



# MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts

## Features/Benefits

- Compliant with ESA specifications.
- Removable contacts
- Harnesses length flexibility

## Typical Applications

- Space equipment
- Avionics / Military
- Industrials applications



## Specification

Compliant to ESCC specifications 3401/077 connectors and 3401/078 Removable crimp contacts.  
 Compatible with MDM ESCC 3401/029, savers 3401/041 and Accessories 3401/032.  
 PIN and SOCKETS arrangements available.  
 SIZE AVAILABLE : 9, 15 , 21 , 25 , 31 and 37 ways  
 CRIMP - removable contacts.  
 ACCEPTED WIRES SIZE : insulated AWG 26 and AWG 28.  
 TWIST PIN CONTACTS TECHNOLOGY.  
 Distance between 2 adjacent contacts : 1.27mm (.050 inch)  
 Distance between 2 contacts rows : 1.09mm (.043 inch)



## Mechanical

| Type    | Mating force (N.max) | Contact retention force (N.max) | Max Weight (g)* |
|---------|----------------------|---------------------------------|-----------------|
| Size 9  | 20                   | 22.25                           | 2               |
| Size 15 | 33                   | 22.25                           | 2.6             |
| Size 21 | 47                   | 22.25                           | 3.2             |
| Size 25 | 55                   | 22.25                           | 3.6             |
| Size 31 | 69                   | 22.25                           | 4.2             |
| Size 37 | 82                   | 22.25                           | 4.8             |

\* Weights without cables, floating eyelets captive nuts and contacts

## Electrical

|                               |          |
|-------------------------------|----------|
| Working Voltage (Sea level) : | 150 Vrms |
| Rated Current AWG 26          | 2.5 A    |
| Rated Current AWG 28          | 1.5A     |

## Temperature Range

|                             |                |
|-----------------------------|----------------|
| Operating Temperature range | -55 to +125 °C |
| Storage Temperature Range   | -65 to +125 °C |

Other features are available on ESA/ESCC specifications.

## Quality Level

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

## Process contact and cable insertion

- Wires stripping
- Cables crimping onto contacts with standard M22520/2-01 crimp tool and dedicated locators (to be ordered separately)
- Wires cable installed by the end user

## Process contact and cable extraction

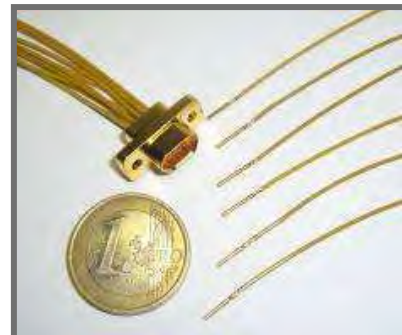
- A dedicated tool is shipped with each connector to remove the contacts from the connectors

## Options

- Optional interfacial seal can be applied for female connectors (to be ordered separately)
- Optional captive nuts or float mounting (consult factory)

## Packaging

- Individual packaging and traceability associated as per ESA/ESCC specifications
- Each MDMA connector is sold with a contact extraction tool and a dust cap in individual plastic bag



MDMA



Dimensions shown in : mm (inch)  
 Specifications and dimensions subject to change

