 (.484)
B	22	52,78 (2.078)	12,70 (.500)	47,04 (1.852)	0,38 (.015)	12,30 (.484)
C	23	69,04 (2.718)	12,70 (.500)	63,50 (2.500)	0,38 (.015)	12,30 (.484)
D	24	66,68 (2.625)	15,47 (.609)	61,11 (2.406)	0,38 (.015)	12,30 (.484)

Cross References

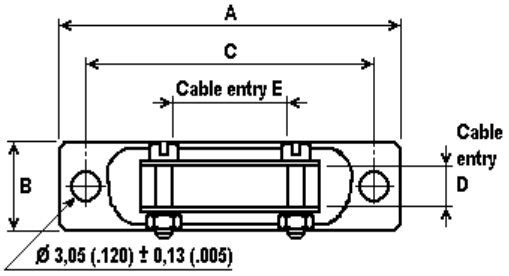
Type	Size	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
Potting shell	A	340102217B NMB	019678-0174C	DA19678-174-FR023	019678-0174E	DA19678-174	019678-0174
	B	340102218B NMB	019678-0175C	DB19678-175-FR023	019678-0175E	DB19678-175	019678-0175
	C	340102219B NMB	019678-0173C	DC19678-173-FR023	019678-0173E	DC19678-173	019678-0173
	D	340102220B NMB	019678-0176C	DD19678-176-FR023	019678-0176E	DD19678-176	019678-0176
Switching shell	A	340102221B NMB	019678-0157C	DA19678-157-FR023	019678-0157E	DA19678-157	019678-0157
	B	340102222B NMB	019678-0171C	DB19678-171-FR023	019678-0171E	DB19678-171	019678-0171
	C	340102223B NMB	019678-0162C	DC19678-162-FR023	019678-0162E	DC19678-162	019678-0162
	D	340102224B NMB	019678-0172C	DD19678-172-FR023	019678-0172E	DD19678-172	019678-0172

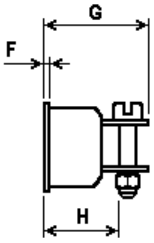
Dimensions are shown in mm (inch)
Dimensions subject to change

Straight Clamp



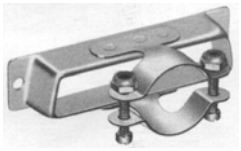
Max weight (grams) :
Size A : 6.0
Size B : 7.0
Size C : 10.0
Size D : 10.0
Number of screws : 2 (A, B) / 3 (C, D)
Packaging unit : 1 piece (plastic bag)
Residual magnetism level NMB (200 Gamma max)



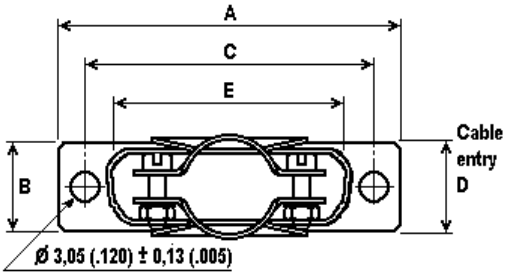


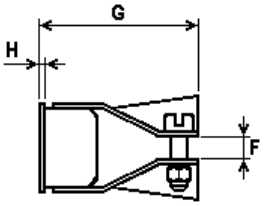
Shell Size	ESA/ESCC Variant	A ± 0,38 (.015)	B ± 0,38 (.015)	C ± 0,13 (.005)	D ± 0,38 (.015)	E ± 0,38 (.015)	F ± 0,13 (.005)	G ± 0,38 (.015)	H ± 0,38 (.015)
A	25	38,89 (1.531)	12,70 (.500)	33,33 (1.312)	7,51 (.296)	7,93 (.312)	0,38 (.015)	16,36 (.644)	12,30 (.484)
B	26	52,78 (2.078)	12,70 (.500)	47,04 (1.852)	7,51 (.296)	20,22 (.796)	0,38 (.015)	16,36 (.644)	12,30 (.484)
C	27	69,04 (2.718)	12,70 (.500)	63,50 (2.500)	7,51 (.296)	17,45 (.687)	0,38 (.015)	16,36 (.644)	12,30 (.484)
D	28	66,68 (2.625)	15,47 (.609)	61,11 (2.406)	9,91 (.390)	17,45 (.687)	0,38 (.015)	17,63 (.694)	12,30 (.484)

Round Clamp



Max weight (grams) :
Size E : 9.0
Size A : 11.0
Size B : 12.0
Size C : 15.0
Size D : 16.0
Packaging unit : 1 piece (plastic bag)
Residual magnetism level NMB (200 Gamma max)





