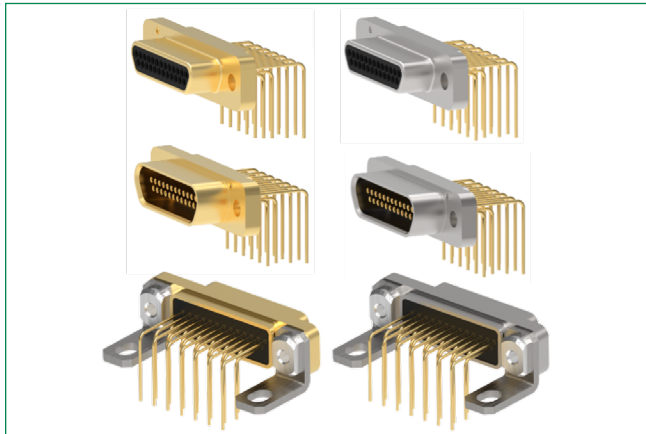


MDM Series

Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified



Type	Mating/ Unmating Force (N max)	Unmating Force (N min)	Max weight without accessories (g) for FR171	Max weight without accessories (g) for FR171M1 FR171M2
Size 9	25	1.3	2.5	5.2
Size 15	42	2.0	3.5	6.2
Size 21	58	2.9	4.5	7.2
Size 25	70	3.5	5.1	7.8
Size 31	86	4.3	6.1	8.8
Size 37	103	5.1	7.1	9.8
Size 51	142	7.1	9	12

Add : 0.4 g for float mount (FR171 code F)

Add : 1 g for captive nut (FR171 code E)

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, ESA qualified 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

- Compliant with ESCC specifications
- 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

ESA : ESCC 3401 (Flying model).

Qualification reviewed every 2 years.

Connector Options

Optional captive nuts or float mounting.

Packaging

Individual plastic tube.

Traceability and documentation according to ESCC specifications.

Each MDM connector is sold with a dust cap.

Each MDM socket connector is sold with an interfacial seal.

MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

How To Order Connector

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



ESCC specification:

3401029 01 B 25 P FR171 E

Detail specification number ————

Shell finish:
01: 25.4 µm min Ni
02: 0.7 µm min Au over 25.4 µm min Ni

Testing level ————

Contact arrangement:
 Number of contacts
9
15
21
25
31
37
51

Attachement options
Nothing: Standard (no hardware)
E: Captive nut
F: Floating mount
M1: with bracket
M2: with floating bracket

FR171: PCB right angle MDM, narrow profile

Type of contact:
P: Pin (Male)
S: Socket (Female)

Materials & Finishes

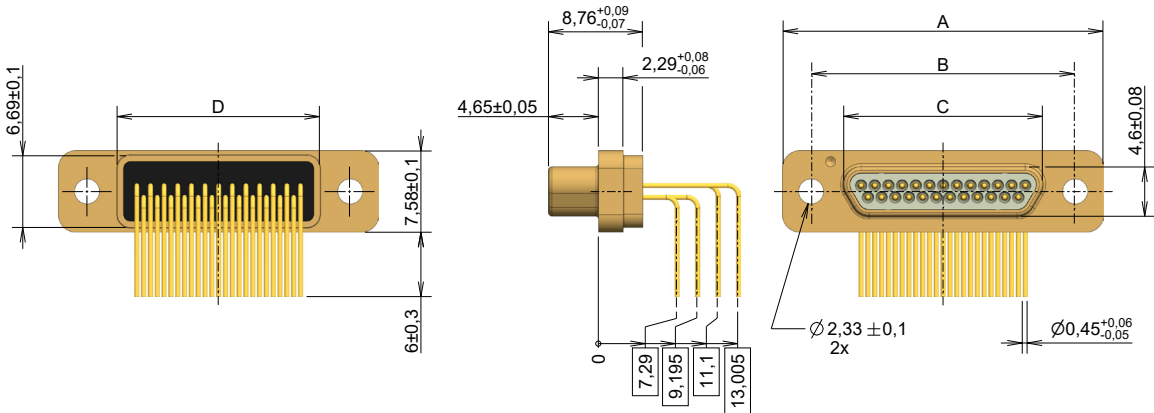
Components	Materials	Finishes
Shell	Aluminum alloy	01 : 25.4 µm min Electroless Nickel 02 : 0.7 µm min Gold over 25.4 µm min Electroless Nickel
Insulator	LCP	UL 94-V0, Glass-filled, Black color
Female contacts	Copper alloy	1.27 µm min Gold over Copper
Male contacts	Copper alloy	1.27 µm min Gold over Copper
Brackets (M1 & M2)	Stainless steel	Passivated
Accessories (E & F , M1 & M2)	Stainless steel	Passivated
Interfacial seal	Fluorosilicone elastomer	Pink color
Dust cap	Polyethylene	Black color, antistatic
Encapsulant	Epoxy	Black color
Female screwlocks	Stainless steel	Passivated

