

MDM Series

Micro D Connectors solder bucket terminations

MCMX - CS FR061



| Type | Mating/Unmating Force (N max) | Unmating Force (N min) | Max weight with contacts and without accessories nor wire (g) |
|---------|-------------------------------|------------------------|---|
| Size 9 | 25 | 1.3 | 2.4 |
| Size 15 | 42 | 2 | 3.3 |
| Size 21 | 58 | 2.9 | 4.2 |
| Size 25 | 70 | 3.5 | 4.8 |
| Size 31 | 86 | 4.3 | 5.7 |
| Size 37 | 103 | 5.1 | 6.7 |
| Size 51 | 142 | 7.1 | 8.2 |

Electrical & Mechanical Characteristics

| Characteristics | Specifications | |
|--|----------------|---------------------------------|
| Working voltage | 150 | Vrms max (at sea level) |
| | 100 | Vrms max (33000 m of altitude) |
| 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) |
| Dielectric withstanding voltage | 600 | Vrms (60 Hz AC) (at sea level) |
| | 150 | Vrms (60 Hz AC) (at 70000 feet) |
| 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) |
| Temperature range | -55/+125 | °C |
| Storage temperature | -55/+125 | °C |

Description

High performance microminiature connectors for military applications. Meet the performance and dimensional requirements of the MIL-DTL-83513 specifications.

Compliant to MIL-DTL-83513/1, MIL-DTL-83513/2.

Suitable for use in high performance military / aerospace applications : Board to Board, Board to Cable, Cable to Cable.

Twist Pin contacts technology.

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

Accepted wires size : Insulated wire AWG26 or smaller

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

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

Features & Benefits

- Compliant with commercial military grade quality level
- High performance Micropin™ contact system: "Twist pin" spring male contact and tubular socket contact
- Solderable contacts
- Harnesses length flexibility
- Low size connectors
- Low weight connectors

Applications

- Defense
- Military
- Avionics

Quality Level

Commercial grade according to specification FR061.

Process to use it

- Wire stripping.
- Wire soldering onto contacts.
- Wire cable installed by the end user.

Packaging

Individual ESD plastic bag.

Each MCMX socket connector is sold with an interfacial seal.

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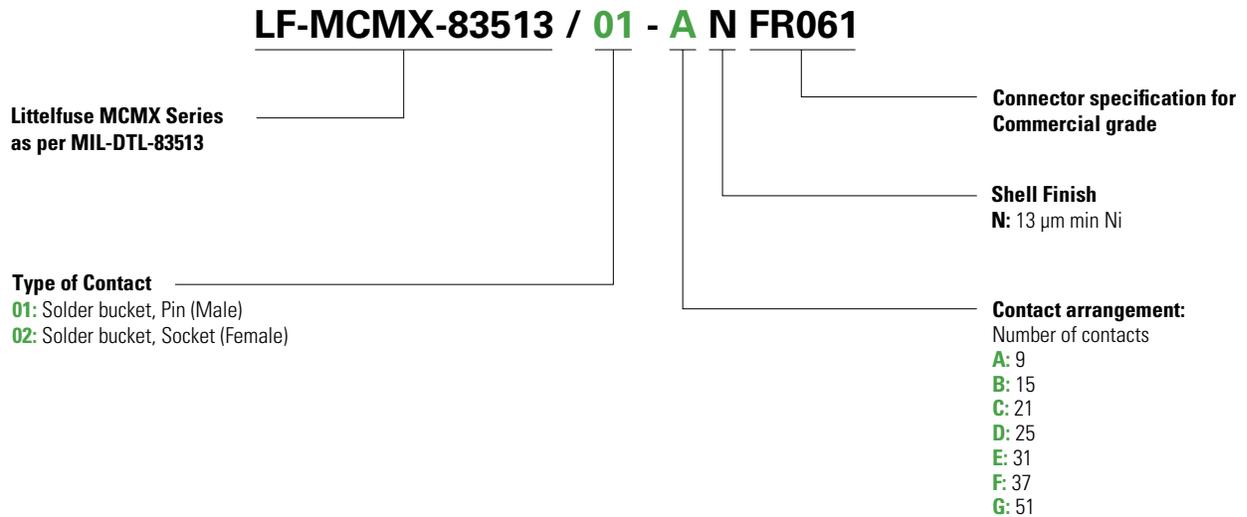
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How To Order Connector

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

FR061 specification:



Materials & Finishes

| Components | Materials | Finishes |
|------------------|--------------------------|--|
| Shell | Alluminum alloy | 13 µm min Electroless Nickel (SC2 / ASTM B733) |
| 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 |
| Interfacial Seal | Fluorosilicone elastomer | Pink color |
| Encapsulant | Epoxy | Black color |
| Screwlocks | Stainless steel | Passivated |

Wire weight :

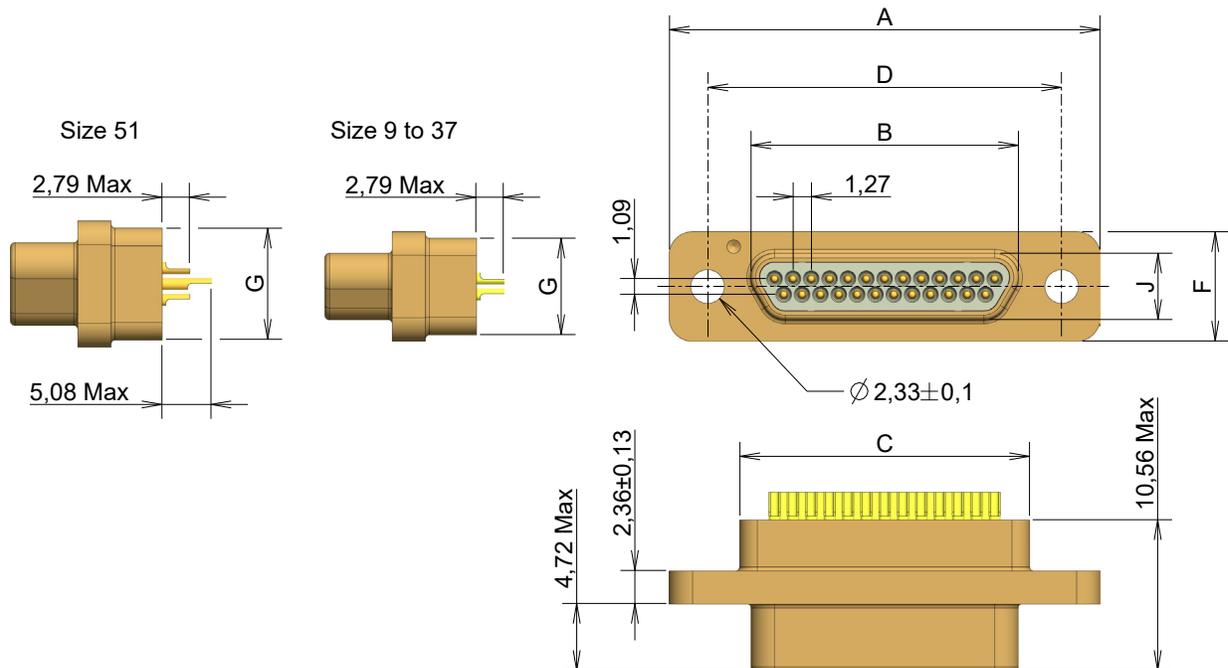
M22759 / 11 - 26 - * : 2.83 g / m

M22759 / 33 - 26 - * : 2.08 g / m

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Pin connector dimensions

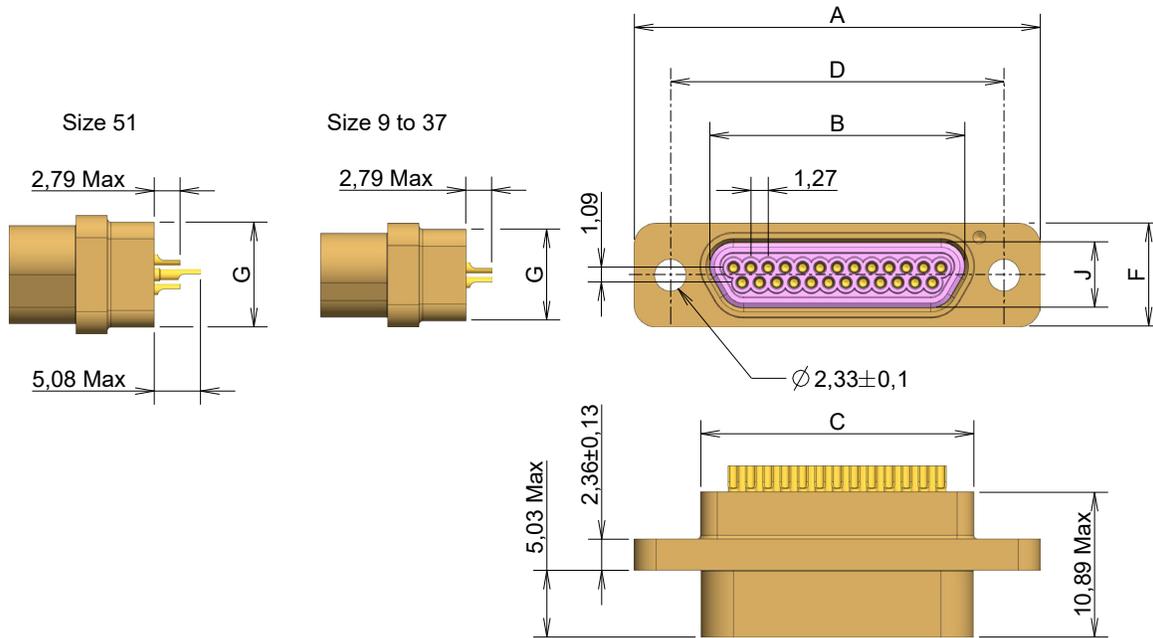


| Shell Size | A ± 0.25 | B ± 0.1 | C ± 0.24 | D ± 0.13 | F ± 0.21 | G ± 0.17 | J max |
|------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|-------|
| 9P | 19.69 | 8.38 | 9.92 | 14.35 | 7.60 | 6.69 | 4.69 |
| 15P | 23.50 | 12.19 | 13.73 | 18.16 | 7.60 | 6.69 | 4.69 |
| 21P | 27.31 | 16.00 | 17.54 | 21.97 | 7.60 | 6.69 | 4.69 |
| 25P | 29.85 | 18.54 | 20.08 | 24.51 | 7.60 | 6.69 | 4.69 |
| 31P | 33.66 | 22.35 | 23.89 | 28.32 | 7.60 | 6.69 | 4.69 |
| 37P | 37.47 | 26.16 | 27.70 | 32.13 | 7.60 | 6.69 | 4.69 |
| 51P | 36.20 | 24.89 | 26.43 | 30.86 | 8.70 | 7.70 | 5.78 |

