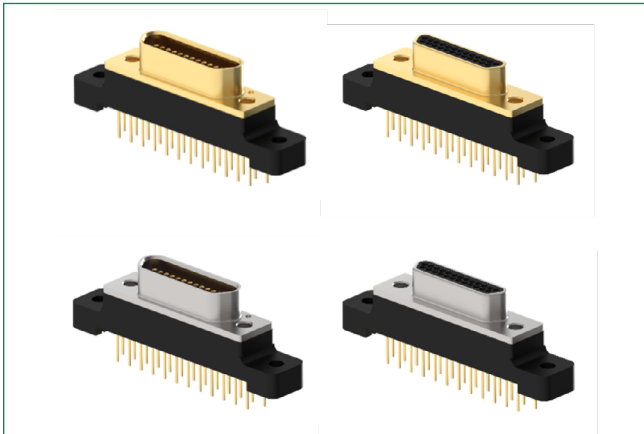


MDM Series

Micro D connectors

PCB straight termination NXTMC – CS FR022



| Type | Mating/Unmating Force (N max) | Unmating Force (N min) | Max weight without accessories (g) |
|---------|-------------------------------|------------------------|------------------------------------|
| Size 9 | 25 | 1.3 | 4.6 |
| Size 15 | 42 | 2.0 | 5.0 |
| Size 21 | 58 | 2.9 | 5.4 |
| Size 25 | 70 | 3.5 | 6.5 |
| Size 31 | 86 | 4.3 | 7.7 |
| Size 37 | 103 | 5.1 | 9.2 |
| Size 51 | 142 | 7.1 | 10.5 |

Electrical & Mechanical Characteristics

| Characteristics | Specifications | |
|----------------------------------------|----------------|--------------------------------|
| Working voltage | 150 | Vrms max (at sea level) |
| | 100 | Vrms max (33000 m of altitude) |
| Rated current | 2.5 | A max |
| Contact resistance (Low level current) | 25 | mΩ max (10mA / 20 mV DC)* |
| Contact resistance | 25 | mΩ max (Rated current)* |
| Insulation resistance | 5000 | MΩ min (500 V DC) |
| Voltage proof | 600 | Vrms / 2mA (leakage current) |
| Contact retention in insert | 22.25 | N min (no axial move allowed) |
| Engagement force | 1.667 | N max per contact |
| Separation force | 0.137 | N min per contact |
| Mechanical endurance | 500 | Cycles (mating / unmating) |
| Soldering temperature | 260° | °C (10 seconds max) |
| Temperature range | -55/+125 | °C |
| Storage temperature | -55/+125 | °C |

*Include all parts of the contact including the contact body and the wire leads.

Description

High performance microminiature connectors for space applications. Meet the performance and dimensional requirements of the ESCC 3401 specifications.

Compliant to ESCC specification 3401/029.

Suitable for use in space Board to Cable applications.

Twist Pin contacts technology.

Sizes available : 9, 15, 21, 25, 31, 37, 51 ways

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

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

Features & Benefits

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

Applications

- Space equipment
- Satellites harnesses and payloads

Quality Level

Enhanced grade according to specification FR022.

Packaging

Individual plastic tube.

Each MDM connector is sold with a dust cap.

Each MDM socket connector is sold with an interfacial seal.

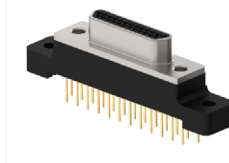
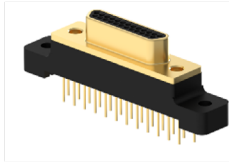
MDM Series

Micro D connectors

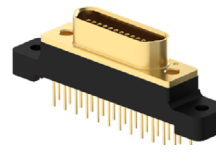
PCB straight termination NXTMC – CS FR022

