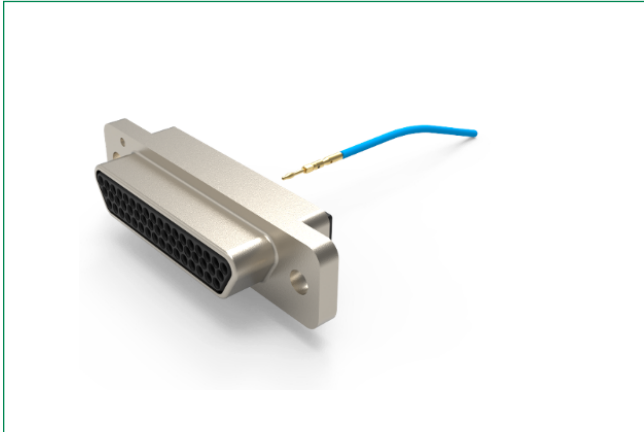


MDMB Series

Micro D Connectors with removable crimp contacts
NXTMC – CS FR048



| Type | Mating/Unmating Force (N max) | Unmating Force (N min) | Max weight without contacts nor accessories (g) |
|------------|-------------------------------|------------------------|---|
| Size 9 | 25 | 1.3 | 2.3 |
| Size 15 | 42 | 2 | 3.1 |
| Size 21 | 58 | 2.9 | 3.9 |
| Size 25 | 70 | 3.5 | 4.4 |
| Size 31 | 86 | 4.3 | 5.2 |
| Size 37 | 103 | 5.1 | 6 |
| Size 51 | 142 | 7.1 | 7.3 |
| Size 51-2R | 142 | 7.1 | 7.3 |

| Max weight per (g) | Pin contact | Skt contact |
|--------------------------------------|-------------|-------------|
| | 0.03 | 0.06 |
| Add : 0.4 g for float mount (code Y) | | |
| Add : 1 g for captive nut (code E) | | |

Electrical & Mechanical Characteristics

| Characteristics | Specifications | |
|--|----------------|--------------------------------|
| Working Voltage | 150 | Vrms max (at sea level) |
| | 100 | Vrms max (33000 m of altitude) |
| Rated Current AWG 24 | 3.5 | A max |
| Rated Current AWG 25 | 2.5 | A max |
| Rated Current AWG 26 | 2.5 | A max |
| Rated Current AWG 28 | 1.5 | A max |
| Contact Resistance (Low level current) | 6 | mΩ max (10mA / 20 mV DC) |
| Contact Resistance | 5 | mΩ max (Rated current) |
| Insulation Resistance | 5000 | MΩ min (500 V DC) |
| | 2500 | MΩ min* (500 V DC) |
| Voltage Proof | 600 | Vrms / 2mA (leakage current) |
| | 450 | Vrms / 2mA (leakage current)* |

*: For size 51 with 3 rows.

Description

High performance microminiature connectors for space applications. Meet the performance and dimensional requirements of the ESA/ESCC 3401 and MIL-DTL-83513 specifications. MDMB connectors compliant to ESCC specifications 3401/077 and 3401/078 for removable crimp contacts. Compatible with NXTMC MDM connectors, NXTMC Savers, NXTMC Accessories and NXTMC Backshells.

Suitable for use in space and high performance military / aerospace applications : Board to Board, Board to Cable, Cable to Cable. Removable contacts (Twist Pin technology).

Sizes available : 9, 15, 21, 25, 31, 37, 51 ways and 51-2R

For connectors 9, 15, 21, 25, 31, 37, 51-2R ways, accepted wires size:

Per contact, one insulated wire AWG24 or AWG26 or AWG 28, all with an insulation diameter of 0.97 mm max.

Per contact, one uninsulated solid wire AWG25.

Per contact, two insulated wires AWG28 with an insulation diameter of 0.82mm max.

For connectors 51 ways, accepted wires size :

Per contact, one insulated wire AWG24 or AWG26 or AWG28, all with an insulation diameter of 0.97 mm max.

Per contact, one uninsulated solid wire AWG25.

Pitch between two contacts rows : 1.09 mm (.043")

Pitch between two horizontally adjacent contacts : 1.27 mm (.050")

Features & Benefits

- Enhanced quality grade
- Compliant with commercial space grade quality level
- High performance Micropin™ contact system: "Twist pin" spring male contact and tubular socket contact
- Removable crimp type contacts
- Harnesses length flexibility
- Non-outgassing
- Low size connectors
- Low weight connectors

Applications

- Space equipment
- Satellites harnesses and payloads
- Avionics / Military
- Automotive / Medical / Industrial applications

Quality Level

Enhanced quality grade according to specification FR048.

Retention test

A dedicated tool is available to make the retention test of each contacts from the connectors (to be ordered separately).

Contact extraction

A dedicated tool is available to remove the contacts from the connectors (to be ordered separately).

Connector options

Optional interfacial seal can be applied for female connectors (to be ordered separately).

Optional captive nuts or float mounting.

Packaging

Individual ESD plastic bag.

Each MDMB connector is sold without dust cap.

