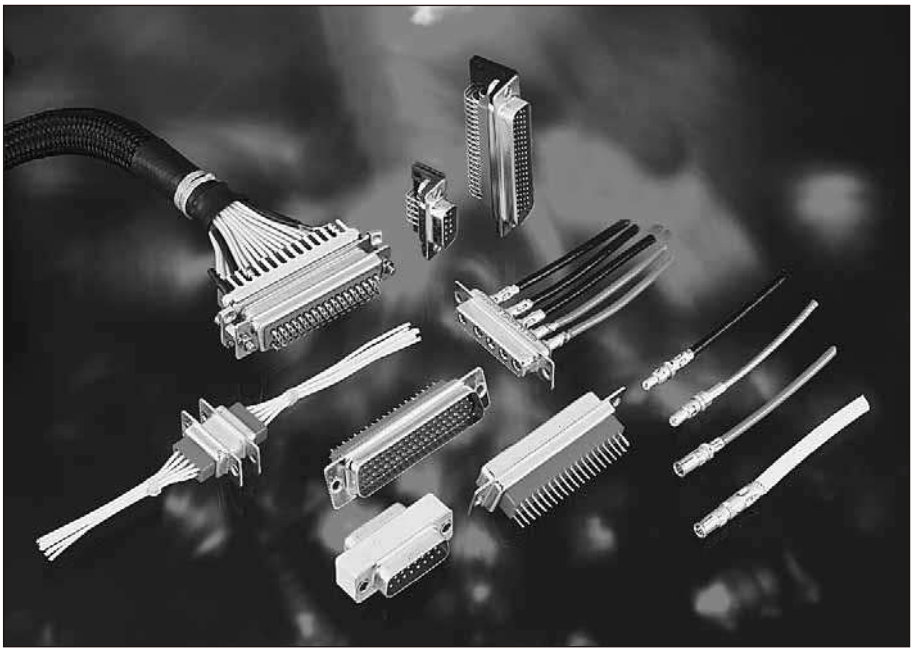
Connectors



Section

1

Non-magnetic D-Sub Connectors

Contents

• Non magnetic D-Sub Connectors
Cross reference table for ESA/SCC/SOURIAU/GSFC 7
Quality Assurance Testing 7
CHART V - Lot Acceptance Tests 8
Materials & Finishes 9
Electrical characteristics 9
Environmental characteristics 9

• D-Sub ESA/SCC 3401 001 01B
Part Number / Ordering Information 10
Contact termination code 10
Contact layouts 11
Contact types 11
Dimensions 12

• D-Sub ESA/SCC 3401 001 02B
Part Number / Ordering Information 14
Contact termination code 14
Contact layouts 15
Dimensions 15

• D-Sub ESA/SCC 3401 002 01B
Part Number / Ordering Information 17
Contact layouts (Male insulation front view) 17

• D-Sub ESA/SCC 3401 002 02B
Part Number / Ordering Information 18
Contact layouts (Male insulation front view) 18

• D-Sub Savers ESA/SCC 3401 020 01B & 3401 020 02B
Part Number / Ordering Information 19

• D-Sub D*M-NMB
Part Number / Ordering Information 20
Contact layouts 20
Contact termination code 21
Dimensions for termination code 21

• D-Sub 8630-NMB (Crimp)
Part Number / Ordering Information 23
Special modifier 23

• D-Sub 8635-NMB (Spill)
Part Number / Ordering Information 24
Contact termination type 24

• D-Sub 8635-NMB (Crimp)
Part Number / Ordering Information 25
Special modifier 25

• D-Sub Savers D*BMA-NMB
Part Number / Ordering Information 26

• Mounting option
Float Mounting (3401 001, 3401 002, D*MF, 8631 & 8635F) 27
Mounting with clinch nuts (O & L, D*M, 8630 & 8635) 27
Mounting with grommet (8630 & 8635) 27
Panel cut-outs 28
Panel mounting 28

• Printed circuit board drilling
Standard Density 29
High Density 30

• D-Sub Connectors - Physical dimensions
Male connectors 31
Female connectors 32
Saver connectors 33

• Crimp Contacts
Crimp Contacts 34
Insertion & Extraction tool 34
Removable contact identification 34
Savers contacts 34

• 3401 004/8949-004-NMB : Coaxial contacts
3401 004/8949-004 & 3401 040/8949-040 Contact identification 35
Part Numbers 35
Extraction tool 35
Dimensions 36

• 3401 040/8949-040-NMB : Power solder contacts
Part Numbers 37
Dimensions 37
Tooling of extraction 37

• 3401 040/8949-040-NMB : Power crimp contacts
Part Numbers 38
Dimensions 38
Extraction tool 38

• 3401 069 Twinax
Part Numbers 39
Dimensions 39
Wiring tool 39
Extraction tool 39

• Wiring instructions
Contact # 20 40
Contact # 22 40
Power contact # 8 40
PCB Contact 41
Stripping 42
Crimping 42
Crimp coaxial contacts 43
Solder coaxial contacts 43
Twinax contacts 44

• Accessories D-Sub ESA/SCC 3401 022 & Space grade
Male screw lock 46
Female screw lock 47
Dust cap 48

• Non magnetic D-Sub backshells ESA/SCC 3401 072 & Space grade
Lightweight design with saddle clamps for strain relief -
Lightweight D-Sub shorting can 49
EMI shielded backshell-straight cable outlet 50
Light shielded backshell-90° longitudinal cable outlet 50
Lightweight shielded backshell-straight cable outlet 51
Lightweight backshell dual entry, 15 pin 51
Castellated backshell 51
Straight and 45° lightweight backshell ultra elliptical band-termination 52
Lightweight D-Sub extra-shorting can - Castellated backshell (new design) 53
Lightweight shielded backshells-45° & 90° longitudinal cable outlets 54
EMI/RFI shielded backshells. Straight & Low profile outlet
banded clamp termination 55

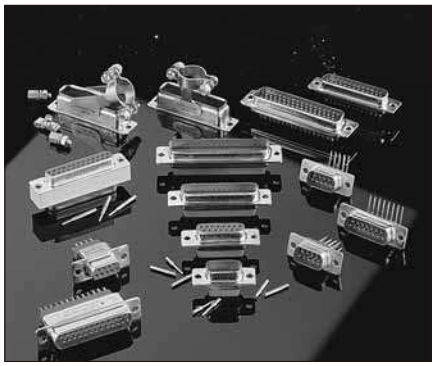
Connectors

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

ESA/SCC 3401/GSFC/MIL-DTL-24308 class M (QPL)



Description

D-Sub product lines conform to the MIL-DTL-24308 standard and are qualified by ESA according to ESA/SCC 3401. These products are also qualified by NASA according to GSFC.

A number of signal, power, high density and coax layouts are available, using non-magnetic shell materials.

Cross reference table for ESA/SCC/SOURIAU/GSFC

ESA/SCC P/N	SOURIAU P/N	GSFC P/N	Description
3401/001/01/B	**D*M-NMB**	S311-P-10	Standard density connectors with non removable contacts
3401/001/02/B	**8635-NMB (spills)**	-	High density connectors with non removable contacts
3401/004 *	**8949 004 xx NMB**	-	Coaxial contacts for SCC 3401/001/01B
3401/040 *	**8949 040 xx NMB**	-	Power contacts for SCC 3401/001/01B
3401/002/01/B	**8630-NMB**	S311-P-4/09	Standard density connectors with removable crimp contacts
3401/002/02/B	**8635-NMB (crimp)**	S311-P-4/07	High density connectors with removable crimp contacts
3401/005	**8949 xxxx**	S311-P-4/08 & /10	Crimp contacts for SCC 3401/002
3401/020/01/B	**D*BMA #20**	-	Standard density connectors savers with removable crimp contacts
3401/020/02/B	**D*BMA #22**	-	High density connectors savers with removable crimp contacts
3401/021	**8949 xxxx EL**	-	Savers contacts for SCC 3401/020
3401/022 *	**Dx 8949 xx NM**	-	Accessories (screw lock, dust caps, ...)
3401/069	**8949 004 xxNMB**	-	Twinax Contacts
3401/072 **	**Dx 8949 xx NMB**	-	Accessories (light weight backshell)

(*) These components have no ESA/SCC certification (no ESA trademark on the component).
(**) Pending ESA Qualification.

Quality Assurance Testing

- **Qualification**
  The ESA/SCC D-Sub non-magnetic connectors are qualified to specification 3401.

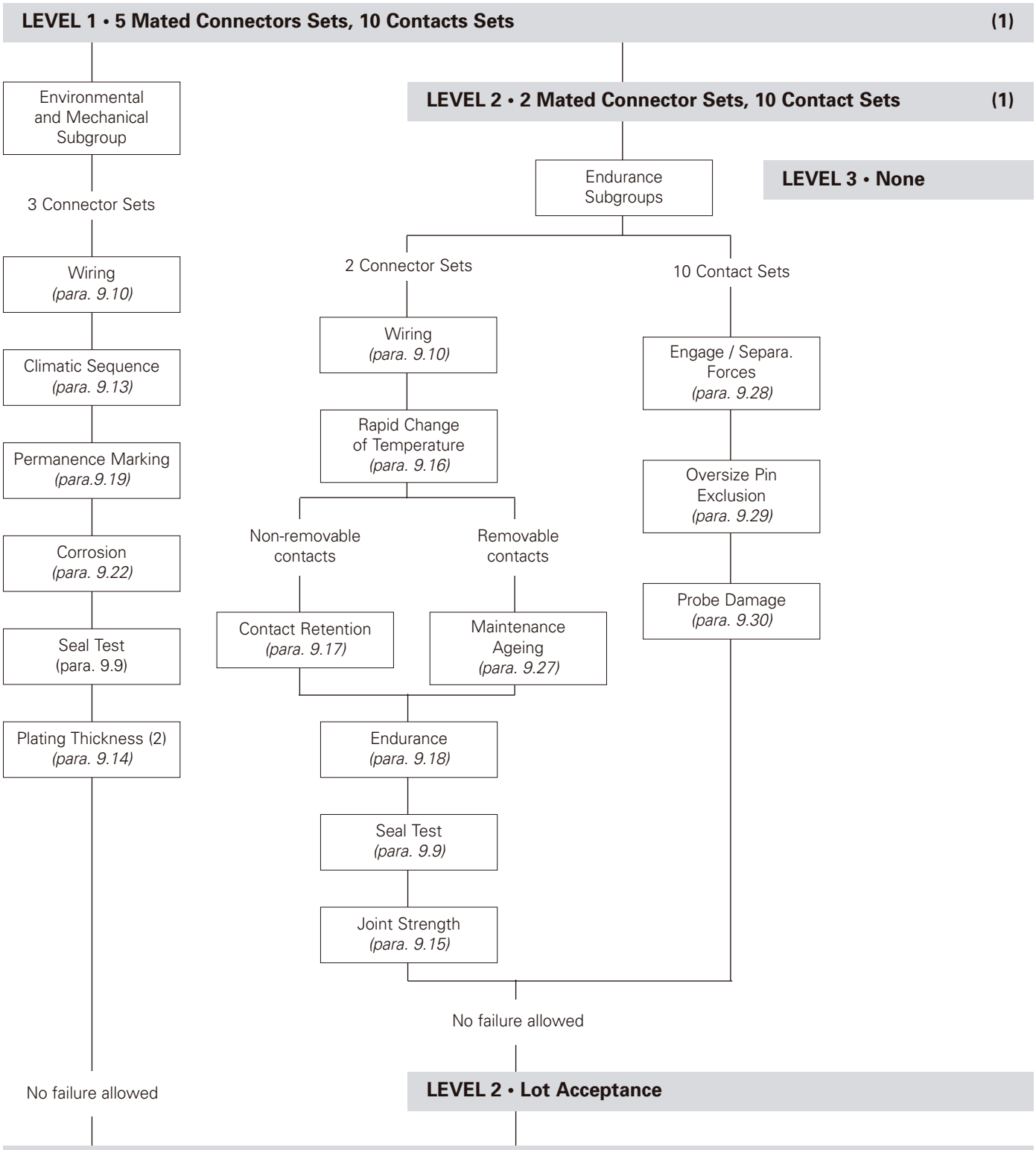
- **Production control**
  Visual (100%)
  Dimensional (by sampling)
  Insulation resistance (100%)
  Dielectric withstanding voltage (100%)
  Contact retention (100%)
  Female contact capability (100%)

- **Final production tests**
  Visual (100%)
  Dimensional (by sampling)
  Intermeatability

- **Lot acceptance tests**
  Two levels are proposed according to the ESA/SC specification 3401 CHART V.
  Lot acceptance level shall be specified in the purchase order.

LAT 1 — Environmental and mechanical sub-group
LAT2 — Endurance sub-group

CHART V - Lot Acceptance Tests



Notes :
(1) For distribution within the sample, see Para. 8.2.2.
(2) Hermetic connectors only.
All Para. refer to ESA/SCC Generic Specification n° 3401.

Materials & Finishes

Component	Material	Plating
Shells	Brass	1,27 micron gold to meet MIL/NASA - 0,7 micron gold ESA
Insulators	Diallyphtalate (according to MIL-M-14 class SGDF)	**Outgassing** : **TML** : 1% **CVCM** : 0,1% according to ECSS-Q-70-02A
Contacts **3401/005 /040 & /021** **3401/004**	Copper alloy	• **1,27** microns gold mini over 1 micron copper mini • **2,54** microns gold mini over 1 micron copper mini
Accessories	Brass	• **0,7** micron gold mini over 1 micron copper mini

Electrical characteristics

Characteristics	Symbol	Rating	Unit
Working voltage sea level (/50 Hz) • # 20 contacts • # 22 contacts • Power and straight coaxial contacts • 90° coaxial contacts • Twin axe	U_R	300 250 250 200	Vrms
Dielectric Withstanding Voltage (at sea level / 33000 m) • # 20 and # 22 contacts • Power and Straight coaxial contacts • 90° coaxial contacts • 90° Twin ax		1250 / 200 1000 / 100 800 / 100	Vrms
Rated current • # 20 and coaxial center contacts • # 22 PCB contact • # 20 crimp contact AWG 26/28 • # 22 crimp contact	I_R	7,5 3 3 5	A
• Power contacts		Wire size # 8 40 A / # 10 30 A / # 12 20 A / # 14 15 A / # 16 10 A	
Contact resistance (low level current) • # 20 • # 22 • Contact coaxial center and outer contact • Power (under 10 mA)	Rcl Max.	6 6 8,5 2,5	mΩ
Contact resistance (rated current) • # 20 (under 7,5 A) • # 22 PCB (under 3,0 A) • # 22 crimp (under 5,0 A) • # 20 crimp AWG 26/28 (under 3 A) • # 20 crimp (under 7,5 A) • Coaxial and power contacts (see rated current charac.)	Rcr Max.	5 10 5 5 5 7	mΩ

Environmental characteristics

Characteristics	Rating	Unit	ESA/SCC 3401 test method
Operating temperature range	-55 to +125	°C	-
Storage temperature	1000 h/125°C	-	Para. 9.21
Thermal shock	from -55 to +125	°C	IEC 512-6 test 11d
Damp heat	10 cycles 24 h	-	IEC 68-2-30 test Dd
Mechanical endurance	500	cycles	Para. 9.18
Vibrations	20	g	IEC 512-4 test 6d
Shock	50 g with an 11 ms duration pulse	-	IEC 512-4 test 6c
Contact retention	40	N	Para. 9.17
Vacuum test (125°C/24 h)	10^{-6}	Torr	ECSS-Q-70-02A

ESA/SCC 3401 001 01B

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

ESA/SCC 3401/001/GSFC/
MIL-DTL-24308 class M (QPL)

Standard density and Non removable contacts

ESA/SCC 3401/001 non-magnetic connectors are equipped with non removable contacts.

They are available with solder buckets, straight spills, 90° spills, wire wrap contacts and mixed layouts with coaxial and power contacts.

The connectors are Flight qualified parts.

Part Number / Ordering information

SCC specification number	3401 001	01	B	D	B	M	Y	9W4	P	NMB	OL3

Type Variant
01 : standard density (contact # 20)

B Testing Level
not to be modified

D*M series

Shell Size
E = 9 cts ; **A** = 15 cts ; **B** = 25 cts ; **C** = 37 cts ; **D** = 50 cts

Mounting
Without indication : fixed mounting
Y : floating mounting
E : 4.40 captive nuts

Contact Layout Code
(see page 11)

Contact Type
P : Pin (male)
S : Socket (female)

Residual Magnetism Level
NMB : ≤ 200 gammas

Contact Termination Code

Contact termination code

Contact terminations are indicated as follows :

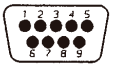
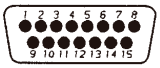
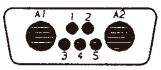
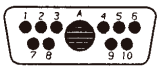
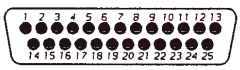
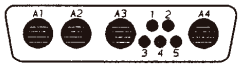
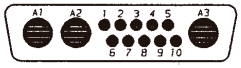
Contact termination code for variant 01 (std density)		
Code for Ø 0.63	**Code for Ø 0.76**	Contact type
Without indication		Solder buckets
OL3	**Z**	Straight spills
1A0N	**2A0N**	90° spills, without bracket, 2,54 mm pitch between row
1B0N	**2B0N**	90° spills, without bracket, 2,84 mm pitch between row
1A7N	**2A7N**	90° spills, with bracket, with UNC 4-40 clinch nuts and 2,54 mm pitch between row
1B7N	**2B7N**	90° spills, with bracket, with UNC 4-40 clinch nuts and 2,84 mm pitch between row
1A9N	**2A9N**	90° spills, with bracket, with M3 clinch nuts and 2,54 mm pitch between row
1B9N	**2B9N**	90° spills, with bracket, with M3 clinch nuts and 2,84 mm pitch between row
F179A		Wire wrap termination 3 wraps

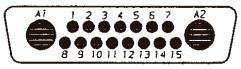
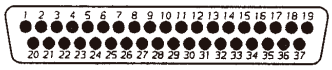
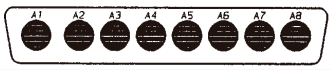
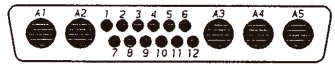
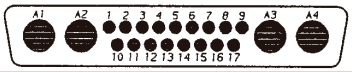
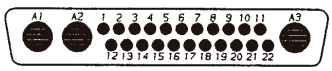
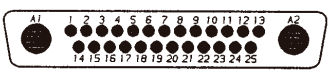
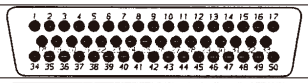
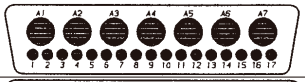
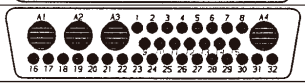
Note : Mixed layout are not available in 90° spills

ESA/SCC 3401 001 01B

Contact layouts

Contact layouts are indicated by the codes specified hereafter (male insulation front view) :

Shell size	Code	Nb cts # 20	Nb cts # 8	Layout
E	9	9	0	
	5W1	4	1	
A	15	15	0	
	3W3	0	3	
	3WK3*	0	3	
	7W2	5	2	
	11W1	10	1	
B	25	25	0	
	5W5	0	5	
	9W4	5	4	
	13W3	10	3	

Shell size	Code	Nb cts # 20	Nb cts # 8	Layout
B	17W2	15	2	
C	37	37	0	
	8W8	0	8	
	17W5	12	5	
	21WA4	17	4	
	25W3	22	3	
	27W2	25	2	
D	50	50	0	
	24W7	17	7	
	36W4	32	4	

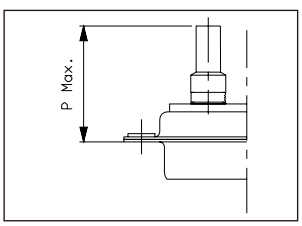
Standard (# 20) contact
Coaxial or power (# 8) contact

(*) : 3WK3 insulator with built-in keying (middle part recessed or protruding with respect to each side), to avoid mismounting (K = Keying)
Available only with Space Grade version D*M, insulator material : VALOX NOT DAP.

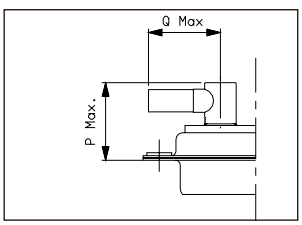
Contact types

• Coaxial contacts 3401 004 & 8949 004 NMB

Variants	P1 * Max.	P2 ** Max.
01-02-05-06 11-12-15-16	19,60 .771	19,80 .780
09-10-19-20	22,30 .878	22,50 .886

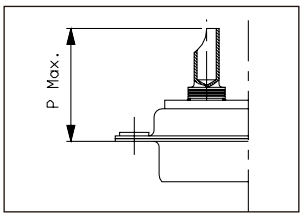


Variants	P1 * Max.	P2 ** Max.	Q Max
03-04-07-08 13-14-17-18	14,30 .563	14,50 .570	12,50 .492

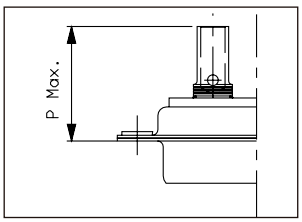


• Power contacts 3401 040 & 8949 040 NMB

Variants	P1 * Max.	P2 ** Max.
01-02-03 04-05-06	17,70 .697	17,90 .705



Variants	P1 * Max.	P2 ** Max.
07-08-09 10-11-12	19,80 .780	20 .787



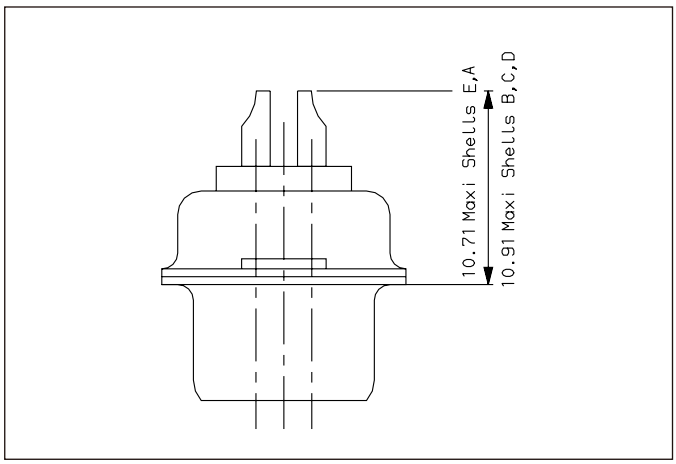
(*) **P1** : for male connectors sizes E and A, and for female connectors all sizes.
(**) **P2** : for male connectors sizes B, C and D.
Note : Mixed layout are not available in 90° spills

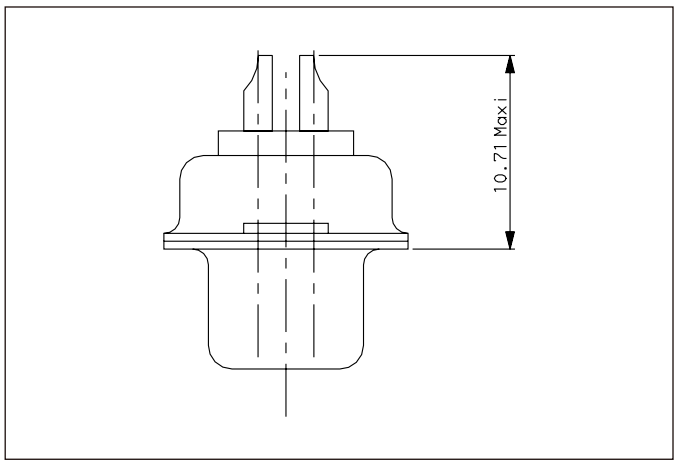
ESA/SCC 3401 001 01B

Dimensions (in mm)

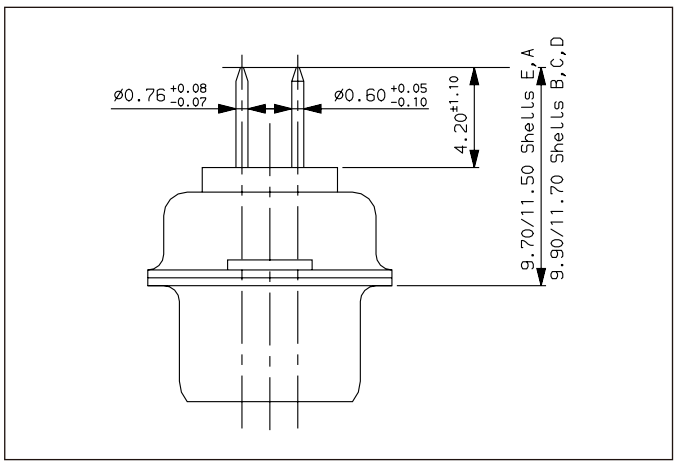
Male connectors	Female connectors

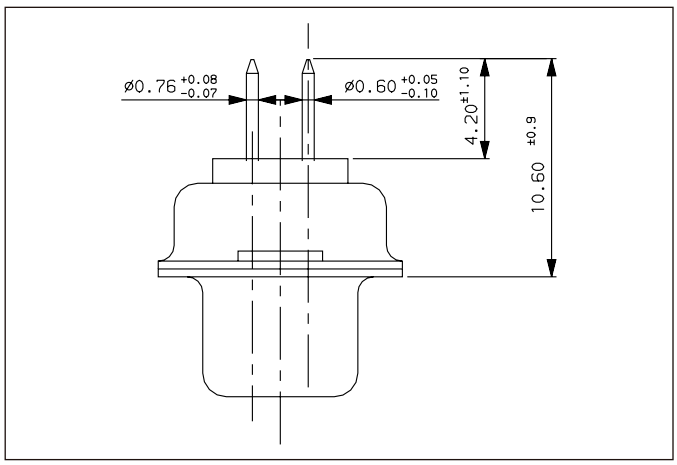
Solder Bucket



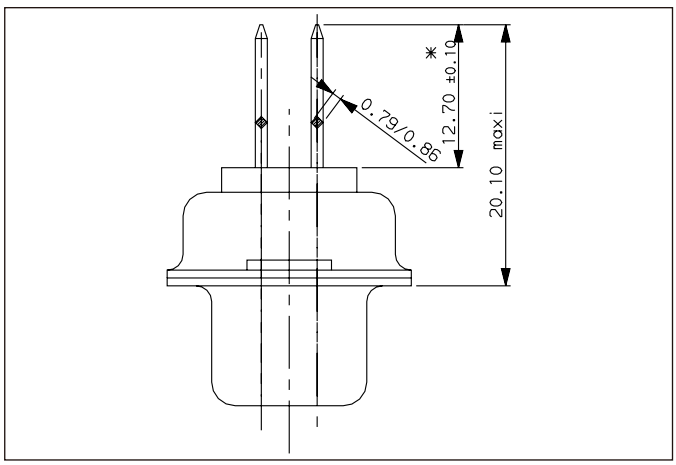


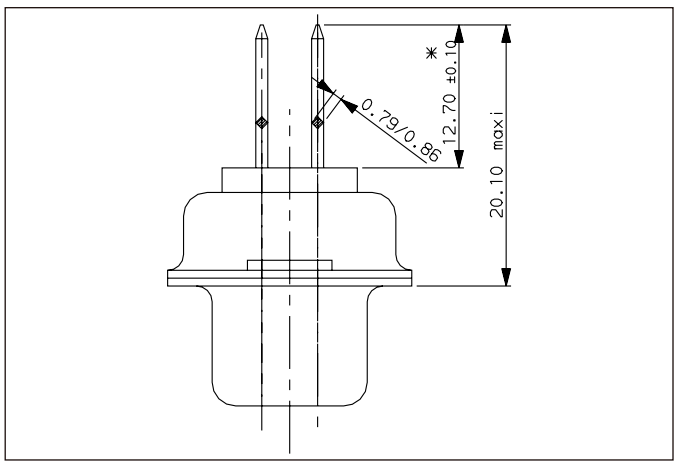
Straight spills (Z / OL3)





Wire wrap (F179A)





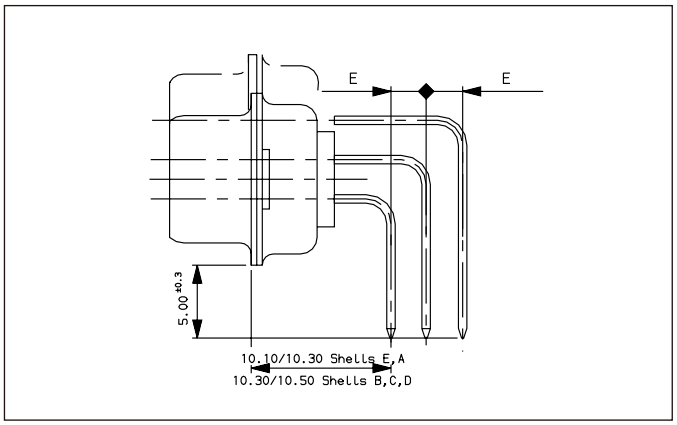
(*) The dimension is the length of the square part of the contact.

