

# MDMA with Removable Crimp Contacts

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 equipments
- 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.

Sizes available: 9, 15, 21, 25, 31 and 37 ways

Removable contacts (except with 2 wires AWG 28)

Accepted wires size: 1 wire insulated AWG 24, AWG 26 and AWG 28  
2 wires insulated AWG 28

Twist Pin contact 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 24	3.5 A
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

## Test retention

A dedicated tool is available to make the retention test of each contacts in the connectors

## 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)

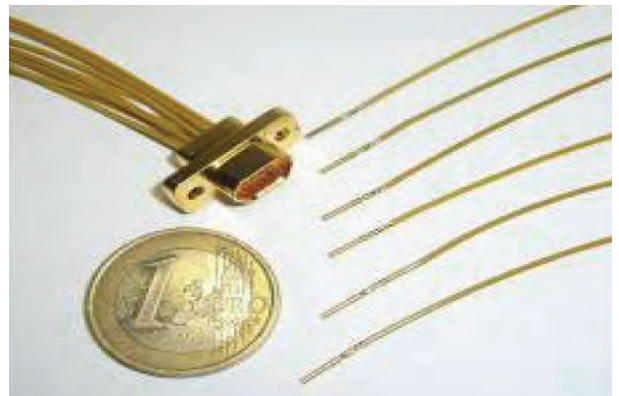
Optional captive nuts or float mounting (consult factory)

Optional grommet can be supplied

## 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



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

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## 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.

	<b>3401 077</b>	<b>01B</b>	<b>9</b>	<b>P</b>	<b>Y</b>	<b>FO</b>
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ESCC 3401 Description

**Type variants:**  
 01B: Nickel finish on Shell (A174)  
 02B: Gold over Nickel on shell (FR172)

**Contact arrangement:**  
 9, 15, 21, 25, 37

**Modification code:**  
 FO: Connector without contacts  
 (Contacts must be ordered separately)

**Mounting type:**  
 Blank: Standard  
 Y: Float mount  
 E: Captive nut

**P:** Pin contacts  
**S:** Socket contacts

### CONTACTS:

	<b>3401 078</b>	<b>01B</b>
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ESCC 3401 Description

**01B: Pin contact**

**02B: Socket contact**



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

	Description:	Part Number:	Used for:
Pin Contact	340107801B	C331-8752-000H	1x AWG 26 or 1x AWG28
Socket Contact	340107802B	C252-8838-000H	1x AWG 26 or 1x AWG28
Pin Contact	340107803B	C331-8754-000H	1x AWG 24 or 2x AWG28
Socket Contact	340107804B	C252-8844-000H	1x AWG 24 or 2x AWG28

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

ESCC 3401 Description

<b>3401 032</b>	<b>12B</b>
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Variants

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



<b>Description Locator Pin</b>	<b>Part Number:</b>
CK-MDMA-P	C115373-0001
<b>Description Locator Skt</b>	<b>Part Number:</b>
CK-MDMA-S	C115373-0002

<b>Description extraction tool</b>	<b>Part Number:</b>
MDMA-115373	C115373-0000



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# MDMA with Removable Crimp Contacts

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

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



Description	Size	MDMA without contact (FO)		
		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)



Description	Size	MDMA without contact (FO)		
		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:

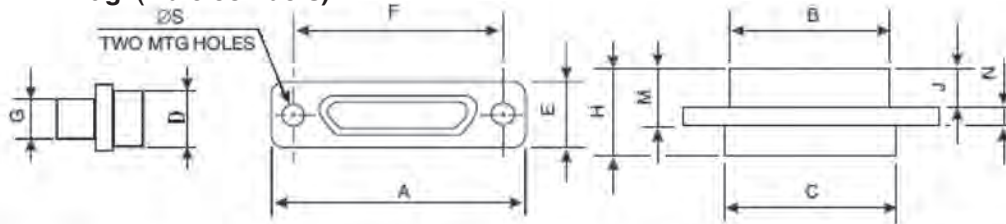
Shells	Aluminium alloy Finish A174: 25,4 µm min. (1000 µin min.) electroless Nickel over Copper underlay Finish FR172: 2,54 µm min. (100 µin min.) Gold over 25,4 µm min. (1000 µin min.) electroless Nickel
Insulators	LCP (Liquid Crystal Polymer) thermoplastic material, UL 94-V0, glass-filled, black color
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