MDMB Series

Micro D Connectors with removable crimp contacts

NXTMC – CS FR048

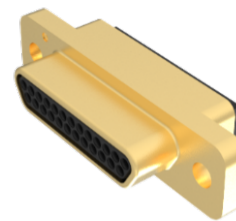
| Mechanical Characteristics | Specifications | |
|--|----------------|----------------------------|
| Contact retention in insert (no axial move allowed) | 22.25 | N min (sizes 9 to 37) |
| | 11 | N min (sizes 51 to 51-2R) |
| Engagement force | 1.667 | N max per contact |
| Seperation force | 0.137 | N min per contact |
| Mechanical endurance | 500 | Cycles (mating / unmating) |
| Temperature range | -55/+125 | °C |
| Storage temperature | -55/+125 | °C |

How To Order Connector

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

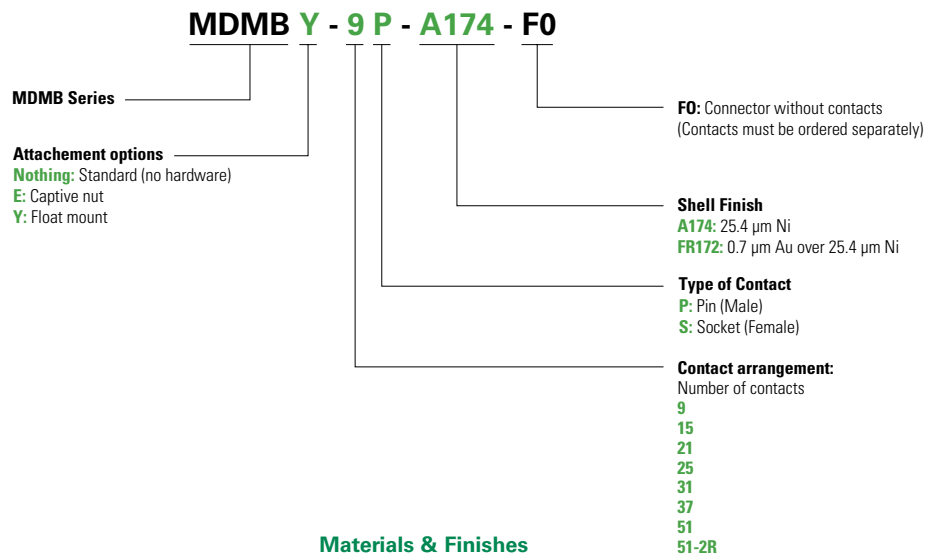


Pin connector with shell Nickel plated



Pin connector with shell Gold plated

FR048 Quality level:

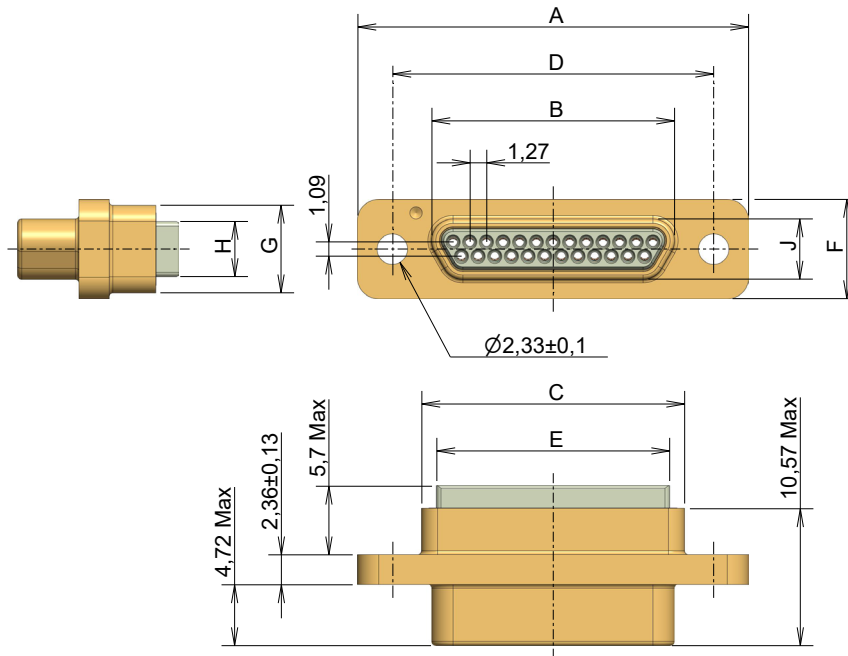


Materials & Finishes

| Components | Materials | Finishes |
|---------------------|--------------------------|--|
| Shell | Alluminum alloy | A174: 25.4 µm min Electroless Nickel FR172: 0.7 µm min Gold over 25.4 µm min Electroless Nickel |
| Insulator | LCP | UL 94-V0, Glass-filled, Black color |
| Female contacts | Copper alloy | 1.27 µm min Gold over Copper |
| Male contacts | Copper alloy | 1.27 µm min Gold over Copper |
| Accessories (E & Y) | Stainless steel | Passivated |
| Interfacial Seal | Fluorosilicone elastomer | Pink color |
| Encapsulant | Epoxy | Black |
| Male screwlocks | Stainless steel | Passivated |