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Socket connector dimensions



| Shell Size | A ± 0.25 | B min | C ± 0.24 | D ± 0.13 | F ± 0.21 | G ± 0.17 | J min |
|------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-------|
| 9S | 19.69 | 8.49 | 9.92 | 14.35 | 7.60 | 6.69 | 4.71 |
| 15S | 23.50 | 12.30 | 13.73 | 18.16 | 7.60 | 6.69 | 4.71 |
| 21S | 27.31 | 16.11 | 17.54 | 21.97 | 7.60 | 6.69 | 4.71 |
| 25S | 29.85 | 18.65 | 20.08 | 24.51 | 7.60 | 6.69 | 4.71 |
| 31S | 33.66 | 22.46 | 23.89 | 28.32 | 7.60 | 6.69 | 4.71 |
| 37S | 37.47 | 26.27 | 27.70 | 32.13 | 7.60 | 6.69 | 4.71 |
| 51S | 36.20 | 25.00 | 26.43 | 30.86 | 8.70 | 7.70 | 5.80 |

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Recommended instructions

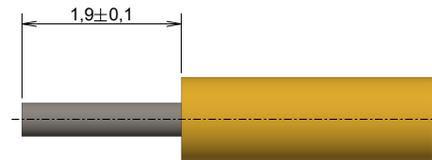
■ Recommended wires:

M22759/11-26 : AWG 26 hookup wire with Extruded PTFE insulation (or smaller)

M22759/33-26 : AWG 26 hookup wire with cross-linked ETFE insulation (or smaller)

■ Wire stripping process:

- Cut the wires to the desired length.
- Strip wire insulation as per beside illustration.
- Reject the broken or frayed wires.



■ Wire soldering process:

- Insert the stripped wire into the solder bucket of the contact.
- Solder without excess or lack of tin.