How To Order Connector

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

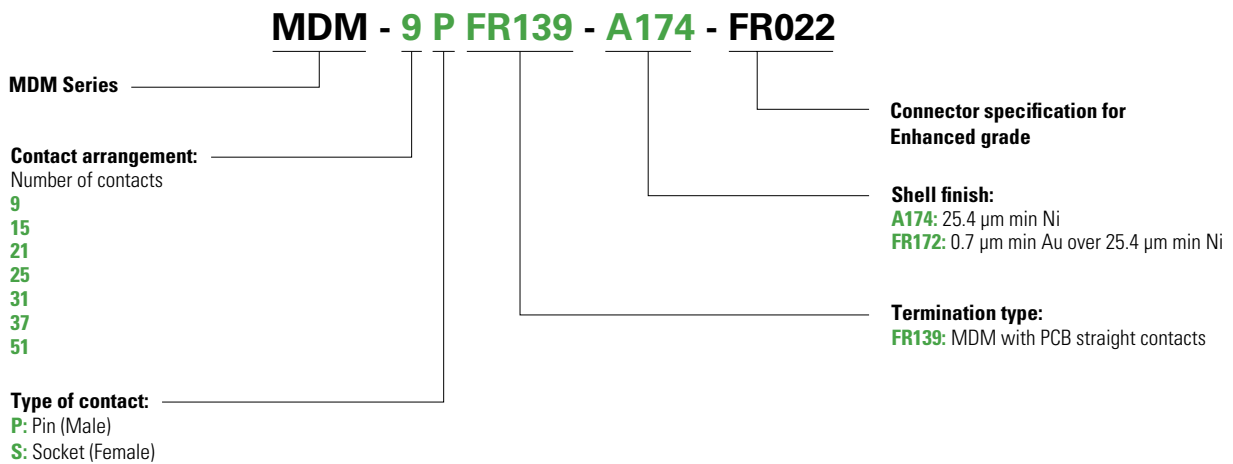


Pin connectors with shell Gold plated or shell Nickel plated



Socket connectors with shell Gold plated or shell Nickel plated

FR022 specification:



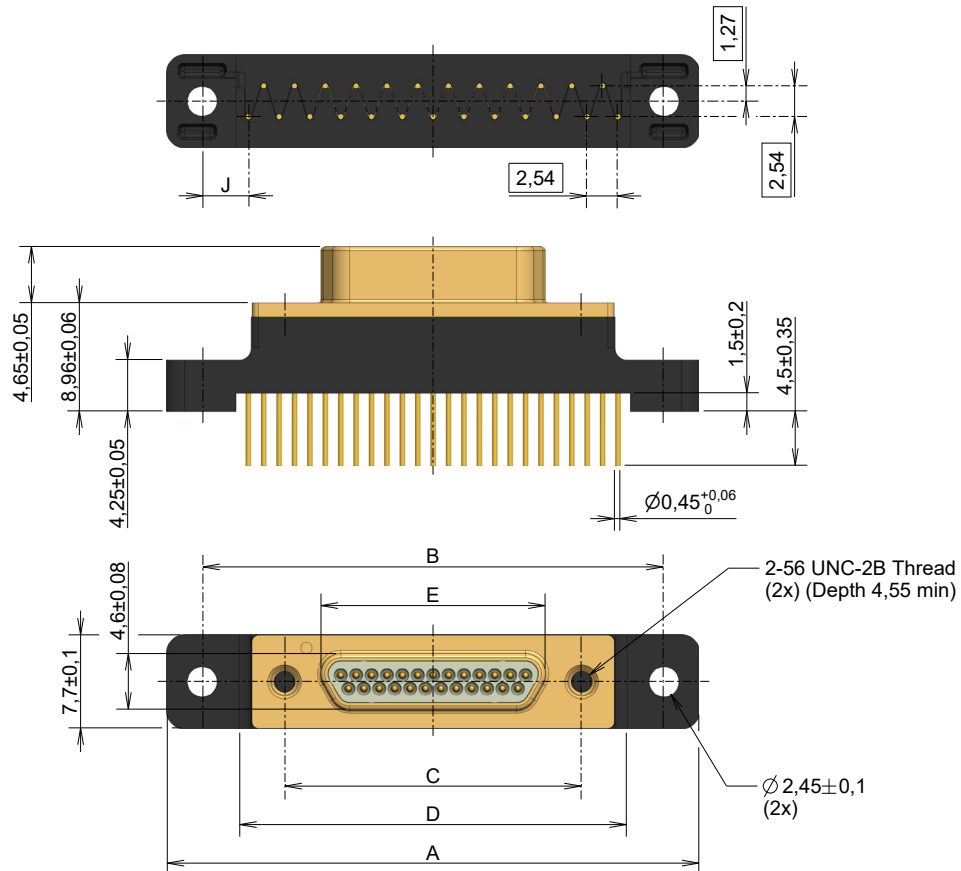
Materials & Finishes

| Components | Materials | Finishes |
|------------------|--------------------------|------------------------------------------------------------------------------------------------------|
| Shell | Aluminum 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 |
| Housing | 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 |
| Interfacial seal | Fluorosilicone elastomer | Pink color |
| Dust cap | Polyethylene | Black color, antistatic |
| Encapsulant | Epoxy | Black color |

MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022

Pin connector dimensions - FR139 - Size 9 to 37

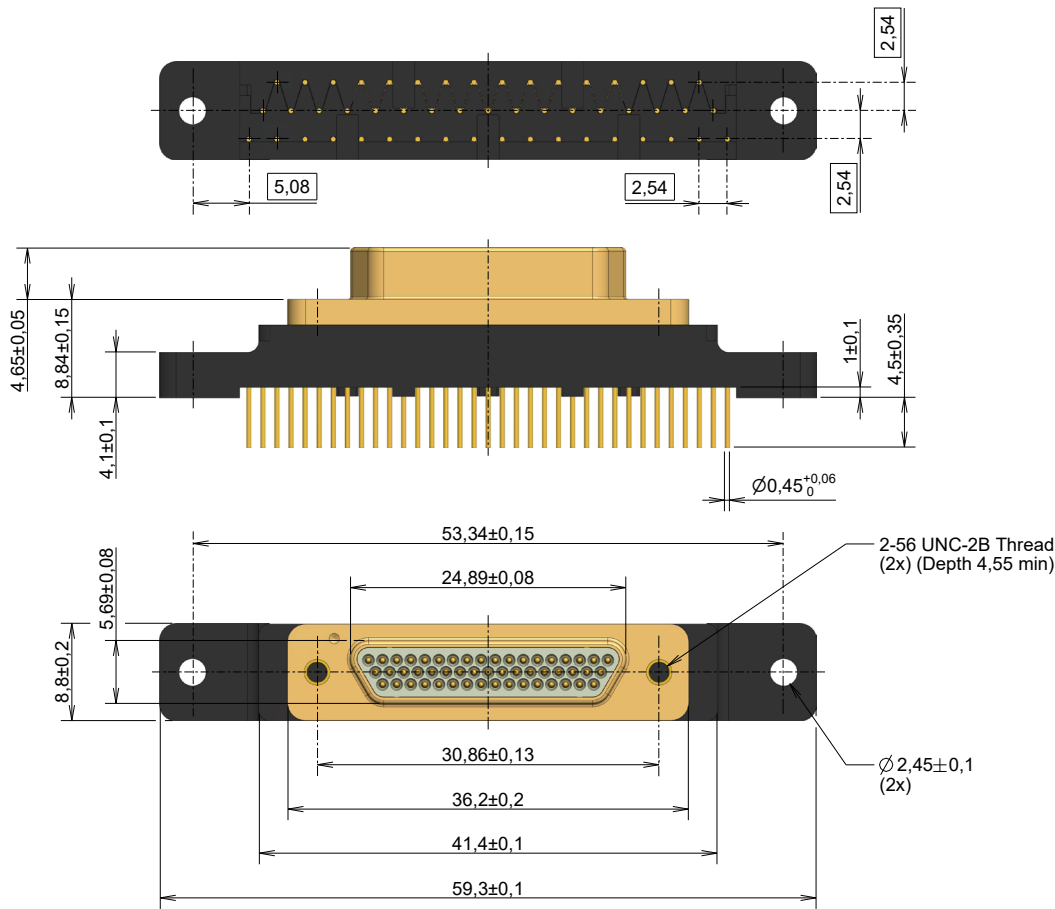


| Shell Size | A ±0.1 | B ±0.15 | C ±0.05 | D ±0.1 | E ±0.07 | J Typ |
|------------|-----------|------------|------------|-----------|------------|----------|
| 9P | 35.10 | 29.21 | 14.35 | 19.70 | 8.39 | 9.525 |
| 15P | 35.10 | 29.21 | 18.16 | 23.51 | 12.20 | 5.715 |
| 21P | 42.80 | 36.83 | 21.97 | 27.30 | 16.01 | 5.715 |
| 25P | 44.00 | 38.10 | 24.51 | 30.00 | 18.55 | 3.81 |
| 31P | 51.60 | 45.72 | 28.32 | 33.80 | 22.36 | 3.81 |
| 37P | 59.30 | 53.34 | 32.13 | 37.60 | 26.17 | 3.81 |

MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022

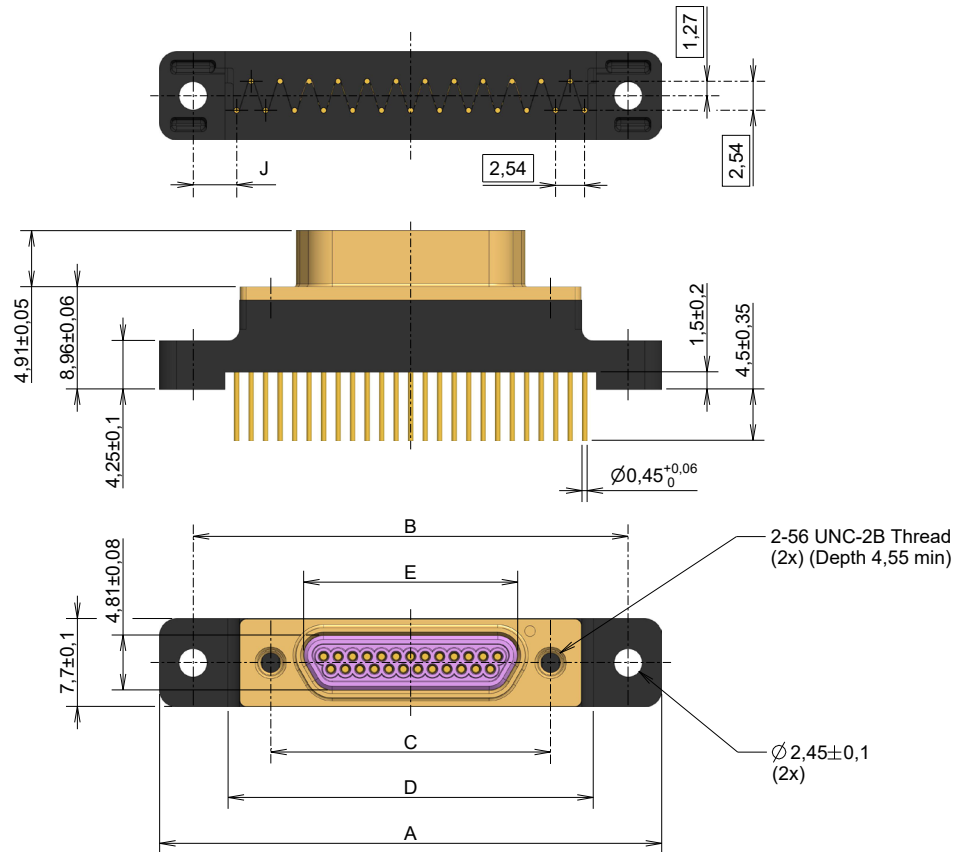
Pin connector dimensions - FR139 - Size 51



MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022

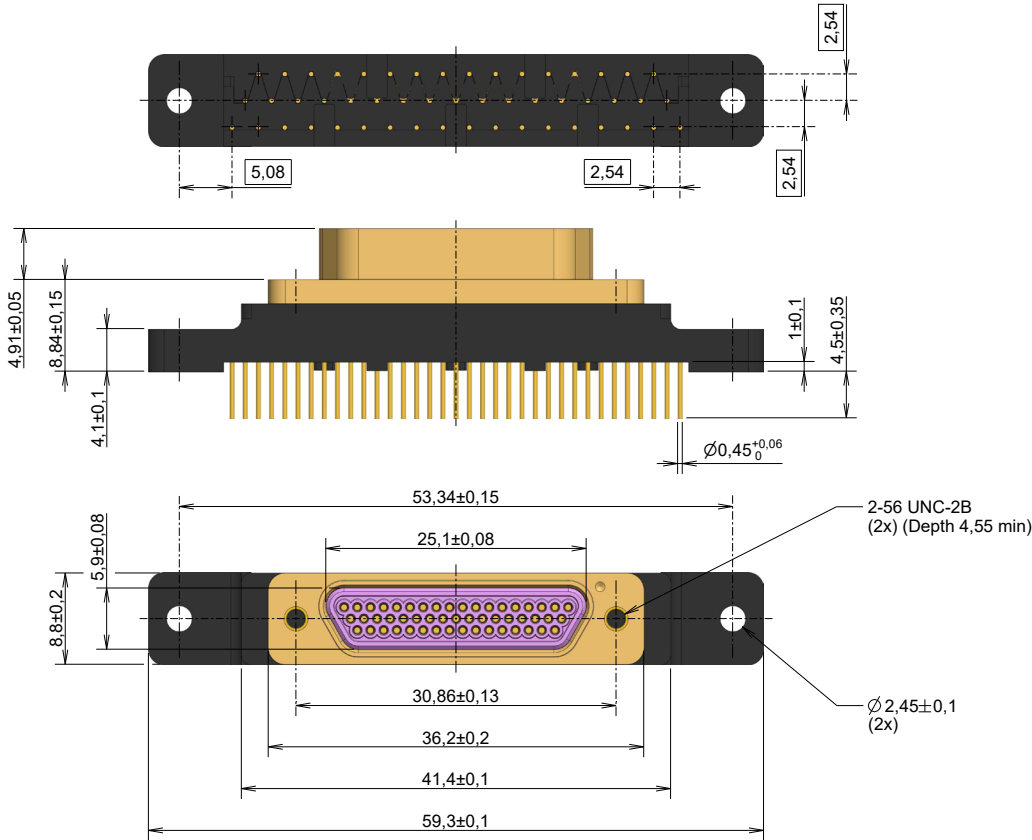
Socket connector dimensions - FR139 - Size 9 to 37



| Shell Size | A ± 0.1 | B ± 0.15 | C ± 0.05 | D ± 0.1 | E ± 0.07 | J Typ |
|------------|----------------|-----------------|-----------------|----------------|-----------------|----------|
| 9S | 35.10 | 29.21 | 14.35 | 19.70 | 8.60 | 9.525 |
| 15S | 35.10 | 29.21 | 18.16 | 23.51 | 12.41 | 5.715 |
| 21S | 42.80 | 36.83 | 21.97 | 27.30 | 16.22 | 5.715 |
| 25S | 44.00 | 38.10 | 24.51 | 30.00 | 18.76 | 3.81 |
| 31S | 51.60 | 45.72 | 28.32 | 33.80 | 22.57 | 3.81 |
| 37S | 59.30 | 53.34 | 32.13 | 37.60 | 26.38 | 3.81 |