www.ck-components.com



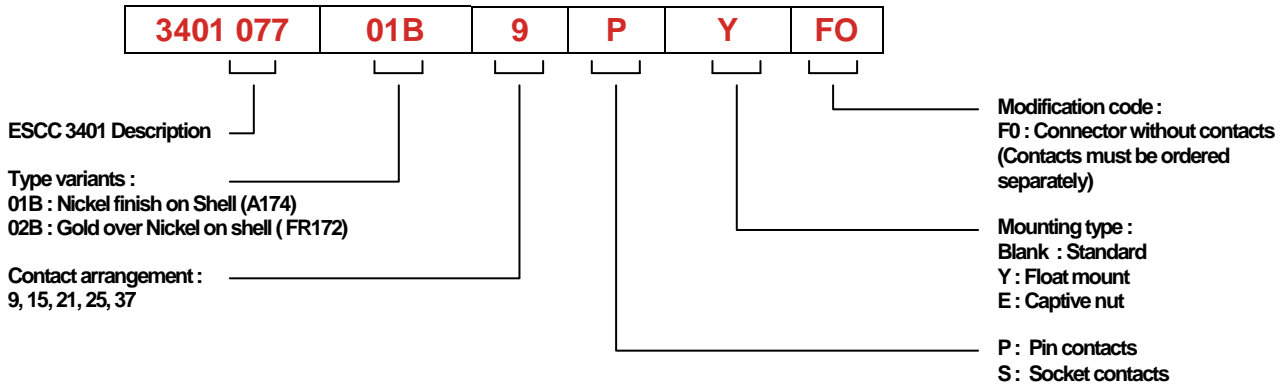
# MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts

## How to Order :

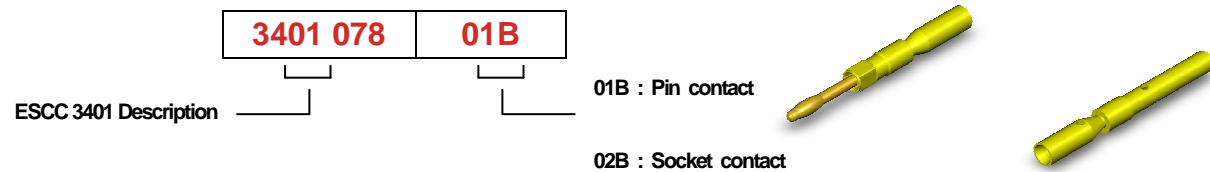
### CONNECTORS :

Our easy build-a-connector concept allows you to mix and match options to create the MDMA you need. To order, select desired option from each category and place it in the appropriate box.

For any part number different from those listed above, please consult your local C&K components representative.



### CONTACTS :

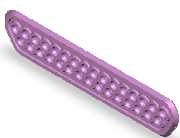


### CONTACT DESCRIPTION and C&K PART NUMBER :

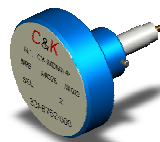
|                | Description : | Part Number :  |
|----------------|---------------|----------------|
| Pin Contact    | 340107801B    | C331-8752-000H |
| Socket Contact | 340107802B    | C252-8838-000H |

### INTERFACIALS SEAL, LOCATORS AND ADDITIONAL EXTRACTION TOOL :

ESCC 3401 Description — **3401 032** **12B** — Variants



|      | Description : | Part Number : |
|------|---------------|---------------|
| 9S   | 340103212B    | C115373-0050C |
| 15S  | 340103213B    | C115373-0051C |
| 21S  | 340103214B    | C115373-0052C |
| 25 S | 340103215B    | C115373-0053C |
| 31S  | 340103216B    | C115373-0054C |
| 37S  | 340103217B    | C115373-0055C |



| Description Locator Pin | Part Number : |
|-------------------------|---------------|
| CK-MDMA-P               | C115373-0001  |
| Description Locator Skt | Part Number : |
| CK-MDMA-S               | C115373-0002  |



| Description extraction tool | Part Number : |
|-----------------------------|---------------|
| MDMA-115373                 | C115373-0000  |



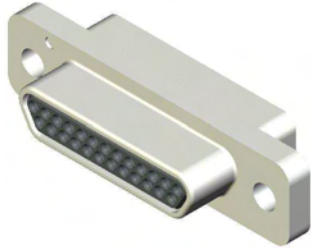
Dimensions shown in : mm (inch)  
Specifications and dimensions subject to change



**MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts**

**Connectors Description and C&K Part-Numbers :**

**MDMA Plug or Receptacle with Nickel Finish on Shell (A174)**



|             |      | MDMA without contact (FO) |               |                 |
|-------------|------|---------------------------|---------------|-----------------|
| Description | Size | standard                  | Floating (Y)  | captive nut (E) |
| 340107701B  | 9S   | C115373-2001C             | C115373-2013C | C115373-2025C   |
| 340107701B  | 15P  | C115373-2002C             | C115373-2014C | C115373-2026C   |
| 340107701B  | 15S  | C115373-2003C             | C115373-2015C | C115373-2027C   |
| 340107701B  | 21P  | C115373-2004C             | C115373-2016C | C115373-2028C   |
| 340107701B  | 21S  | C115373-2005C             | C115373-2017C | C115373-2029C   |
| 340107701B  | 25P  | C115373-2006C             | C115373-2018C | C115373-2030C   |
| 340107701B  | 25S  | C115373-2007C             | C115373-2019C | C115373-2031C   |
| 340107701B  | 31P  | C115373-2008C             | C115373-2020C | C115373-2032C   |
| 340107701B  | 31S  | C115373-2009C             | C115373-2021C | C115373-2033C   |
| 340107701B  | 37P  | C115373-2010C             | C115373-2022C | C115373-2034C   |
| 340107701B  | 37S  | C115373-2011C             | C115373-2023C | C115373-2035C   |

**MDMA Plug or Receptacle with Gold Finish on Shell (FR172)**



|             |      | MDMA without contact (FO) |               |                 |
|-------------|------|---------------------------|---------------|-----------------|
| Description | Size | standard                  | Floating (Y)  | captive nut (E) |
| 340107702B  | 9P   | C115373-2050C             | C115373-2062C | C115373-2074C   |
| 340107702B  | 9S   | C115373-2051C             | C115373-2063C | C115373-2075C   |
| 340107702B  | 15P  | C115373-2052C             | C115373-2064C | C115373-2076C   |
| 340107702B  | 15S  | C115373-2053C             | C115373-2065C | C115373-2077C   |
| 340107702B  | 21P  | C115373-2054C             | C115373-2066C | C115373-2078C   |
| 340107702B  | 21S  | C115373-2055C             | C115373-2067C | C115373-2079C   |
| 340107702B  | 25P  | C115373-2056C             | C115373-2068C | C115373-2080C   |
| 340107702B  | 25S  | C115373-2057C             | C115373-2069C | C115373-2081C   |
| 340107702B  | 31P  | C115373-2058C             | C115373-2070C | C115373-2082C   |
| 340107702B  | 31S  | C115373-2059C             | C115373-2071C | C115373-2083C   |
| 340107702B  | 37P  | C115373-2060C             | C115373-2072C | C115373-2084C   |
| 340107702B  | 37S  | C115373-2061C             | C115373-2073C | C115373-2085C   |

**Materials and finishes :**

|                      |   |
|----------------------|---|
| Shells               | Aluminium alloy<br>Finish A174 : 25,4 µm min. (1000 µin min.) electroless Nickel over Copper underlay<br>Finish FR172 : 2,54 µm min. (100 µin min.) Gold over 25,4 µm min. (1000 µin min.) electroless Nickel |
| Insulators           | LCP (Liquid Crystal Polymer) thermoplastic material, UL 94-V0, glass-filled, black color  |
| Female contacts      | Copper alloy / Finish : 1,27 µm (50 µin) min. Gold over Copper underlay   |
| Male contacts        | Copper alloy / Finish : 1,27 µm (50 µin) min. Gold over Copper underlay   |
| Interfacial Seals    | Fluorosilicone elastomere, pink color   |
| Accessories (Y or E) | Stainless Steel type 303, passivated  |
| Dust Caps            | Polyethylene thermoplastic material, transparent pink color   |