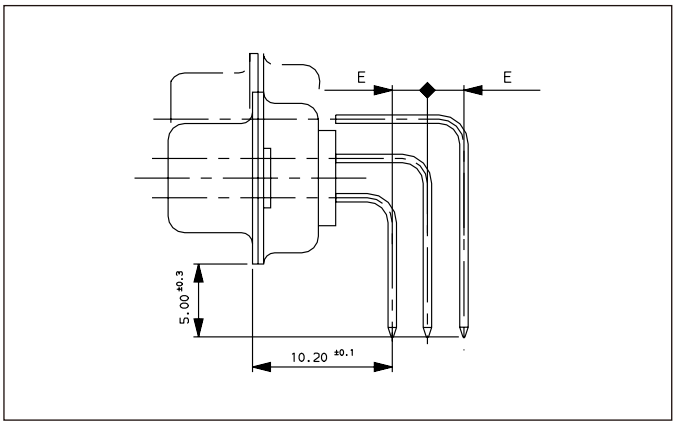
ESA/SCC 3401 001 01B

Male connectors

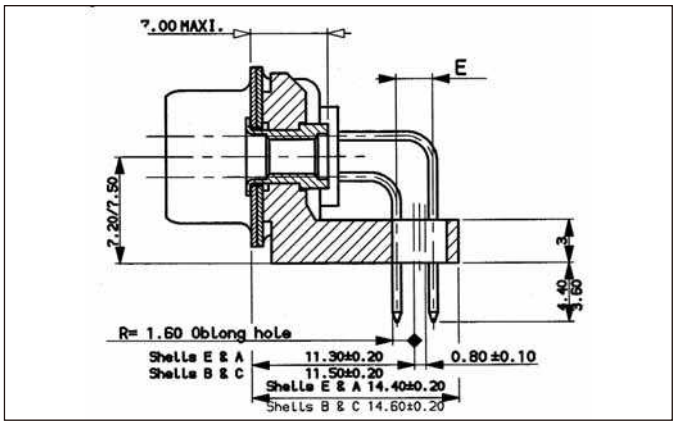
Female connectors

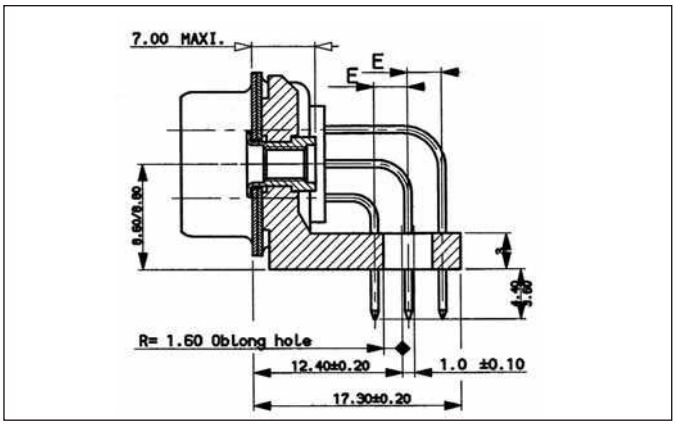
90° spills (1A0N / 2A0N / 1B0N / 2B0N)



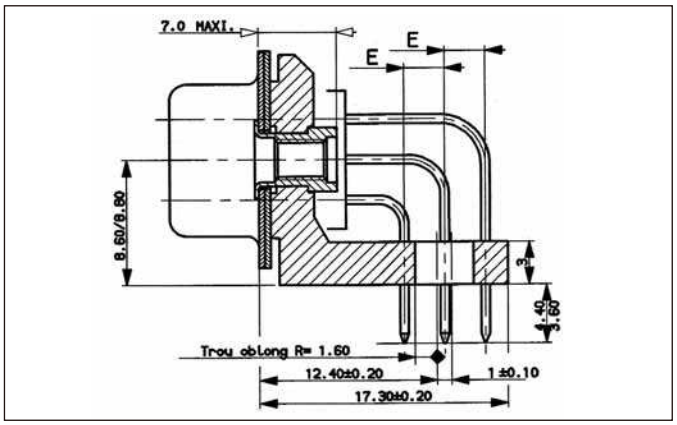


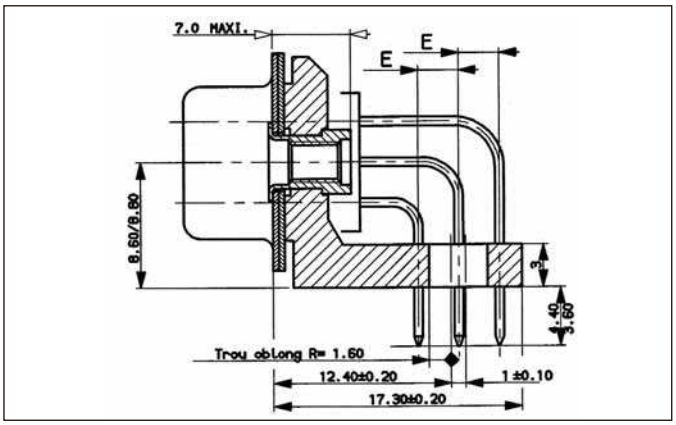
90° spills with bracket (shell size E to C)



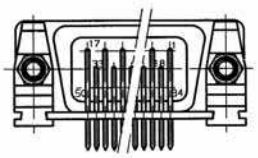


90° spills with bracket (shell size D)





The dimensions of the 90° spills are the same as the spills for the part number 1A0N & 2A0N.



For the dimension E :

Contact termination code	E (pitch between row)
1A0N, 2A0N, 1A7N, 2A7N, 1A9N, 2A9N	2,54 mm
1B0N, 2B0N, 1B7N, 2B7N, 1B9N, 2B9N	2,84 mm

ESA/SCC 3401 001 02B

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

ESA/SCC 3401/001/GFSC
MIL-DTL-24308

High density and Non removable contacts

ESA/SCC 3401/001 non-magnetic connectors are equiped with non removable contacts.

They are available with straight spills, 90° spills, contacts.

The connectors are Flight qualified parts.

Part Number / Ordering information

SCC specification number	3401 001	02	B	D	B	M	Y	44	P	NMB	OL3

Type Variant
02 : high density (contact # 22)

B Testing Level
not to be modified

D*M series

Shell Size
E = 15 cts ; **A** = 26 cts ; **B** = 44 cts ; **C** = 62 cts ; **D** = 78 cts

Mounting
Without indication : fixed mounting
Y : floating mounting
E : 4.40 captive nuts

Contact Layout Code
(see page 15)

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

Residual Magnetism Level
NMB : ≤ 200 gammas

Contact Termination Code
(see table below)

Contact termination code

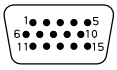
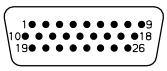
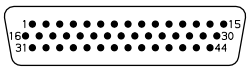
Contact terminations are indicated as follows :

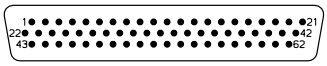
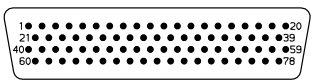
Contact termination code for variant 02 (high density)		
For 15 to 62 contacts (shell size : E, A, B & C)	**For 78 contacts (shell size : D)**	**Contact type**
OL3		Straight spills
1C0N	**1D0N**	90° spills, without bracket
1C7N	**1D7N**	90° spills, with bracket and UNC 4-40 clinch nuts
1C9N	**1D9N**	90° spills, with bracket and M3 clinch nuts

ESA/SCC 3401 001 02B

Contact layouts

Contact layouts are indicated by the codes specified hereafter (male insulation front view) :

Shell size	Code	Nb cts # 22	Layout
E	15	15	
A	26	26	
B	44	44	

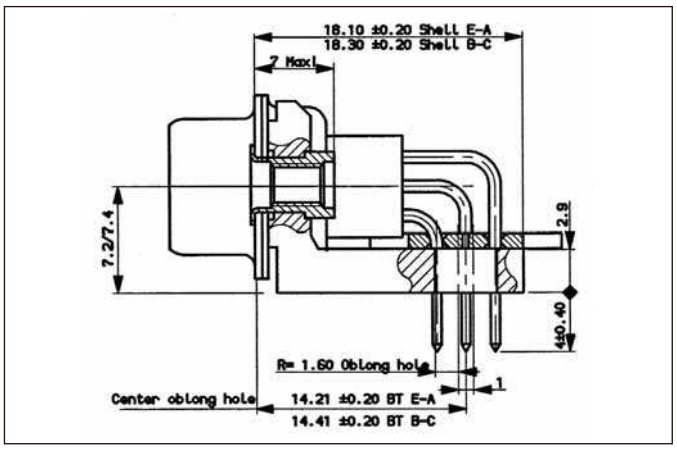
Shell size	Code	Nb cts # 22	Layout
C	62	62	
D	78	78	

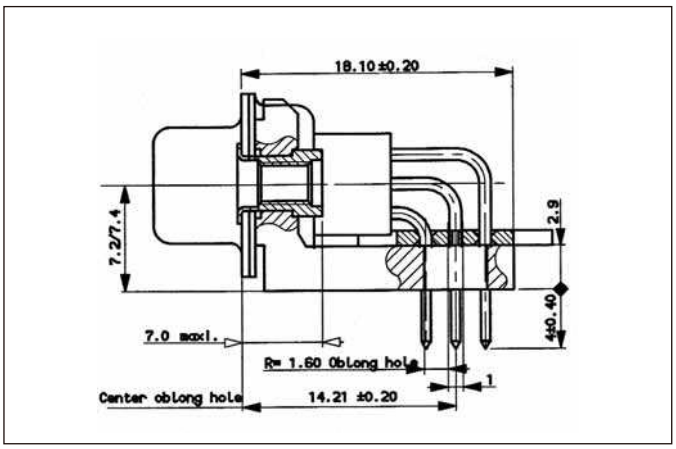
Dimensions (in mm)

Male connectors

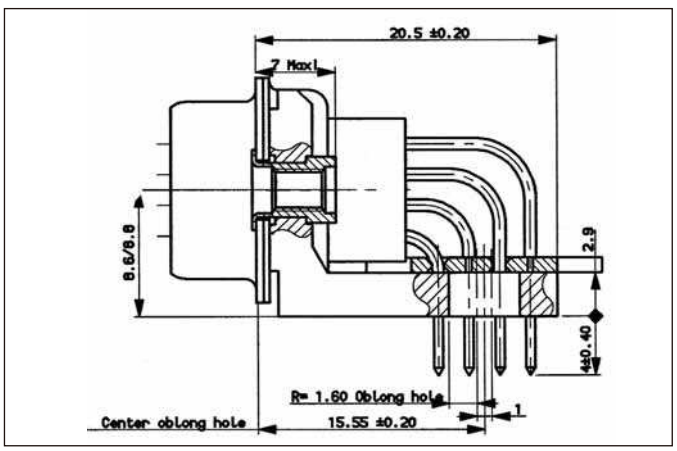
Female connectors

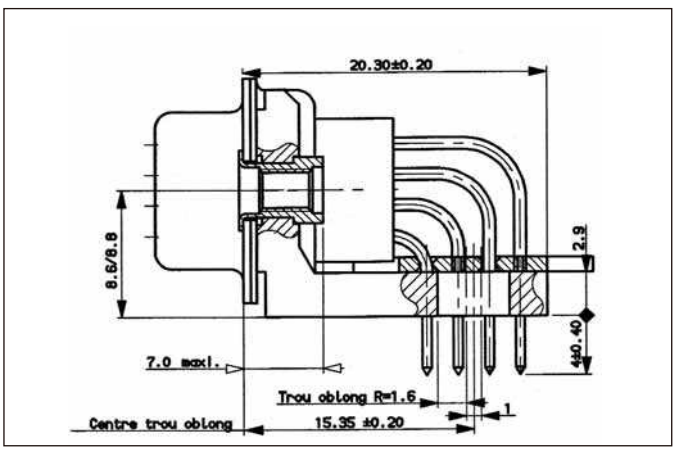
1C7N & 1C9N (shell E to C)





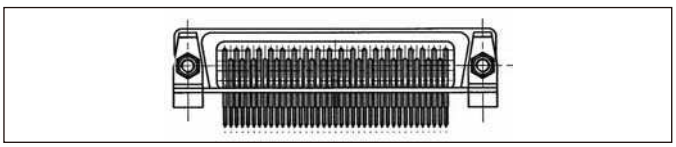
1D7N & 1D9N (shell D)





The dimensions of the 90° spills are the same as the spills for the part number 1C0N & 1D0N.

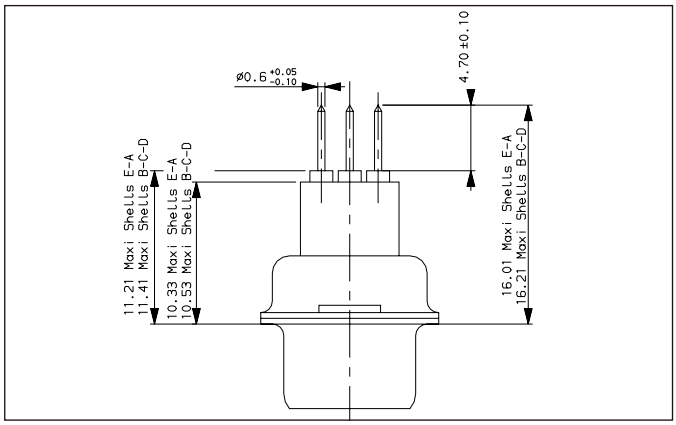
Rear view of the connectors ⇒

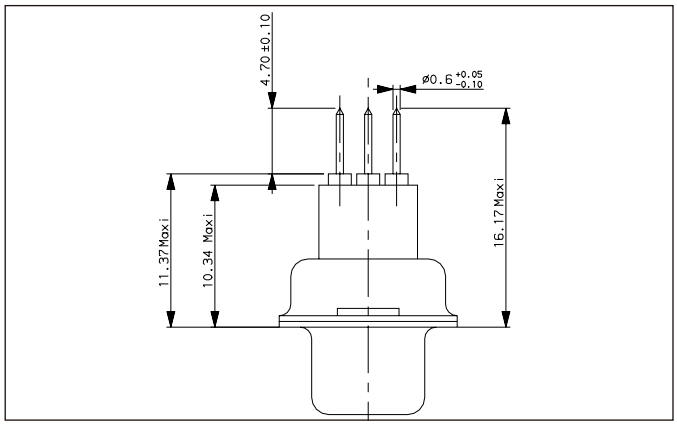


ESA/SCC 3401 001 02B

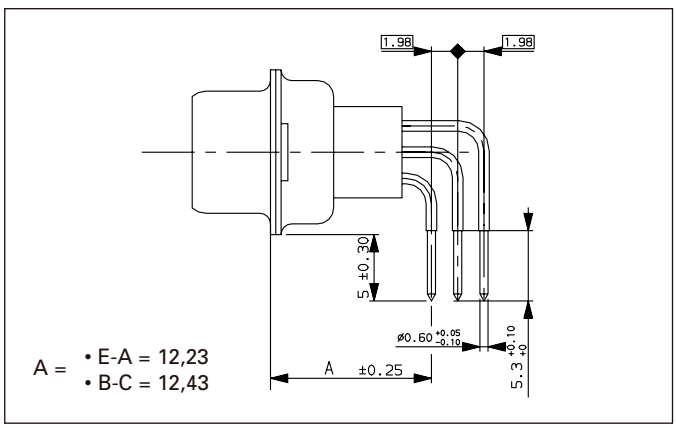
Male connectors	Female connectors

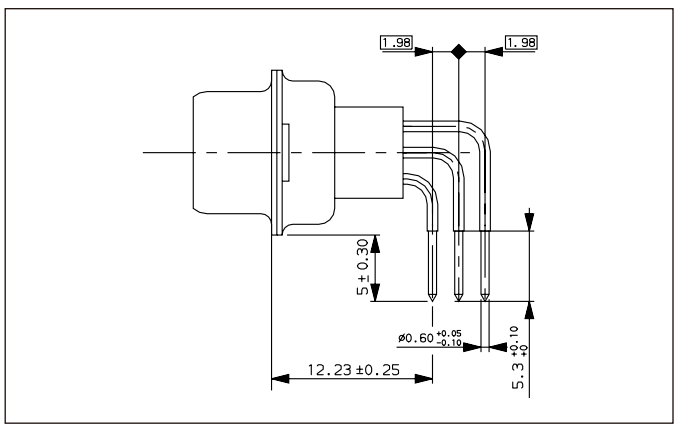
Straight spills (OL3)



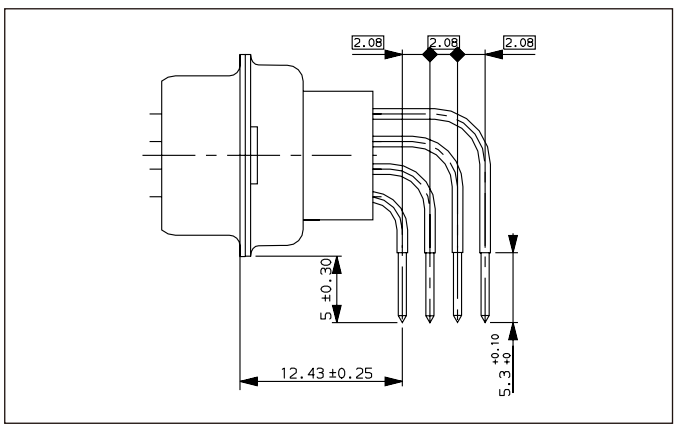


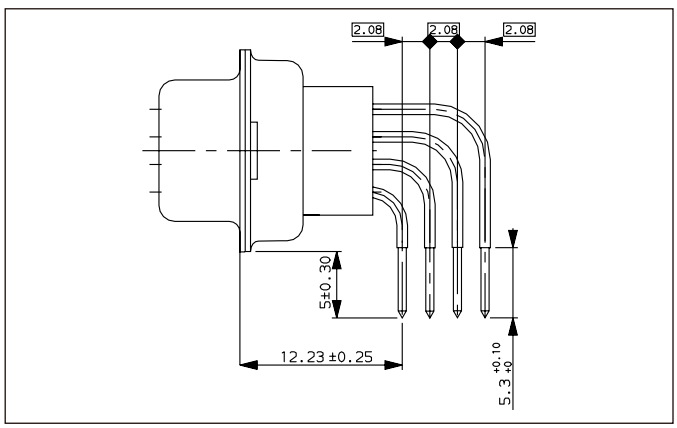
1C0N (shell size E to C)



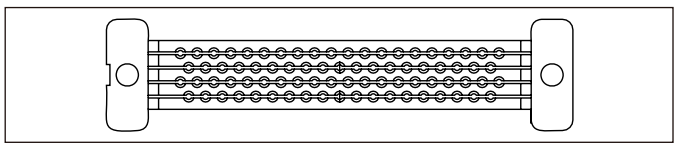


1D0N (shell size D)





Connectors delivered with brittle drilled bar ⇒



ESA/SCC 3401 002 01B

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

ESA/SCC 3401/002/GSFC/
MIL-DTL-24308 class M(QPL)

Standard density & Removable Crimp Contacts

ESA/SCC 3401/002 non-magnetic connectors are used with ESA/SCC 3401/005 removable crimp contacts.

Standard density (# 20 contacts) layouts are Flight qualified parts.

Part Number / Ordering information

SCC specification number	3401 002	01	B	D	B	MA	Y	25	P	NMB	FO

Type variant
01 : standard density (contact # 20)

B Testing level
not to be modified

D*MA series

Shell size
E = 9 cts ; **A** = 15 cts ; **B** = 25 cts ; **C** = 37 cts ; **D** = 50 cts

Mounting
Without indication : fixed mounting
Y : floating mounting
E : 4.40 captive nuts.
G: rear grommet

Contact layout Code
9 cts - **15** cts - **25** cts - **37** cts - **50** cts

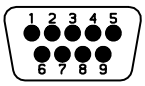
Contact Type
P : Pin
S : Socket

Residual Magnetism Level
NMB : ≤ 200 gammas

Contact Termination Code
Without indication : connectors delivered with # 20 contacts for wire AWG 20-24
FO : connectors delivered without contacts
(FO is not marked on the connector)

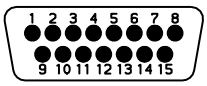
Contact layouts (male insulation front view)

E



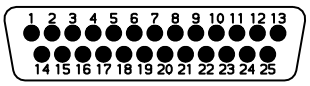
9 contacts

A



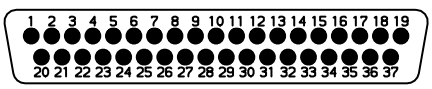
15 contacts

B



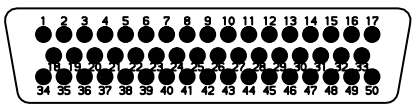
25 contacts

C



37 contacts

D



50 contacts

ESA/SCC 3401 002 02B

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

ESA/SCC 3401/002/GSFC/
MIL-DTL-24308 class M (QPL)

High Density & Removable Crimp Contacts

ESA/SCC 3401/002 non-magnetic connectors are used with ESA/SCC 3401/005 removable crimp contacts.

High density (# 22 contacts) layouts are Flight qualified parts.

Part Number / Ordering information

SCC specification number	3401 002	02	B	D	B MA	Y	44	P	NMB	FO

Type Variant
02 : high density (contact # 22)

B Testing Level
not to be modified

D*MA series

Shell Size
E = 15 cts ; **A** = 26 cts ; **B** = 44 cts ; **C** = 62 cts ; **D** = 78 cts

Mounting
Without indication : fixed mounting
Y : floating mounting **E** : 4.40 captive nuts **G** : rear grommet

Contact Layout Code
15 cts - **26** cts - **44** cts - **62** cts - **78** cts

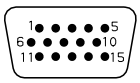
Contact Type
P : Pin
S : Socket

Residual Magnetism Level
NMB : ≤ 200 gammas

Contact Termination Code
Without indication : connectors delivered with # 22 contacts for wire AWG 22-26
FO : connectors delivered without contacts
(FO is not marked on the connector)

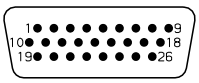
Contact layouts (male insulation front view)

E



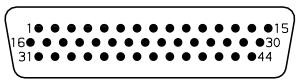
15 contacts

A



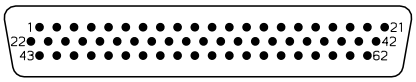
26 contacts

B



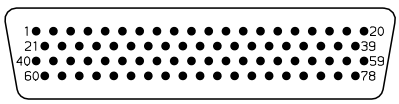
44 contacts

C



62 contacts

D



78 contacts

3401 020 01B & 3401 020 02B

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

ESA/SCC 3401 020

Standard and high density D-Sub savers, Removable Contacts

ESA/SCC 3401/020 savers are used to protect flight equipment connectors from multiple matings, during tests.

They are used also on a bulkhead as feed-thru connectors.

They are used with ESA/SCC 3401 021 pin-socket contacts.

These products are also suitable for Flight.

Part Number / Ordering information

• Standard density

SCC specification number	3401 020	01	B	D	B	BMA	25	PS	NMB	FO

Type Variant
01 : standard density (contact # 20)

B Testing Level
not to be modified

D*BMA series

Shell Size
E = 9 cts ; **A** = 15 cts ; **B** = 25 cts ; **C** = 37 cts ; **D** = 50 cts

Contact Layout Code
9 cts - **15** cts - **25** cts - **37** cts - **50** cts

Contact Type
PS : Pin - Socket

Residual Magnetism Level
NMB : ≤ 200 gammas

Contact Termination Code
Without indication : connectors delivered with saver contact # 20
FO : connectors delivered without contacts
(FO is not marked on the connector)

• High density

SCC specification number	3401 020	02	B	D	B	BMA	44	PS	NMB	FO

Type Variant
02 : high density (contact # 22)

B Testing Level
not to be modified

D*BMA series

Shell Size
E = 15 cts ; **A** = 26 cts ; **B** = 44 cts ; **C** = 62 cts ; **D** = 78 cts

Contact Layout Code
15 cts - **26** cts - **44** cts - **62** cts - **78** cts

Contact Type
PS : Pin - Socket

Residual Magnetism Level
NMB : ≤ 200 gammas

Contact Termination Code
Without indication : connectors delivered with saver contact # 22
FO : connectors delivered without contacts
(FO is not marked on the connector)

See contact layouts for saver connectors p.17 for standard density and p. 18 for high density.

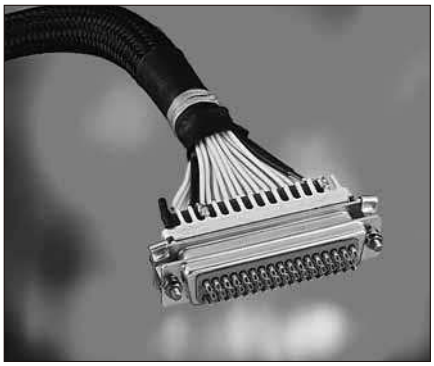
D*M-NMB

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

D*M-NMB



Standard density D-Sub, Non Removable Contacts (Space Grade)

D*M-NMB non-magnetic connectors use the same components as the 3401/001 ESA/SCC and S311-P-10 GSFC connectors. However they are manufactured in accordance full ESA or NASA, MIL-DTL-24308. Consequently no traceability information can be delivered for these items. They are available with solder buckets, straight spills, 90° spills, wire wrap contacts and mixed layouts with coaxial and power contacts. This version is suitable for Engineering Models as well as Flight Models.

Part Number / Ordering information

Series : D*M (contact # 20)	D	B	M	F	25	P	511	U	NMB	***

Shell Size
E = 9 cts ; **A** = 15 cts ; **B** = 25 cts ; **C** = 37 cts ; **D** = 50 cts

Mounting
Nothing : standard mount
F : float mount
O : UNC 4-40 clinch nut
L : M3 clinch nut

Contact Layout Code
(see below 11)

Contact Type
P : Pin (male)
S : Socket (female)

Contact Termination Code
(see page 21)

Nothing : delivered without bracket but with bar
U : delivered with bracket & bar, but without clinch nut (*)

Residual Magnetism and Shell Plating
NMB : ≤ 200 gamma maximum residual magnetism : shell plated 1.27 micron gold mini over copper (conform to GSFC)

Special Modification

(*) **Note** : Code U only used for the 5**, 8** & 7** series.