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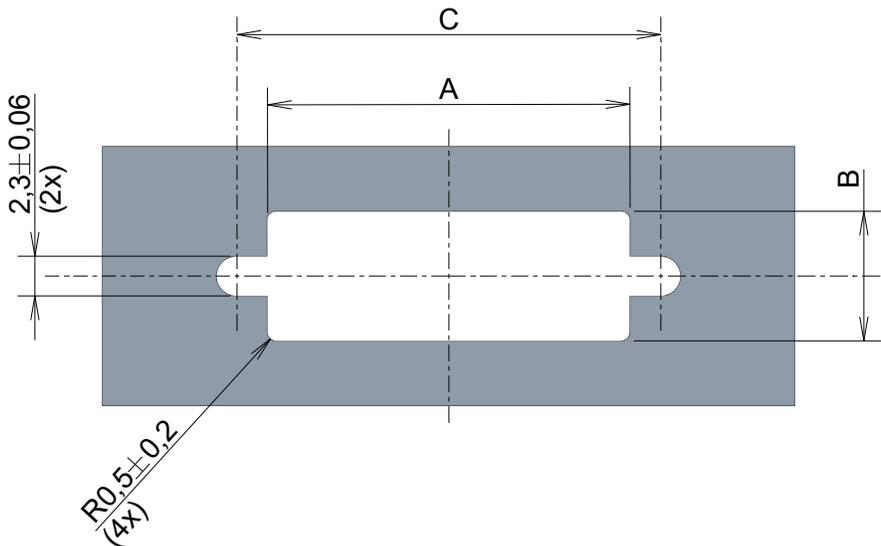
Accessories

| Female screwlocks (To be ordered separately) | MCMX description | P/N |
|--|---------------------------|--------------|
|  <p>Weight for one pair: 1.1 g max</p> | LF-MCMX-83513/05-07-FR061 | C115378-0000 |
| Male screwlocks Low profile, Allen head (To be ordered separately) | MCMX description | P/N |
|  <p>Weight for one pair: 0.6 g max</p> | LF-MCMX-83513/05-02-FR061 | C115378-0001 |
| Male screwlocks High profile, Allen head (To be ordered separately) | MCMX description | P/N |
|  <p>Weight for one pair: 2.5 g max</p> | LF-MCMX-83513/05-03-FR061 | C115378-0003 |
| Male screwlocks Low profile, Slot head (To be ordered separately) | MCMX description | P/N |
|  <p>Weight for one pair: 0.55 g max</p> | LF-MCMX-83513/05-05-FR061 | C115378-0002 |
| Male screwlocks High profile, Slot head (To be ordered separately) | MCMX description | P/N |
|  <p>Weight for one pair: 2.45 g max</p> | LF-MCMX-83513/05-06-FR061 | C115378-0004 |

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Panel cutout



| Front panel mounting | | | |
|----------------------|------------|------------|-----------|
| Shell Size | A ±0.05 | B ±0.05 | C ±0.1 |
| 9 | 10.56 | 7.33 | 14.35 |
| 15 | 14.37 | 7.33 | 18.16 |
| 21 | 18.18 | 7.33 | 21.97 |
| 25 | 20.72 | 7.33 | 24.51 |
| 31 | 24.53 | 7.33 | 28.32 |
| 37 | 28.34 | 7.33 | 32.13 |
| 51 | 27.07 | 8.35 | 30.86 |

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MCMX - CS FR061**Connectors Description and Part Numbers**

| Shell plating | Contact type | Number of contacts | Standard connector | |
|---------------|--------------|--------------------|---------------------------|--------------|
| | | | MCMX description | P/N |
| Nickel plated | Pin | 9 | LF-MCMX-83513/01-AN-FR061 | C115378-1000 |
| | | 15 | LF-MCMX-83513/01-BN-FR061 | C115378-1002 |
| | | 21 | LF-MCMX-83513/01-CN-FR061 | C115378-1004 |
| | | 25 | LF-MCMX-83513/01-DN-FR061 | C115378-1006 |
| | | 31 | LF-MCMX-83513/01-EN-FR061 | C115378-1008 |
| | | 37 | LF-MCMX-83513/01-FN-FR061 | C115378-1010 |
| | | 51 | LF-MCMX-83513/01-GN-FR061 | C115378-1012 |
| | Socket | 9 | LF-MCMX-83513/02-AN-FR061 | C115378-1001 |
| | | 15 | LF-MCMX-83513/02-BN-FR061 | C115378-1003 |
| | | 21 | LF-MCMX-83513/02-CN-FR061 | C115378-1005 |
| | | 25 | LF-MCMX-83513/02-DN-FR061 | C115378-1007 |
| | | 31 | LF-MCMX-83513/02-EN-FR061 | C115378-1009 |
| | | 37 | LF-MCMX-83513/02-FN-FR061 | C115378-1011 |
| | | 51 | LF-MCMX-83513/02-GN-FR061 | C115378-1013 |