MDM Series

Micro D connectors, Narrow profile

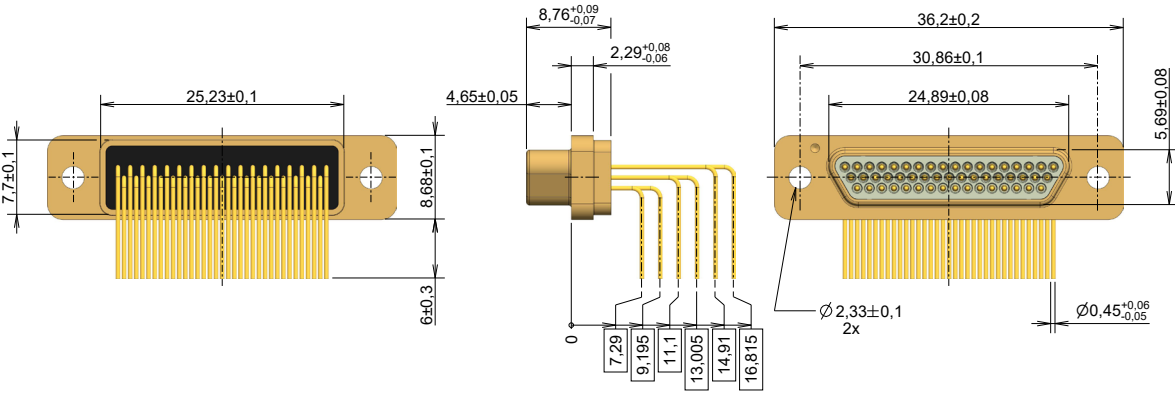
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Pin connector dimensions - FR171 - Size 9 to 37



Shell Size	A ± 0.2	B ± 0.1	C ± 0.08	D ± 0.1
9P	19.70	14.35	8.38	8.72
15P	23.50	18.16	12.19	12.53
21P	27.30	21.97	16.00	16.34
25P	29.85	24.51	18.54	18.88
31P	33.70	28.32	22.35	22.69
37P	37.50	32.13	26.16	26.50