MDM Series
Micro D connectors
PCB straight termination NXTMC – CS FR022

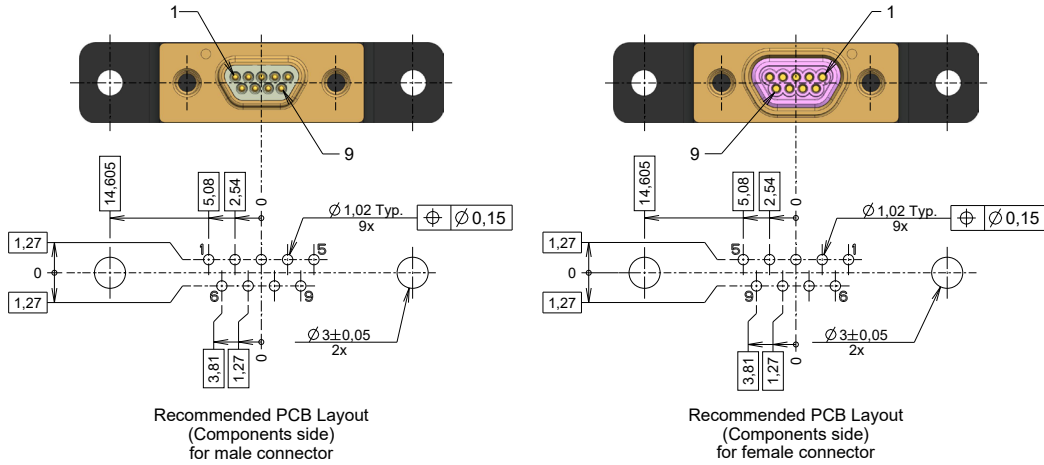
Socket connector dimensions - FR139 - Size 51



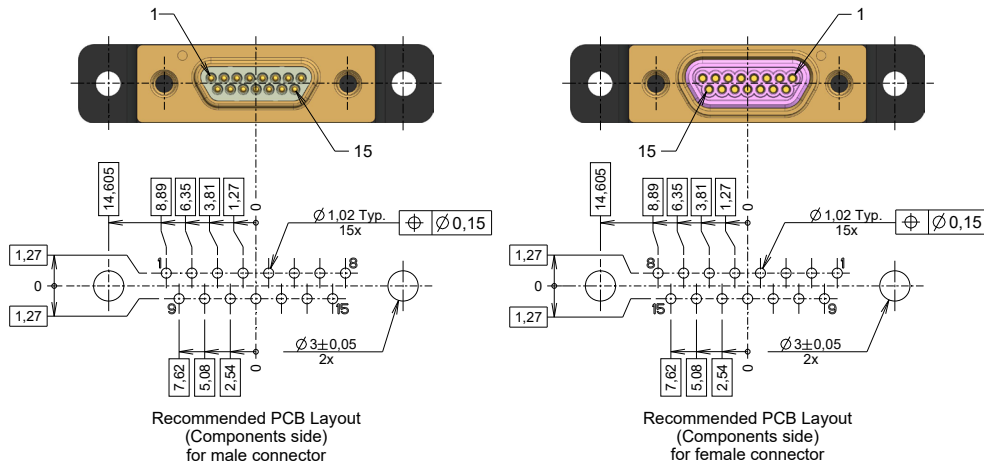
MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022