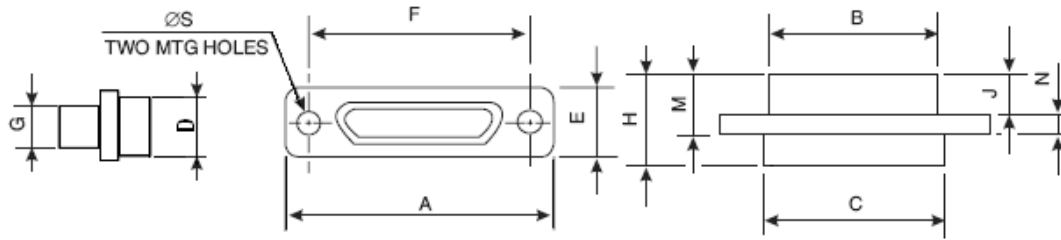
Dimensions shown in : mm (inch)  
Specifications and dimensions subject to change



**MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts**

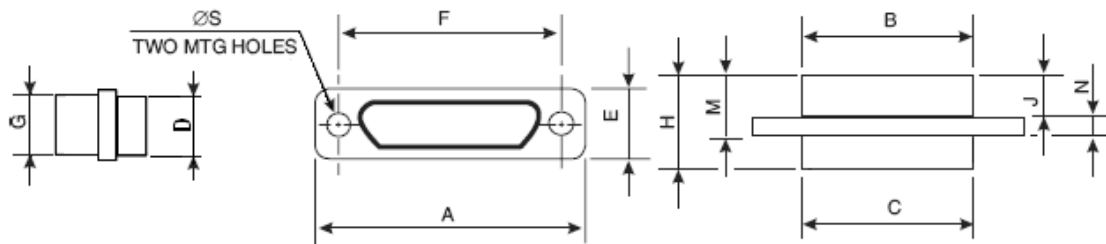
**Physical Dimensions :**

**• Connectors MDMA Plug (Male contacts)**



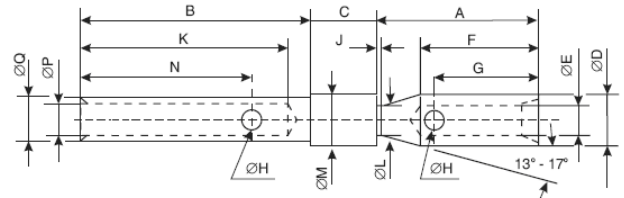
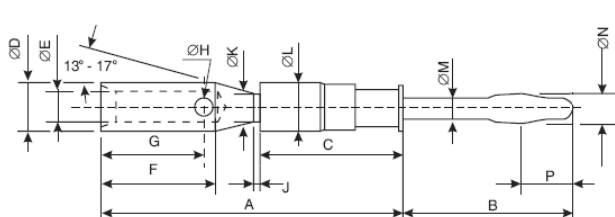
| SHELL SIZE |      | A     | B     | C     | D    | E    | F     | G    | H     | J    | M    | N    | Ø S  |
|------------|------|-------|-------|-------|------|------|-------|------|-------|------|------|------|------|
| 9          | Max. | 19,94 | 8,46  | 10,16 | 6,86 | 7,82 | 14,48 | 4,69 | 10,57 | 4,72 | 7,26 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 14,22 | -    | -     | -    | -    | 2,23 | 2,23 |
| 15         | Max. | 23,75 | 12,27 | 13,97 | 6,86 | 7,82 | 18,29 | 4,69 | 10,57 | 4,72 | 7,26 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 18,03 | -    | -     | -    | -    | 2,23 | 2,23 |
| 21         | Max. | 27,56 | 16,08 | 17,78 | 6,86 | 7,82 | 22,10 | 4,69 | 10,57 | 4,72 | 7,26 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 21,84 | -    | -     | -    | -    | 2,23 | 2,23 |
| 25         | Max. | 30,10 | 18,62 | 20,32 | 6,86 | 7,82 | 24,64 | 4,69 | 10,57 | 4,72 | 7,26 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 24,38 | -    | -     | -    | -    | 2,23 | 2,23 |
| 31         | Max. | 33,91 | 22,43 | 24,13 | 6,86 | 7,82 | 28,45 | 4,69 | 10,57 | 4,72 | 7,26 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 28,19 | -    | -     | -    | -    | 2,23 | 2,23 |
| 37         | Max. | 37,72 | 26,24 | 27,94 | 6,86 | 7,82 | 32,26 | 4,69 | 10,57 | 4,72 | 7,26 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 32,00 | -    | -     | -    | -    | 2,23 | 2,23 |