Pin connector dimensions - FR171 - Size 51

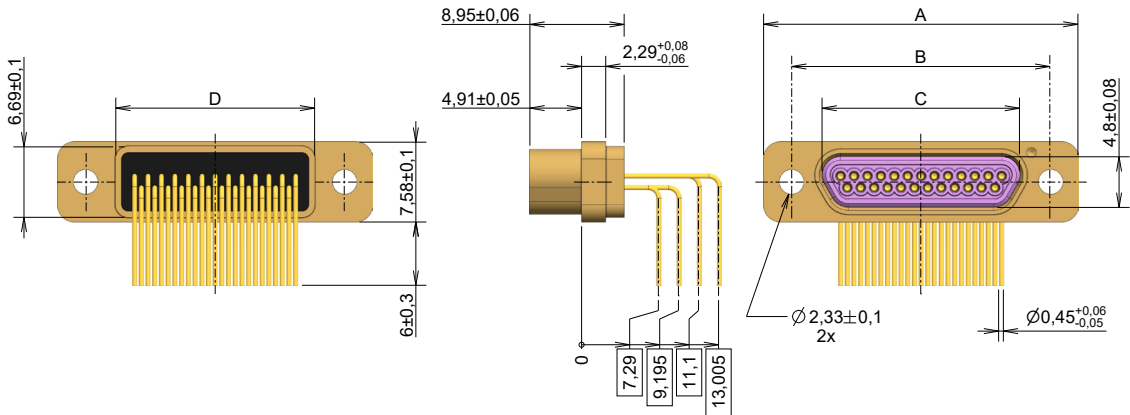


MDM Series

Micro D connectors, Narrow profile

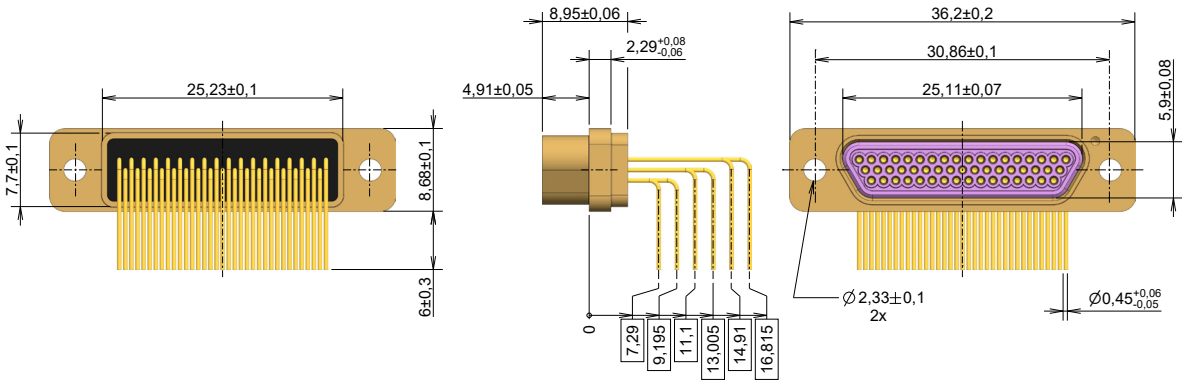
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Socket connector dimensions - FR171 - Size 9 to 37



Shell Size	A ±0.2	B ±0.1	C ±0.07	D ±0.1
9S	19.70	14.35	8.60	8.72
15S	23.50	18.16	12.41	12.53
21S	27.30	21.97	16.22	16.34
25S	29.85	24.51	18.76	18.88
31S	33.70	28.32	22.57	22.69
37S	37.50	32.13	26.38	26.50