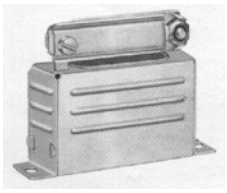
Shell Size	ESA/ESCC Variant	A ± 0,38 (.015)	B ± 0,38 (.015)	C ± 0,13 (.005)	Ø D max	E ± 0,38 (.015)	F ± 0,38 (.015)	G ± 0,76 (.030)	H ± 0,13 (.005)
E	29	30,68 (1.208)	12,70 (.500)	24,99 (.984)	10,31 (.406)	16,79 (.661)	3,18 (.125)	26,18 (1.031)	0,38 (.015)
A	30	38,89 (1.531)	12,70 (.500)	33,33 (1.312)	10,31 (.406)	24,99 (.984)	3,18 (.125)	26,18 (1.031)	0,38 (.015)
B	31	52,78 (2.078)	12,70 (.500)	47,04 (1.852)	15,06 (.593)	38,48 (1.515)	4,75 (.187)	26,98 (1.062)	0,38 (.015)
C	32	69,04 (2.718)	12,70 (.500)	63,50 (2.500)	18,23 (.718)	55,14 (2.171)	6,35 (.250)	26,98 (1.062)	0,38 (.015)
D	33	66,68 (2.625)	15,47 (.609)	61,11 (2.406)	20,62 (.812)	53,16 (2.093)	7,92 (.312)	26,98 (1.062)	0,38 (.015)

Cross References

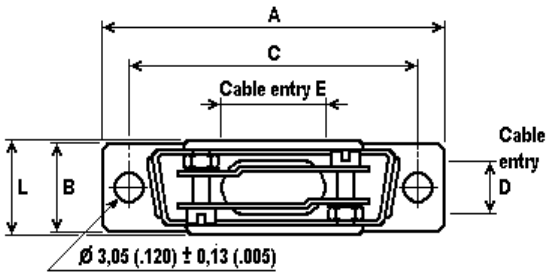
Type	Size	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
Straight clamp	A	340102225B NMB	019678-0167C	DA19678-167-FR023	019678-0167E	DA19678-167	019678-0167
	B	340102226B NMB	019678-0168C	DB19678-168-FR023	019678-0168E	DB19678-168	019678-0168
	C	340102227B NMB	019678-0138C	DC19678-138-FR023	019678-0138E	DC19678-138	019678-0138
	D	340102228B NMB	019678-0161C	DD19678-161-FR023	019678-0161E	DD19678-161	019678-0161
Round clamp	E	340102229B NMB	115386-0101C	DE115386-101-FR023	115386-0101E	DE115386-101A	115386-0101A
	A	340102230B NMB	115386-0104C	DA115386-104-FR023	115386-0104E	DA115386-104A	115386-0104A
	B	340102231B NMB	115386-0102C	DB115386-102-FR023	115386-0102E	DB115386-102A	115386-0102A
	C	340102232B NMB	115386-0100C	DC115386-100-FR023	115386-0100E	DC115386-100A	115386-0100A
	D	340102233B NMB	115386-0103C	DD115386-103-FR023	115386-0103E	DD115386-103A	115386-0103A

Dimensions are shown in mm (inch)
Dimensions subject to change

Deep Straight Clamp

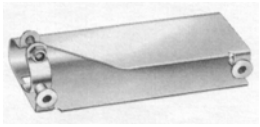


Max weight (grams) :
Size E : 10.0
Size A : 12.0
Size B : 17.0
Size C : 24.0
Size D : 27.0
Packaging unit : 1 piece (plastic bag)
Residual magnetism level NMB (200 Gamma max)

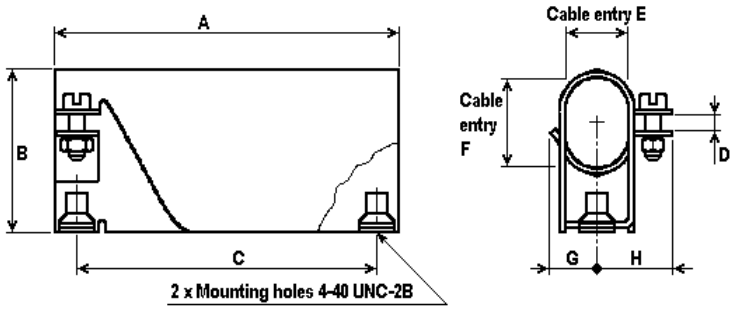


Shell Size	ESA/ESCC Variant	A ± 0,38 (.015)	B ± 0,38 (.015)	C ± 0,13 (.005)	D ± 0,38 (.015)	E ± 0,38 (.015)	G ± 0,38 (.015)	H max	L max
E	34	30,56 (1.203)	12,48 (.492)	24,99 (.984)	9,53 (.375)	9,53 (.375)	19,05 (.750)	31,75 (1.250)	14,68 (.578)
A	35	38,89 (1.531)	12,48 (.492)	33,33 (1.312)	7,93 (.312)	18,11 (.713)	19,05 (.750)	31,75 (1.250)	14,68 (.578)
B	36	52,78 (2.078)	12,48 (.492)	47,04 (1.852)	7,93 (.312)	25,40 (1.000)	25,40 (1.000)	39,70 (1.563)	14,68 (.578)
C	37	69,04 (2.718)	12,48 (.492)	63,50 (2.500)	7,93 (.312)	34,93 (1.375)	25,40 (1.000)	39,70 (1.563)	14,68 (.578)
D	38	66,68 (2.625)	15,25 (.601)	61,11 (2.406)	10,31 (.406)	35,71 (1.406)	28,57 (1.125)	42,88 (1.688)	17,45 (.687)