Contact layouts

Contact layouts are indicated by the codes specified hereafter :

Shell size	Code	Nb cts # 20	Nb cts # 8
E	09	9	0
	5W1	4	1
A	15	15	0
	3W3	0	3
	3WK3	0	3
	7W2	5	2
	11W1	10	1
B	25	25	0
	5W5	0	5
	9W4	5	4
	13W3	10	3
	17W2	15	2

Shell size	Code	Nb cts # 20	Nb cts # 8
C	37	37	0
	8W8	0	8
	17W5	12	5
	21WA4	17	4
	25W3	22	3
	27W2	25	2
D	50	50	0
	24W7	17	7
	36W4	32	4

See layouts p. 11

Note : Mixed layout are not available in 90° spills

D*M-NMB

Contact termination code

Contact terminations are indicated as follows :

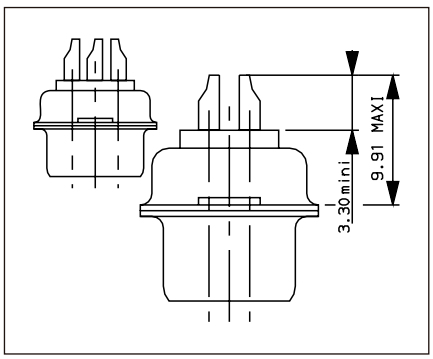
Contact termination code for D*M-NMB		
Code for Ø 0,63	**Code for Ø 0,76**	**Contact type**
011		Solder bucket
311	**211**	Straight spills
411		Wire wrap, 3 wraps
	711	90° spills, 2.84 mm pitch & US Footprint (2)
511	**2A0N**	90° spills, without bracket, 2.54 mm pitch & European Footprint (1)
811	**2B0N**	90° spills, without bracket, 2.84 mm pitch & European Footprint (1)
1A9N	**2A9N**	90° spills, with bracket, 2.54 mm pitch, M3 clinch nuts & European Footprint (1)
1B9N	**2B9N**	90° spills, with bracket, 2.84 mm pitch, M3 clinch nuts & European Footprint (1)
	2AUN	90° spills, with bracket, 2.54 mm pitch & European Footprint (1)
	2BUN	90° spills, with bracket, 2.84 mm pitch & European Footprint (1)
1A7N	**2A7N**	90° spills, with bracket, 2.54 mm pitch, # 4-40 clinch nuts & European Footprint (1)
1B7N	**2B7N**	90° spills, with bracket, 2.84 mm pitch, # 4-40 clinch nuts & European Footprint (1)
	2B7S	90° spills, with bracket, 2.84 mm pitch, # 4-40 clinch nuts & US Footprint (2)
	2B9S	90° spills, with bracket, 2.84 mm pitch, M3 clinch nuts & US Footprint (2)

(1) European Footprint : Distance from rear of flange to first row ⇒ 9.40 mm (.37 inch)
(2) US Footprint : Distance from rear of flange to first row ⇒ 7.19 mm (.283 inch)

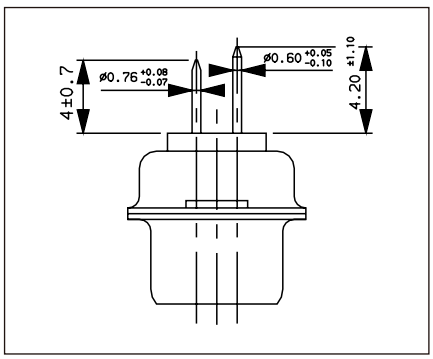
Dimensions for termination code (in mm)

Male & Female Connectors

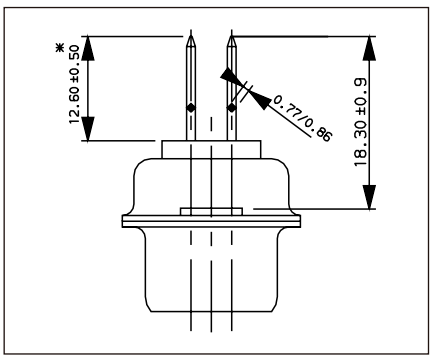
011



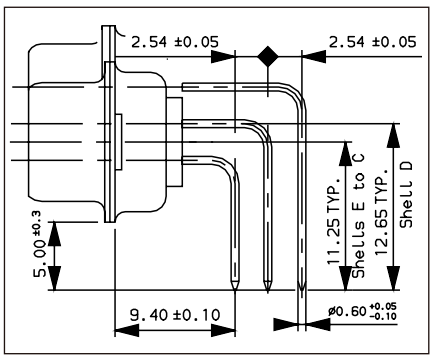
211 & 311



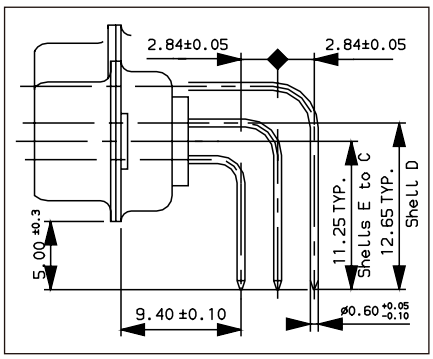
411



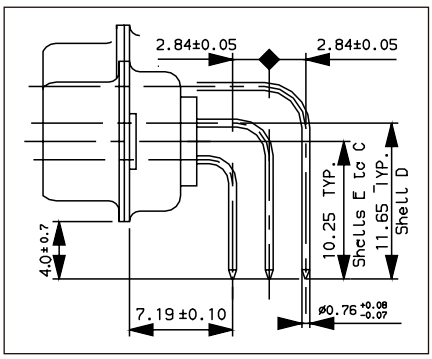
511



811



711



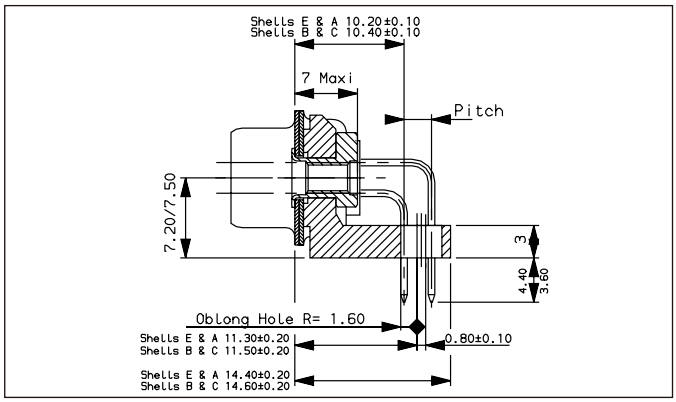
(*) The dimension is the length of the square part of the contact.

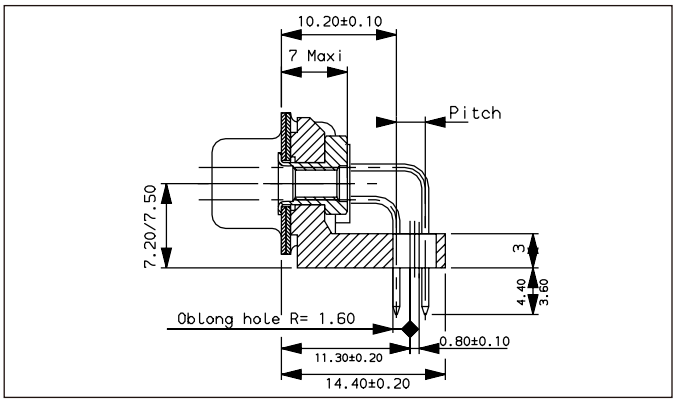
D*M-NMB

Male connectors

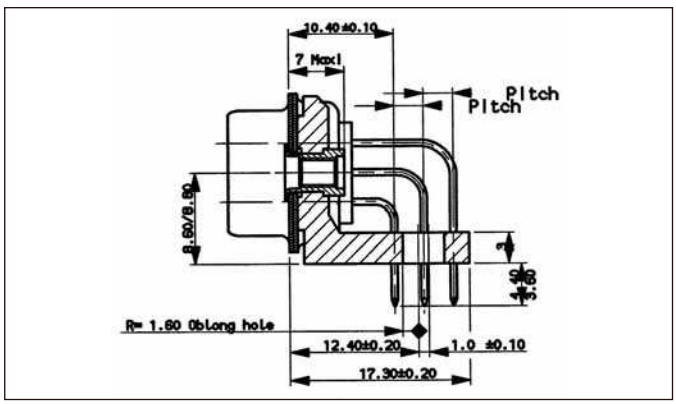
Female connectors

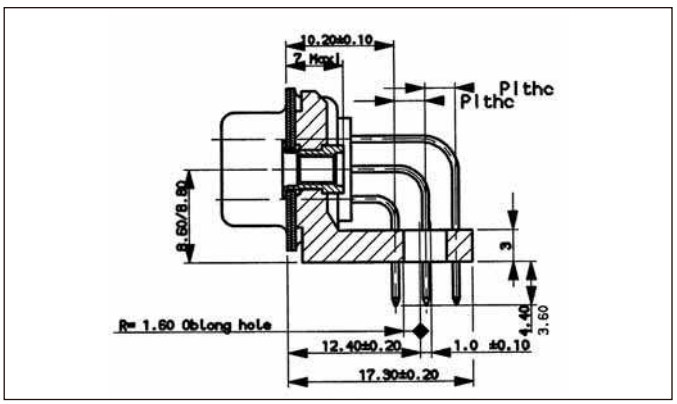
90° spills with bracket - European footprint (shell size E to C)





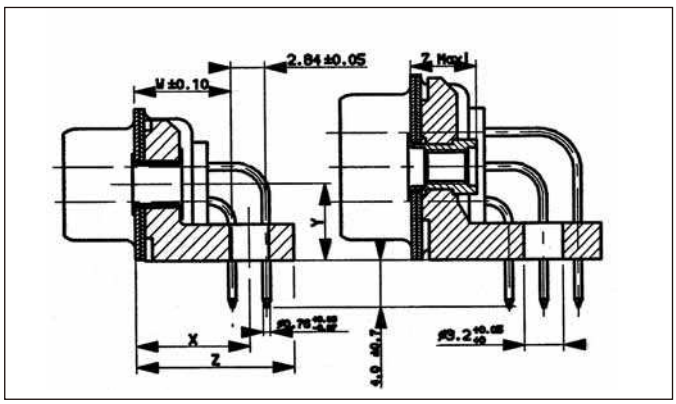
90° spills with bracket - European footprint (shell size D)

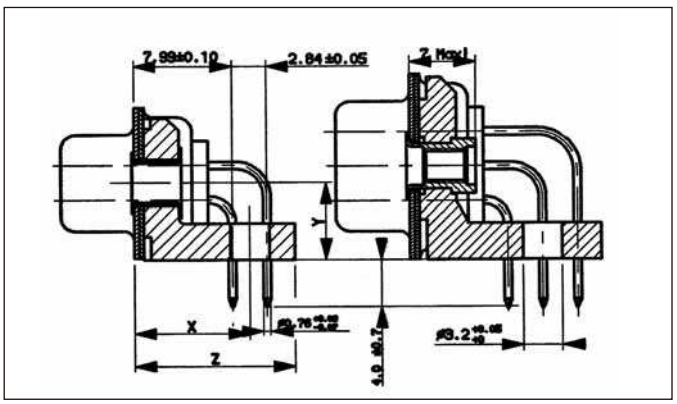




For the pitch : ⇒ 2,54 mm for **1A9N, 2A9N, 1A7N & 2A7N**
⇒ 2,84 mm for **1B9N, 2B9N, 1B7N & 2B7N**

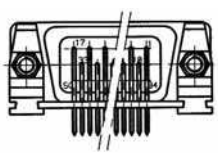
90° spills with bracket - US footprint (711U, 2B7S & 2B9S)





Shell size	W	X		Y	Z	
E & A	7,99 .315	9,28 .365	9,60 .378	6,34 .250	12,94 .509	13,16 .518
B & C	8,19 .322	9,48 .373	9,80 .386	6,34 .250	13,14 .517	13,36 .526
D	8,19 .322	10,87 .428	11,19 .441	7,67 .302	15,63 .615	15,85 .624

Shell size	X		Y	Z	
E to C	9,28 .365	9,60 .378	6,34 .250	12,94 .509	13,16 .518
D	10,67 .420	10,99 .433	7,67 .302	15,43 .607	15,65 .616



8630-NMB (Crimp)

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

8630-NMB

Standard density D-Sub Removable Contacts (Space Grade)

8630-NMB non-magnetic connectors use the same components as the ESA/SCC 3401 001 01B and S-311-P-4/09 GSFC.

However they are manufactured in accordance with ESA NASA, MIL-DTL-24308. Consequently no traceability information can be delivered for these items. They are used with removable crimp contacts. This version is suitable for Engineering Models as well as Flight Models.

Part Number / Ordering information

Series : 8630 (standard density) # 20 contacts layouts	863	0	L	25	P	0	11	NMB	L	***

Mounting style
0 : standard mount
1 : floating mount

Other mounting style
Nothing : standard or floating mount
O : UNC 4-40 clinch nuts
L : M3 clinch nuts

Contact layout Code
09 cts - **15** cts - **25** cts - **37** cts - **50** cts

Contact Type
P : Pin
S : Socket

(*)
0 : for wire # 20 to 24
R : for wire # 26 to 28
E : for wire # 18

(*) Contact plating
11 = 1.27 micron gold over copper
Note : to be indicated if connectors are ordered with contacts (no «L» at the end of the P/N)

Residual magnetism
NMB : ≤ 200 gamma maximum residual magnetism ; shell plated 1.27 micron gold mini over copper (conform to GSFC)

(*)
Without indication : connectors delivered with contacts for wire AWG 20-24
L : connectors delivered without contacts

Special modifier

(*) : The codes 0, 11 & L are not marked on the connector. They are only used for the P/N.

Special modifier

Code	Characteristics
601	Grommet and compound, non outgassing
604	Grommet without compound non outgassing

See layouts p. 17

8635-NMB (Spill)

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

8635-NMB with Spill Contacts

High density D-Sub, Non Removable Contacts (Space Grade)

These 8635-NMB non-magnetic connectors use the same components as the ESA/SCC 3401 001 02B. However they are manufactured in accordance with ESA and NASA specification.

Consequently no traceability information can be delivered for these items. They are used with non removable contacts. This version is suitable for Engineering Models as well as Flight Models.

Part Number / Ordering information

Series : 8635 (high density) # 22 contacts layouts	8635	F	26	P	0L3	NMB	***

Mounting style & Grommet
Nothing : standard mount
F : Floating mount
O : UNC 4-40 clinch nuts
L : M3 clinch nuts

Contact layout
15 cts - **26** cts - **44** cts - **62** cts - **78** cts

Contact Type
P : Pin
S : Socket

Termination type
(see below)

Residual magnetism
NMB : ≤ 200 gamma maximum residual magnetism ; shell plated 1.27 micron gold mini over copper

Special modification

Contact termination code

Termination type	
1.27 mm shell plating	**Contact type**
OL3	Straight spills
1CON	90°, disposable drilled bar, 15 to 62 contacts, 1.98 pitch
1DON	90°, disposable drilled bar, 78 contacts (only D size), 2.08 pitch
1CUN	90°, with brackets, 15 to 62 contacts, 1.98 pitch (1)
1DUN	90°, with brackets, 78 contacts, 2.08 pitch (1)
1C7N	90°, with brackets and UNC 4-40 clinch nuts, 15 to 62 contacts, 1.98 pitch
1D7N	90°, with brackets and UNC 4-40 clinch nuts, 78 contacts, 2.08 pitch
1C9N	90°, with brackets and M3 clinch nuts, 15 to 62 contacts, 1.98 pitch
1D9N	90°, with brackets and M3 clinch nuts, 78 contacts, 2.08 pitch

(1) : no ESA/SCC equivalent version.

See layouts p.18

8635-NMB (Crimp)

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

8635-NMB with Crimp Contacts

High density D-Sub Removable Contacts (Space Grade)

These 8635-NMB non-magnetic connectors use the same components as the ESA/SCC 3401 002 02B and S311-P-4/07 GSFC connectors. However they are manufactured in accordance with ESA and NASA specification.

Consequently no traceability information can be delivered for these items.They are used with removable crimp contacts.This version is suitable for Engineering Models as well as Flight Models.

Part Number / Ordering information

Series : 8635 (high density) # 22 contacts layouts	**8635**	**F**	**26**	**P**	**0**	**11**	**NMB**	**L**	*******

Mounting style & Grommet
Nothing : standard mount
F : Float mount
O : UNC 4-40 clinch nuts
L : M3 clinch nuts

Contact layout Code
15 cts - **26** cts - **44** cts - **62** cts - **78** cts

Contact Type
P : Pin
S : Socket

(*) 0 : for wire # 22 to 26

(*) Contact plating
11 : 1.27 micron gold over copper
Note : to be modified if connectors are ordered with contacts (no «L» at the end of the P/N)

Residual magnetism
NMB : ≤ 200 Gamma maximum residual magnetism ; shell plated 1.27 micron gold mini over copper (conform to GSFC)

(*)
Without indication : connector delivered with contacts for wire AWG 22-26
L : connector delivered without contacts

Special modification

(*) : The codes 011 & L are not marked on the connector. They are only used for the P/N.

Special modifier

Code	Characteristics
601	Grommet and compound, non outgassing
604	Grommet, without compound, non outgassing

See layouts p. 18

D*BMA-NMB

Applications

Satellite
Launcher
Space station
Shuttle hardware
Probe

Standards

D*BMA-NMB

D-Sub savers (Space Grade)

D*BMA-NMB savers connectors are derived from ESA/SCC 3401 020 savers.

However they are manufactured in accordance with ESA.

Consequently no traceability information can be delivered for these items. They are used with removable crimp contacts.

This version is suitable for Engineering Models as well as Flight Models.

Part Number / Ordering information

• Standard density with removable contacts # 20

Series : D*BMA	D	B	BMA	25	PS	011	NMB	L
Shell size **E** = 9 cts - **A** = 15 cts - **B** = 25 cts - **C** = 37 cts - **D** = 50 cts								
Contact layout Code **09** cts - **15** cts - **25** cts - **37** cts - **50** cts								
Contact Type **PS** : Pin - Socket								
Contact plating **011** : 1.27 micron gold over copper								
Residual magnetism **NMB** : ≤ 200 Gamma maximum residual magnetism, shell plated 1.27 micron gold mini over copper								
Without indication : connectors delivered with contacts **L** : connectors delivered without contacts								

• High density with removable contacts # 22

Series : D*BMA	D	B	BMA	44	PS	011	NMB	L
Shell size **E** = 15 cts - **A** = 26 cts - **B** = 44 cts - **C** = 62 cts - **D** = 78 cts								
Contact layout Code **15** cts - **26** cts - **44** cts - **62** cts - **78** cts								
Contact Type **PS** : Pin - Socket								
Contact plating **011** : 1.27 micron gold over copper								
Residual magnetism **NMB** : ≤ 200 Gamma maximum residual magnetism, shell plated 1.27 micron gold mini over copper								
Without indication : connectors delivered with contacts **L** : connectors delivered without contacts								

(*) : The codes 011 & L are not marked on the connector. They are only used for the P/N.

See contact layouts for saver connectors p.17 for standard density and p.18 for high density.

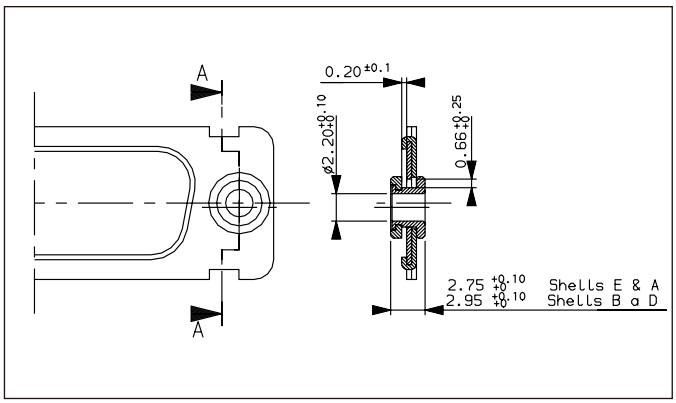
Dimensions

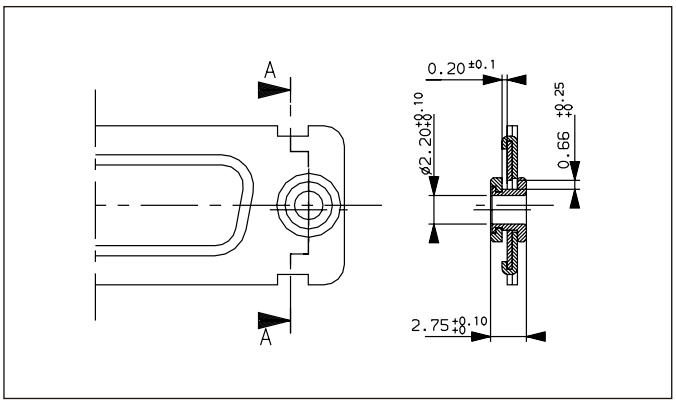
Float mounting (3401 001, 3401 002, D*MF, 8631 & 8635F)

Not available for savers connectors

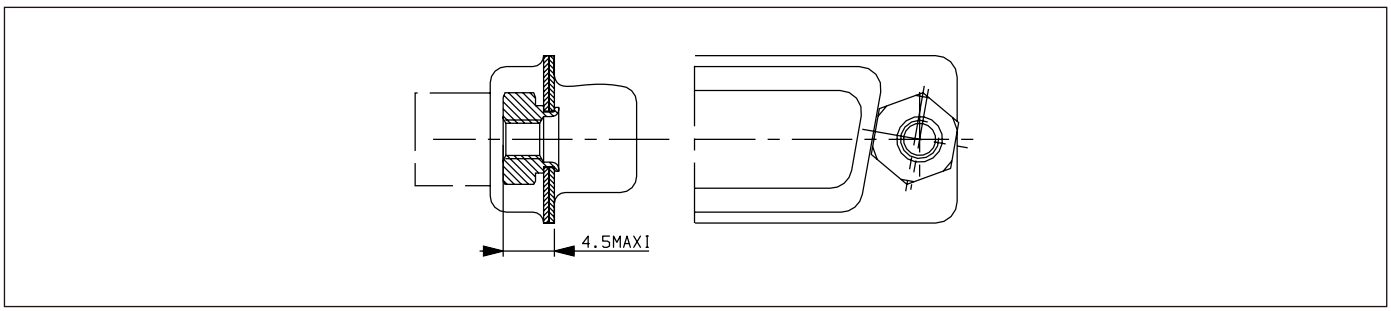
Engagement view

Male connectors	Female connectors

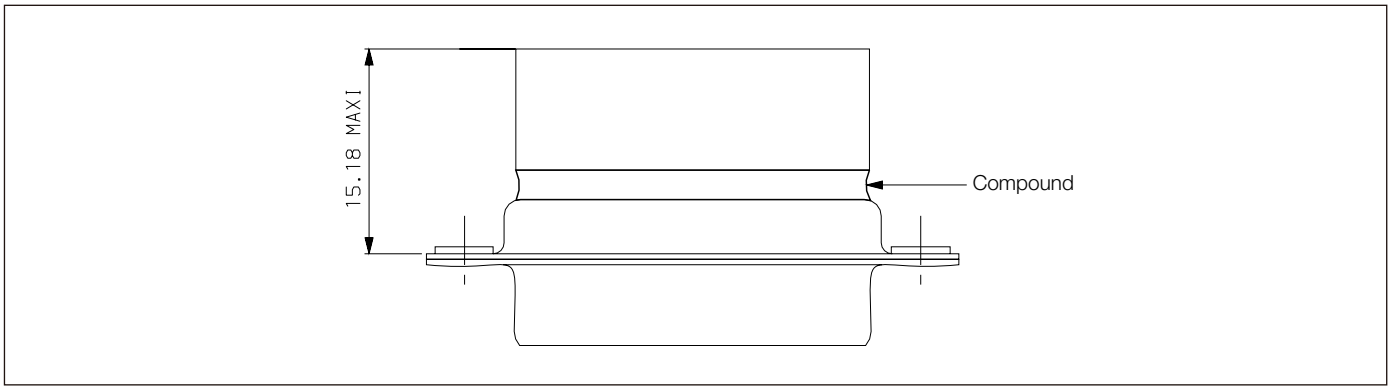




Mounting with clinch nuts (O & L, D*M, 8630 & 8635) (E for 3401001 and 3401002 series)

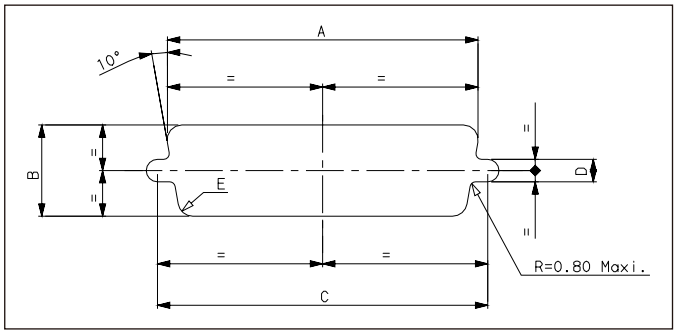


Mounting with grommet (8630 & 8635) ; (Code : G for 3401002 series), code 601, 604 for 8630 & 8635 Space Grade version

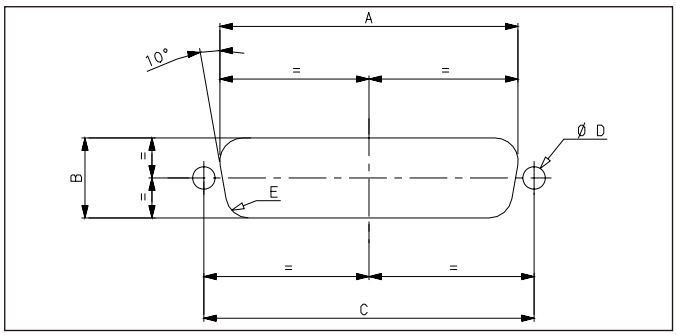


Panel cut-outs (in mm/inch)

Cutout for mounting from front or rear of panel

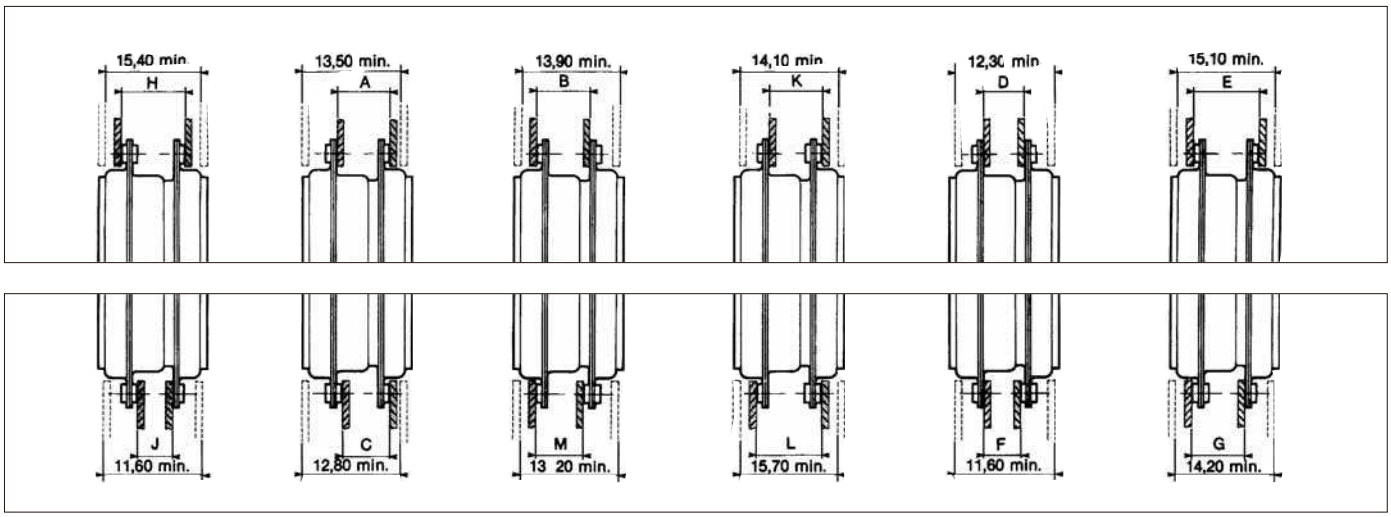


Cutout for mounting from rear of panel only



Shell size	Type of mounting	Mounting position	A ± 0,1 (± 0.004)	B ± 0,1 (± 0.004)	C ± 0,1 (± 0.004)	D ± 0,05 (± 0.002)	E ± 0,1 (± 0.004)
E	Rigid	Front	22,2 .874	13 .512	24,99 .984	3,2 .126	2,1 .083
		Rear	20,5 .807	11,4 .449	24,99 .984	3,2 .126	3,3 .130
	Float	Front	23 .906	13,8 .543	24,99 .984	2,2 .087	2,1 .083
		Rear	21,3 .839	12,2 .480	24,99 .984	2,2 .087	3,3 .130
A	Rigid	Front	30,5 1.201	13 .512	33,32 1.312	3,2 .126	2,1 .083
		Rear	28,8 1.134	11,4 .449	33,32 1.312	2,2 .087	3,3 .130
	Float	Front	31,3 1.232	13,8 .543	33,32 1.312	2,2 ,0,87	2,1 .083
		Rear	29,6 1.165	12,2 .480	33,2 1.307	2,2 .087	3,3 .130
B	Rigid	Front	44,3 1.744	13 .512	47,04 1.852	3,2 .126	2,1 .083
		Rear	42,5 1.673	11,4 .449	47,04 1.852	3,2 .126	3,3 .130
	Float	Front	45,1 1.776	13,8 .543	47,04 1.852	2,2 .087	2,1 .083
		Rear	43,3 1.705	12,2 .480	47,04 1.852	2,2 .087	3,3 .130
C	Rigid	Front	60,7 2.390	13 .512	63,5 2.500	3,2 .126	2,1 .083
		Rear	59,1 2.327	11,4 .449	63,5 2.500	3,2 .126	3,3 .130
	Float	Front	61,5 2.421	13,8 .543	63,5 2.500	2,2 .087	2,1 .083
		Rear	59,8 2.354	12,2 .480	63,5 2.500	2,2 .087	3,3 .130
D	Rigid	Front	58,3 2.295	15,8 .622	61,11 2.406	3,2 .126	2,1 .083
		Rear	56,3 2.217	14,1 .555	61,11 2.406	3,2 .126	3,3 .130
	Float	Front	59,2 2.331	16,6 .654	61,11 2.406	2,2 .087	2,1 .083
		Rear	57,2 2.252	14,4 .567	61,11 2.406	2,2 .087	3,3 .130