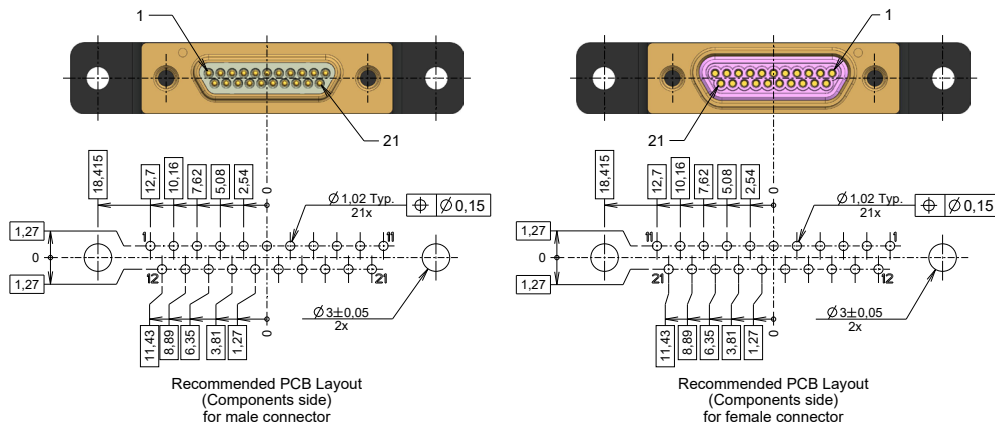
PCB layout – FR139 - 9 positions



PCB layout – FR139 - 15 positions



PCB layout – FR139 - 21 positions

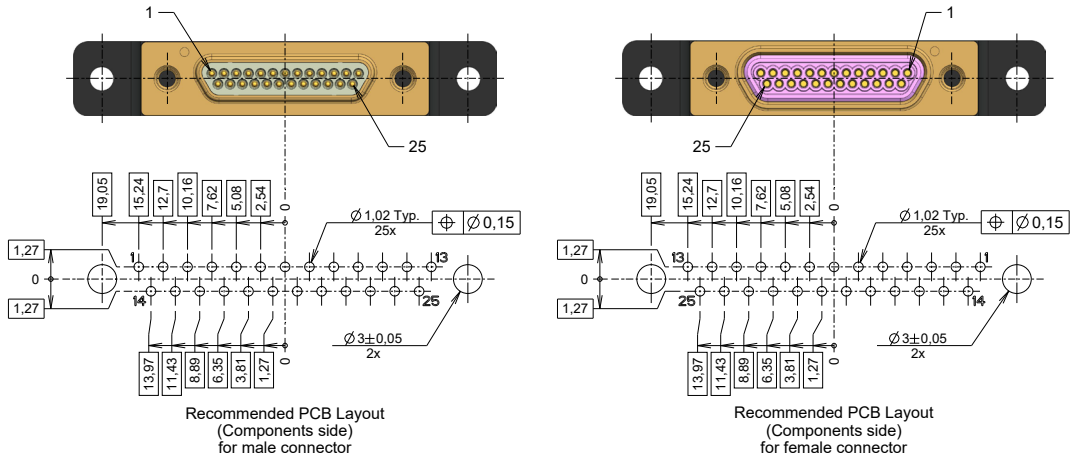


MDM Series

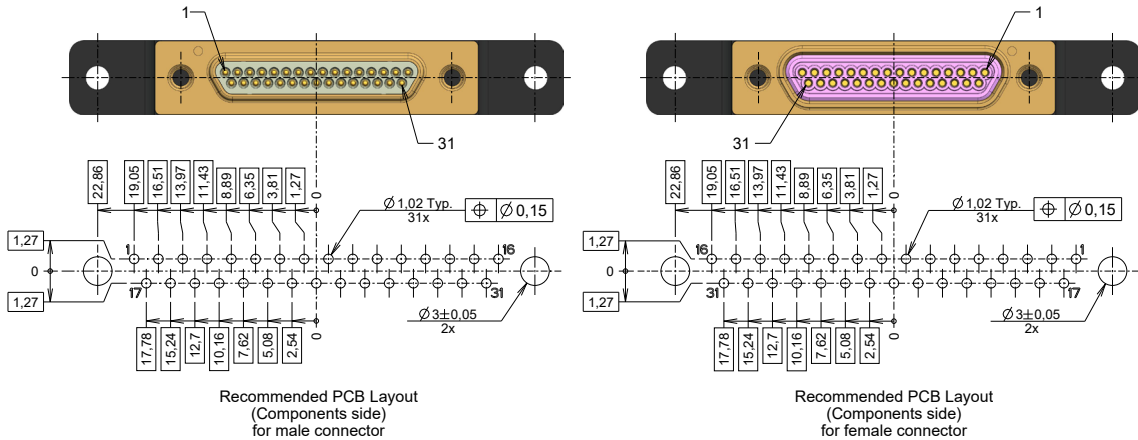
Micro D connectors

PCB straight termination NXTMC – CS FR022

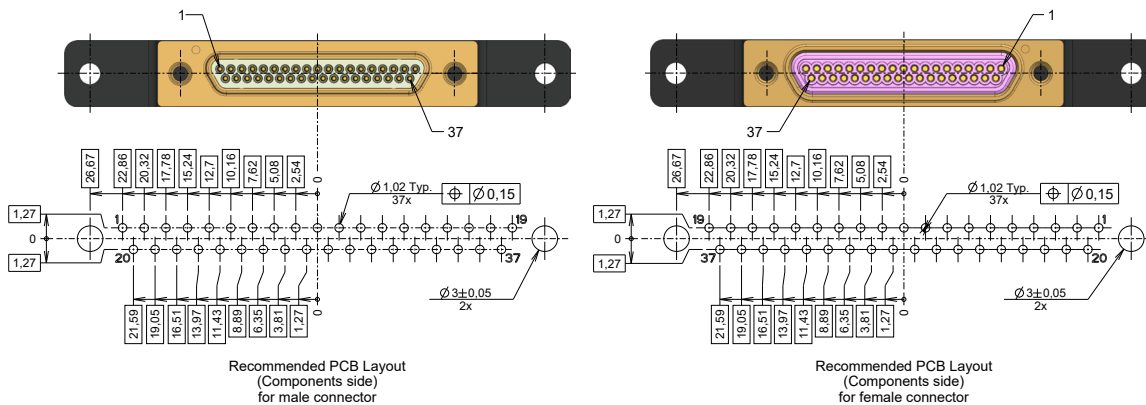
PCB layout – FR139 - 25 positions



PCB layout – FR139 - 31 positions



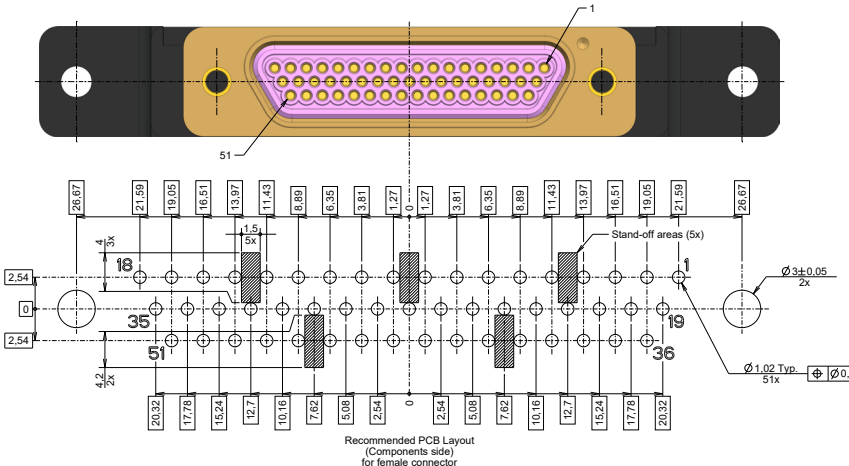
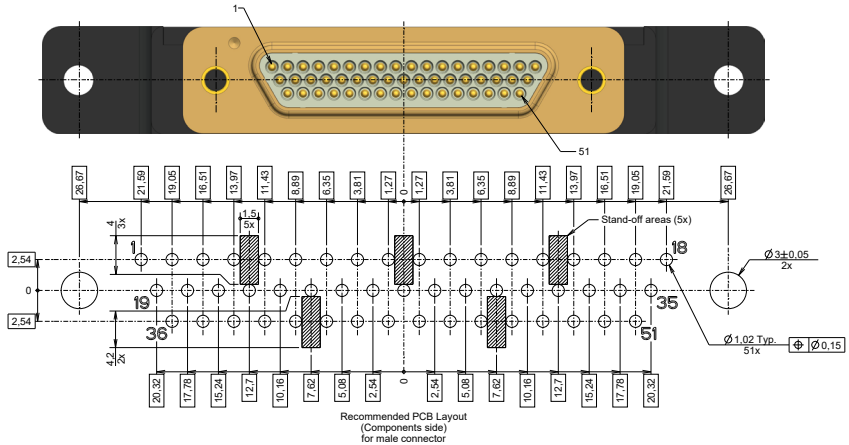
PCB layout – FR139 - 37 positions



MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022


PCB layout – FR139 - 51 positions




MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022

Accessories

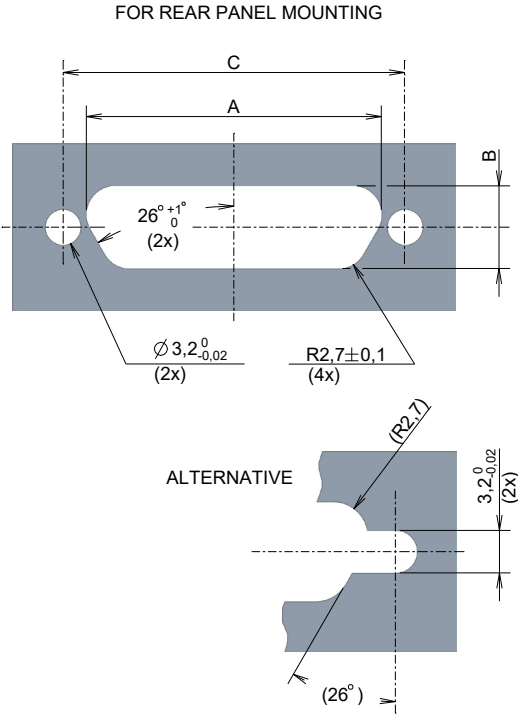
| Dust cap (if additional need) | Size | Description | P/N |