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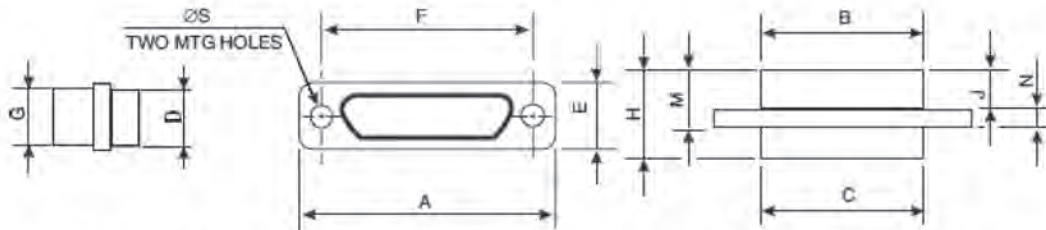
## Physical Dimensions:

### Connectors MDMA Plug (Male contacts)



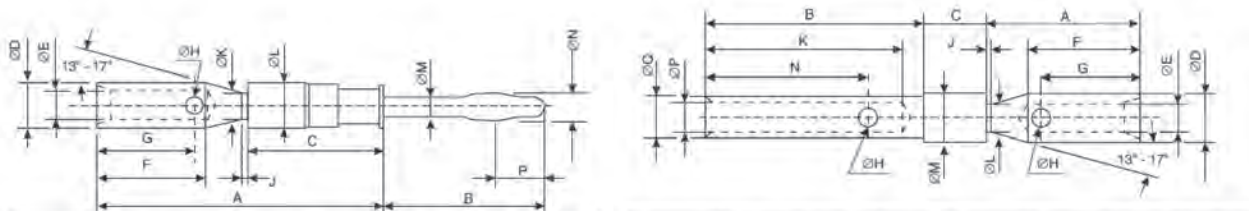
SHELL SIZE		A	B	C	D	E	F	G	H	J	M	N	ØS
9	Max.	19,94	8,46	10,16	6,86	7,82	14,48	4,69	10,57	4,72	7,26	2,49	2,39
	min.	-	-	-	-	-	14,22	-	-	-	-	2,23	2,23
15	Max.	23,75	12,27	13,97	6,86	7,82	18,29	4,69	10,57	4,72	7,26	2,49	2,39
	min.	-	-	-	-	-	18,03	-	-	-	-	2,23	2,23
21	Max.	27,56	16,08	17,78	6,86	7,82	22,10	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	ØS
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



Variants	A	B	C	ØD	ØE	F	G	ØH	J	ØK	ØL	ØM	ØN	P	
01	Min.	5,70	3,17	2,70	0,92	0,58	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
03	Min.	5,70	3,17	2,70	0,96	0,69	2,10	1,80	-	0,05	0,52	0,92	0,42	0,65	0,90
	Max.	5,90	3,40	2,80	0,97	0,71	2,40	2,10	0,45	0,15	0,58	0,96	0,45	0,80	1,40

Variants	A	B	C	ØD	ØE	F	G	ØH	J	K	ØL	ØM	N	ØP	ØQ	
02	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	0,96	3,30	0,60	0,85
04	Min.	2,90	4,17	1,10	0,95	0,69	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	0,97	0,71	2,40	2,10	0,45	0,15	-	0,58	0,96	3,30	0,60	0,85



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## Process Contact and Cable Insertion:

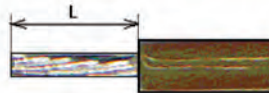
### Wire stripping:

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

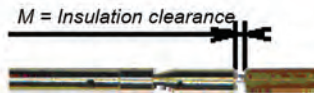
### Recommended wire

- 3901 013 01B: PTFE Insulated wire AWG 28
- 3901 013 02B: PTFE Insulated wire AWG 26
- 3901 013 03B: PTFE Insulated Wire AWG 24
- 3901 002 61B: POLYIMIDE Insulated wire AWG 28
- 3901 002 56B: POLYIMIDE Insulated wire AWG 26
- 3901 002 57B: POLYIMIDE Insulated wire AWG 24

### Wire trim length

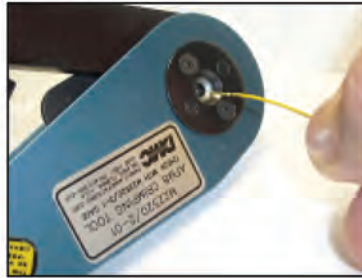


Nb of cables	L	M
1	1,9	0
1	2,4	0,55±0,25
2	3	1 ±0,25



### 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: C115372-0001)

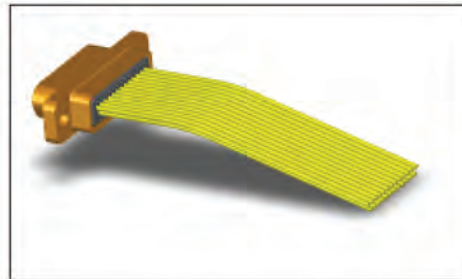
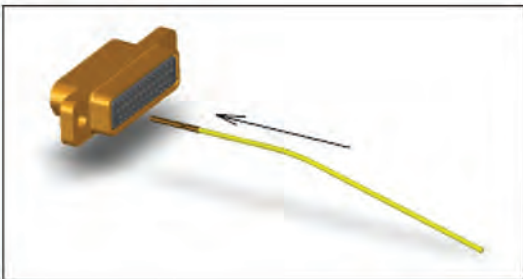


For Female Contact: CK-MDMA-S  
(P/N: C115372-0002)

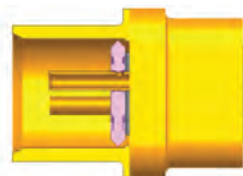
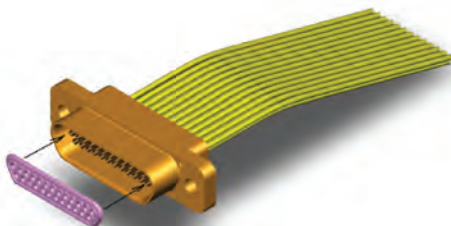
- 2 - Crimp contact to wire and inspect crimp.

### 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.



Good position for interfacial seal



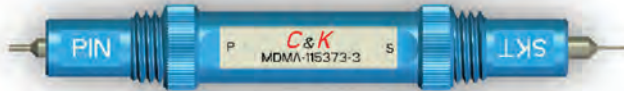
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## Test Retention:

### Calibrated test retention tool for Male and Female Contacts:

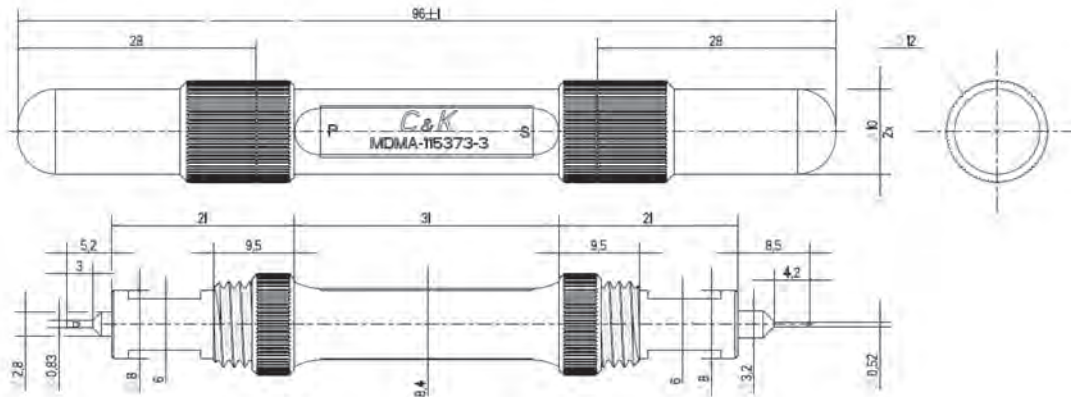
MDMA-115373-3 (P/N: C115373-0003)