Socket connector dimensions - FR171 - Size 51

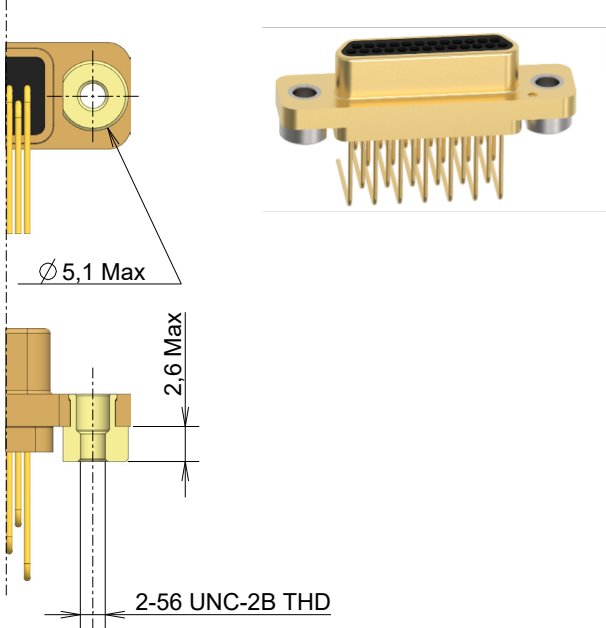


MDM Series

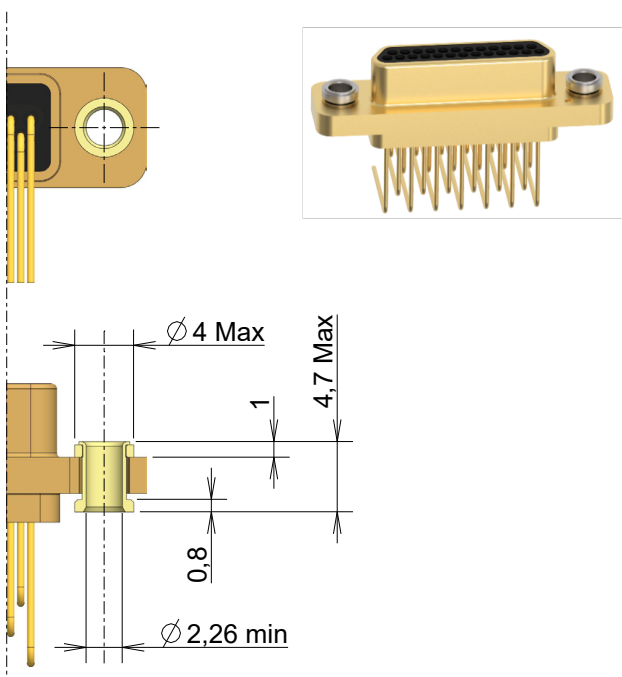
Micro D connectors, Narrow profile
 PCB right angle termination ESAQ - ESCC 3401/029 Certified

Attachment options

Captive nut (Option E)



Floating mount (Option F)



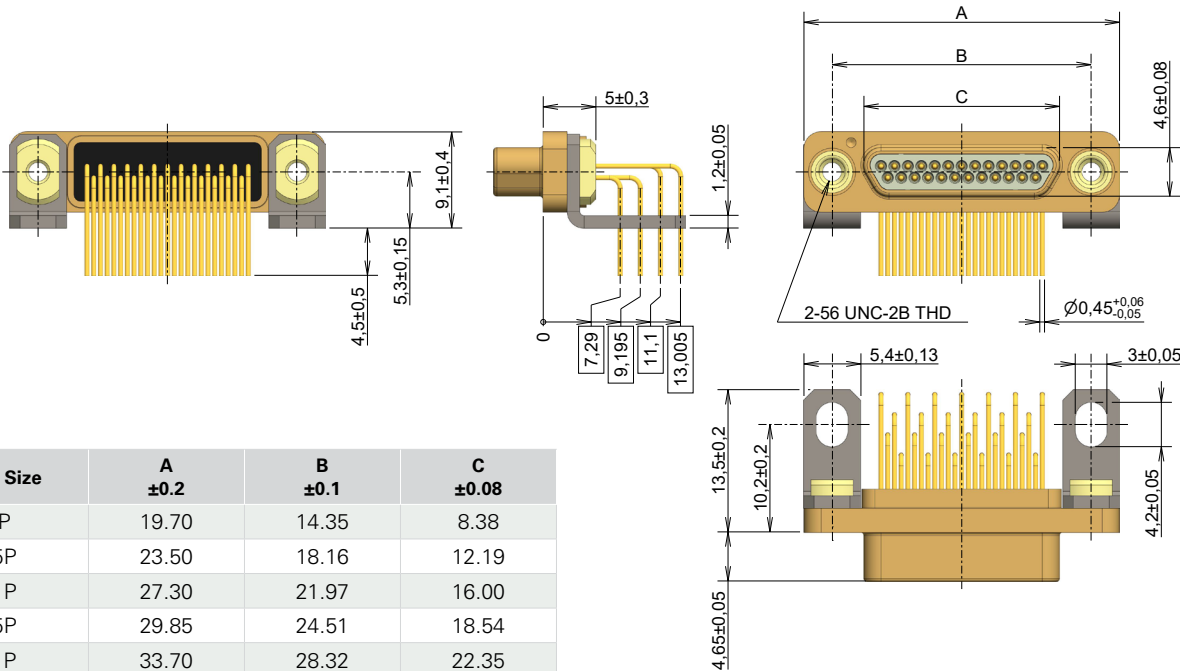
Allowable float	(mm)
Lateral	0.40
Axial	0.40