|-----------------------------------------------------------------------------------|------|-----------------------|--------------|
|  | 9P | MDM-DUSTCAP-9P-FR022 | C115288-6927 |
| | 9S | MDM-DUSTCAP-9S-FR022 | C115288-6928 |
| | 15P | MDM-DUSTCAP-15P-FR022 | C115288-6929 |
| | 15S | MDM-DUSTCAP-15S-FR022 | C115288-6930 |
| | 21P | MDM-DUSTCAP-21P-FR022 | C115288-6931 |
| | 21S | MDM-DUSTCAP-21S-FR022 | C115288-6932 |
| | 25P | MDM-DUSTCAP-25P-FR022 | C115288-6933 |
| | 25S | MDM-DUSTCAP-25S-FR022 | C115288-6934 |
| | 31P | MDM-DUSTCAP-31P-FR022 | C115288-6935 |
| | 31S | MDM-DUSTCAP-31S-FR022 | C115288-6936 |
| | 37P | MDM-DUSTCAP-37P-FR022 | C115288-6937 |
| | 37S | MDM-DUSTCAP-37S-FR022 | C115288-6938 |
| | 51P | MDM-DUSTCAP-51P-FR022 | C115288-6939 |
| | 51S | MDM-DUSTCAP-51S-FR022 | C115288-6940 |