**• Connectors MDMA Receptacle (Female contacts)**



| SHELL SIZE |      | A     | B     | C     | D    | E    | F     | G    | H     | J    | M    | N    | Ø S  |
|------------|------|-------|-------|-------|------|------|-------|------|-------|------|------|------|------|
| 9          | Max. | 19,94 | 10,16 | 10,16 | 6,86 | 7,82 | 14,48 | 6,38 | 10,90 | 5,05 | 7,59 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 14,22 | -    | -     | -    | -    | 2,23 | 2,23 |
| 15         | Max. | 23,75 | 13,97 | 13,97 | 6,86 | 7,82 | 18,29 | 6,38 | 10,90 | 5,05 | 7,59 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 18,03 | -    | -     | -    | -    | 2,23 | 2,23 |
| 21         | Max. | 27,56 | 17,78 | 17,78 | 6,86 | 7,82 | 22,10 | 6,38 | 10,90 | 5,05 | 7,59 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 21,84 | -    | -     | -    | -    | 2,23 | 2,23 |
| 25         | Max. | 30,10 | 20,32 | 20,32 | 6,86 | 7,82 | 24,64 | 6,38 | 10,90 | 5,05 | 7,59 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 24,38 | -    | -     | -    | -    | 2,23 | 2,23 |
| 31         | Max. | 33,91 | 24,13 | 24,13 | 6,86 | 7,82 | 28,45 | 6,38 | 10,90 | 5,05 | 7,59 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 28,19 | -    | -     | -    | -    | 2,23 | 2,23 |
| 37         | Max. | 37,72 | 27,94 | 27,94 | 6,86 | 7,82 | 32,26 | 6,38 | 10,90 | 5,05 | 7,59 | 2,49 | 2,39 |
|            | min. | -     | -     | -     | -    | -    | 32,00 | -    | -     | -    | -    | 2,23 | 2,23 |

**• Contacts Male and Female**



|      | A    | B    | C    | Ø D  | Ø E  | F    | G    | Ø H  | J    | Ø K  | Ø L  | Ø M  | Ø N  | P    |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Min. | 5,70 | 3,17 | 2,70 | 0,92 | 0,56 | 2,10 | 1,80 | -    | 0,05 | 0,52 | 0,92 | 0,42 | 0,65 | 0,90 |
| Max. | 5,90 | 3,40 | 2,80 | 0,96 | 0,60 | 2,40 | 2,10 | 0,45 | 0,15 | 0,58 | 0,96 | 0,45 | 0,80 | 1,40 |

|      | A    | B    | C    | Ø D  | Ø E  | F    | G    | Ø H  | J    | K    | Ø L  | Ø M  | N    | Ø P  | Ø Q  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Min. | 2,90 | 4,17 | 1,10 | 0,92 | 0,56 | 2,10 | 1,80 | -    | 0,05 | 3,50 | 0,52 | 0,92 | 3,00 | 0,56 | 0,81 |
| Max. | 3,10 | 4,29 | 1,30 | 0,96 | 0,60 | 2,40 | 2,10 | 0,45 | 0,15 | -    | 0,58 | 0,98 | 3,30 | 0,60 | 0,85 |



Dimensions shown in : mm (inch)  
Specifications and dimensions subject to change



**MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts**

**Process Contact and Cable Insertion :**

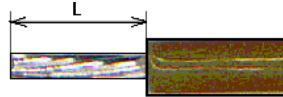
**• Wire stripping :**

Cut wires to length and strip insulation per above illustration. Check for broken or frayed wires.