MDM Series

Micro D connectors, Narrow profile

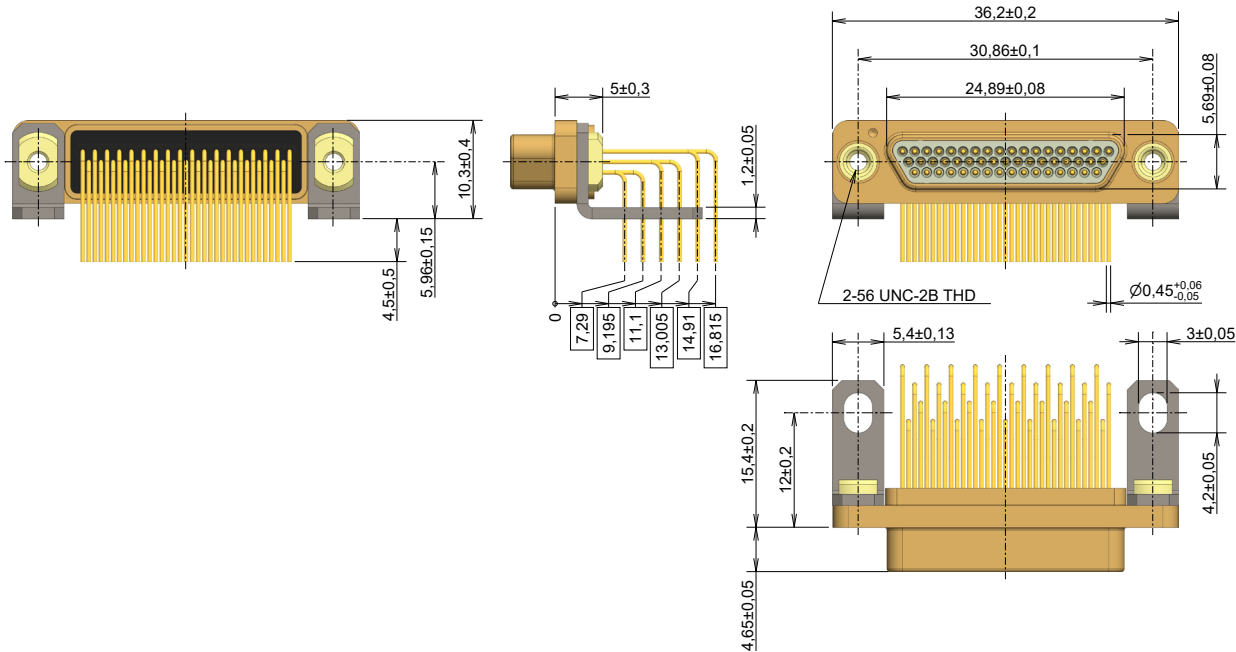
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Pin connector dimensions - FR171M1 - Size 9 to 37



Shell Size	A ±0.2	B ±0.1	C ±0.08
9P	19.70	14.35	8.38
15P	23.50	18.16	12.19
21P	27.30	21.97	16.00
25P	29.85	24.51	18.54
31P	33.70	28.32	22.35
37P	37.50	32.13	26.16