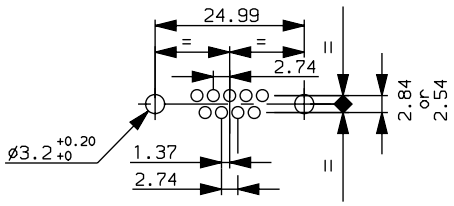
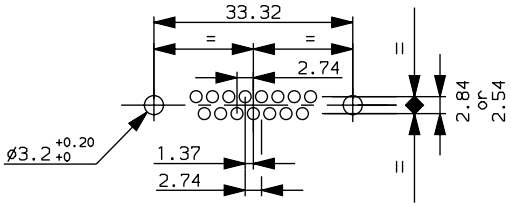
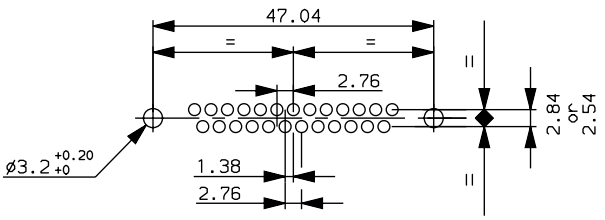
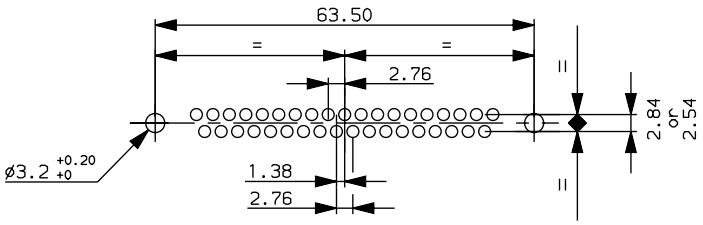
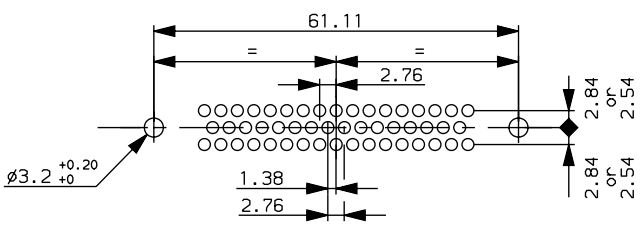
Panel mounting (in mm/inch)



Shell size	$A^{+0,6}_{-0}$	$B^{+0,6}_{-0}$	$C^{+0,6}_{-0}$	$D^{+0,6}_{-0}$	$E^{+0,6}_{-0}$	$F^{+0,6}_{-0}$	$G^{+0,6}_{-0}$	$H^{+0,6}_{-0}$	$J^{+0,6}_{-0}$	$K^{+0,6}_{-0}$	$L^{+0,6}_{-0}$	$M^{+0,6}_{-0}$
E	7,65 .301	7,65 .301	6,85 .270	6,45 .254	8,85 .348	5,65 .222	8,25 .325	9,45 .372	5,65 .222	8,25 .325	9,45 .372	6,85 .270
A	7,65 .301	7,65 .301	6,85 .270	6,45 .254	8,85 .348	5,65 .222	8,25 .325	9,45 .372	5,65 .222	8,25 .325	9,45 .372	6,85 .270
B	7,55 .297	7,55 .297	6,75 .266	6,35 .250	8,85 .348	5,55 .219	8,15 .321	9,35 .368	5,55 .219	8,15 .321	9,35 .368	6,75 .266
C	7,55 .297	7,95 .313	6,75 .266	6,35 .250	9,15 .360	5,55 .219	8,35 .329	9,55 .376	5,55 .219	8,15 .321	9,75 .384	7,15 .281
D	7,55 .297	7,95 .313	6,75 .266	6,35 .250	9,15 .360	5,55 .219	8,35 .329	9,55 .376	5,55 .219	8,15 .321	9,75 .384	7,15 .281

Standard density

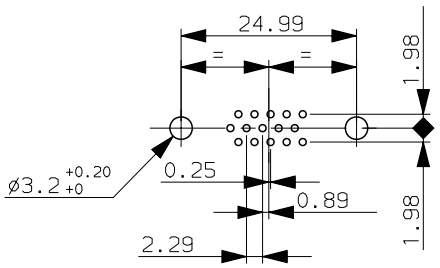
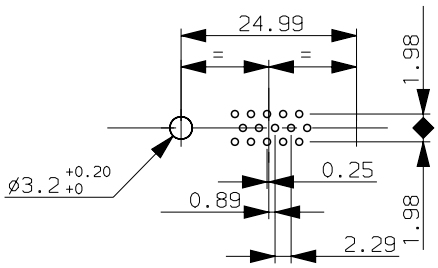
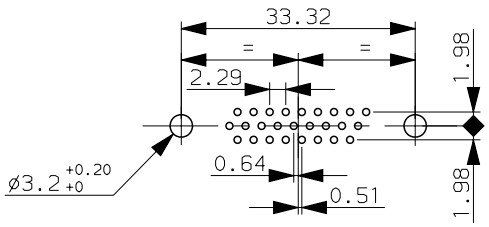
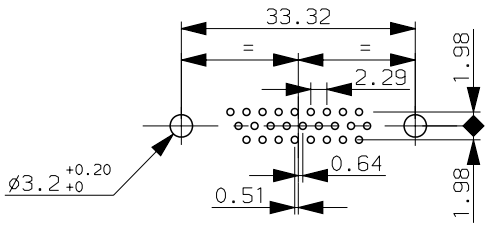
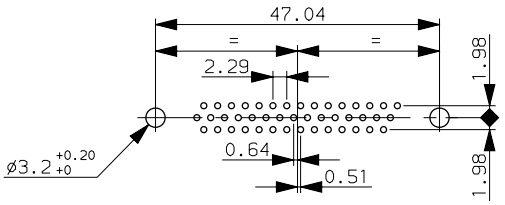
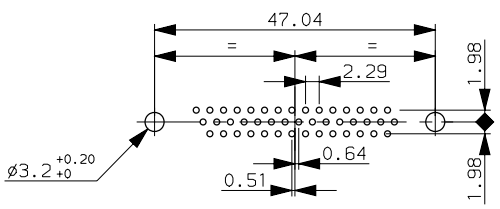
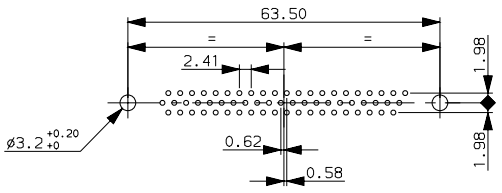
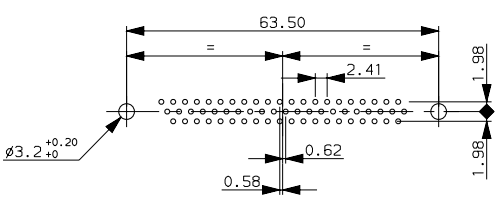
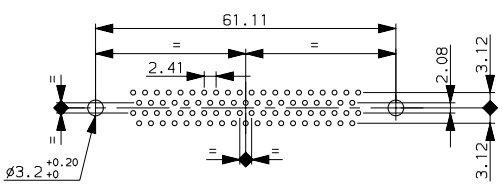
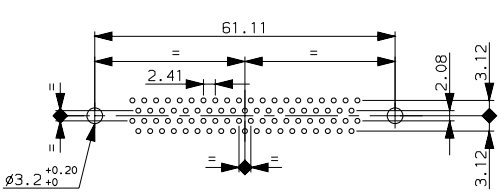
Viewed from front face of male insulator (dimensions in mm)

Layout according to	Number of contacts	Drilling dimensions
MS-18273-1	9 contacts (shell size E)	
MS-18274-1	15 contacts (shell size A)	
MS-18275-1	25 contacts (shell size B)	
MS-18276-1	37 contacts (shell size C)	
MS-18277-1	50 contacts (shell size D)	

⇒ Suggest 0,89 Ø hole for contact termination positions, for 0.50 / 0.65 Ø spills
⇒ Suggest 1,08 Ø hole for contact termination positions, for 0.69 / 0.84 Ø spills

High density

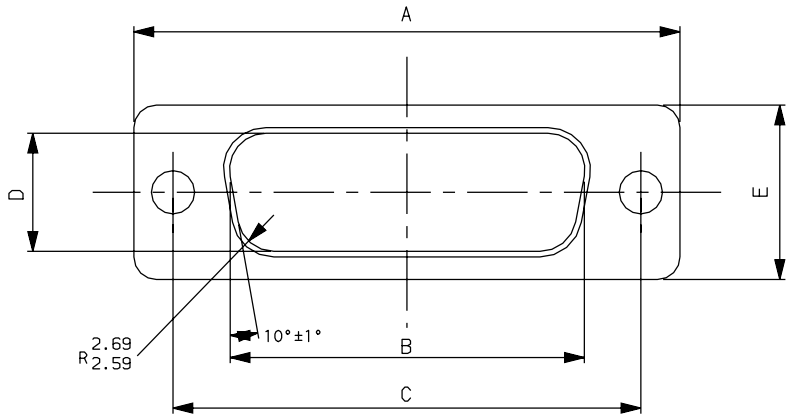
Viewed from front face of male insulator (dimensions in mm)

Layout according to	Number of contacts	Drilling dimensions	
		Male connector	Female connector
MS-18273-2	15 contacts (shell size E)		
MS-18274-2	26 contacts (shell size A)		
MS-18275-2	44 contacts (shell size B)		
MS-18276-2	62 contacts (shell size C)		
MS-18277-2	78 contacts (shell size D)		

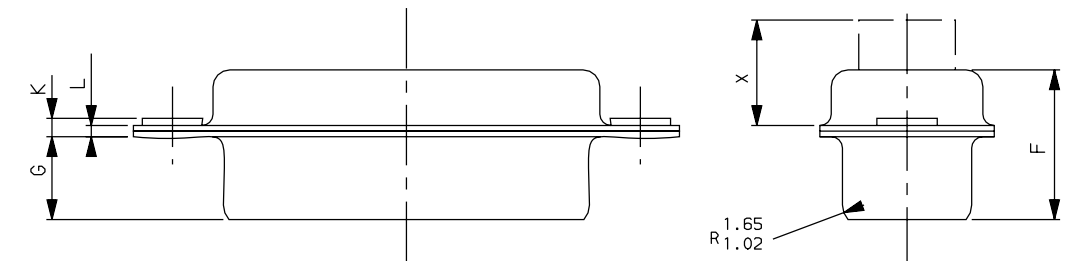
⇒ Suggest 0,89 Ø hole for contact termination positions, for 0.50 / 0.65 Ø spills
⇒ Suggest 1,08 Ø hole for contact termination positions, for 0.69 / 0.84 Ø spills

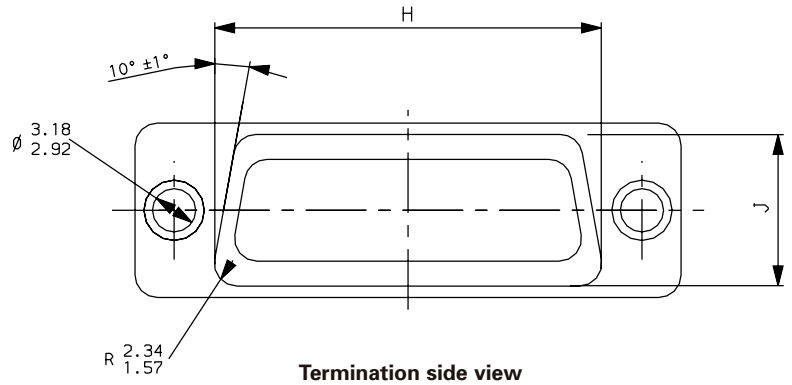
Physical dimensions

Male connectors



Mating side view





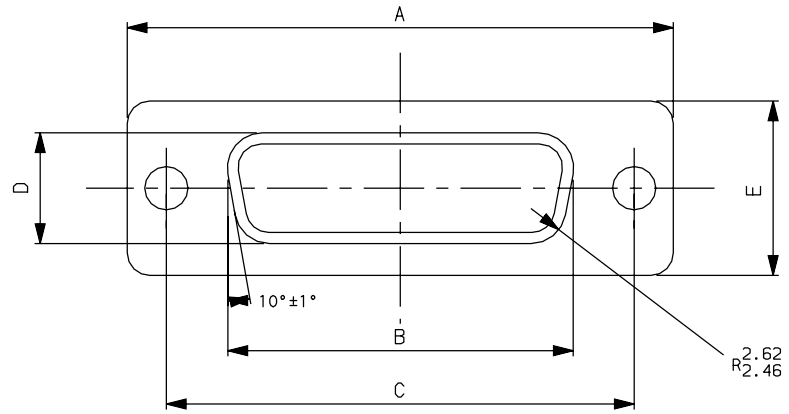
Termination side view

For the dimension X : ↗ 6,38 mm MAXI for **3401 001 01B & D*M**
↘ 9,53 mm MAXI for **3401 001 02B, 3401 002, 8630 & 8635**

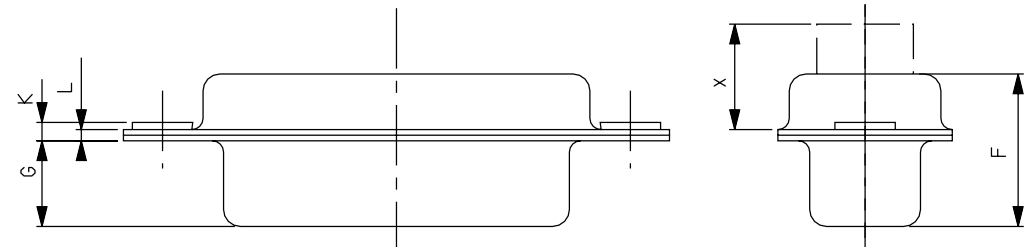
Shell size	A		B		C		D		E		F		G		H		J		K		L	
	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max
E	30,43 1,198	31,19 1,228	16,79 .661	17,04 .671	24,87 .979	25,12 .989	8,23 .324	8,48 .334	12,17 .479	12,93 .509	10,46 .412	10,97 .432	5,82 .229	6,12 .241	19,02 .749	19,53 .769	10,46 .412	10,97 .432	0,89 .035	1,52 .060	0,51 .020	1,02 .040
A	38,76 1,526	39,52 1,556	25,12 .989	25,37 .999	33,20 1,307	33,45 1,317	8,23 .324	8,48 .334	12,17 .479	12,93 .509	10,46 .412	10,97 .432	5,82 .229	6,12 .241	27,25 1,073	27,76 1,093	10,46 .412	10,97 .432	0,89 .035	1,52 .060	0,51 .020	1,02 .040
B	52,65 2,073	53,42 2,103	38,84 1,529	39,09 1,539	46,91 1,847	47,17 1,857	8,23 .324	8,48 .334	12,17 .479	12,93 .509	10,57 .416	11,07 .436	5,69 .224	5,99 .236	41,02 1,615	41,53 1,635	10,46 .412	10,97 .432	1,27 .050	1,78 .070	0,74 .029	1,24 .049
C	68,94 2,714	69,70 2,744	55,30 2,177	55,55 2,187	63,37 2,495	63,63 2,505	8,23 .324	8,48 .334	12,17 .479	12,93 .509	10,57 .416	11,07 .436	5,69 .224	5,99 .236	57,45 2,262	57,96 2,282	10,46 .412	10,97 .432	1,27 .050	1,78 .070	0,74 .029	1,24 .049
D	66,55 2,620	67,31 2,650	52,68 2,074	52,93 2,084	60,99 2,401	61,24 2,411	10,95 .431	11,20 .441	14,99 .590	15,75 .620	10,57 .416	11,07 .436	5,69 .224	5,99 .236	55,07 2,168	55,58 2,188	13,31 .524	13,82 .544	1,27 .050	1,78 .070	0,74 .029	1,24 . 049

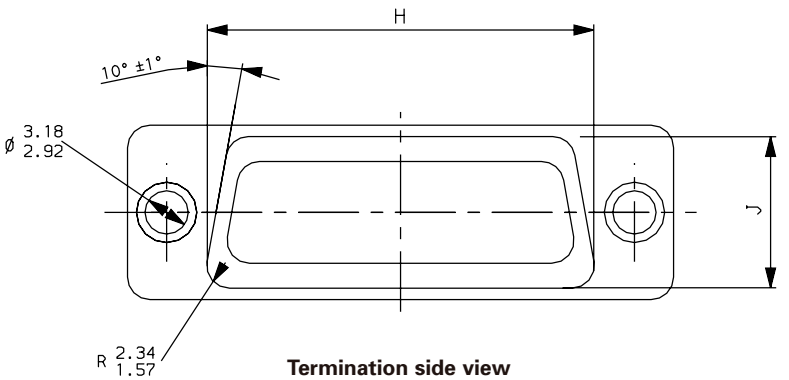
Physical dimensions

Female connectors



Mating side view



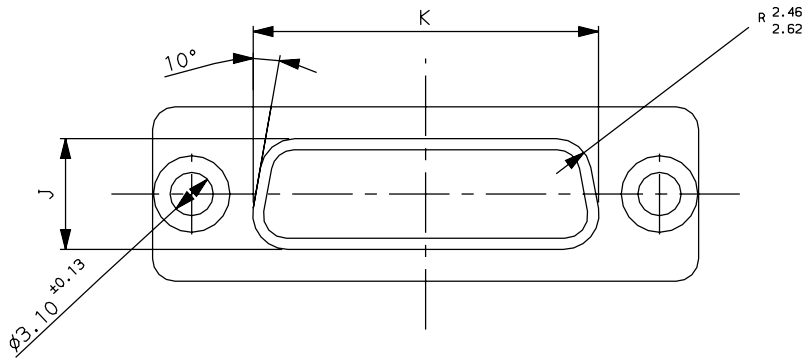


Termination side view

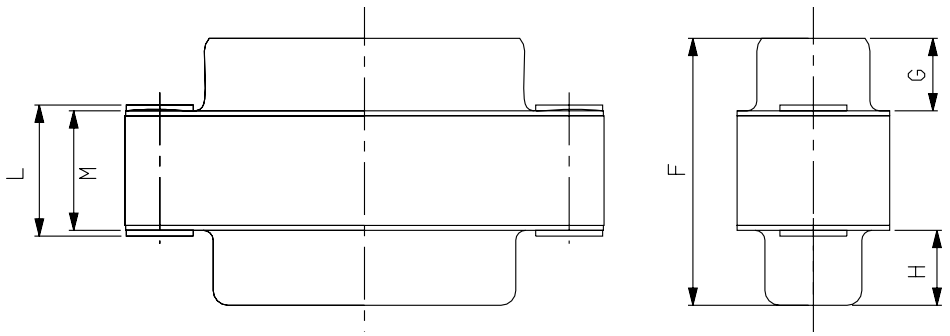
For the dimension X : ↗ 6,38 mm MAXI for **3401 001 01B & D*M**
↘ 9,53 mm MAXI for **3401 001 02B, 3401 002, 8630 & 8635**

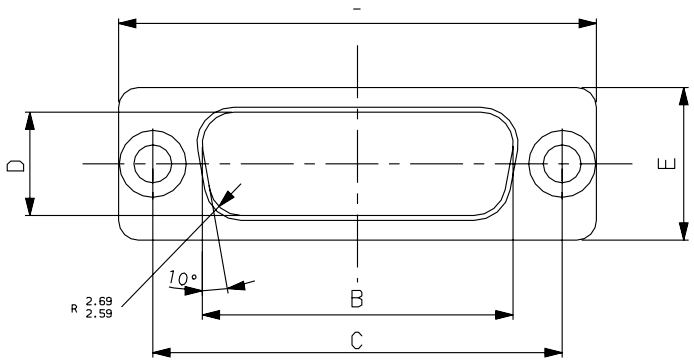
Shell size	A		B		C		D		E		F		G		H		J		K		L	
	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max
E	30,43 1,198	31,19 1,228	16,21 .638	16,46 0,648	24,87 .979	25,12 .989	7,77 .306	8,03 .316	12,17 .479	12,93 .509	10,64 .419	11,15 .439	6,05 .238	6,30 .248	19,02 .749	19,53 .769	10,46 .412	10,97 .32	0,89 .035	1,52 .060	0,51 .020	1,02 .040
A	38,76 1,526	39,52 1,556	24,54 .966	24,79 .976	33,20 1,307	33,45 1,317	7,77 .306	8,03 .316	12,17 .479	12,93 .509	10,64 .419	11,15 .439	6,05 .238	6,30 .248	27,25 1,073	27,76 1,093	10,46 .412	10,97 .432	0,89 .035	1,52 .060	0,51 .020	1,02 .040
B	52,65 2,073	53,42 2,103	38,25 1,506	38,51 1,516	46,91 1,847	47,17 1,857	7,77 .306	8,03 .316	12,17 .479	12,93 .509	10,64 .419	11,15 .439	6,05 .238	6,30 .248	41,02 1,615	41,53 1,635	10,46 .412	10,97 .432	0,89 .035	1,52 .060	0,51 .020	1,02 .040
C	68,94 2,714	69,69 2,744	54,71 2,154	54,97 2,164	63,37 2,495	63,63 2,505	7,77 .306	8,03 .316	12,17 .479	12,93 .509	10,64 .419	11,15 .439	6,05 .238	6,30 .248	57,45 2,262	57,96 2,282	10,46 .412	10,97 .432	0,89 .035	1,52 .060	0,51 .020	1,02 .040
D	66,55 2,620	67,31 2,650	52,30 2,059	52,55 2,069	60,99 2,401	61,24 2,411	10,62 .418	10,87 .428	14,99 .590	15,75 .620	10,64 .419	11,15 .439	6,05 .238	6,30 .248	55,07 2,168	55,58 2,188	13,31 .524	13,82 .544	0,89 .035	1,52 .060	0,51 .020	1,02 .040

Saver connectors



Face of socket insert





Face of pin insert

Shell size	A		B		C		D		E		F		G		H		J		K		L		M	
	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max	min	Max
E	66,55 2,620	67,31 2,650	52,68 2,074	52,93 2,084	60,99 2,401	61,24 2,411	10,95 .431	11,20 .441	14,99 .590	15,75 .620	21,72 .855	22,22 .875	5,69 .224	5,99 .236	6,05 .238	6,30 .248	10,62 .418	10,87 .428	52,30 2,059	52,55 2,069	10,21 .402	10,97 .432	9,61 .378	10,11 .398
A	68,94 2,714	69,70 2,744	55,30 2,177	55,55 2,187	63,37 2,495	63,63 2,505	8,23 .324	8,48 .334	12,17 .479	12,93 .509	21,72 .855	22,22 .875	5,69 .224	5,99 .236	6,05 .238	6,30 .248	7,77 .306	8,03 .316	54,71 2,154	54,97 2,164	10,21 .402	10,97 .432	9,61 .378	10,11 .398
B	52,65 2,073	53,42 2,103	38,84 1,529	39,09 1,539	46,91 1,847	47,17 1,857	8,23 .324	8,48 .334	12,17 .479	12,93 .509	21,72 .855	22,22 .875	5,69 .224	5,99 .236	6,05 .238	6,30 .248	7,77 .306	8,03 .316	38,25 1,506	38,51 1,516	10,21 .402	10,97 .432	9,61 .378	10,11 .398
C	38,76 1,526	39,52 1,556	25,12 .989	25,37 .999	33,20 1,307	33,45 1,317	8,23 .324	8,48 .334	12,17 .479	12,93 .509	21,12 .831	21,62 .851	5,82 .229	6,12 .241	6,05 .238	6,30 .248	7,77 .306	8,03 .316	24,54 .966	24,79 .976	10,21 .402	10,97 .432	9,61 .378	10,11 .398
D	30,43 1,198	31,19 1,228	16,79 .661	17,04 .671	24,87 .979	25,12 .989	8,23 .324	8,48 .334	12,17 .479	12,93 .509	21,12 .831	21,62 .851	5,82 .229	6,12 .241	6,05 .238	6,30 .248	7,77 .306	8,03 .316	16,21 .638	16,46 .648	10,21 .402	10,97 .432	9,61 .378	10,11 .398

Crimp contacts

- **3401 005** : crimp contacts for **3401 002** connectors (Flight Models)
- **8949 Series** : crimp contacts for **8630 / 8635** connectors (Engineering Models).