90° Entry



Max weight (grams) :
Size E : 12.0
Size A : 14.0
Size B : 17.5
Size C : 24.0
Size D : 27.0
Packaging unit : 1 piece (plastic bag)
Residual magnetism level NMB (200 Gamma max)



Shell Size	ESA/ESCC Variant	A ± 0,38 (.015)	B ± 0,76 (.030)	C ± 0,13 (.005)	D ± 0,25 (.010)	E ± 0,76 (.030)	F ± 0,76 (.030)	G ± 0,76 (.030)	H ± 0,76 (.030)
E	39	30,56 (1.203)	18,24 (.718)	24,99 (.984)	2,77 (.109)	11,10 (.437)	11,10 (.437)	11,89 (.468)	7,14 (.281)
A	40	38,89 (1.531)	18,24 (.718)	33,33 (1.312)	2,77 (.109)	11,10 (.437)	11,10 (.437)	11,89 (.468)	7,14 (.281)
B	41	52,78 (2.078)	24,58 (.968)	47,04 (1.852)	2,77 (.109)	11,10 (.437)	15,88 (.625)	11,89 (.468)	7,14 (.281)
C	42	69,04 (2.718)	30,15 (1.187)	63,50 (2.500)	2,77 (.109)	11,10 (.437)	20,63 (.812)	11,89 (.468)	7,14 (.281)
D	43	66,68 (2.625)	31,75 (1.250)	61,11 (2.406)	2,77 (.109)	14,28 (.562)	23,01 (.906)	13,49 (.531)	8,71 (.343)

Cross References

Type	Size	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
		Description	Part Number	Description	Part Number	Description	Part Number
Deep, straight clamp	E	340102234B NMB	024657-0016C	DE24657-16-FR023	024657-0016E	DE24657-16	024657-0016
	A	340102235B NMB	024658-0015C	DA24658-15-FR023	024658-0015E	DA24658-15	024658-0015
	B	340102236B NMB	024659-0015C	DB24659-15-FR023	024659-0015E	DB24659-15	024659-0015
	C	340102237B NMB	024660-0016C	DC24660-16-FR023	024660-0016E	DC24660-16	024660-0016
	D	340102238B NMB	024661-0013C	DD24661-13-FR023	024661-0013E	DD24661-13	024661-0013
90° entry	E	340102239B NMB	019977-0047C	DE19977-47-FR023	019977-0047E	DE19977-47	019977-0047
	A	340102240B NMB	019977-0040C	DA19977-40-FR023	019977-0040E	DA19977-40	019977-0040
	B	340102241B NMB	019977-0043C	DB19977-43-FR023	019977-0043E	DB19977-43	019977-0043
	C	340102242B NMB	019977-0045C	DC19977-45-FR023	019977-0045E	DC19977-45	019977-0045
	D	340102243B NMB	019977-0044C	DD19977-44-FR023	019977-0044E	DD19977-44	019977-0044

Dimensions are shown in mm (inch)
Dimensions subject to change

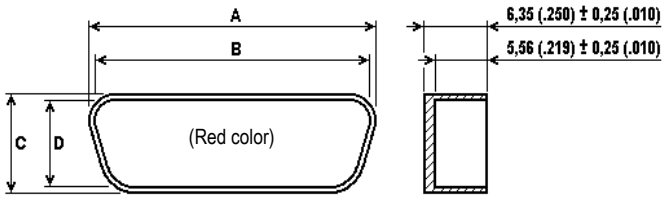
Product Features

Two types of dust caps are available
ESA/ESCC
- Standard type (red color) supplied when no specific indication is mentionned
- Antistatic type (black color) supplied on request (to be specified in the order)

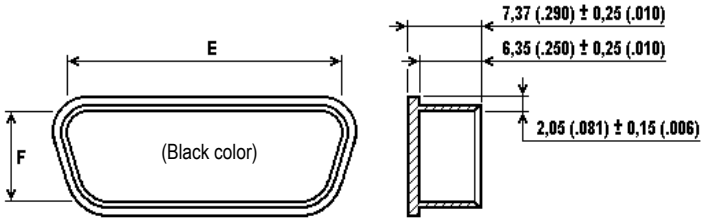
Packaging unit : 50 pieces (plastic bag)
Max weight (grams) : N.A. (not on board)