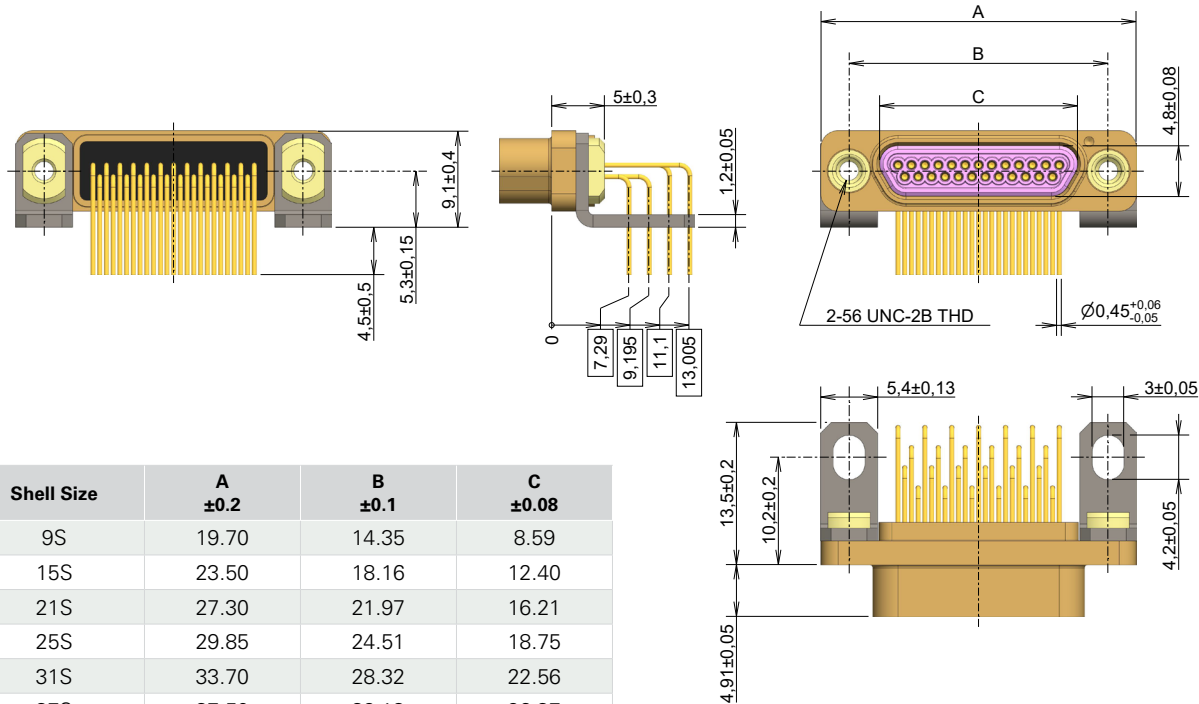
Pin connector dimensions - FR171M1 - Size 51