MDMB SeriesMicro D Connectors with removable crimp contacts
NXTMC – CS FR048

Pin connector dimensions

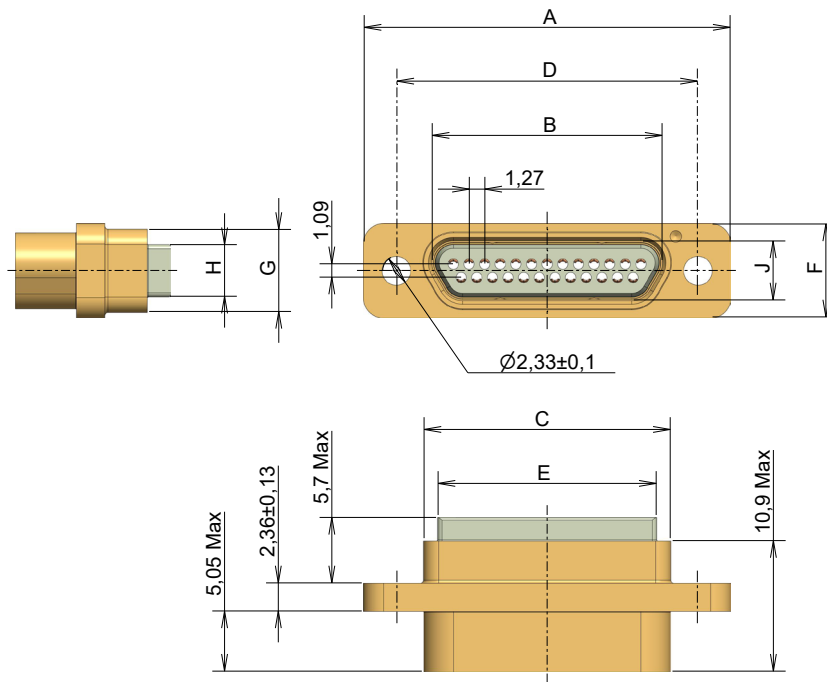


| Shell Size | A ±0.25 | B ±0.1 | C ±0.24 | D ±0.13 | E ±0.13 | F ±0.22 | G ±0.17 | H ±0.13 | J max |
|------------|------------|-----------|------------|------------|------------|------------|------------|------------|-------|
| 9P | 19.69 | 8.38 | 9.92 | 14.35 | 7.63 | 7.60 | 6.69 | 4.21 | 4.69 |
| 15P | 23.50 | 12.19 | 13.73 | 18.16 | 11.44 | 7.60 | 6.69 | 4.21 | 4.69 |
| 21P | 27.31 | 16.00 | 17.54 | 21.97 | 15.25 | 7.60 | 6.69 | 4.21 | 4.69 |
| 25P | 29.85 | 18.54 | 20.08 | 24.51 | 17.79 | 7.60 | 6.69 | 4.21 | 4.69 |
| 31P | 33.66 | 22.35 | 23.89 | 28.32 | 21.60 | 7.60 | 6.69 | 4.21 | 4.69 |
| 37P | 37.47 | 26.16 | 27.70 | 32.13 | 25.41 | 7.60 | 6.69 | 4.21 | 4.69 |
| 51P | 36.20 | 24.89 | 26.43 | 30.86 | 24.14 | 8.70 | 7.70 | 5.12 | 5.79 |
| 51P-2R | 46.36 | 35.05 | 36.59 | 41.02 | 34.30 | 7.60 | 6.69 | 4.10 | 4.69 |

MDMB Series

Micro D Connectors with removable crimp contacts
NXTMC – CS FR048

Socket connector dimensions



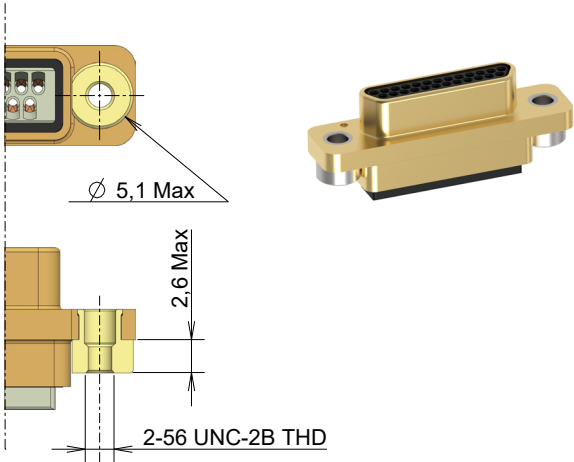
| Shell Size | A ±0.25 | B min | C ±0.24 | D ±0.13 | E ±0.13 | F ±0.22 | G ±0.17 | H ±0.13 | J min |
|------------|------------|----------|------------|------------|------------|------------|------------|------------|-------|
| 9S | 19.69 | 8.49 | 9.92 | 14.35 | 7.63 | 7.60 | 6.69 | 4.21 | 4.70 |
| 15S | 23.50 | 12.30 | 13.73 | 18.16 | 11.44 | 7.60 | 6.69 | 4.21 | 4.70 |
| 21S | 27.31 | 16.11 | 17.54 | 21.97 | 15.25 | 7.60 | 6.69 | 4.21 | 4.70 |
| 25S | 29.85 | 18.65 | 20.08 | 24.51 | 17.79 | 7.60 | 6.69 | 4.21 | 4.70 |
| 31S | 33.66 | 22.46 | 23.89 | 28.32 | 21.60 | 7.60 | 6.69 | 4.21 | 4.70 |
| 37S | 37.47 | 26.27 | 27.70 | 32.13 | 25.41 | 7.60 | 6.69 | 4.21 | 4.70 |
| 51S | 36.20 | 25.00 | 26.43 | 30.86 | 24.14 | 8.70 | 7.70 | 5.12 | 5.80 |
| 51S-2R | 46.36 | 35.16 | 36.59 | 41.02 | 34.30 | 7.60 | 6.69 | 4.10 | 4.70 |