**Recommended wire**

- 3901 013 01B : PTFE Insulated wire AWG 28
- 3901 013 02B : PTFE Insulated wire AWG 26
- 3901 002 61B : POLYIMIDE Insulated wire AWG 28
- 3901 002 56B : POLYIMIDE Insulated wire AWG 26

**Wire trim length**



| L     | M         |
|-------|-----------|
| 1,9 * | 0         |
| 2,4   | 0,55±0,25 |



\* C&K recommended value

**• Cable crimping**

- 1 - Insert wire onto contact body and insert the unit into the M22520/2-01 crimping tool (Selector position 2) with the dedicated locator (to be ordered separately)



**DEDICATED LOCATORS**

For Male Contact : CK-MDMA-P  
(P/N: C115373-0001)

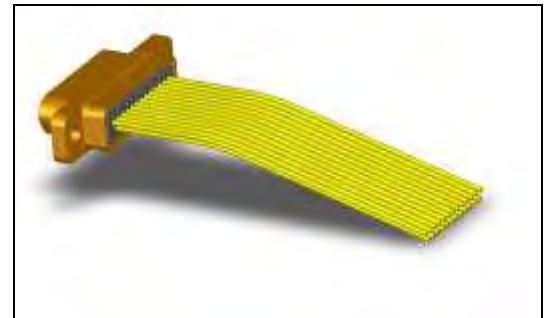
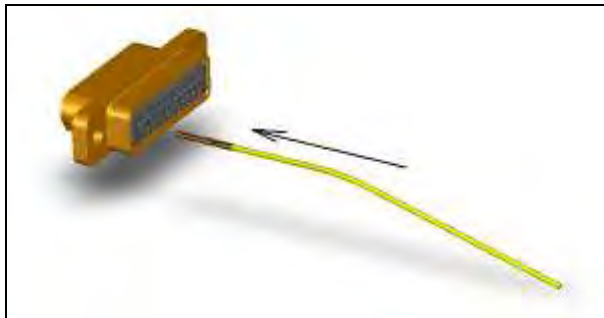


For Female Contact : CK-MDMA-S  
(P/N: C115373-0002)

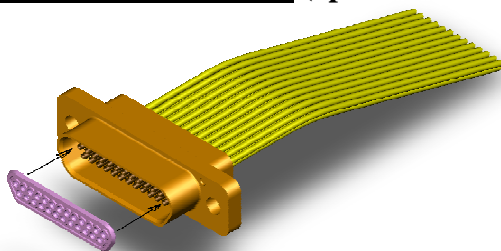
- 2 - Crimp contact to wire and inspect crimp.

**• Contact insertion :**

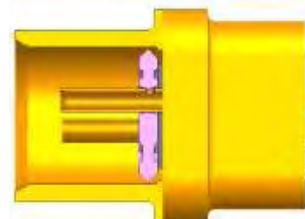
Insert contact with wire into cavity of the rear insulator until a positive stop is felt. Inspect insertion. To be sure contact is locked securely, pull back lightly on wire. Repeat for balance of contacts working row by row across the insulator.