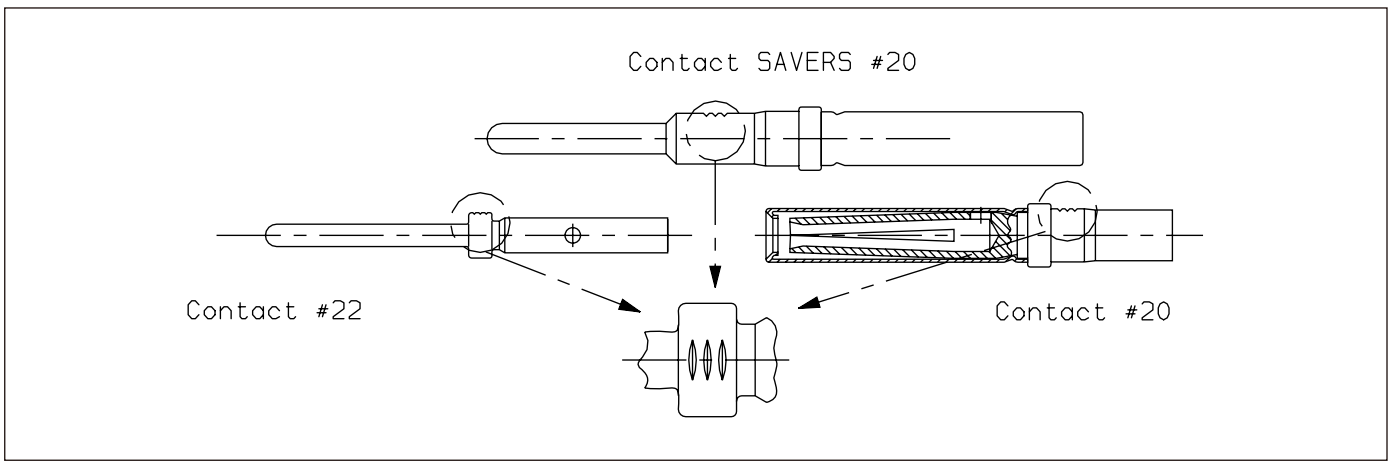
Contact Size	Designation		Part number / ordering code (see note)		
			ESA/SCC	NMB / 011 SOURIAU (1.27 microns gold)	NMB / O38 SOURIAU (2.54 microns gold)
# 20	# 20/24	Pin	3401 005 01B	**8949 1196 Y7 EL**	**8949 1196 UE EL**
		Socket	3401 005 02B	**8949 1198 EL**	**8949 407 EL**
# 20	# 26/28	Pin	3401 005 03B	**8949 1520 Y7 EL**	**8949 1520 UE EL**
		Socket	3401 005 04B	**8949 1523 EL**	**8949 1521 EL**
# 20	# 18	Pin	3401 005 05B	**8949 3227 Y7 EL**	**8949 3227 UE EL**
		Socket	3401 005 06B	**8949 3352 EL**	**8949 3229 EL**
# 22	# 22/26	Pin	3401 005 07B	**8949 1524 Y7 EL**	**8949 1524 UE EL**
		Socket	3401 005 08B	**8949 1525 EL**	**8949 1526 EL**

Note : the code EL is not marked on the packaging

Insertion & Extraction tool

	Part number
Plastic tool for # 20	8630-06A
Plastic tool for # 22	M 81969-14-01

Removable contact identification



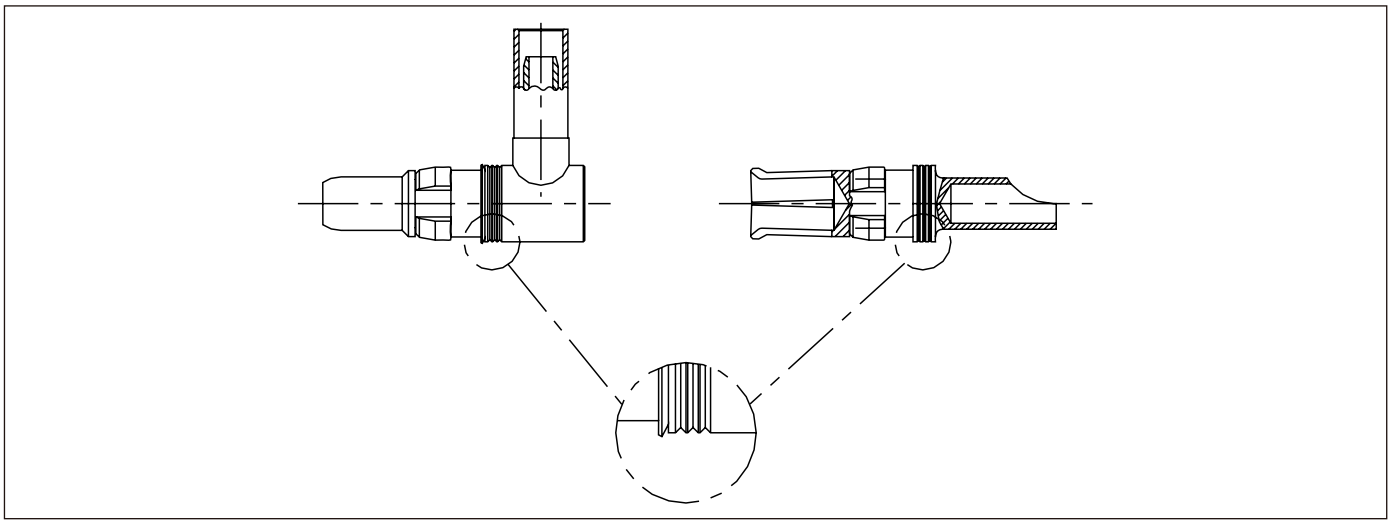
Saver contacts

- **3401 021** : crimp contacts for **3401 020** connectors (Flight Models)
- **8949 Series** : crimp contacts for **D*BMA** connectors (Engineering Models).

Contact Size	Designation	Part number		
		ESA/SCC	NMB / 011 (1.27 microns gold)	NMB / 038 (2.54 microns gold)
# 20	Pin - Socket	3401 021 01B	**8949 975 EL**	**8949 3030 EL**
# 22	Pin - Socket	3401 021 02B	**8949 3362 EL**	**8949 3373 EL**

Coaxial contacts

3401 004/8949-004 & 3401 040/8949-040 Contact identification



SOURIAU's contacts are identified by 3 engraved stripes.

Part Numbers

Version	ESA Part Number system (Flight Models)	SOURIAU Part Number system (Engineering Models)	Type	Shape	Wire type
Solder buckets	3401 004 01B	**8949 004 01NMB**	Male	straight	RG 178 BU RG 196 AU KX 21 A
	3401 004 02B	**8949 004 02NMB**	Female	straight	
	3401 004 03B	**8949 004 03NMB**	Male	90°	
	3401 004 04B	**8949 004 04NMB**	Female	90°	
	3401 004 05B	**8949 004 05NMB**	Male	straight	KX 22 A RG 179 BU RG 316 U RG 188 AU & 50 CIS
	3401 004 06B	**8949 004 06NMB**	Female	straight	
	3401 004 07B	**8949 004 07NMB**	Male	90°	
	3401 004 08B	**8949 004 08NMB**	Female	90°	
	3401 004 09B	**8949 004 09NMB**	Male	straight	RG 180 BU
	3401 004 10B	**8949 004 10NMB**	Female	straight	
Crimp contacts	3401 004 11B	**8949 004 11NMB**	Male	straight	RG 178 BU RG 196 AU KX 21 A
	3401 004 12B	**8949 004 12NMB**	Female	straight	
	3401 004 13B	**8949 004 13NMB**	Male	90°	
	3401 004 14B	**8949 004 14NMB**	Female	90°	
	3401 004 15B	**8949 004 15NMB**	Male	straight	KX 22 A RG 179 BU RG 316 U RG 188 AU & 50 CIS
	3401 004 16B	**8949 004 16NMB**	Female	straight	
	3401 004 17B	**8949 004 17NMB**	Male	90°	
	3401 004 18B	**8949 004 18NMB**	Female	90°	
	3401 004 19B	**8949 004 19NMB**	Male	straight	RG 180 BU
	3401 004 20B	**8949 004 20NMB**	Female	straight	

50 CIS	according to ESA/SCC 3902 001
RG 176 B/U, RG 178 B/U, RG 179 B/U, RG 180 B/U, RG 196 A/U, RG 316 U, RG 188 A/U	according to MIL-C-17
KX 21 A / 22 A	according to NFC 93550

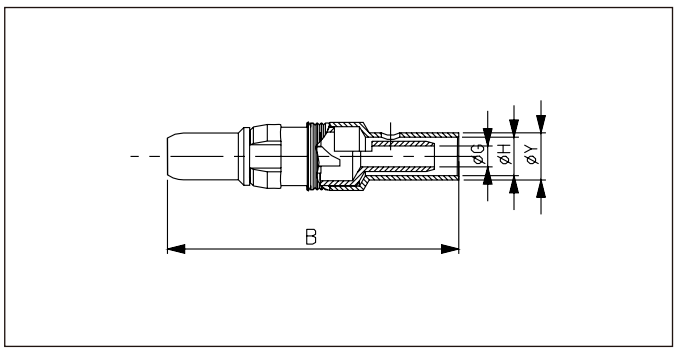
Extraction tool

	Part number
Extraction tool	8630-07A

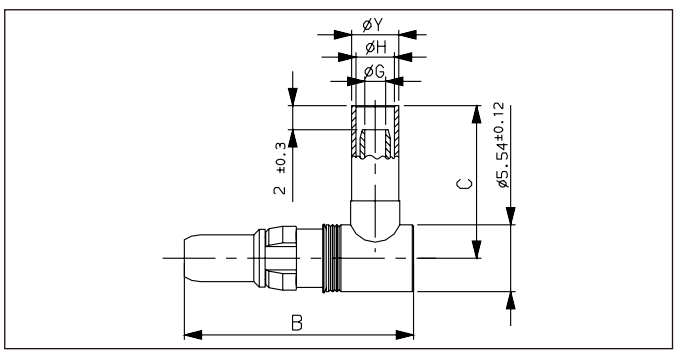
Coaxial contacts

Dimensions (in mm/inch)

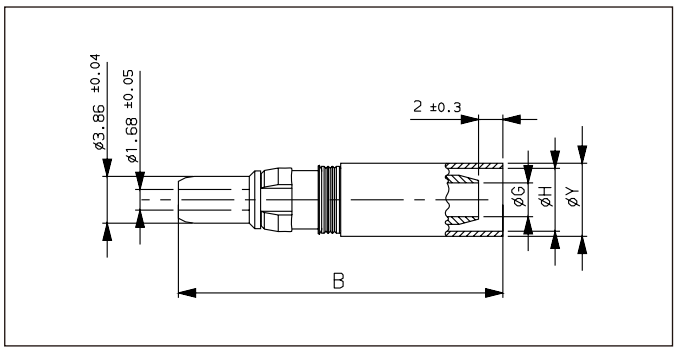
Pin coaxial contact



01, 05, 11 & 15 variants

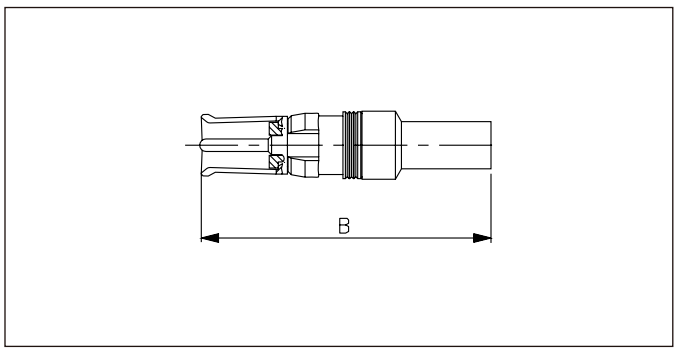


03, 07, 13 & 17 variants

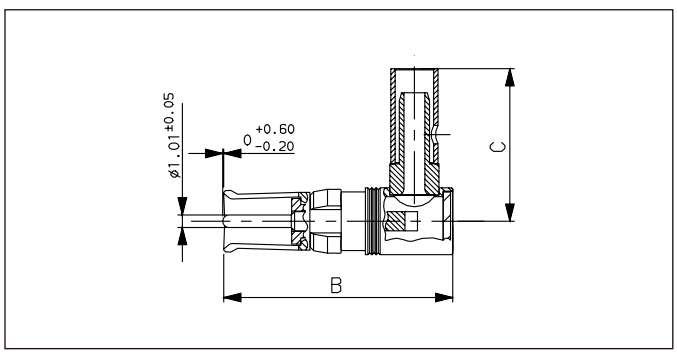


09 & 19 variants

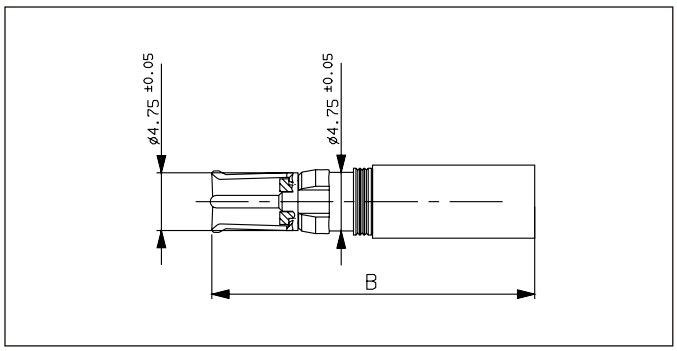
Socket coaxial contact



02, 06, 12 & 16 variants



04, 08, 14 & 18 variants



10 and 20 variants

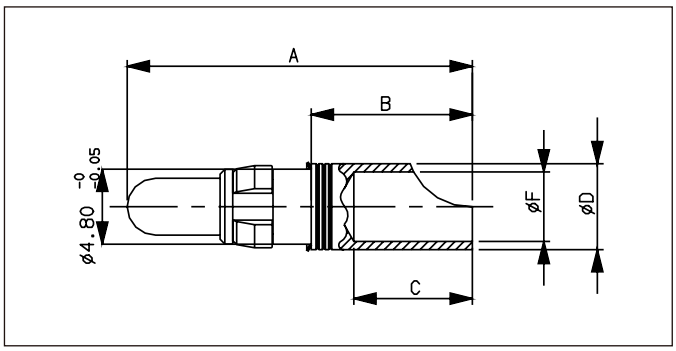
Variant	B Ref.	C Ref.	Ø G min	Ø H min	X Max.	Ø Y Max.
01 - 11	23,6 .929	-	0,9 .035	2,3 .091	18,8 .74	3,25 .128
02 - 12	23,6 .929	-	0,9 .035	2,3 .091	18,8 .74	3,25 .128
03 - 13	18,64 .734	12,5 .492	0,9 .035	2,3 .091	13,46 .53	3,25 .128
04 - 14	18,64 .734	12,5 .492	0,9 .035	2,3 .091	13,46 .53	3,25 .128
05 - 15	23,6 .929	-	1,55 .061	3,1 .122	18,8 .74	4,1 .161
06 - 16	23,6 .929	-	1,55 .061	3,1 .122	18,8 .74	4,1 .161
07 - 17	18,64 .734	12,5 .492	1,55 .061	3,1 .122	13,46 .53	4,1 .161
08 - 18	18,64 .734	12,5 .492	1,55 .061	3,1 .122	13,46 .53	4,1 .161
09 - 19	26,3 1.035	-	2,55 .1	5,1 .201	21,5 .846	6,2 .244
10 - 20	26,3 1.035	-	2,55 .1	5,1 .201	21,5 .846	6,2 .244

Power solder contacts

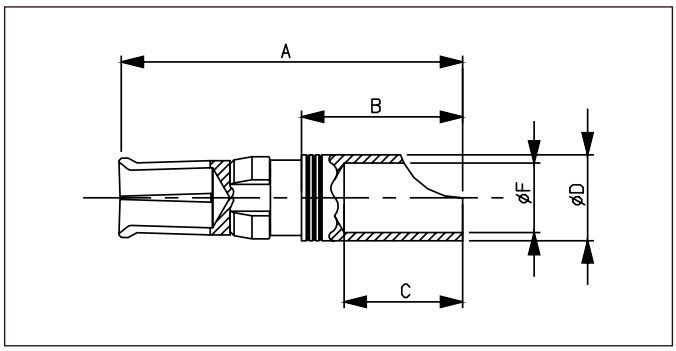
Part Numbers

Version	ESA part number (Flight Models)	SOURIAU part number (Engineering Models)	Type	Wire Size (AWG)
Solder buckets	3401 040 01B	**8949 040 01NMB**	Male	8
	3401 040 02B	**8949 040 02NMB**	Female	8
	3401 040 03B	**8949 040 03NMB**	Male	12
	3401 040 04B	**8949 040 04NMB**	Female	12
	3401 040 05B	**8949 040 05NMB**	Male	16
	3401 040 06B	**8949 040 06NMB**	Female	16

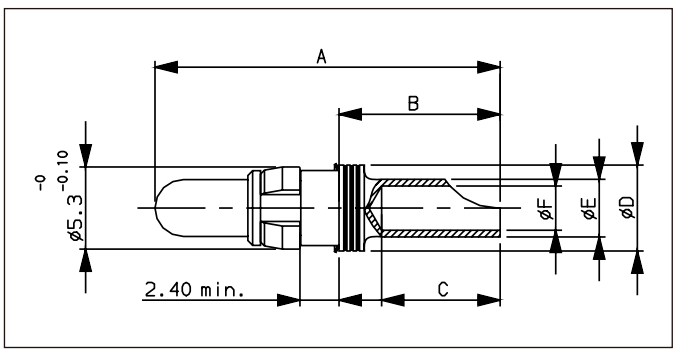
Dimensions (in mm/inch)



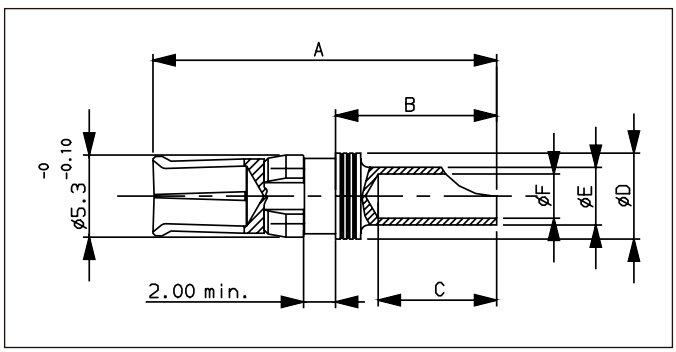
Variant 01



Variant 02



Variants 03-05



Variants 04-06

Variant	Type	A Max.	B Max.	C Max.	Ø D Max.	Ø E Max.	Ø F Max.
01	Pin	22,1 .87	10,8 .425	8,13 .32	5,66 .223	-	4,9 .193
02	Socket	21,8 .858	10,8 .425	8,13 .32	5,66 .223	-	4,9 .193
03	Pin	22,1 .87	10,8 .425	8,13 .32	5,66 .223	3,76 .148	3 ,118
04	Socket	21.8 ,858	10.8 ,425	8.13 .32	5.66 .223	3.76 .148	3 ,118
05	Pin	22,1 .87	10,8 .425	8,13 .32	5,66 .223	2,67 .105	1,9 .075
06	Socket	21,8 .858	10,8 .425	8,13 .32	5,66 .223	2,67 .105	1,9 .075

Tooling of extraction

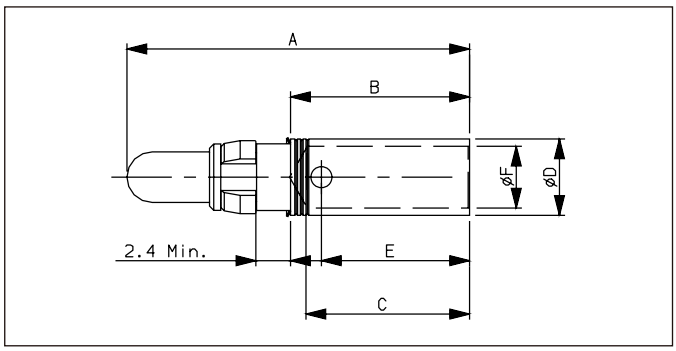
	Part number
Extraction tool	8630-07

Power crimp contacts

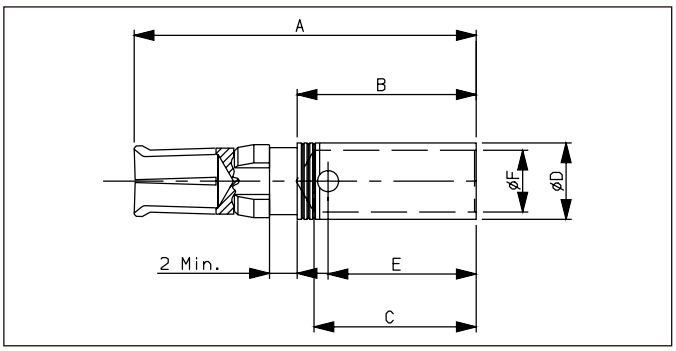
Part Numbers

Version	ESA part number (Flight Models)	SOURIAU part number (Engineering Models)	Type	Wire Size (AWG)
Crimp contacts	3401 040 07B	**8949 040 07NMB**	Male	8
	3401 040 08B	**8949 040 08NMB**	Female	8
	3401 040 09B	**8949 040 09NMB**	Male	10
	3401 040 10B	**8949 040 10NMB**	Female	10
	3401 040 11B	**8949 040 11NMB**	Male	12-14
	3401 040 12B	**8949 040 12NMB**	Female	12-14

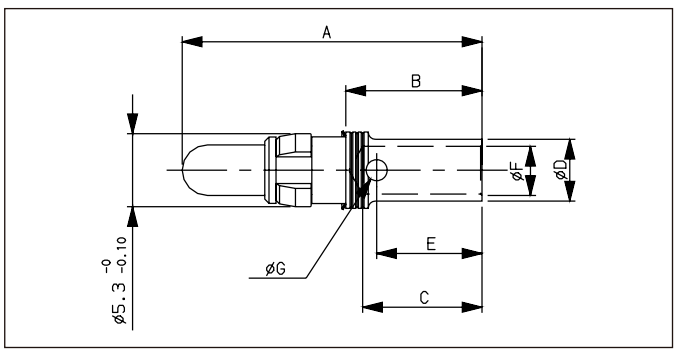
Dimensions (in mm/inch)



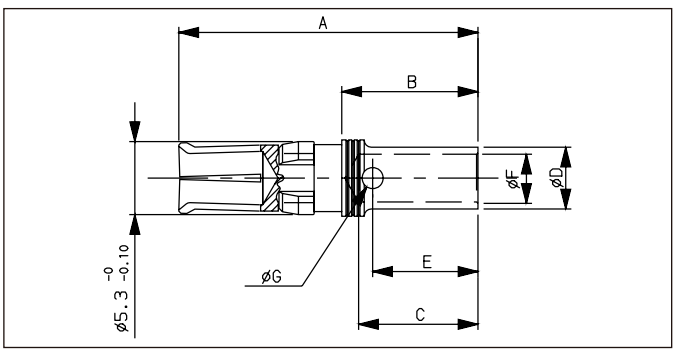
Variant 07



Variant 08



Variants 09-11



Variants 10-12

Variant	Type	A Max.	B Max.	C min	Ø D Max.	E Ref	Ø F min	Ø G Ref
07	Pin	24,7 .972	12,9 .508	11 .433	5,8 .228	10 .394	4,2 .165	1,7 .067
08	Socket	24,6 .969	12,9 .508	11 .433	5,8 .228	10 .394	4,2 .165	1,7 .067
09	Pin	21,6 .850	10 .394	8,4 .331	4,7 .185	7,5 .295	3,25 .128	1,3 .051
10	Socket	21,5 .846	10 .394	8,4 .331	4,7 .185	7,5 .295	3,25 .128	1,3 .051
11	Pin	19,3 .760	7,7 .303	6,4 .252	3,8 .15	6 .236	2,5 .098	1 .039
12	Socket	19,2 .756	7,7 .303	6,4 .252	3,8 .15	6 .236	2,5 .098	1 .039

Extraction tool

	Part number
Extraction tool	8630-07

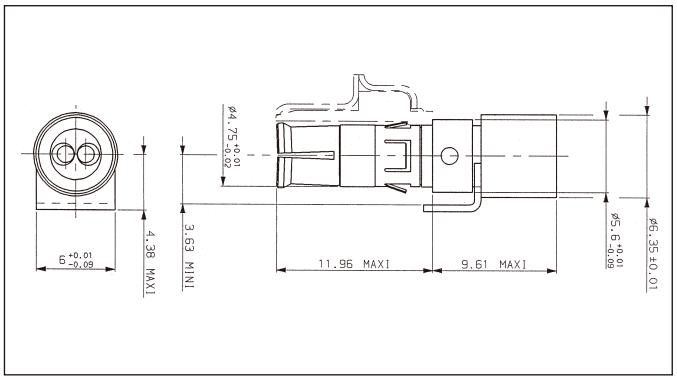
Twinax contacts

These D-Sub Twinax contact size # 8 compatible and designed for GORE Ref. GSC-05-80583-00 A or AXON Ref. P5 12806 double braiding cable and for AXON P5 12296 single braiding cable are crimping or soldering type contacts straight or 90°, male and female.

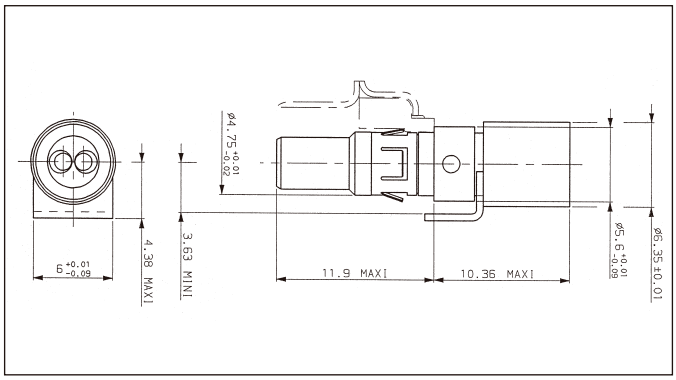
Part Numbers

	P/N for double braiding cable		P/N for simple braiding cable	
Contact type	**ESA/SCC P/N**	**SOURIAU P/N**	**ESA/SCC P/N**	**SOURIAU P/N**
Female straight termination	**3401 069 02B**	**8949 004 51 NMB**	**3401 069 06B**	**8949 0045 55 NMB**
Male straight termination	**3401 069 01B**	**8949 004 50 NMB**	**3401 069 05B**	**8949 0045 54 NMB**
Female 90° termination	**3401 069 04B**	**8949 004 53 NMB**	**3401 069 08B**	**8949 0045 57 NMB**
Male 90° termination	**3401 069 03B**	**8949 004 51 NMB**	**3401 069 07B**	**8949 0045 56 NMB**

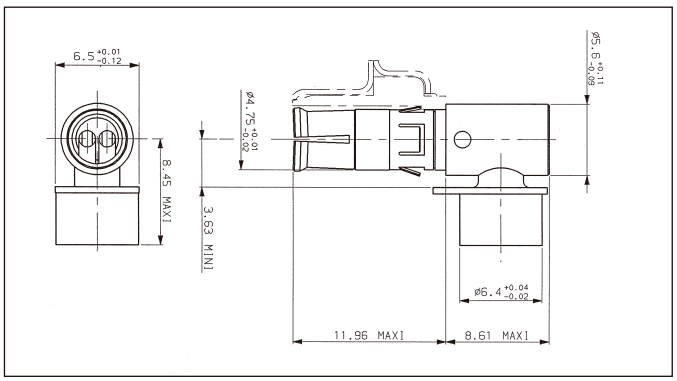
Dimensions (in mm)



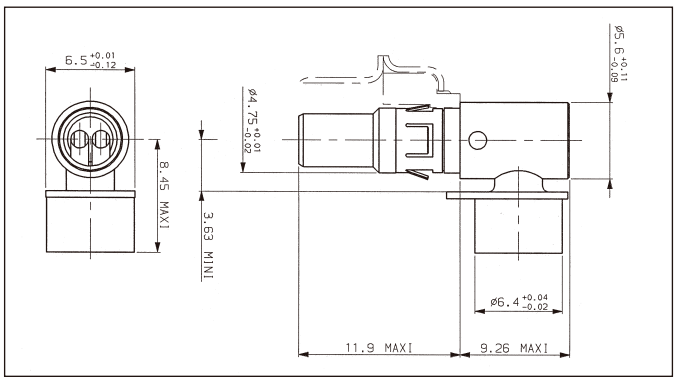
Female straight termination



Male straight termination



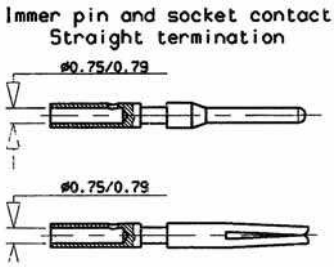
Female 90° termination



Male 90° termination

Wiring tool

	Inner pin and socket Straight termination	Inner socket 90° termination	Ext. pin and socket
Crimp tool	M 22520/2-01	Solder	M 22520/5-01
Locator	SN 1908 K 101		M 22520/5-45 Hex. B



For more wiring explanations SOURIAU document NC 8949-A-068 is available upon request to our Customer Service.