MDMB Series

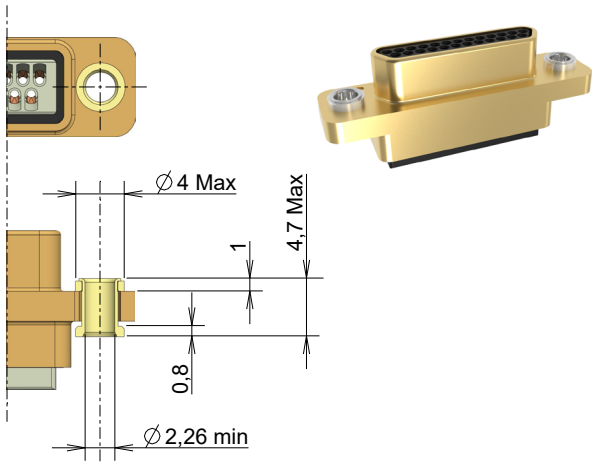
Micro D Connectors with removable crimp contacts
NXTMC – CS FR048

Attachment options

Captive nut (Option E)



Floating mount (Option Y)

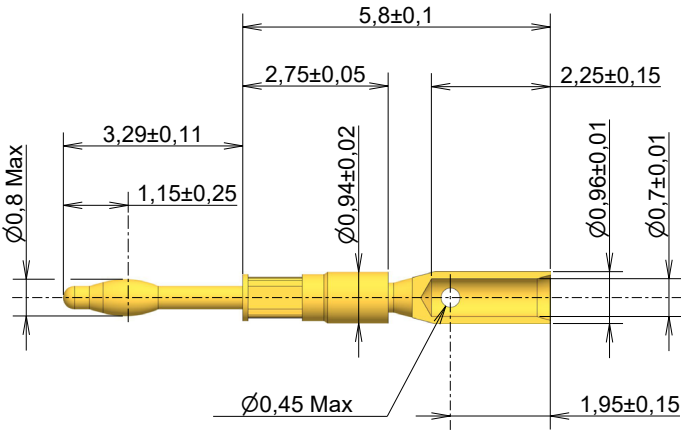


| Allowable float | (mm) |
|-----------------|------|
| Lateral | 0.40 |
| Axial | 0.40 |

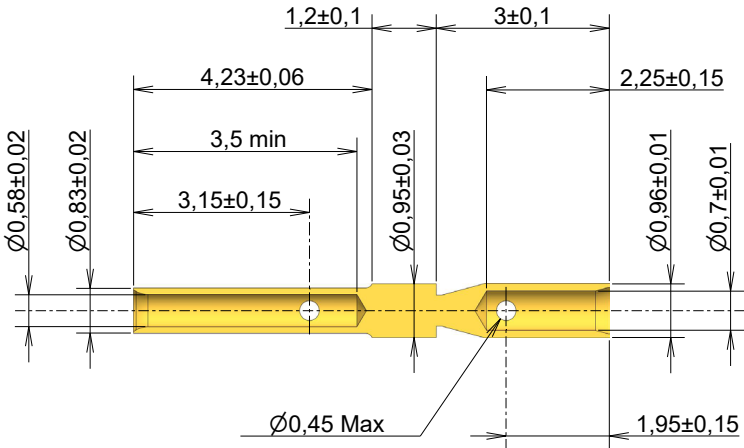
MDMB Series

Micro D Connectors with removable crimp contacts
NXTMC – CS FR048

Pin contact – 24/24 – Wire sizes AWG 24, 25, 26, 28 or 2x28



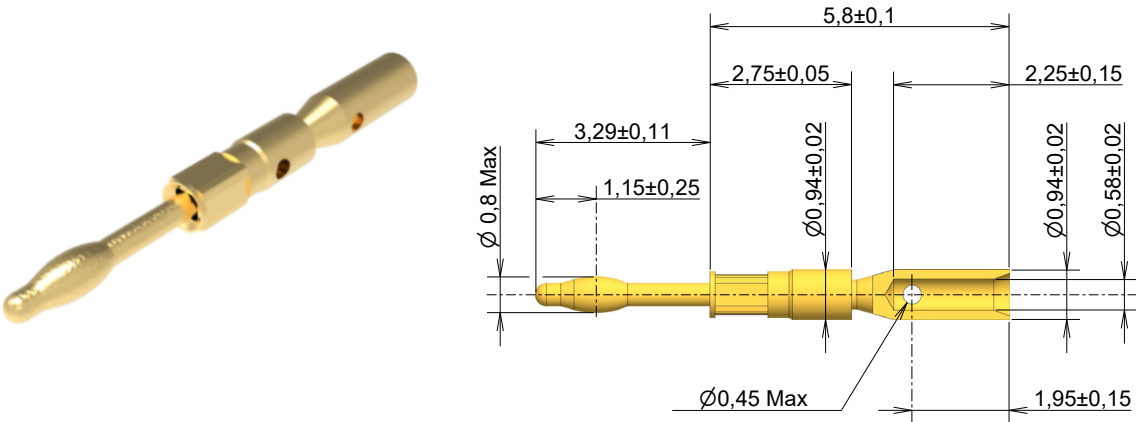
Socket contact – 24/24 – Wire sizes AWG 24, 25, 26, 28 or 2x28