Delivered with a calibration document referring to applicable force and travel

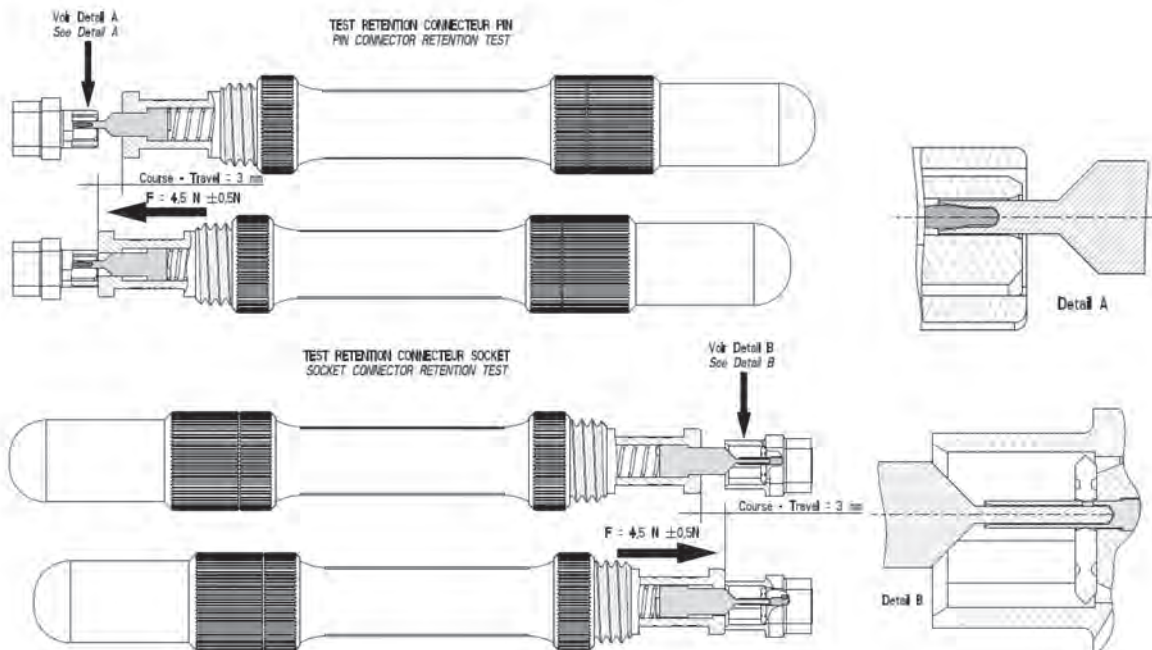
Delivered with 2 protective caps

## Physical dimensions:



## Process Test Retention:

Force applied 4,5N at travel max. (3 mm):



*in mm (inch)  
Dimensions subject to change*

# MDMA with Removable Crimp Contacts

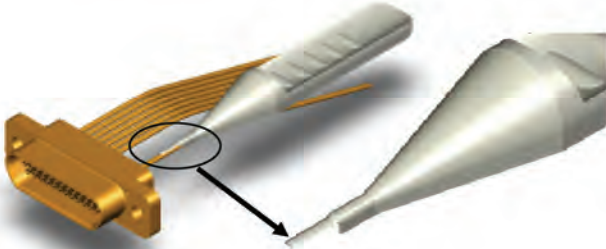
MDMA - Connectors, Electrical, Rectangular, Microminiature with Removable crimp contacts compliant with ESA/ESCC specifications 3401/077 for Connectors and 3401/078 for Contacts