**• Interfacial seal insertion (optional for receptacle connector only):**



Good position for interfacial seal



Dimensions shown in : mm (inch)  
Specifications and dimensions subject to change





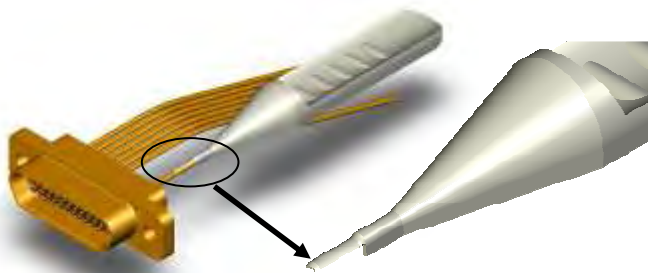
**MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts**

**Process Contact and Cable Extraction :**

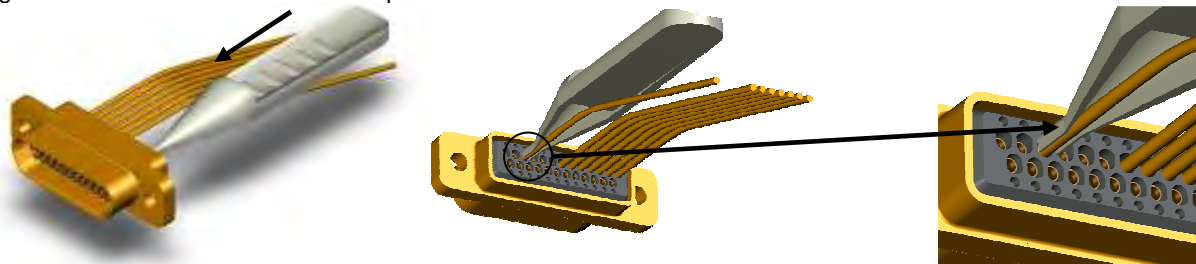
●●● How to extract contacts in the first row of connector :



- 1 - Place wire into extraction tool tip MDMA-115373



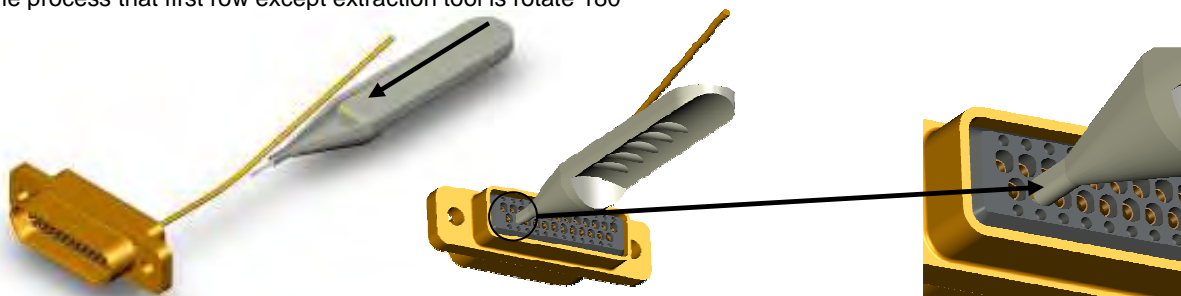
- 2 - Insert tool tip into contact cavity until tip bottoms against contact shoulder, releasing tine. Hold wire against tool with finger and remove tool and contact. Repeat for balance of contacts.



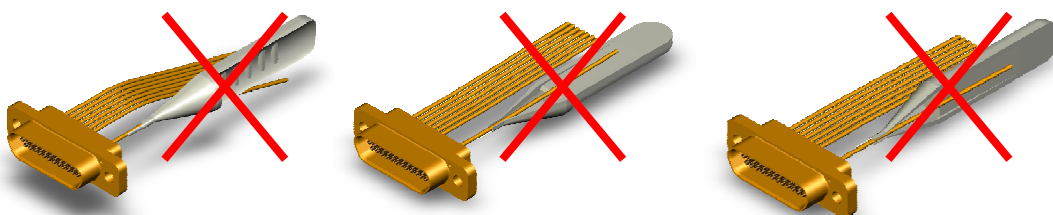
●●● How to extract contacts in the second row of connector :



Same process that first row except extraction tool is rotate 180°



●●● Be careful to put extraction tool in the good position !! (Example for the first row) :



Dimensions shown in : mm (inch)  
Specifications and dimensions subject to change