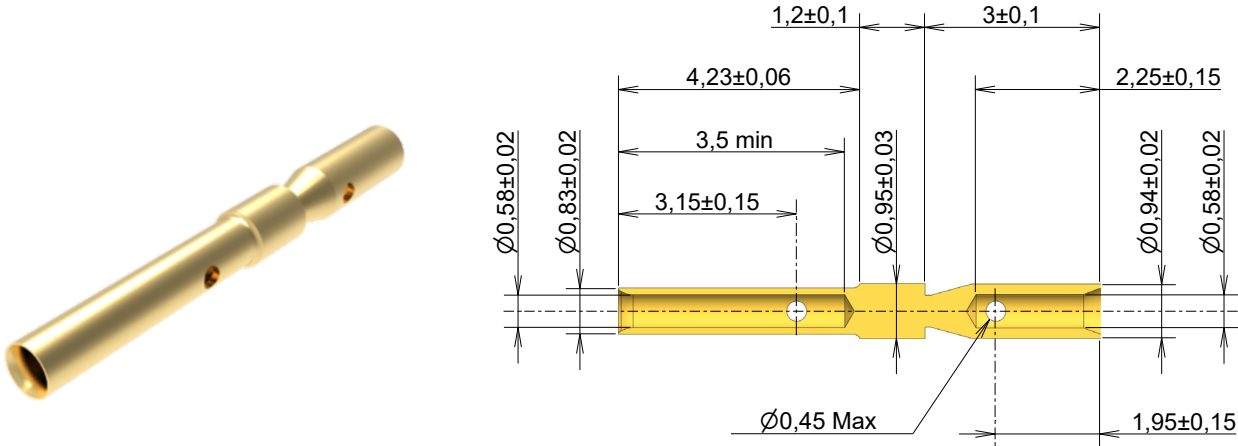
MDMB Series

Micro D Connectors with removable crimp contacts
NXTMC – CS FR048

Pin contact – 24/26 – Wire sizes AWG 25, 26, 28



Socket contact – 24/26 – Wire sizes AWG 25, 26, 28



MDMB Series

Micro D Connectors with removable crimp contacts

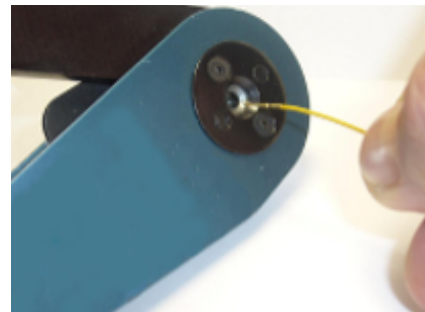
NXTMC – CS FR048

Crimping process & Cable insertion process

- Previously, strip the jacket of the wire : Length of 2.4mm ± 0.1
- Contact crimping process:
 1. Choose the dedicated locator corresponding to type of contact and install it on the crimping tool.
 2. Choose the correct selector: Position 2, on the crimping tool.
 3. Insert the wire into the contact body.



4. Insert the equipped contact into the crimping tool (see picture).
5. Crimp till opening of the crimping tool.



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



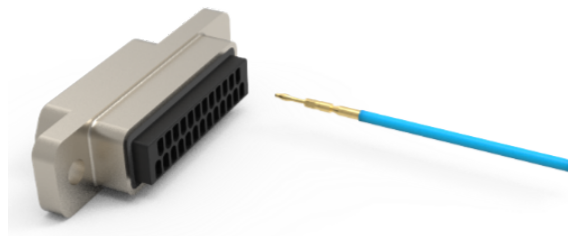
Locator for male contact:
MDMA-Locator-P-01
P/N: C115373-0001



Locator for female contact:
MDMA-Locator-S-01
P/N: C115373-0002



- Contact insertion process:
 1. Insert contact with wire into rear insulator cavity until positive stop.
 2. To avoid any stress on the retention clip, insert contact in the axis (without insertion angle).
 3. To be sure contact is securely locked, pull back slightly on the wire or use calibrated test retention tool below.



- Contact test retention tool
P/N: C115373-0009

This tool is equipped with 2 test tips at each end for using with Pin and Socket connectors.
This tool is delivered with :
- 2 protective caps.
- 1 calibration certificate referring to applicable force and travel.

If necessary, we can perform the calibration of tools already in service.