## Process Contact and Cable Extraction:

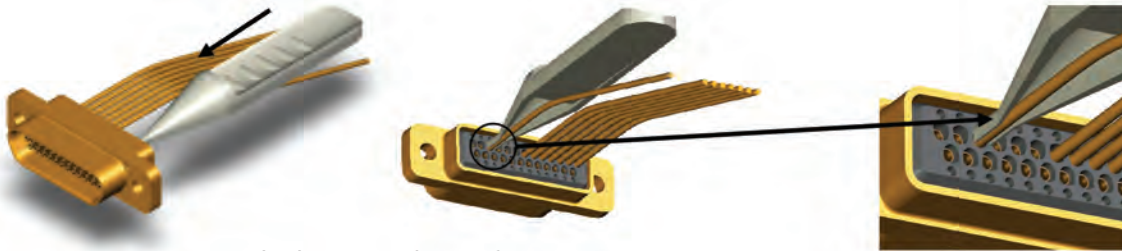
How to extract contacts in the first row of connector:



- 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.



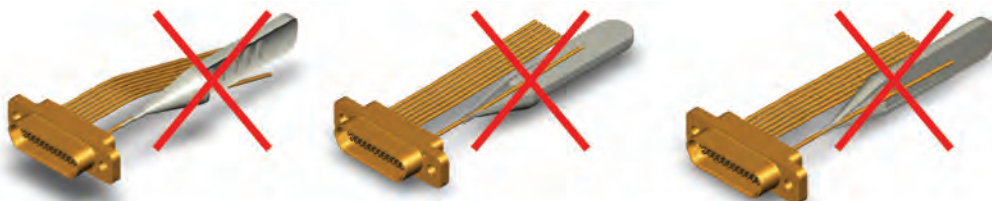
How to extract contacts in the second row of connector:



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):



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## Accessories: Kit Backshells and Screw locks

### Descriptions and Quality levels:

The Micro-D\* Backshell are compatible with the MDMA connectors with the flat grommet.

One Kit contain:

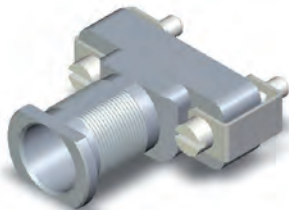
- 1 backshell
- 2 retaining clips
- 2 jackscrews, slotted head

Quality level:

- 3401: according to ESA/ESCC 3401/071 Specification (Flying model)
- FR022: according to C&K-FR022 Specification (Engineering model)

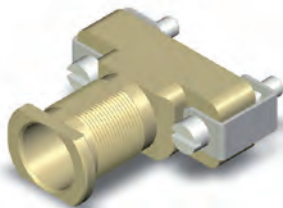
### Kits Backshells descriptions and C&K Part-Numbers

#### Kit backshell with Nickel Finish on Shell (A174)



Sizes	FR022 Quality level		ESA/ESCC Quality level	
	Descriptions	Part-Numbers	Descriptions	Part-Numbers
9	MDM-115288-6267-A174-FR022	C115288-6267	MDM-115366-9687-A174(3401)	C115366-9687
15	MDM-115288-6268-A174-FR022	C115288-6268	MDM-115366-9688-A174(3401)	C115366-9688
21	MDM-115288-6269-A174-FR022	C115288-6269	MDM-115366-9689-A174(3401)	C115366-9689
25	MDM-115288-6270-A174-FR022	C115288-6270	MDM-115366-9690-A174(3401)	C115366-9690
31	MDM-115288-6271-A174-FR022	C115288-6271	MDM-115366-9691-A174(3401)	C115366-9691
37	MDM-115288-6272-A174-FR022	C115288-6272	MDM-115366-9692-A174(3401)	C115366-9692

#### Kit backshell with Gold Finish on Shell (FR172)



Sizes	FR022 Quality level		ESA/ESCC Quality level	
	Descriptions	Part-Numbers	Descriptions	Part-Numbers
9	MDM-115288-6273-FR172-FR022	C115288-6273	MDM-115366-9693-FR172(3401)	C115366-9693
15	MDM-115288-6274-FR172-FR022	C115288-6274	MDM-115366-9694-FR172(3401)	C115366-9694
21	MDM-115288-6275-FR172-FR022	C115288-6275	MDM-115366-9695-FR172(3401)	C115366-9695
25	MDM-115288-6276-FR172-FR022	C115288-6276	MDM-115366-9696-FR172(3401)	C115366-9696
31	MDM-115288-6277-FR172-FR022	C115288-6277	MDM-115366-9697-FR172(3401)	C115366-9697
37	MDM-115288-6278-FR172-FR022	C115288-6278	MDM-115366-9698-FR172(3401)	C115366-9698