Extraction tool

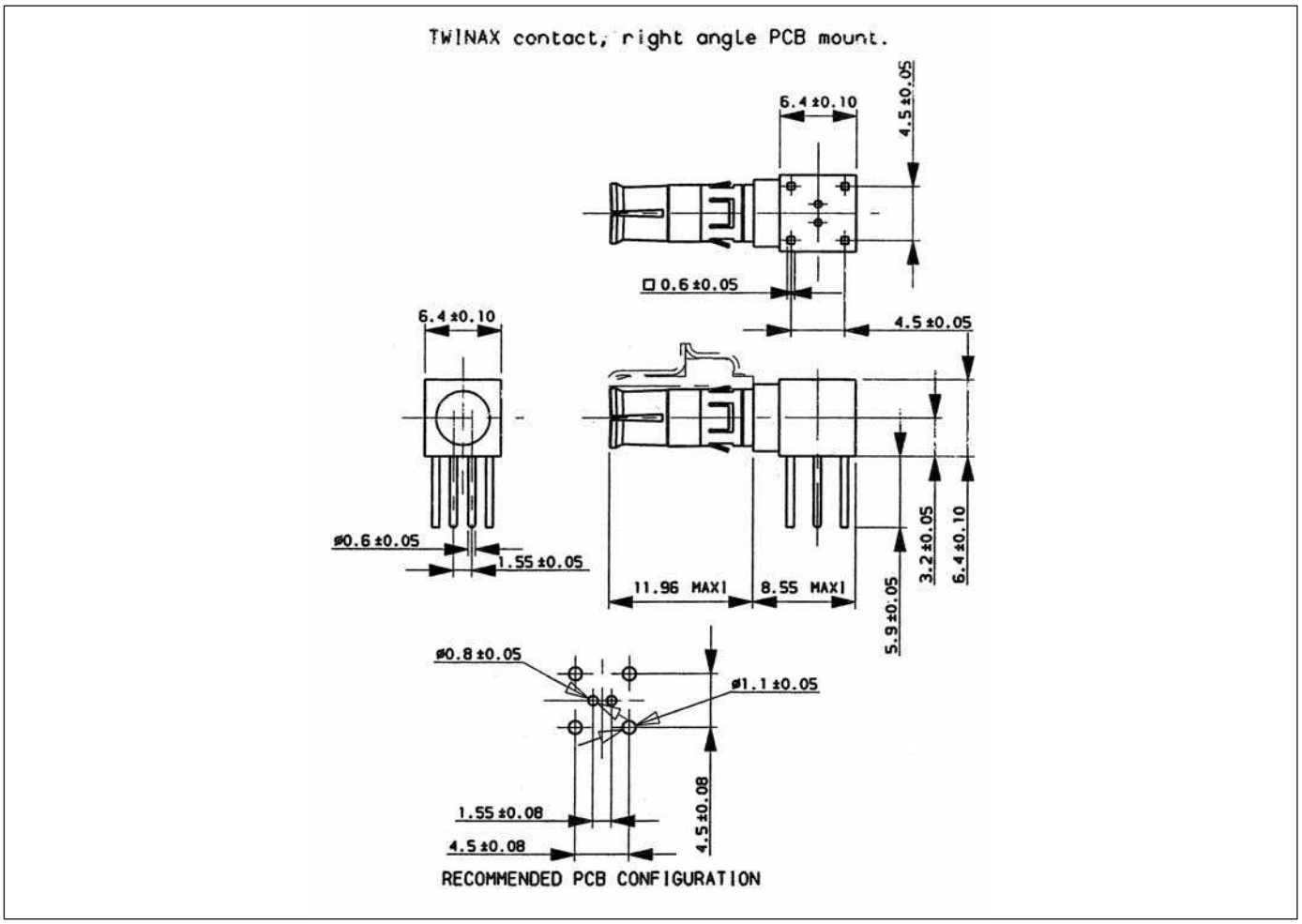
	Part number
Extraction tool	8630-07A

PCB Contact

Part Numbers

	P/N for twinax PCB mount.	
Contact type	**ESA/SCC P/N**	**SOURIAU P/N**
Female contact	-	**8949 00458 NMB**

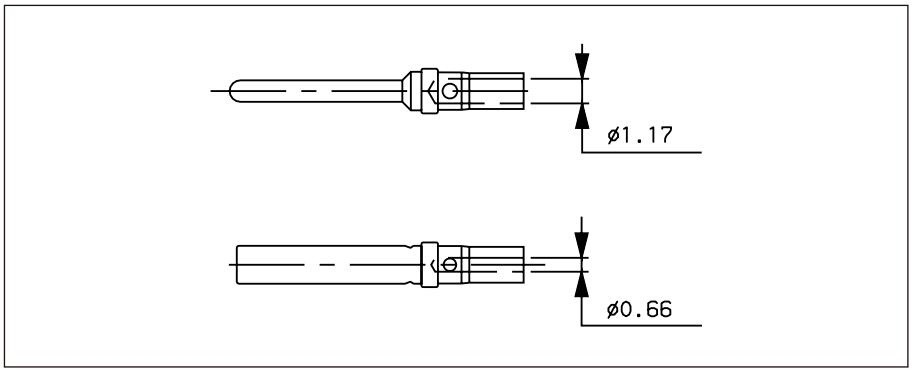
Dimensions (in mm)



Notes

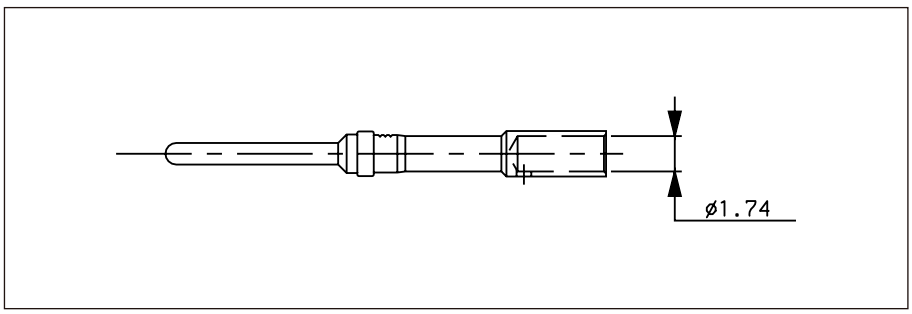
Contact # 20

Wire AWG 20/24 & 26/28*



ESA part number	Souriau part number
Crimp tool	
M 22520/2-01	**8476-01**
Locator	
M 22520/2-08 (*) Mark n°6	**8476-08**

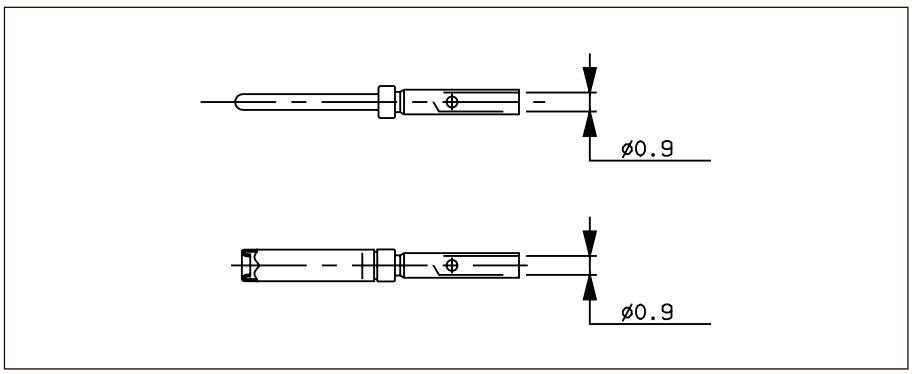
Wire AWG 18/20



ESA part number	Souriau part number
Crimp tool	
M 22520/1-01	**8365**
Locator	
TP 1003	**8949-1808**

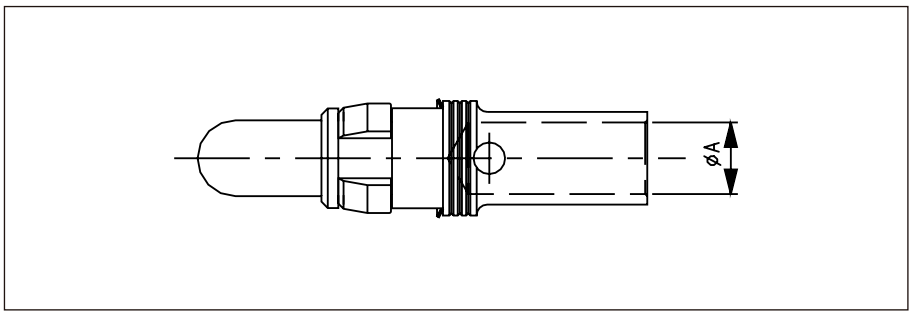
Contact # 22

Wire AWG 22/26



ESA part number	Souriau part number
Crimp tool	
M 22520/2-01	**8476-01**
Pin locator	
M 22520/2-09	**8476-09**
Socket locator	
M 22520/2-06	**8476-06**

Power contact # 8

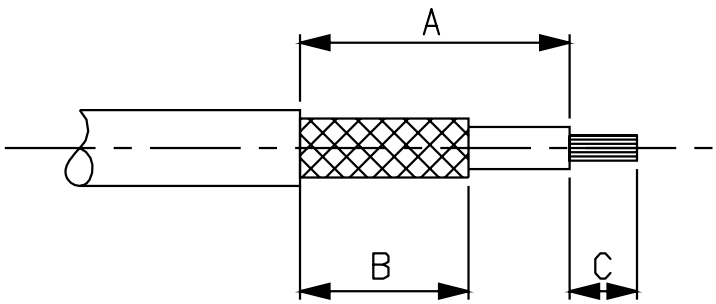


DANIELS part number	Souriau part number
Crimp tool	
M300BT	**8476-200**
Pin locator	
TH558	**8949-1745**

AWG	8	10	12/14
Ø A	4,2 1.653	3,25 .128	2,5 .098

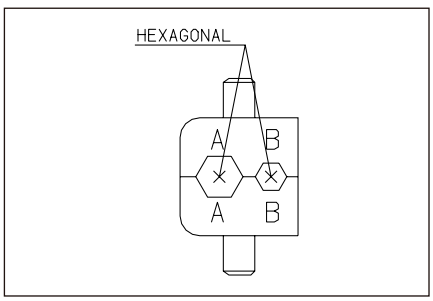
Stripping

Coaxial contacts ESA/SCC part number		Wire type			Stripping dimensions (in mm/inch)		
Solder contact	Crimp contact	MIL-C-17	NFC 93550	ESA 3902 001	A ± 0.25	B ± 0.25	C ± 0.25
3401 004 01B	3401 004 11B	RG 178 B/U RG 196 A/U	KX 21 A		7,92 .312	6,35 .250	1,98 .078
3401 004 02B	3401 004 12B						
3401 004 03B	3401 004 13B				9,52 .375	5,94 .234	1,57 .062
3401 004 04B	3401 004 14B						
3401 004 05B	3401 004 15B	RG 179 B/U RG 316 U RG 188 A/U	KX 22 A	50 CIS	7,92 .312	6,35 .250	1,98 .078
3401 004 06B	3401 004 16B						
3401 004 07B	3401 004 17B				9,52 .375	5,94 .234	1,57 .062
3401 004 08B	3401 004 18B						
3401 004 09B	3401 004 19B	RG 180 B/U			9,52 .375	7,92 .312	1,92 .076
3401 00410B	3401 004 20B						

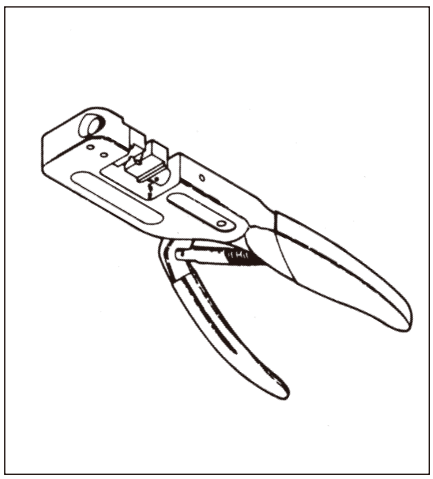


Crimping

Wire	Crimp tool	Jaws	Hex
RG 178 B/U RG 196 A/U KX 21 A	M22520/5-01	M22520/5-03	B
RG 179 B/U RG 316 U RG 188 A/U KX 22 A - 50 CIS	M22520/5-01	M22520/5-03	A
RG 180 B/U	M22520/5-01	M22520/5-43	B

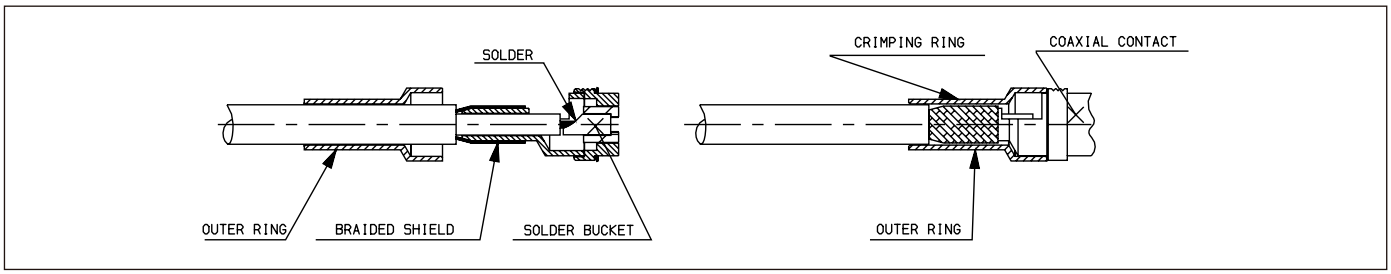


M 22520/5-01

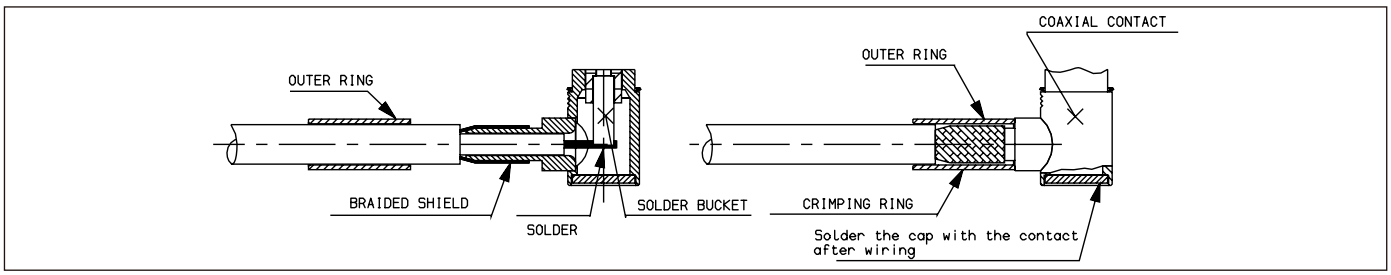


Crimp coaxial contacts

Straight outlet



90° outlet

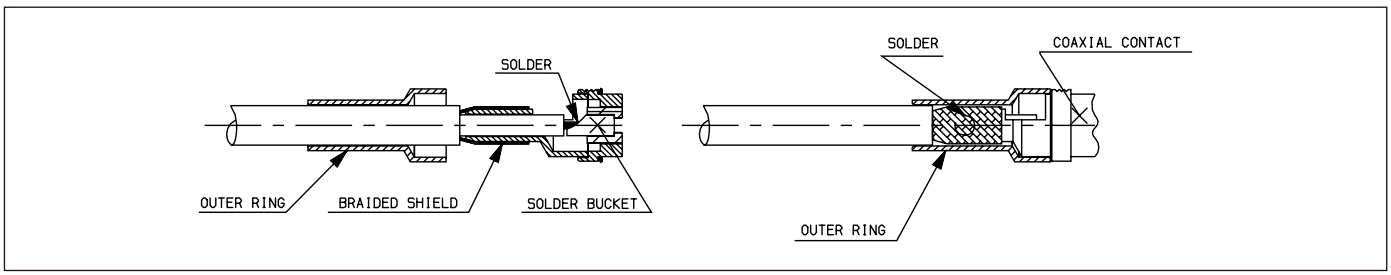


Wiring instructions

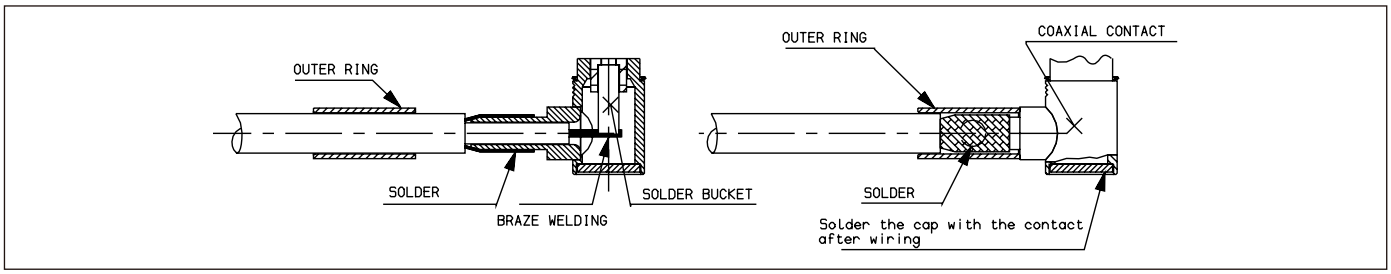
- Slide the outer ring over the cable jacket.
- Trim the cable as specified.
- Insert the cable dielectric and center conductor into the inside diameter of the inner sleeve.
- Solder the center conductor to the coax center contact.
- Cover the braided shield with the outer ring.
- Crimp with the appropriate tool.

Solder coaxial contacts

Straight outlet



90° outlet

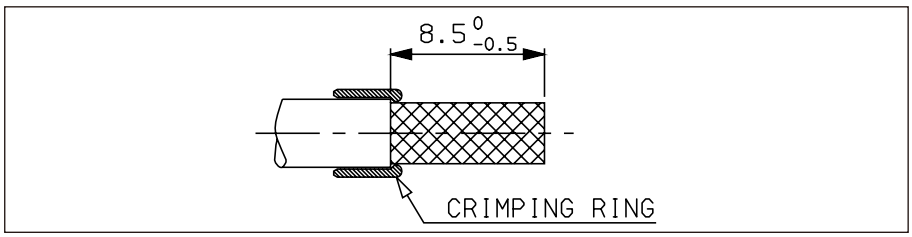


Wiring instructions

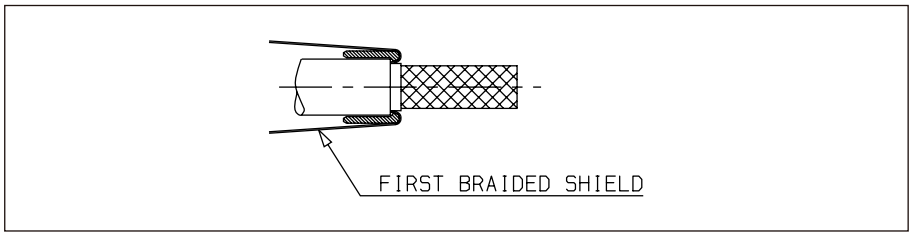
- Slide the outer ring over the cable jacket.
- Trim the cable as specified.
- Insert the cable dielectric and center conductor into the inside diameter of the inner sleeve.
- Solder the center conductor to the coax center contact.
- Place the sleeve against the shell contact.
- Solder the outer ring to the assembly through the cross - drilled solder hold.

Twinax contacts

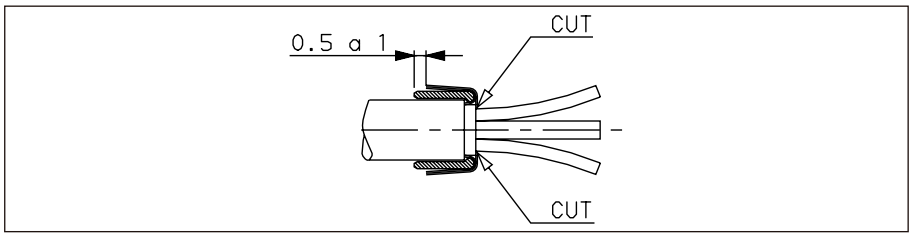
• Straight rear-end female and male



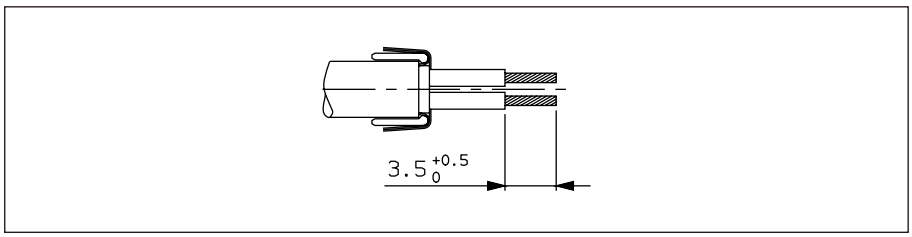
- Strip jacket at appropriate dimension
- Slide crimping ring on cable



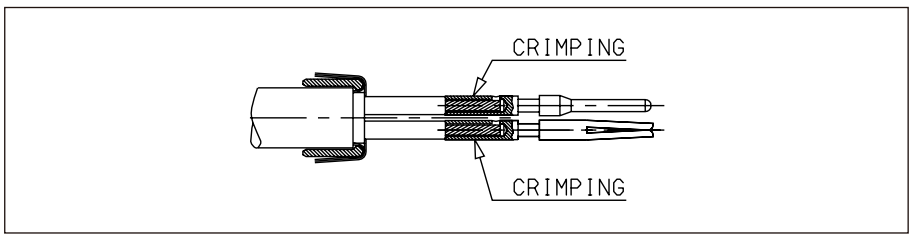
- Cover crimping ring with the first braided shield
- Strip the second braided shield



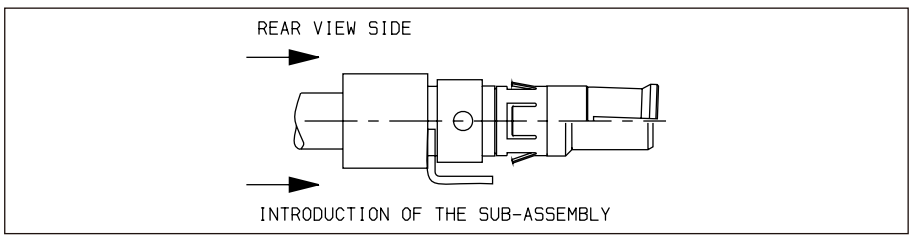
- Cover the first braided shield with the second one
- Cut the two braided shield at appropriate dimension
- Cut the filers



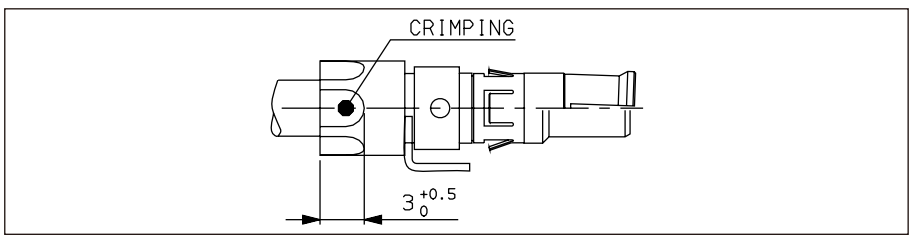
- Strip the two internal wires at appropriate dimension



- Crimping the two signal contacts
- Used tools :
  - **Locator** : SN1908K101
  - **Crimping tool** : M22520/2-01



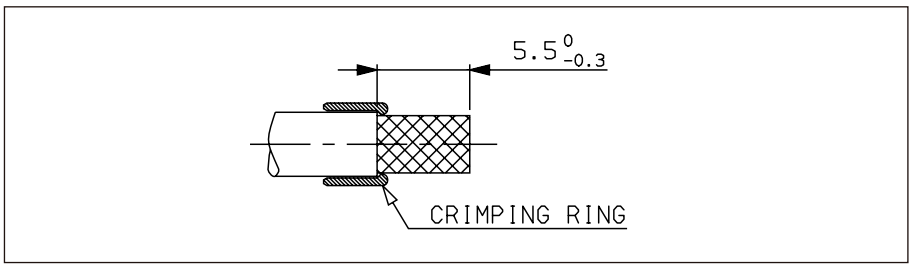
- Mount cabled sub-assembly into the external contact :
  - Blue wire on the right for female contact (rear view side)
  - Blue wire on the left for male contact (rear view side)



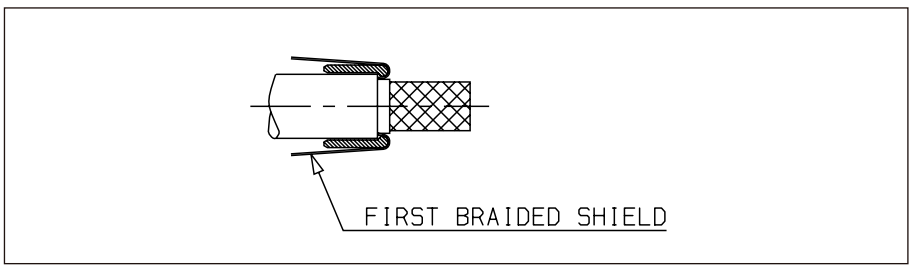
- Crimping the external contact at appropriate dimension
- Used tools :
  - **Dies** : M22520/5-45 (Mark B)
  - **Crimping tool** : M22520/5-01

Twinax contacts

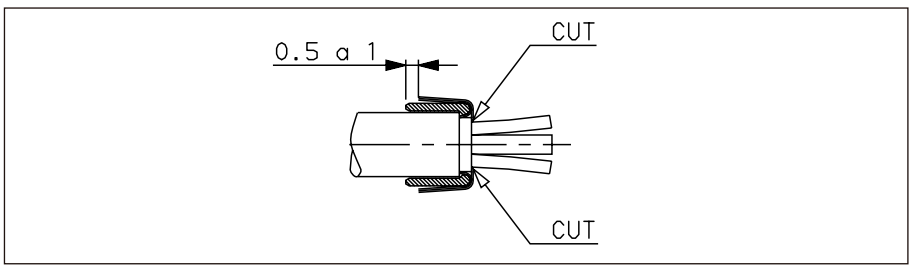
• 90° rear-end female and male



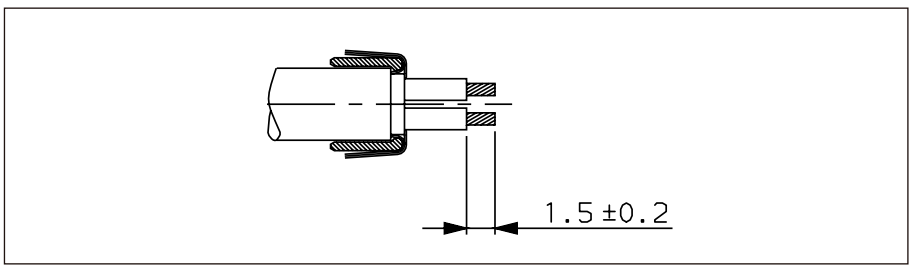
- Strip jacket at appropriate dimension
- Slide crimping ring on cable



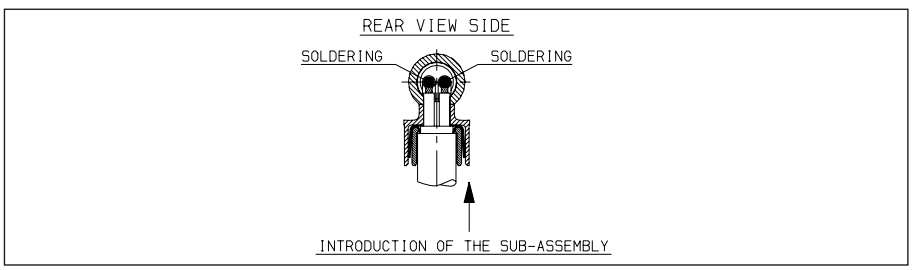
- Cover crimping ring with the first braided shield
- Strip the second braided shield