For a quote, use the P/N : C115373-0009 CA

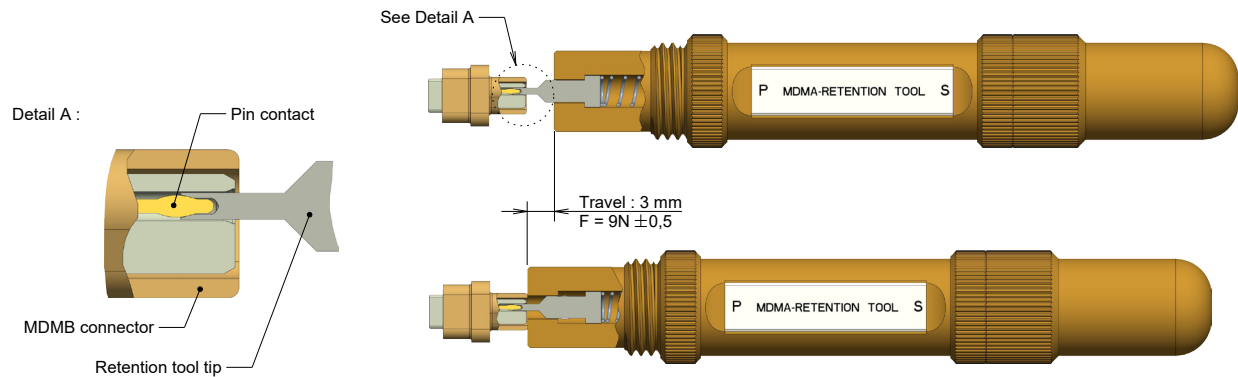


MDMB Series

Micro D Connectors with removable crimp contacts

NXTMC – CS FR048

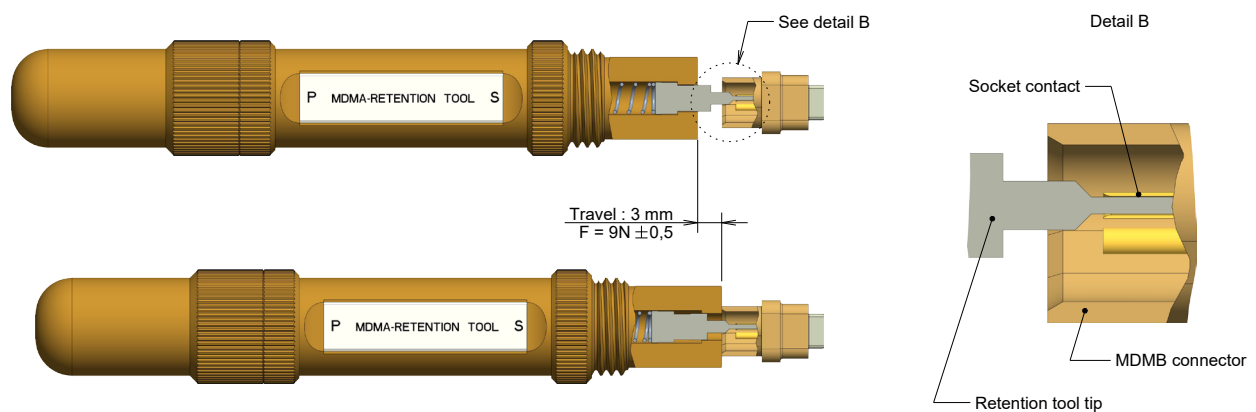
- For MDMB connectors with pin contacts:



Process:

1. Insert the tip of the tool around the Pin contact as shown.
2. Push the tool up to the stop with the front face of the connector.
3. Pull back slightly on wire to be sure contact is securely locked.

- For MDMB connectors with socket contacts:



Process:

1. Insert the tip of the tool inside the Socket contact as shown.
2. Push the tool up to the stop with the front face of the connector.
3. Pull back slightly on wire to be sure contact is securely locked.

MDMB Series

Micro D Connectors with removable crimp contacts
NXTMC – CS FR048

Contact and cable extraction process

1. Select contact extraction tool:

Connectors sizes 9 to 37:
MDMA-Extract tool-01
P/N : C115373-0006

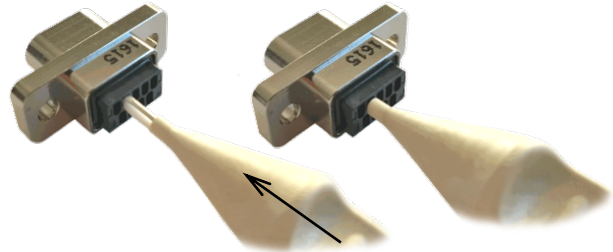


Connectors size 51 and 51-2R:
MDMA-Extract tool-02
P/N : C115373-0007

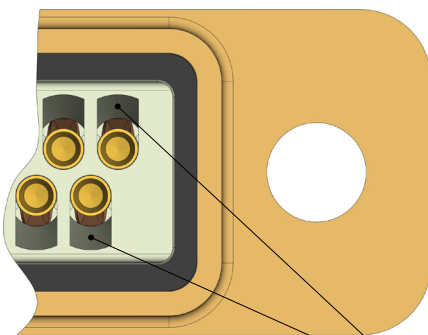


2. Insert tool tip into the contact cavity until tip bottoms against contact shoulder for releasing time.

Be careful to put the extraction tool in correct direction. Each contact cavity has flat area where to place the tool tip:

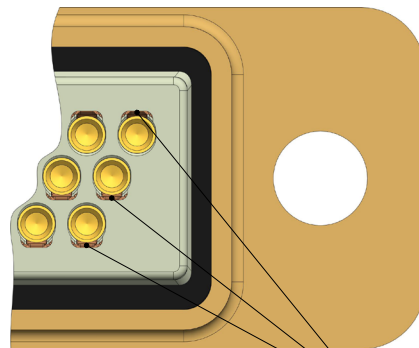


Connector size 9 to 37 and 51-2R



Insertion area for extraction tool

Connector size 51



Insertion area for extraction tool

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

MDMB Series

Micro D Connectors with removable crimp contacts

NXTMC – CS FR048

Accessories

| Interfacial seal (to be ordered separately) | Size | Description | P/N |
|---|---------------------------|-----------------------|--|
|  Weight: 0.1 g Max | 9 S | 340103212B | C115373-0050C |
| | 15 S | 340103213B | C115373-0051C |
| | 21 S | 340103214B | C115373-0052C |
| | 25 S | 340103215B | C115373-0053C |
| | 31 S | 340103216B | C115373-0054C |
| | 37 S | 340103217B | C115373-0055C |
| | 51 S | 340103219B | C115373-0056C |
| | 51-2R S | 340103269B | C115373-0057C |
| Male screwlocks (to be ordered separately) | NXTMC description | | P/N |
|  Weight for one pair: 0.88 g max Screwing torque: 0.3 ±0.02 Nm | MDM-115288-6916-FR022 | | C115288-6916 |
| Crimping tool and locators | Description | | P/N |
|  | M22520/2-01 | | C995-0001-584 |
|  | For male contacts | MDMA-LOCATOR-P-01 | C115373-0001 |
| | For female contacts | MDMA-LOCATOR-S-01 | C115373-0002 |
| Extraction tools | Connector size | Description | P/N |
|  | 9 to 37 | MDMA-EXTRACT TOOL-01 | C115373-0006 |
| | 51 and 51-2R | MDMA-EXTRACT TOOL-02 | C115373-0007 |
| Contact test retention tool | Description | | P/N |
|  | Tool | | MDMA-RETENTION TOOL V2 C115373-0009 |
| Dust cap (if additional need) | Size | Description | P/N |
|  | 9 P | MDM-DUSTCAP-9P-FR022 | C115288-6927 |
| | 9 S | MDM-DUSTCAP-9S-FR022 | C115288-6928 |
| | 15 P | MDM-DUSTCAP-15P-FR022 | C115288-6929 |
| | 15 S | MDM-DUSTCAP-15S-FR022 | C115288-6930 |
| | 21 P | MDM-DUSTCAP-21P-FR022 | C115288-6931 |
| | 21 S | MDM-DUSTCAP-21S-FR022 | C115288-6932 |
| | 25 P | MDM-DUSTCAP-25P-FR022 | C115288-6933 |
| | 25 S | MDM-DUSTCAP-25S-FR022 | C115288-6934 |
| | 31 P | MDM-DUSTCAP-31P-FR022 | C115288-6935 |
| | 31 S | MDM-DUSTCAP-31S-FR022 | C115288-6936 |
| | 37 P | MDM-DUSTCAP-37P-FR022 | C115288-6937 |
| | 37 S | MDM-DUSTCAP-37S-FR022 | C115288-6938 |
| | 51 P | MDM-DUSTCAP-51P-FR022 | C115288-6939 |
| | 51 S | MDM-DUSTCAP-51S-FR022 | C115288-6940 |
| 51-2R P | MDM-DUSTCAP-51-2R-P-FR022 | C115288-6947 | |
| 51-2R S | MDM-DUSTCAP-51-2R-S-FR022 | C115288-6948 | |