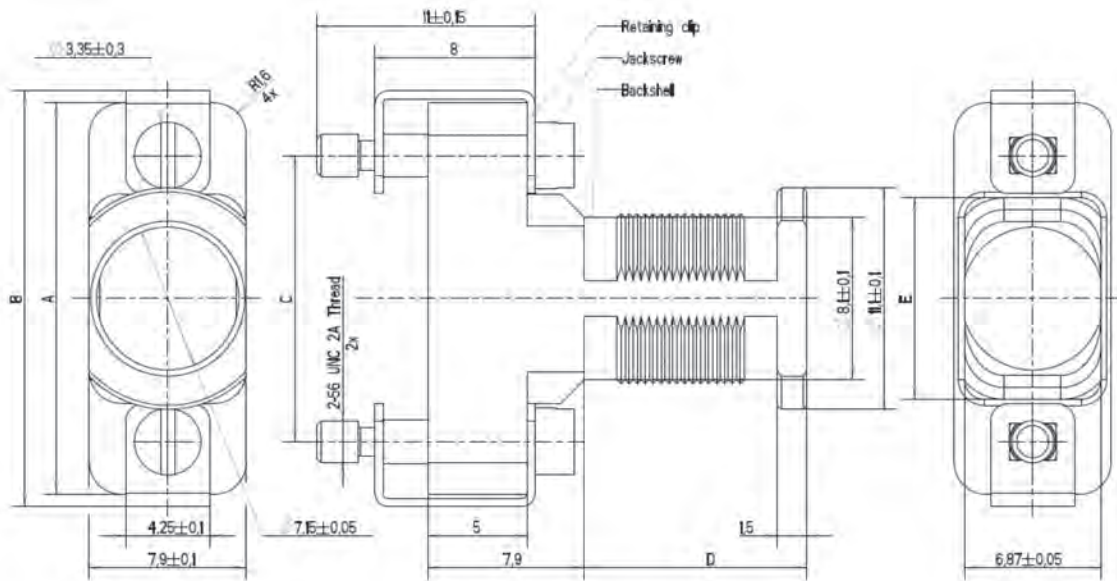
### Materials and Finishes:

<b>Shells</b>	Aluminium alloy Finish A174: 25,4 $\mu\text{m}$ min. (1000 $\mu\text{in}$ min.) electroless Nickel over Copper underlay Finish FR172: 2,54 $\mu\text{m}$ min. (100 $\mu\text{in}$ min.) Gold over 25,4 $\mu\text{m}$ min. (1000 $\mu\text{in}$ min.) electroless Nickel
<b>Grommet</b>	Fluorosilicone elastomere, pink color
<b>Clip retaining</b>	Stainless Steel type 303, passivated
<b>Jackscrews</b>	Stainless Steel type 303, passivated

# MDMA with Removable Crimp Contacts

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:



SHELL SIZE		A	B	C	D	E
9	Max.	19,53	20,50	14,20	7,70	10,05
	min.	19,73	21,30	14,50	8,10	10,15
15	Max.	23,35	24,30	18,01	10,90	13,86
	min.	23,55	25,10	18,31	11,30	13,96
21	Max.	27,15	28,10	21,82	13,90	17,67
	min.	27,35	28,90	22,12	14,30	17,77
25	Max.	29,70	30,60	24,36	15,40	20,21
	min.	29,90	31,40	24,66	15,80	20,31
31	Max.	33,50	34,40	28,17	16,90	24,02
	min.	33,70	35,20	28,47	17,30	24,12
37	Max.	37,30	38,20	31,98	18,00	27,83
	min.	37,50	39,00	32,28	18,40	27,93



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



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Dimensions subject to change*



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