| Female screwlocks for rear panel mounting (To be ordered separately) | Panel thickness (mm) | NXTMC description | P/N |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|--------------|
|  <p>Weight for one pair: 0.86 g max</p> | 0.7 < Thickness < 1.1 | MDM-115288-6923-FR022 | C115288-6923 |
| | 1.1 < Thickness < 1.5 | MDM-115288-6924-FR022 | C115288-6924 |
| | 1.5 < Thickness < 2.0 | MDM-115288-6925-FR022 | C115288-6925 |

| Female screwlocks, mounting without panel (To be ordered separately) | NXTMC description | P/N |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|
|  <p>Weight for one pair: 1.32 g max</p> | MDM-115288-6922-FR022 | C115288-6922 |

MDM Series
 Micro D connectors
 PCB straight termination NXTMC – CS FR022

Panel cutouts – FR139 – Size 9 to 51



| Rear panel mounting | | | |
|---------------------|------------|------------|-----------|
| Shell Size | A ±0.05 | B ±0.05 | C ±0.1 |
| 9 | 10.56 | 6.77 | 14.35 |
| 15 | 14.37 | 6.77 | 18.16 |
| 21 | 18.18 | 6.77 | 21.97 |
| 25 | 20.72 | 6.77 | 24.51 |
| 31 | 24.53 | 6.77 | 28.32 |
| 37 | 28.34 | 6.77 | 32.13 |
| 51 | 27.07 | 7.86 | 30.86 |

MDM Series

Micro D connectors
PCB straight termination NXTMC – CS FR022

Connectors description and Part Numbers

| Shell plating | Contact type | Number of contacts | Standard profile FR139 | |
|---------------|--------------|--------------------|---------------------------|--------------|
| | | | NXTMC description | P/N |
| Nickel plated | Pin | 9 | MDM-9PFR139-A174-FR022 | C115288-6635 |
| | | 15 | MDM-15PFR139-A174-FR022 | C115288-6637 |
| | | 21 | MDM-21PFR139-A174-FR022 | C115288-6639 |
| | | 25 | MDM-25PFR139-A174-FR022 | C115288-6641 |
| | | 31 | MDM-31PFR139-A174-FR022 | C115288-6643 |
| | | 37 | MDM-37PFR139-A174-FR022 | C115288-6645 |
| | | 51 | MDM-51PFR139-A174-FR022 | C115288-6157 |
| | Socket | 9 | MDM-9SFR139-A174-FR022 | C115288-6636 |
| | | 15 | MDM-15SFR139-A174-FR022 | C115288-6638 |
| | | 21 | MDM-21SFR139-A174-FR022 | C115288-6640 |
| | | 25 | MDM-25SFR139-A174-FR022 | C115288-6642 |
| | | 31 | MDM-31SFR139-A174-FR022 | C115288-6644 |
| | | 37 | MDM-37SFR139-A174-FR022 | C115288-6646 |
| | | 51 | MDM-51SFR139-A174-FR022 | C115288-6158 |
| Gold plated | Pin | 9 | MDM-9PFR139-FR172-FR022 | C115288-6649 |
| | | 15 | MDM-15PFR139-FR172-FR022 | C115288-6651 |
| | | 21 | MDM-21PFR139-FR172-FR022 | C115288-6653 |
| | | 25 | MDM-25PFR139-FR172-FR022 | C115288-6655 |
| | | 31 | MDM-31PFR139-FR172-FR022 | C115288-6657 |
| | | 37 | MDM-37PFR139-FR172-FR022 | C115288-6659 |
| | | 51 | MDM-51PFR139-FR172-FR022 | C115288-6159 |
| | Socket | 9 | MDM-9SFR139-FR172-FR022 | C115288-6650 |
| | | 15 | MDM-15SFR139-FR172-FR022 | C115288-6652 |
| | | 21 | MDM-21SFR139-FR172-FR022 | C115288-6654 |
| | | 25 | MDM-25SFR139-FR172-FR022 | C115288-6656 |
| | | 31 | MDM-31SFR139-FR172-FR022 | C115288-6658 |
| | | 37 | MDM-37SFR139-FR172-FR022 | C115288-6660 |
| | | 51 | MDM-51SFR139-FR172-FR022 | C115288-6160 |