MDMB Series

Micro D Connectors with removable crimp contacts

NXTMC – CS FR048

Connectors Description and Part Numbers

| Shell plating | Contact type | Number of contacts | Attachment options | | | | | |
|---------------|--------------|--------------------|----------------------|--------------|--------------------------------|--------------|-----------------------------------|--------------|
| | | | Standard connector | | Connector with captive nut (E) | | Connector with floating mount (Y) | |
| | | | NXTMC description | P/N | NXTMC description | P/N | NXTMC description | P/N |
| Nickel plated | Pin | 9 | MDMB-9P-A174-FO | C115373-1100 | MDMBE-9P-A174-FO | C115373-1124 | MDMBY-9P-A174-FO | C115373-1112 |
| | | 15 | MDMB-15P-A174-FO | C115373-1102 | MDMBE-15P-A174-FO | C115373-1126 | MDMBY-15P-A174-FO | C115373-1114 |
| | | 21 | MDMB-21P-A174-FO | C115373-1104 | MDMBE-21P-A174-FO | C115373-1128 | MDMBY-21P-A174-FO | C115373-1116 |
| | | 25 | MDMB-25P-A174-FO | C115373-1106 | MDMBE-25P-A174-FO | C115373-1130 | MDMBY-25P-A174-FO | C115373-1118 |
| | | 31 | MDMB-31P-A174-FO | C115373-1108 | MDMBE-31P-A174-FO | C115373-1132 | MDMBY-31P-A174-FO | C115373-1120 |
| | | 37 | MDMB-37P-A174-FO | C115373-1110 | MDMBE-37P-A174-FO | C115373-1134 | MDMBY-37P-A174-FO | C115373-1122 |
| | | 51 | MDMB-51P-A174-FO | C115373-1136 | MDMBE-51P-A174-FO | C115373-1140 | MDMBY-51P-A174-FO | C115373-1138 |
| | | 51-2R | MDMB-51P-2R-A174-FO | C115373-1142 | MDMBE-51P-2R-A174-FO | C115373-1146 | MDMBY-51P-2R-A174-FO | C115373-1144 |
| | Socket | 9 | MDMB-9S-A174-FO | C115373-1101 | MDMBE-9S-A174-FO | C115373-1125 | MDMBY-9S-A174-FO | C115373-1113 |
| | | 15 | MDMB-15S-A174-FO | C115373-1103 | MDMBE-15S-A174-FO | C115373-1127 | MDMBY-15S-A174-FO | C115373-1115 |
| | | 21 | MDMB-21S-A174-FO | C115373-1105 | MDMBE-21S-A174-FO | C115373-1129 | MDMBY-21S-A174-FO | C115373-1117 |
| | | 25 | MDMB-25S-A174-FO | C115373-1107 | MDMBE-25S-A174-FO | C115373-1131 | MDMBY-25S-A174-FO | C115373-1119 |
| | | 31 | MDMB-31S-A174-FO | C115373-1109 | MDMBE-31S-A174-FO | C115373-1133 | MDMBY-31S-A174-FO | C115373-1121 |
| | | 37 | MDMB-37S-A174-FO | C115373-1111 | MDMBE-37S-A174-FO | C115373-1135 | MDMBY-37S-A174-FO | C115373-1123 |
| | | 51 | MDMB-51S-A174-FO | C115373-1137 | MDMBE-51S-A174-FO | C115373-1141 | MDMBY-51S-A174-FO | C115373-1139 |
| | | 51-2R | MDMB-51S-2R-A174-FO | C115373-1143 | MDMBE-51S-2R-A174-FO | C115373-1147 | MDMBY-51S-2R-A174-FO | C115373-1145 |
| Gold plated | Pin | 9 | MDMB-9P-FR172-FO | C115373-1150 | MDMBE-9P-FR172-FO | C115373-1174 | MDMBY-9P-FR172-FO | C115373-1162 |
| | | 15 | MDMB-15P-FR172-FO | C115373-1152 | MDMBE-15P-FR172-FO | C115373-1176 | MDMBY-15P-FR172-FO | C115373-1164 |
| | | 21 | MDMB-21P-FR172-FO | C115373-1154 | MDMBE-21P-FR172-FO | C115373-1178 | MDMBY-21P-FR172-FO | C115373-1166 |
| | | 25 | MDMB-25P-FR172-FO | C115373-1156 | MDMBE-25P-FR172-FO | C115373-1180 | MDMBY-25P-FR172-FO | C115373-1168 |
| | | 31 | MDMB-31P-FR172-FO | C115373-1158 | MDMBE-31P-FR172-FO | C115373-1182 | MDMBY-31P-FR172-FO | C115373-1170 |
| | | 37 | MDMB-37P-FR172-FO | C115373-1160 | MDMBE-37P-FR172-FO | C115373-1184 | MDMBY-37P-FR172-FO | C115373-1172 |
| | | 51 | MDMB-51P-FR172-FO | C115373-1186 | MDMBE-51P-FR172-FO | C115373-1190 | MDMBY-51P-FR172-FO | C115373-1188 |
| | | 51-2R | MDMB-51P-2R-FR172-FO | C115373-1192 | MDMBE-51P-2R-FR172-FO | C115373-1196 | MDMBY-51P-2R-FR172-FO | C115373-1194 |
| | Socket | 9 | MDMB-9S-FR172-FO | C115373-1151 | MDMBE-9S-FR172-FO | C115373-1175 | MDMBY-9S-FR172-FO | C115373-1163 |
| | | 15 | MDMB-15S-FR172-FO | C115373-1153 | MDMBE-15S-FR172-FO | C115373-1177 | MDMBY-15S-FR172-FO | C115373-1165 |
| | | 21 | MDMB-21S-FR172-FO | C115373-1155 | MDMBE-21S-FR172-FO | C115373-1179 | MDMBY-21S-FR172-FO | C115373-1167 |
| | | 25 | MDMB-25S-FR172-FO | C115373-1157 | MDMBE-25S-FR172-FO | C115373-1181 | MDMBY-25S-FR172-FO | C115373-1169 |
| | | 31 | MDMB-31S-FR172-FO | C115373-1159 | MDMBE-31S-FR172-FO | C115373-1183 | MDMBY-31S-FR172-FO | C115373-1171 |
| | | 37 | MDMB-37S-FR172-FO | C115373-1161 | MDMBE-37S-FR172-FO | C115373-1185 | MDMBY-37S-FR172-FO | C115373-1173 |
| | | 51 | MDMB-51S-FR172-FO | C115373-1187 | MDMBE-51S-FR172-FO | C115373-1191 | MDMBY-51S-FR172-FO | C115373-1189 |
| | | 51-2R | MDMB-51S-2R-FR172-FO | C115373-1193 | MDMBE-51S-2R-FR172-FO | C115373-1197 | MDMBY-51S-2R-FR172-FO | C115373-1195 |

Contacts description and Part Numbers

| Used for wire size AWG | Contact type | NXTMC description | P/N |
|----------------------------|--------------|-------------------|----------------|
| 25 / 26 / 28 | Pin | MDMB-CTPIN01 | C331-8752-000D |
| | Socket | MDMB-CTSKT01 | C252-8838-000D |
| 24 / 25 / 26 / 28 / 2 x 28 | Pin * | MDMB-CTPIN02 | C331-8754-000D |
| | Socket * | MDMB-CTSKT02 | C252-8844-000D |

* : To be preferred. Designed for all wires combination.