Supplied with D*M or D*MA connectors, for quality level

(to be ordered separately for quality levels FR023 and FR022)



Standard type



Antistatic type

Shell Size	Type	A ± 0,25 (.010)	B ± 0,25 (.010)	C ± 0,25 (.010)	D ± 0,25 (.010)	E max	F max
E	Skt	17,63 (.694)	15,93 (.627)	9,19 (.362)	7,49 (.295)	16,36 (.644)	7,59 (.299)
E	Pin	19,02 (.749)	17,32 (.682)	10,46 (.412)	8,76 (.345)	17,78 (.700)	8,92 (.351)
A	Skt	25,96 (1.022)	24,26 (.955)	9,19 (.362)	7,49 (.295)	24,59 (.968)	7,62 (.300)
A	Pin	27,36 (1.077)	25,65 (1.010)	10,46 (.412)	8,76 (.345)	26,52 (1.044)	9,02 (.355)
B	Skt	39,67 (1.562)	37,97 (1.495)	9,19 (.362)	7,49 (.295)	38,25 (1.506)	7,49 (.295)
B	Pin	41,53 (1.635)	39,83 (1.568)	10,92 (.430)	9,22 (.363)	39,60 (1.559)	9,09 (.358)
C	Skt	56,13 (2.210)	54,43 (2.143)	9,19 (.362)	7,49 (.295)	54,81 (2.158)	7,37 (.290)
C	Pin	57,99 (2.283)	56,29 (2.216)	10,92 (.430)	9,22 (.363)	56,90 (2.240)	9,37 (.369)
D	Skt	53,75 (2.116)	52,04 (2.049)	12,04 (.474)	10,34 (.407)	53,11 (2.091)	10,41 (.410)
D	Pin	55,35 (2.179)	53,64 (2.112)	13,61 (.536)	11,91 (.469)	54,28 (2.137)	12,04 (.474)

Cross References

Version	Size	Type	ESA/ESCC Quality Level		FR023 Quality Level		FR022 Quality Level	
			Description	Part Number	Description	Part Number	Description	Part Number
Standard	E	Skt	340102207B	025-5060-000C	DE-59-20R	025-5060-000	DE-59-20R	025-5060-000
	E	Pin	340102208B	025-5060-001C	DE-60-20R	025-5060-001	DE-60-20R	025-5060-001
	A	Skt	340102209B	025-5056-000C	DA-59-20R	025-5056-000	DA-59-20R	025-5056-000
	A	Pin	340102210B	025-5056-001C	DA-60-20R	025-5056-001	DA-60-20R	025-5056-001
	B	Skt	340102211B	025-5057-000C	DB-59-20R	025-5057-000	DB-59-20R	025-5057-000
	B	Pin	340102212B	025-5057-001C	DB-60-20R	025-5057-001	DB-60-20R	025-5057-001
	C	Skt	340102213B	025-5058-000C	DC-59-20R	025-5058-000	DC-59-20R	025-5058-000
	C	Pin	340102214B	025-5058-001C	DC-60-20R	025-5058-001	DC-60-20R	025-5058-001
	D	Skt	340102215B	025-5059-000C	DD-59-20R	025-5059-000	DD-59-20R	025-5059-000
	D	Pin	340102216B	025-5059-001C	DD-60-20R	025-5059-001	DD-60-20R	025-5059-001
Antistatic	E	Skt	340102207B *	053570-0000C	DE-59-20	053570-0000	DE-59-20	053570-0000
	E	Pin	340102208B *	053571-0000C	DE-60-20	053571-0000	DE-60-20	053571-0000
	A	Skt	340102209B *	053562-0000C	DA-59-20	053562-0000	DA-59-20	053562-0000
	A	Pin	340102210B *	053563-0000C	DA-60-20	053563-0000	DA-60-20	053563-0000
	B	Skt	340102211B *	053564-0000C	DB-59-20	053564-0000	DB-59-20	053564-0000
	B	Pin	340102212B *	053565-0000C	DB-60-20	053565-0000	DB-60-20	053565-0000
	C	Skt	340102213B *	053566-0000C	DC-59-20	053566-0000	DC-59-20	053566-0000
	C	Pin	340102214B *	053567-0000C	DC-60-20	053567-0000	DC-60-20	053567-0000
	D	Skt	340102215B *	053568-0000C	DD-59-20	053568-0000	DD-59-20	053568-0000
	D	Pin	340102216B *	053569-0000C	DD-60-20	053569-0000	DD-60-20	053569-0000

* : precise the mention "antistatic" after the ESA/ESCC description

Dimensions are shown in mm (inch)
Dimensions subject to change