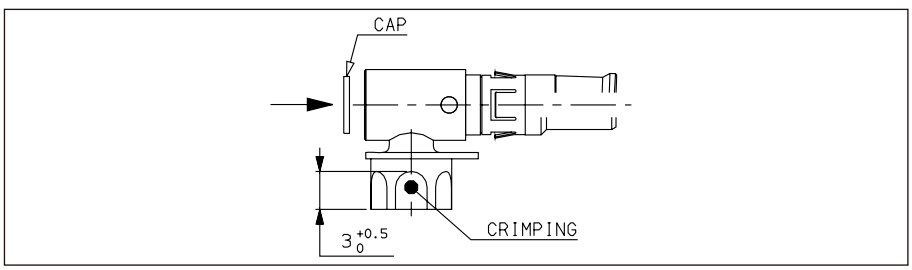
- Cover the first braided shield with the second one
- Cut the two braided shield at appropriate dimension
- Cut the filers



- Strip the two internal wires at appropriate dimension



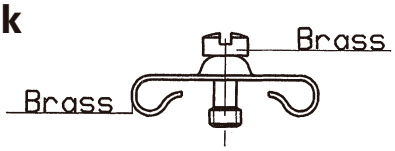
- Mount cabled sub-assembly into the external contact :
  - Blue wire on the right for female contact (rear view side)
  - Blue wire on the left for male contact (rear view side)
- Solder the two conductors to the two contacts using appropriate solder iron



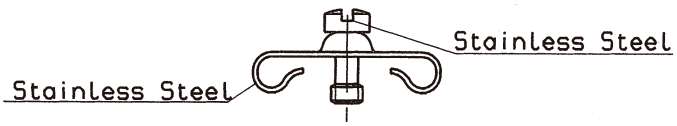
- Crimping the external contact at appropriate dimension
- Used tools :
  - **Dies** : M22520/5-45 (Mark B)
  - **Crimping tool** : M22520/5-01
- Fit the cap and solder it

ESA/SCC 3401 022 & Space grade

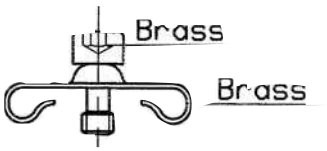
Male screw lock



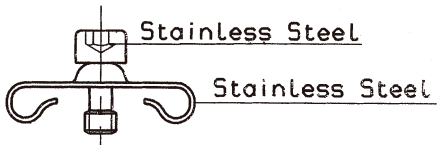
	Shell size	ESA/SCC P/N	SOURIAU P/N
WITHOUT BACKSHELL	B, C : S E, A : P, S	3401 022 02BNMB	D8949 P102 NM
	B, C : P	3401 022 03BNMB	D8949 P103 NM
	D : S	3401 022 04BNMB	D8949 P104 NM
	D: P	3401 022 05BNMB	D8949 P105 NM
WITH BACKSHELL	B, C : S E, A : P, S	3401 022 44BNMB	D8949 P144 NM
	B, C : P	3401 022 45BNMB	D8949 P145 NM
	D : S	3401 022 45BNMB	D8949 P146 NM
	D: P	3401 022 47BNMB	D8949 P147 NM



	Shell size	ESA/SCC P/N	SOURIAU P/N
WITHOUT BACKSHELL	B, C : S E, A : P, S	3401 022 49B	D8949 P149 NM
	B, C : P	3401 022 50B	D8949 P150 NM
	D : S	3401 022 51B	D8949 P151 NM
	D: P	3401 022 52B	D8949 P152 NM
WITH BACKSHELL	B, C : S E, A : P, S	3401 022 54B	D8949 P154 NM
	B, C : P	3401 022 55B	D8949 P155 NM
	D : S	3401 022 56B	D8949 P156 NM
	D: P	3401 022 57B	D8949 P157 NM



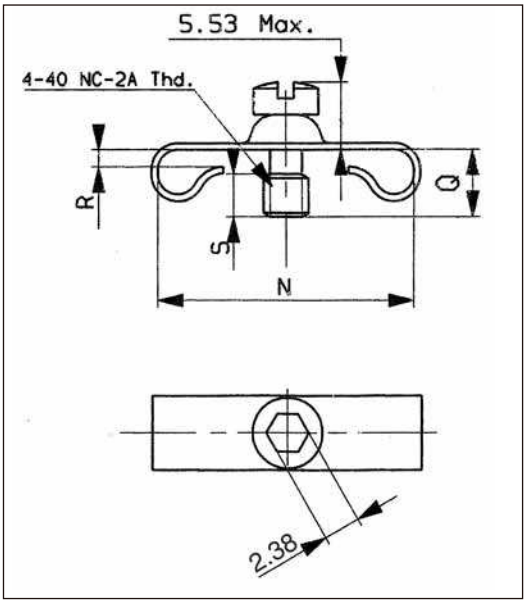
	Shell size	ESA/SCC P/N	SOURIAU P/N
WITHOUT BACKSHELL	B, C : S E, A : P, S	3401 022 65BNMB	D8949 P165 NM
	B, C : P	3401 022 66BNMB	D8949 P166 NM
	D : S	3401 022 67BNMB	D8949 P167 NM
	D: P	3401 022 68BNMB	D8949 P168 NM
WITH BACKSHELL	B, C : S E, A : P, S	3401 022 69BNMB	D8949 P265 NM
	B, C : P	3401 022 70BNMB	D8949 P266 NM
	D : S	3401 022 71BNMB	D8949 P267 NM
	D: P	3401 022 72BNMB	D8949 P268 NM



	Shell size	ESA/SCC P/N	SOURIAU P/N
WITHOUT BACKSHELL	B, C : S E, A : P, S	3401 022 73B	D8949 P349 NM
	B, C : P	3401 022 74B	D8949 P350 NM
	D : S	3401 022 75B	D8949 P351 NM
	D: P	3401 022 76B	D8949 P352 NM
WITH BACKSHELL	B, C : S E, A : P, S	3401 022 77B	D8949 P354 NM
	B, C : P	3401 022 78B	D8949 P355 NM
	D : S	3401 022 79B	D8949 P356 NM
	D: P	3401 022 80B	D8949 P357 NM

Dimensions (in mm/inch)

Use with shell size	N		Q		R		S
	min	Max.	min	Max.	min	Max.	
Without backshell							
A, E : (P or S) B, C : S	12.96	13.72	3.22	3.98	0.75	0.95	2.80 mini
B, C : P	12.96	13.72	3.22	3.98	0.95	1.15	2.80 mini
D : S	15.75	16.26	3.22	3.98	0.95	0.95	2.80 mini
D : P	15.75	16.26	3.22	3.98	0.95	1.15	2.80 mini
With backshell							
A, E : (P or S) B, C : S	12.96	13.72	4.22	4.98	0.75	1.95	2.80 mini
B, C : P	12.96	13.72	4.22	4.98	0.95	2.20	2.80 mini
D : S	15.75	16.26	4.22	4.98	0.95	1.95	2.80 mini
D : P	15.75	16.26	4.22	4.98	0.95	2.20	2.80 mini



ESA/SCC 3401 022 & Space grade

Female screw lock

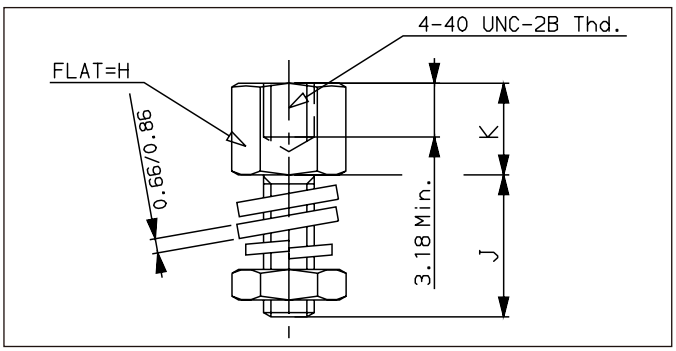
Part Number

ESA/SCC 3401 022 (Flight models) **NM : Space Grade (Engineering models)**

ESA/SCC P/N		Materials	SOURIAU P/N	
Standard	3401 022 01BNMB	Brass	Standard	D8949 S60 NM
For savers	3401 022 06BNMB		For savers	D8949 S61 NM
Standard	3401 022 48B	Stainless steel	Standard	D8949 S70 NM
For savers	3401 022 53B		For savers	D8949 S71 NM

Dimensions (in mm/inch)

Variant	H		J		K	
	min	Max.	min	Max.	min	Max.
01 & 48	4,37 .172	5,13 .202	7,54 .297	8,3 .327	4,6 .181	5,1 .201
06 & 53	4,37 .172	5,13 .202	14,35 .565	14,65 .577	4,6 .181	5,1 .201



Male screw lock assemblies for lightweight back shell

Use with shell size with lightweight back shell		ESA/SCC P/N	SOURIAU P/N
E to C : (P or S)	Brass	3401 072 01BNMB	D8949 P112 NM
	Stainless steel	3401 072 03B	D8949 P114 NM
D : (P or S)	Brass	3401 072 02BNMB	D8949 P113 NM
	Stainless steel	3401 072 04B	D8949 P115 NM

Use with shell size with lightweight back shell	N		Q		R		S
	min	Max.	min	Max.	min	Max.	
E to C : (P or S)	12.96	13.72	4.40	5.16	2.25	2.45	2.80 mini
E : (P or S)	15.75	16.26	4.40	5.16	2.25	2.45	2.80 mini

ESA/SCC 3401 022 & Space grade

Dust cap

Part Number

ESA/SCC 3401 022 (Flight models)

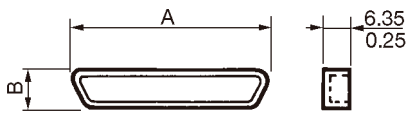
Shell size	For male connectors	For female connectors
E	3401 022 08B	3401 022 07B
A	3401 022 10B	3401 022 09B
B	3401 022 12B	3401 022 11B
C	3401 022 14B	3401 022 13B
D	3401 022 16B	3401 022 15B

NM : Space Grade (Engineering models)

Shell size	For male connectors	For female connectors
E	70508	70513
A	70509	70514
B	70510	70515
C	70511	70516
D	70512	70517

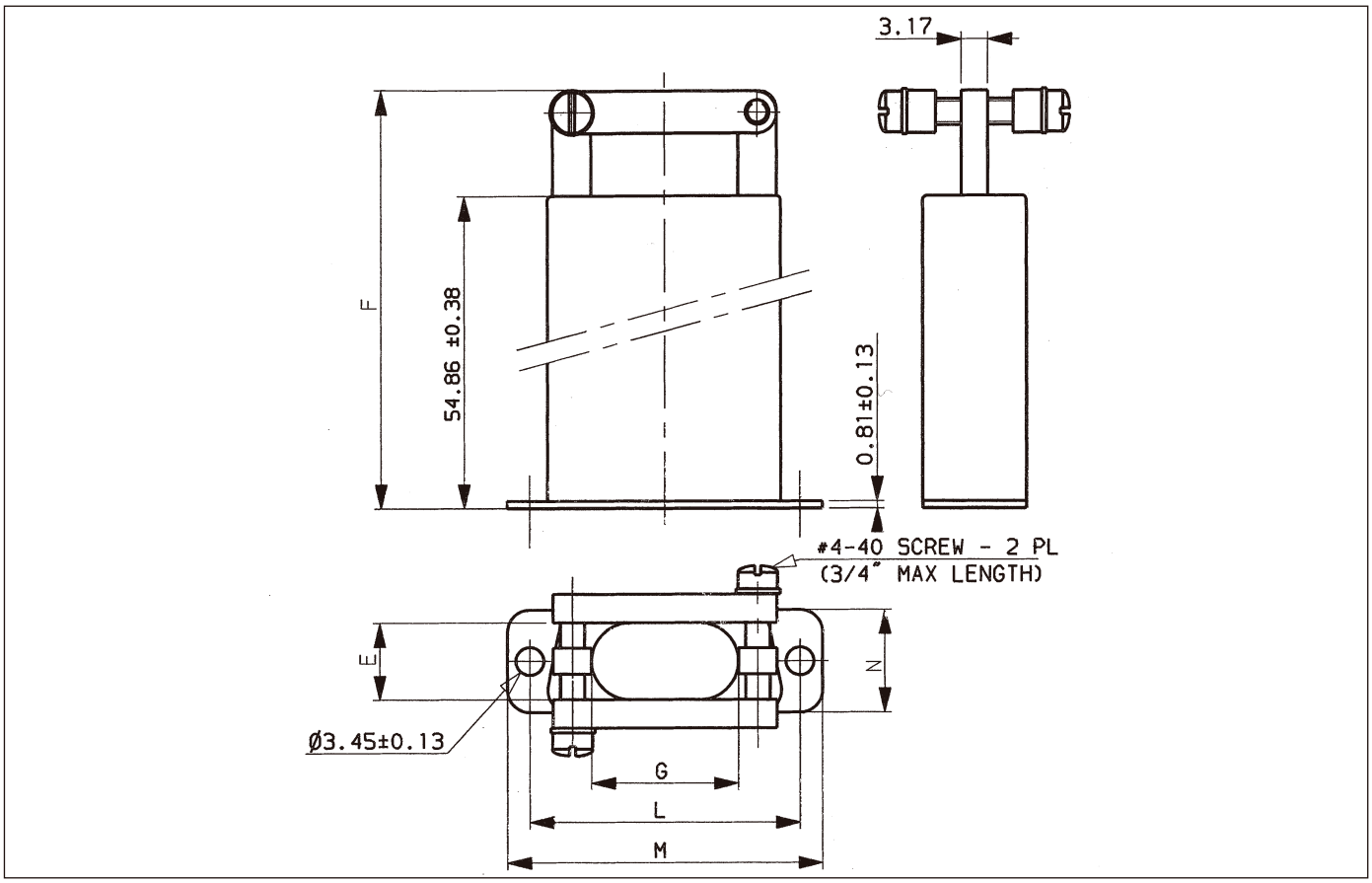
Dimensions (in mm/inch)

Shell size	Male connectors		Female connectors	
	A	B	A	B
E	19,2 .756	10,3 .406	17,8 .701	9 .354
A	27,5 1.083	10,3 .406	26,1 1.028	9 .354
B	41,7 1.642	10,7 .421	39,8 1.567	9 .354
C	58,1 2.287	10,7 .421	56,3 2.217	9 .354
D	55,5 2.185	13,4 .528	53,9 2.122	11,9 .469



ESA/SCC 3401 072 & Space Grade

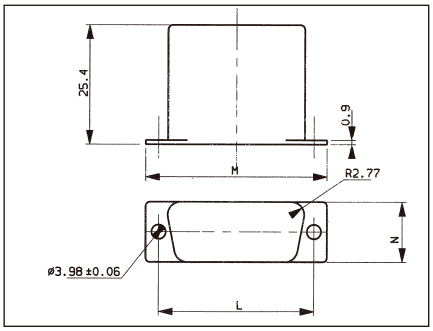
Lightweight design with saddle clamps for strain relief



Shell size	E±0,38	F±0,60	G±0,38	M±0,38	N±0,14	L±0,25	ESA/SCC P/M	SOURIAU P/N
E	9,52	67,56	8,89	30,56	13,05	24,99	3401 072 05B NMB	DE 8949 014 NMB
A	9,52	67,56	12,06	38,89	13,05	33,32	3401 072 06B NMB	DA 8949 014 NMB
B	9,52	69,16	12,70	52,78	13,05	47,04	3401 072 07B NMB	DB 8949 014 NMB
C	9,52	69,16	12,70	69,04	13,05	63,50	3401 072 08B NMB	DC 8949 014 NMB
D	11,88	69,16	15,46	66,67	15,82	61,11	3401 072 09B NMB	DD 8949 014 NMB

Lightweight D-Sub shorting can

Shell size	M±0,38	N±0,38	L±0,25	ESA/SCC P/M	SOURIAU P/N
E	30,56	12,70	24,99	3401 072 10B NMB	DE 8949 301 NMB
A	38,89	12,70	33,32	3401 072 11B NMB	DA 8949 301 NMB
B	52,78	12,70	47,04	3401 072 12B NMB	DB 8949 301 NMB
C	69,04	12,70	63,50	3401 072 13B NMB	DC 8949 301 NMB
D	66,67	15,47	61,11	3401 072 14B NMB	DD 8949 301 NMB

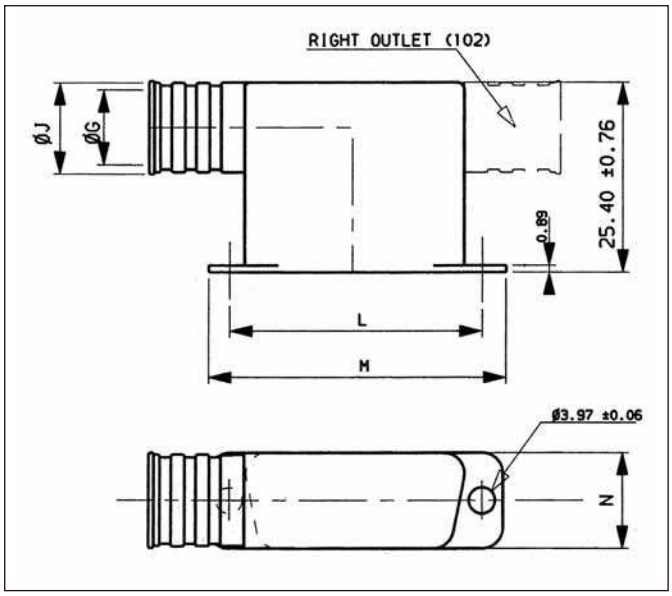


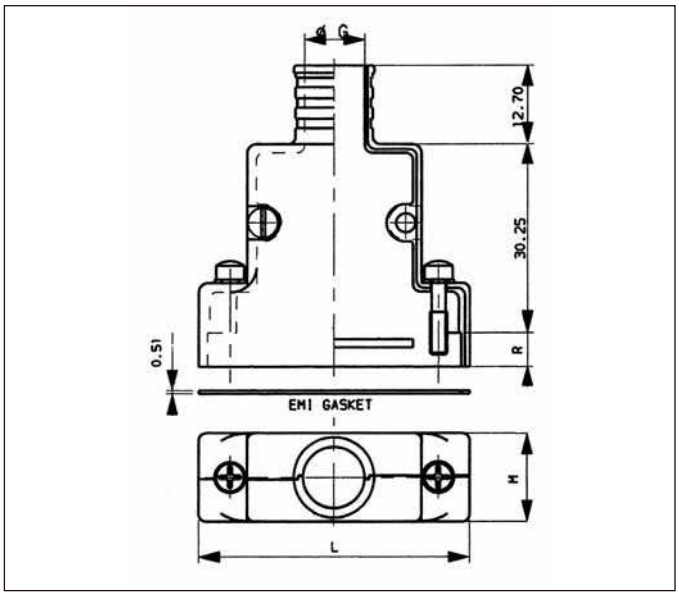
ESA/SCC 3401 072 & Space Grade

EMI shielded backshell-straight cable outlet

Shell size	ESA/SCC P/N Front/mount	SOURIAU P/N Front/mount	Ø G±0,25	M±0,25	L±0,25	R±0,13 Front/mount	
E	3401 072 15B NMB	DE 8949 405 1NMB	6,73	15,98	35,03	7,74	
A	3401 072 16B NMB	DA 8949 405 1NMB	9,90	15,98	43,36	7,74	
B	3401 072 17B NMB	DB 8949 405 1NMB	10,54	15,98	57,25	7,74	
C	3401 072 18B NMB	DC 8949 405 1NMB	10,54	15,98	73,53	7,74	
D	3401 072 19B NMB	DD 8949 405 1NMB	13,33	18,79	71,14	7,74	

Shell size	ESA/SCC P/N Rear/mount	SOURIAU P/N Rear/mount	Ø G±0,25	M±0,25	L±0,25	R±0,13 Rear/mount
E	3401 072 20B NMB	DE 8949 405 2NMB	6,73	15,98	35,03	6,32
A	3401 072 21B NMB	DA 8949 405 2NMB	9,90	15,98	43,36	6,32
B	3401 072 22B NMB	DB 8949 405 2NMB	10,54	15,98	57,25	6,32
C	3401 072 23B NMB	DC 8949 405 2NMB	10,54	15,98	73,53	6,32
D	3401 072 24B NMB	DD 8949 405 2NMB	13,33	18,79	71,14	6,32





Light shielded backshell-90° longitudinal cable outlet

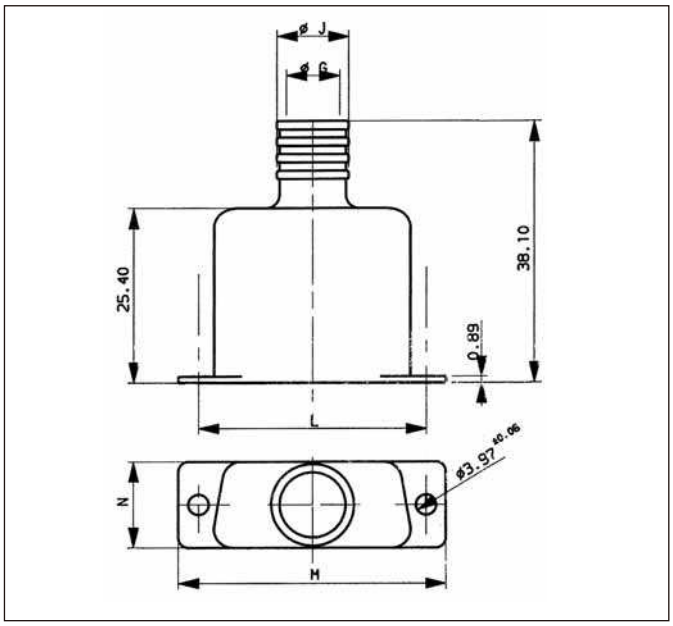
Shell size	Right outlet ESA/SCC P/N	SOURIAU P/N	Ø G±0,25	J±0,38	M±0,36	N±0,38	L±0,13
E	3401 072 25B NMB	DE 8949 102K NMB	6,85	8,89	30,56	12,70	24,99
A	3401 072 26B NMB	DA 8949 102E NMB	10,03	12,06	38,89	12,70	33,32
B	3401 072 27B NMB	DB 8949 102F NMB	10,66	12,70	52,78	12,70	47,04
C	3401 072 28B NMB	DC 8949 102F NMB	10,66	12,70	69,04	12,70	63,50
D	3401 072 29B NMB	DD 8949 102H NMB	13,43	15,46	66,67	15,47	61,11

Shell size	Lelf outlet ESA/SCC P/N	SOURIAU P/N	Ø G±0,25	J±0,38	M±0,36	N±0,38	L±0,13
E	3401 072 30B NMB	DE 8949 101K NMB	6,85	8,89	30,56	12,70	24,99
A	3401 072 31B NMB	DA 8949 101E NMB	10,03	12,06	38,89	12,70	33,32
B	3401 072 32B NMB	DB 8949 101F NMB	10,66	12,70	52,78	12,70	47,04
C	3401 072 33B NMB	DC 8949 101F NMB	10,66	12,70	69,04	12,70	63,50
D	3401 072 34B NMB	DD 8949 101H NMB	13,43	15,46	66,67	15,47	61,11

ESA/SCC 3401 072 & Space Grade

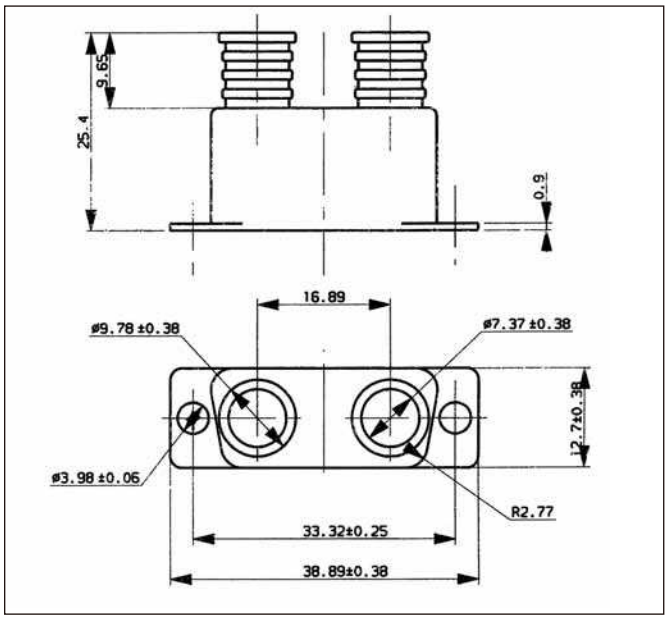
Lightweight shielded backshell-straight cable outlet

Shell size	ESA/SCC P/N	SOURIAU P/N	Ø G±0,25	J±0,38	M±0,38	N±0,38	L±0,13
E	3401 072 35B NMB	DE 8949 001 NMB	6,85	8,89	30,56	12,70	24,99
A	3401 072 36B NMB	DA 8949 001 NMB	10,03	12,06	38,89	12,70	33,32
B	3401 072 37B NMB	DB 8949 001 NMB	10,66	12,70	52,78	12,70	47,04
C	3401 072 38B NMB	DC 8949 001 NMB	10,66	12,70	69,04	12,70	63,50
D	3401 072 39B NMB	DD 8949 001 NMB	13,43	15,46	66,67	15,47	61,11



Lightweight backshell dual entry band termination, 15 pin

Shell size	ESA/SCC P/N	SOURIAU P/N
A	3401 072 40B NMB	DA 8949 020 NMB

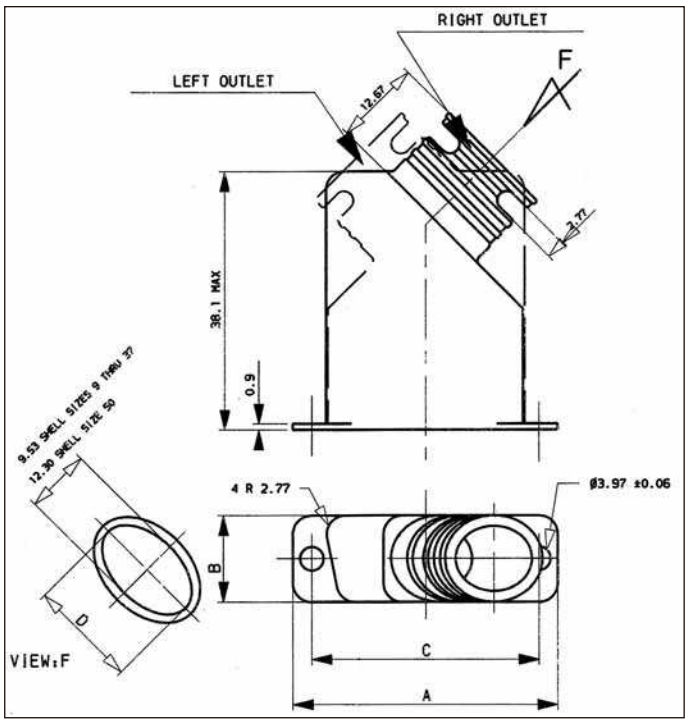


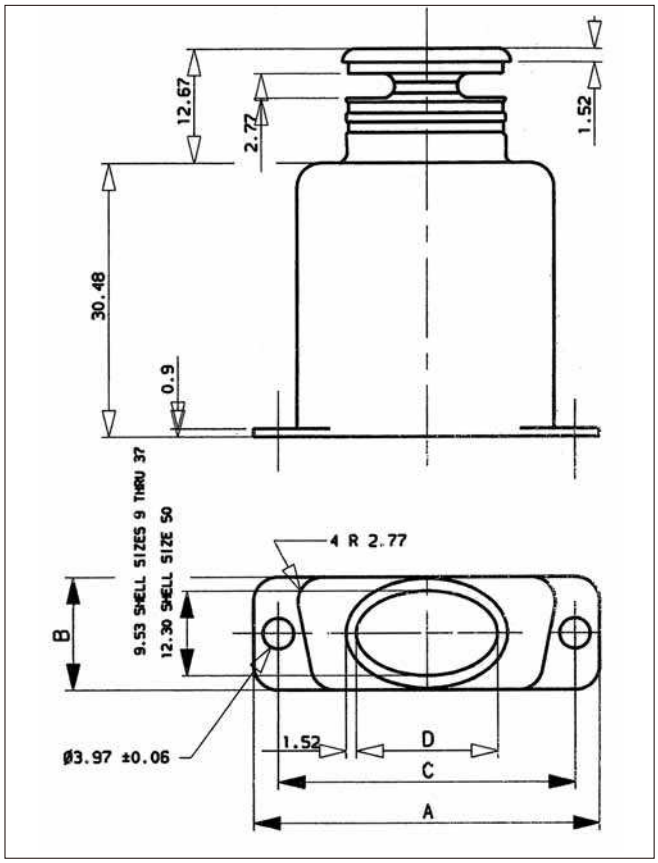
ESA/SCC 3401 072 & Space Grade

Straight lightweight backshell ultra elliptical band-termination

Shell size	ESA SCC P/N	SOURIAU P/N	A±0,38	B±0,38	C±0,13	D±0,38
E	3401 072 46B NMB	DE 8949 009A-1 NMB	30,56	12,70	24,99	12,70
A	3401 072 47B NMB	DA 8949 009B-1 NMB	38,89	12,70	33,32	15,87
B	3401 072 48B NMB	DB 8949 009C-1 NMB	52,78	12,70	47,04	19,05
C	3401 072 49B NMB	DC 8949 009E-1 NMB	69,04	12,70	63,50	25,40
D	3401 072 50B NMB	DD 8949 009D-1 NMB	66,67	15,46	61,11	22,22