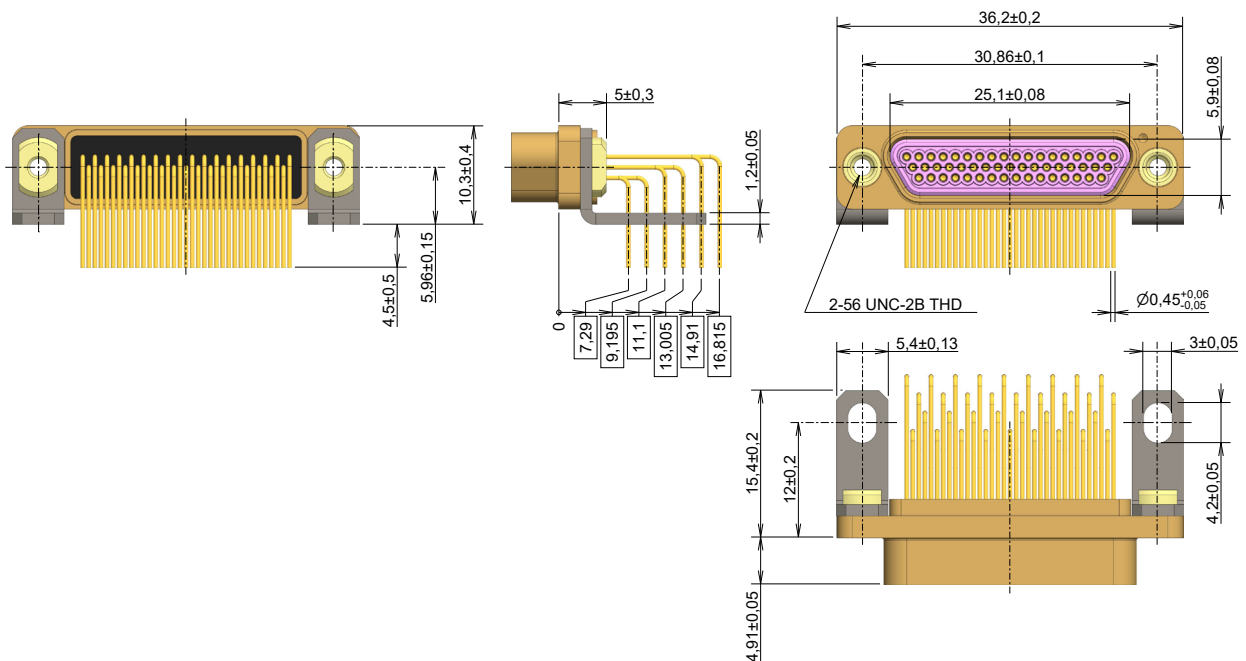
MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Socket connector dimensions – FR171M1 - Size 9 to 37