45° lightweight backshell ultra elliptical band-termination



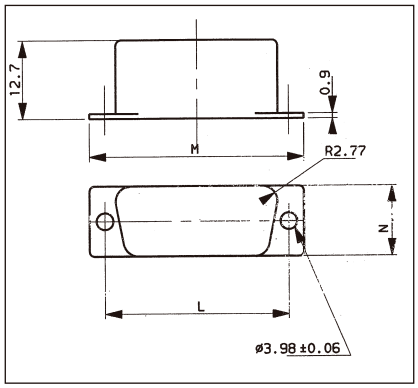


Shell size	Right outlet ESA SCC P/N	SOURIAU P/N	A±0,38	B±0,38	C±0,13	D±0,38
E	3401 072 51B NMB	DE 8949 107A-1 NMB	30,56	12,70	24,99	12,70
A	3401 072 52B NMB	DA 8949 107B-1 NMB	38,89	12,70	33,32	15,87
B	3401 072 53B NMB	DB 8949 107C-1 NMB	52,78	12,70	47,04	19,05
C	3401 072 54B NMB	DC 8949 107E-1 NMB	69,04	12,70	63,50	25,40
D	3401 072 55B NMB	DD 8949 107D-1 NMB	66,67	15,46	61,11	22,22

Shell size	Left outlet ESA SCC P/N	SOURIAU P/N	A±0,38	B±0,38	C±0,13	D±0,38
E	3401 072 56B NMB	DE 8949 108A-1 NMB	30,56	12,70	24,99	12,70
A	3401 072 57B NMB	DA 8949 108B-1 NMB	38,89	12,70	33,32	15,87
B	3401 072 58B NMB	DB 8949 108C-1 NMB	52,78	12,70	47,04	19,05
C	3401 072 59B NMB	DC 8949 108E-1 NMB	69,04	12,70	63,50	25,40
D	3401 072 60B NMB	DD 8949 108D-1 NMB	66,67	15,46	61,11	22,22

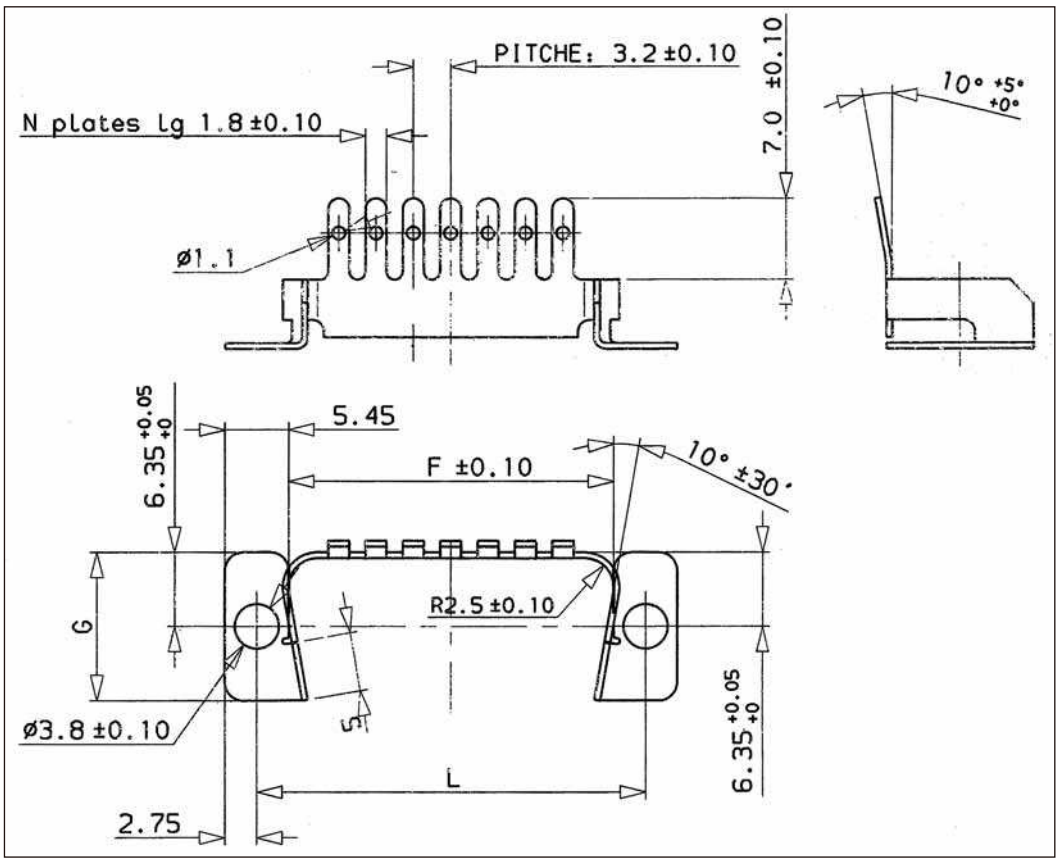
ESA/SCC 3401 072 & Space Grade

Lightweight D-SUB extra-shorting can



Shell size	ESA/SCC P/N	SOURIAU P/N	M±0,38	N±0,38	L±0,25
E	3401 072 61B NMB	DE 8949 305 NMB	30,56	12,70	24,99
A	3401 072 62B NMB	DA 8949 305 NMB	38,89	12,70	33,32
B	3401 072 63B NMB	DB 8949 305 NMB	52,78	12,70	47,04
C	3401 072 64B NMB	DC 8949 305 NMB	69,04	12,70	63,50
D	3401 072 65B NMB	DD 8949 305 NMB	66,67	15,47	61,11

Castellated backshell



Shell size	SOURIAU P/N Silver plating	SOURIAU P/N Gold plating	F±0,10	G±0,10	L±0,13	N
E	DE 8949 XH NMS	DE 8949 XH NMB	19,60	12,70	24,99	5
A	DA 8949 XH NMS	DA 8949 XH NMB	27,85	12,70	33,32	7
B	DB 8949 XH NMS	DB 8949 XH NMB	41,50	12,70	47,04	11
C	DC 8949 XH NMS	DC 8949 XH NMB	58,10	12,70	63,50	16
D	DD 8949 XH NMS	DD 8949 XH NMB	55,75	15,40	61,11	15

Lightweight shielded backshells - 45° & 90° Longitudinal cable outlets

Accessories	D	E	8949	101	K	1	NM	J

Shell size
E - A - B - C - D

Cable outlet option
45° cable outlet **105 :** left
106 : right
90° cable outlet **101 :** left
102 : right

Cable outlet type (see below ★)

Height code (only for 90° outlet)

	mm	inch
Blank	25,40	1,00
- 1	31,75	1,25
- 2	38,10	1,50
- 3	44,45	1,75
- 4	50,80	2,00

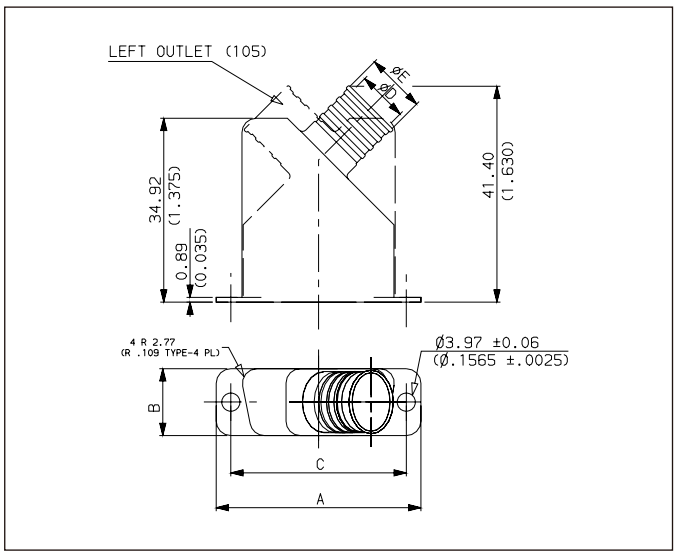
Non magnetic

Finish code
B : 0,8 µm gold
J : 12,7 µm nickel (per MIL-C-26074 grade B)

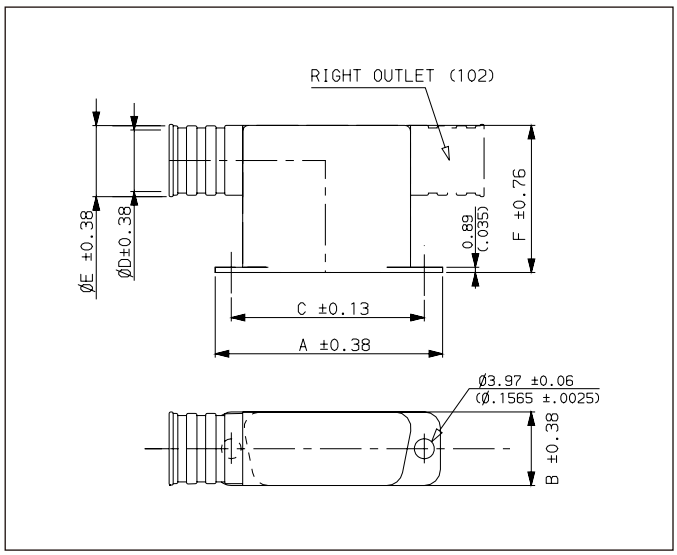
Characteristics

- For use with MIL-DTL-24308 connectors space or MIL-C grade
- Solid fully machined aluminium alloy
- Cable outlet for banded clamp termination system
- 45° and 90° longitudinal cable outlet various type by shell (left or right)
- Non magnetic D-Sub backshells

45° longitudinal cable outlet



90° longitudinal cable outlet



Shell size	A	B	C	Standard cable outlet size			Specific cable outlet size		
				Ø D	Ø E	★ Outlet type	Ø D	Ø E	★ Outlet type
E	30,56 1.203	12,7 .500	24,99 .984	6,86 .270	8,89 .350	**K**	3,17 .125	5,21 .205	**A**
A	38,89 1.531	12,7 .500	33,32 1.312	10,03 .395	12,06 .475	**E**	4,75 .187	6,78 .267	**B**
B	52,78 2.078	12,7 .500	47,04 1.852	10,66 .420	12,7 .500	**F**	7,92 .312	9,96 .392	**D**
C	69,04 2.718	12,7 .500	63,5 2.500	10,66 .420	12,7 .500	**F**	7,92 .312	9,96 .392	**D**
D	66,67 2.625	15,47 .609	61,11 2.406	13,43 .529	15,46 .609	**H**	10,03 .395	12,06 .475	**E**

EMI/RFI Shielded backshells
Straight & Low profile outlet banded clamp termination

Accessories	D	E	8949	405	K	1	NM	J

Shell size
E - A - B - C - D

Cable outlet option

Straight outlet	405
Low profile outlet	401

Cable outlet type (only for low profile outlet)
(see below ★)

Height code

Front mount	Rear mount	mm	inch
1	-	7,74	0.305
-	2	6,32	0.249
-	3	5,53	0.218
-	4	4,74	0.187
-	5	3,93	0.155

Non magnetic

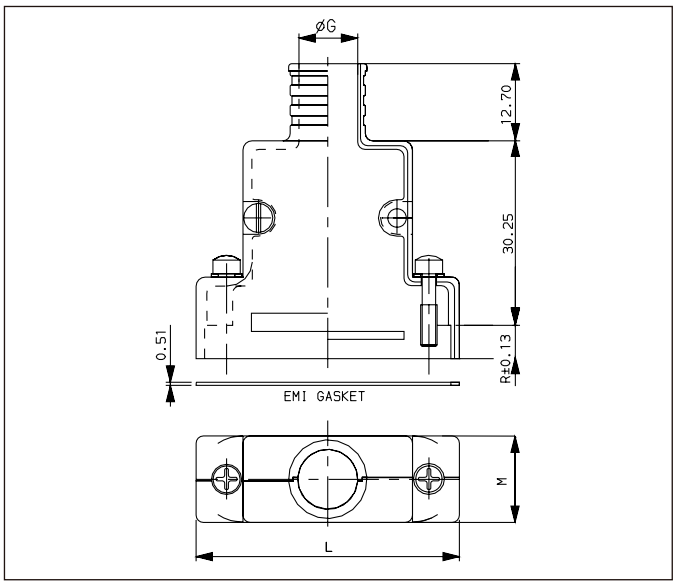
Finish code

B	: 0,8 µm gold
J	: 12,7 µm nickel (per MIL-C-26074 grade B)

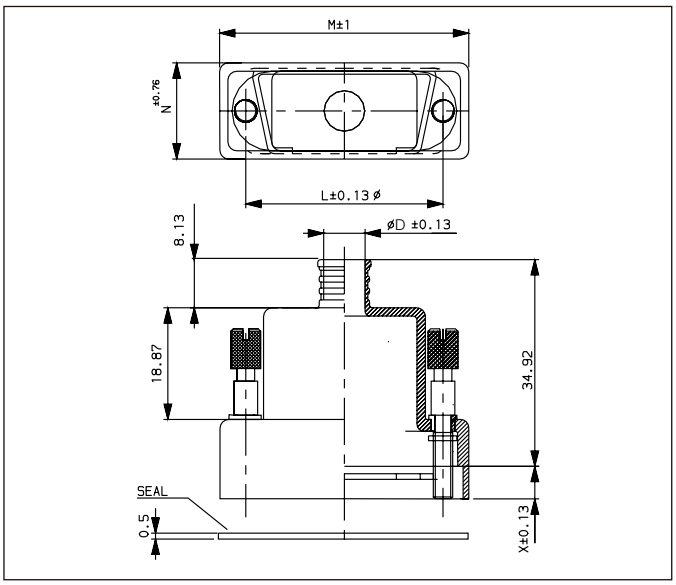
Characteristics

- Solid fully machined aluminium alloy
- Cable outlet for banded clamp termination system
- For front or rear mount with EMI gasket
- Non magnetic D-Sub backshells

Straight cable outlet : 405

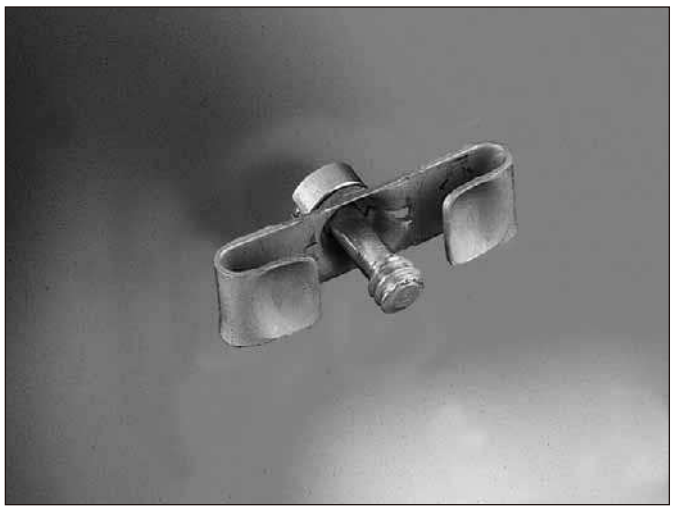


Low profile cable outlet : 401

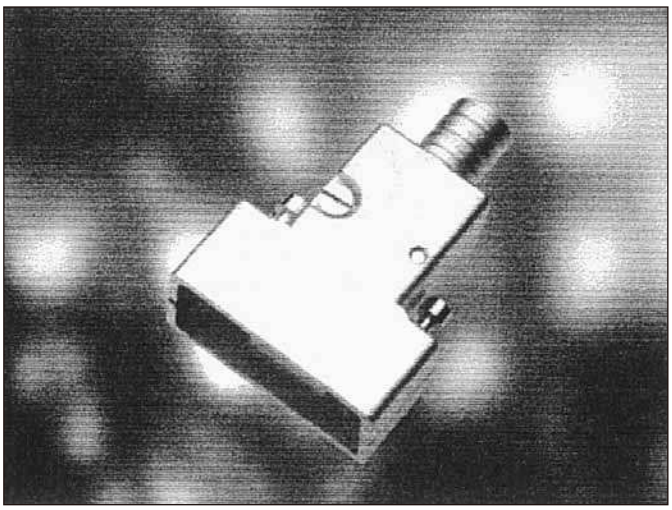


Shell size	M	L	Ø G	Shell size	M	N	L	Standard ★ Cable outlet size	Standard Ø D	Specific ★ Cable outlet size	Specific Ø D
E	15,98 .629	35,03 1.379	6,73 .265	E	34,69 1.366	16,25 .640	24,99 .984	B	4,83 .190	C	5,59 .220
A	15,98 .629	43,36 1.707	9,9 .390	A	43,03 1.694	16,25 .640	33,32 1.312	B	4,83 .190	E	6,98 .275
B	15,98 .629	57,25 2.254	10,54 .415	B	56,92 2.241	16,25 .640	47,04 1.852	D	6,6 .260	F	7,24 .285
C	15,98 .629	73,53 2.895	10,54 .415	C	73,2 2.882	16,25 .640	63,5 2.500	D	6,6 .260	G	8,89 .350
D	18,79 .740	71,14 2.801	13,33 .525	D	70,56 2.778	19,05 .750	61,11 2.406	G	8,89 .350	H	12,45 .490

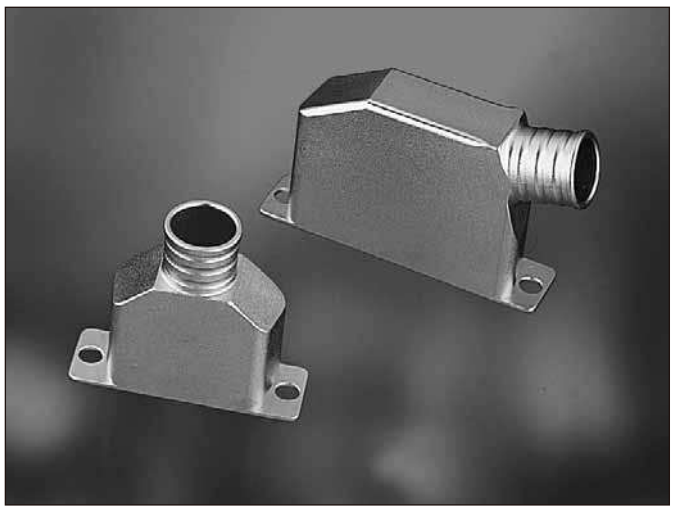
Accessories



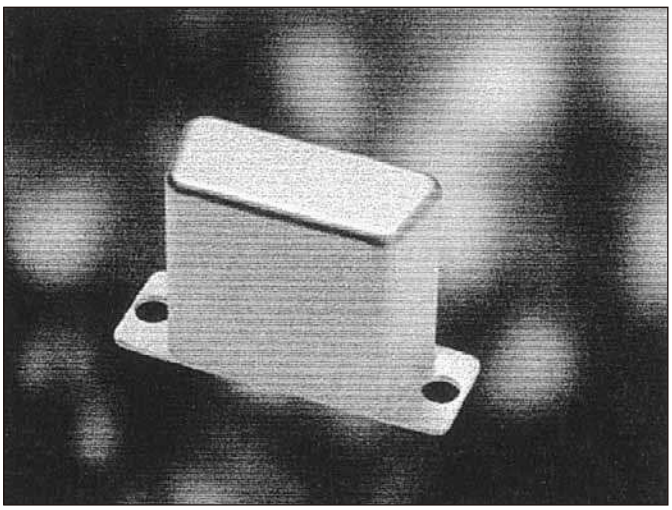
Screw lock



EMI/RFI shielded backshell



Lightweight shielded backshell



Shorting can

Cross reference table for

GSFC/ESA-SCC/SOURIAU part number

D-SUB Connectors standard density with solder contacts # 20

PIN CONTACTS			SOCKET CONTACTS		
GSFC P/N	ESA/SCC P/N (Flight Models)	SOURIAU P/N (Engineering Models)	GSFC P/N	ESA/SCC P/N (Flight Models)	SOURIAU P/N (Engineering Models)
311P10-1P-B-12	340100101BDEM9PNMB	**DEM 09P 011NMB**	311P10-1S-B-12	340100101BDEM9SNMB	**DEM 09S 011NMB**
311P10-6P-B-12	340100101BDEM5W1PNMB	**DEM 5W1P 011NMB**	311P10-6S-B-12	340100101BDEM5W1SNMB	**DEM 5W1S 011NMB**
311P10-2P-B-12	340100101BDAM15PNMB	**DAM 15P 011NMB**	311P10-2S-B-12	340100101BDAM15SNMB	**DAM 15S 011NMB**
311P10-7P-B-12	340100101BDAM3W3PNMB	**DAM 3W3P 011NMB**	311P10-7S-B-12	340100101BDAM3W3SNMB	**DAM 3W3S 011NMB**
311P10-8P-B-12	340100101BDAM7W2PNMB	**DAM 7W2P 011NMB**	311P10-8S-B-12	340100101BDAM7W2SNMB	**DAM 7W2S 011NMB**
311P10-9P-B-12	340100101BDAM11W1PNMB	**DAM 11W1P 011NMB**	311P10-9S-B-12	340100101BDAM11W1SNMB	**DAM 11W1S 011NMB**
311P10-3P-B-12	340100101BDBM25PNMB	**DBM 25P 011NMB**	311P10-3S-B-12	340100101BDBM25SNMB	**DBM 25S 011NMB**
311P10-10P-B-12	340100101BDBM5W5PNMB	**DBM 5W5P 011NMB**	311P10-10S-B-12	340100101BDBM5W5SNMB	**DBM 5W5S 011NMB**
311P10-11P-B-12	340100101BDBM9W4PNMB	**DBM 9W4P 011NMB**	311P10-11S-B-12	340100101BDBM9W4SNMB	**DBM 9W4S 011NMB**
311P10-12P-B-12	340100101BDBM13W3PNMB	**DBM 13W3P 011NMB**	311P10-12S-B-12	340100101BDBM13W3SNMB	**DBM 13W3S 011NMB**
311P10-13P-B-12	340100101BDBM17W2PNMB	**DBM 17W2P 011NMB**	311P10-13S-B-12	340100101BDBM17W2SNMB	**DBM 17W2S 011NM**
311P10-4P-B-12	340100101BDCM37PNMB	**DCM 37P 011NMB**	311P10-4S-B-12	340100101BDCM37SNMB	**DCM 37S 011NMB**
311P10-15P-B-12	340100101BDCM8W8PNMB	**DCM 8W8P 011NMB**	311P10-15S-B-12	340100101BDCM8W8SNMB	**DCM 8W8S 011NMB**
311P10-17P-B-12	340100101BDCM17W5PNMB	**DCM 17W5P 011NMB**	311P10-17S-B-12	340100101BDCM17W5SNMB	**DCM 17W5S 011NMB**
311P10-18P-B-12	340100101BDCM21WA4PNMB	**DCM 21WA4P 011NMB**	311P10-18S-B-12	340100101BDCM21WA4SNMB	**DCM 21WA4S 011NMB**
311P10-20P-B-12	340100101BDCM25W3PNMB	**DCM 25W3P 011NMB**	311P10-20S-B-12	340100101BDCM25W3SNMB	**DCM 25W3S 011NMB**
311P10-21P-B-12	340100101BDCM27W2PNMB	**DCM 27W2P 011NMB**	311P10-21S-B-12	340100101BDCM27W2SNMB	**DCM 27W2S 011NMB**
311P10-5P-B-12	340100101BDDM50PNMB	**DDM 50P 011NMB**	311P10-5S-B-12	340100101BDDM50SNMB	**DDM 50S 011NMB**
311P10-22P-B-12	340100101BDDM24W7PNMB	**DDM 24W7P 011NMB**	311P10-22S-B-12	340100101BDDM24W7SNMB	**DDM 24W7S 011NMB**
311P10-23P-B-12	340100101BDDM36W4PNMB	**DDM 36W4P 011NMB**	311P10-23S-B-12	340100101BDDM36W4SNMB	**DDM 36W4S 011NMB**

D-SUB Connectors standard density with crimp contacts # 20

PIN CONTACTS		
GSFC P/N	ESA/SCC P/N (Flight Models)	SOURIAU P/N (Engineering Models)
311P409-1P-B-12	340100201BDEMA9PNMBFO	**8630 09P NMBL**
311P409-2P-B-12	340100201BDAMA15PNMBFO	**8630 15P NMBL**
311P409-3P-B-12	340100201BDBMA25PNMBFO	**8630 25P NMBL**
311P409-4P-B-12	340100201BDCMA37PNMBFO	**8630 37P NMBL**
311P409-5P-B-12	340100201BDDMA50PNMBFO	**8630 50P NMBL**
SOCKET CONTACTS		
311P409-1S-B-12	340100201BDEMA9SNMBFO	**8630 09S NMBL**
311P409-2S-B-12	340100201BDAMA15SNMBFO	**8630 15S NMBL**
311P409-3S-B-12	340100201BDBMA25SNMBFO	**8630 25S NMBL**
311P409-4S-B-12	340100201BDCMA37SNMBFO	**8630 37S NMBL**
311P409-5S-B-12	340100201BDDMA50SNMBFO	**8630 50S NMBL**

D-SUB Connectors high density with crimp contacts # 22

PIN CONTACTS		
GSFC P/N	ESA/SCC P/N (Flight Models)	SOURIAU P/N (Engineering Models)
311P407-1P-B-12	340100202BDEMA15PNMBFO	**8635 15P NMBL**
311P407-2P-B-12	340100202BDAMA26PNMBFO	**8635 26P NMBL**
311P407-3P-B-12	340100202BDBMA44PNMBFO	**8635 44P NMBL**
311P407-4P-B-12	340100202BDCMA62PNMBFO	**8635 62P NMBL**
311P407-5P-B-12	340100202BDDMA78PNMBFO	**8635 78P NMBL**
SOCKET CONTACTS		
311P407-1S-B-12	340100202BDEMA15SNMBFO	**8635 15S NMBL**
311P407-2S-B-12	340100202BDAMA26SNMBFO	**8635 26S NMBL**
311P407-3S-B-12	340100202BDBMA44SNMBFO	**8635 44S NMBL**
311P407-4S-B-12	340100202BDCMA62SNMBFO	**8635 62S NMBL**
311P407-5S-B-12	340100202BDDMA78SNMBFO	**8635 78S NMBL**

Crimp contacts # 20, rear insertable and rear removable

GSFC P/N	ESA/SCC P/N (Flight Models)	SOURIAU P/N (Engineering Models)
G10P1	340100501B	**8949 1196 Y7 EL**
G10S1	340100502B	**8949 1198 EL**
-	340100503B	**8949 1520 Y7 EL**
-	340100504B	**8949 1523 EL**
-	340100505B	**8949 3227 Y7 EL**
-	340100506B	**8949 3352 EL**

Crimp contacts # 22, rear insertable and rear removable

GSFC P/N	ESA/SCC P/N (Flight Models)	SOURIAU P/N (Engineering Models)
G08P1	340100507B	**8949 1524 Y7 EL**
G08S1	340100508B	**8949 1525 EL**