Socket connector dimensions – FR171M1 - Size 51

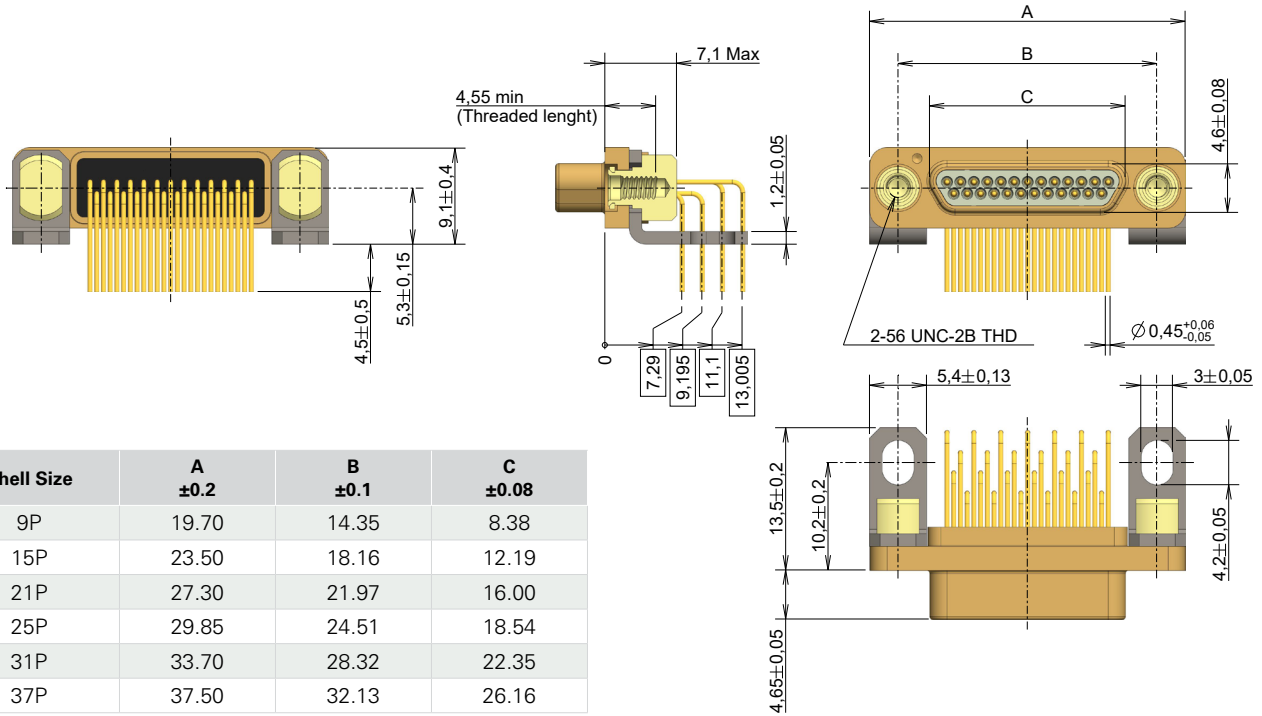


MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Floating versions with bracket

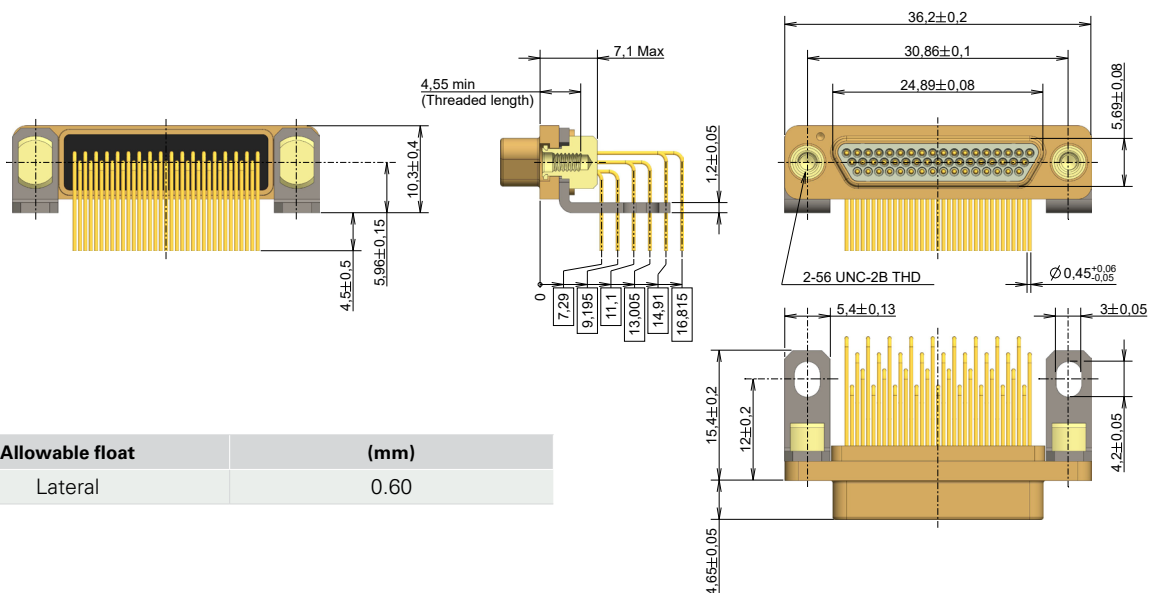
Pin connector dimensions - FR171M2 - Size 9 to 37



Shell Size	A ±0.2	B ±0.1	C ±0.08
9P	19.70	14.35	8.38
15P	23.50	18.16	12.19
21P	27.30	21.97	16.00
25P	29.85	24.51	18.54
31P	33.70	28.32	22.35
37P	37.50	32.13	26.16

Allowable float	(mm)
Lateral	0.60

Pin connector dimensions - FR171M2 - Size 51

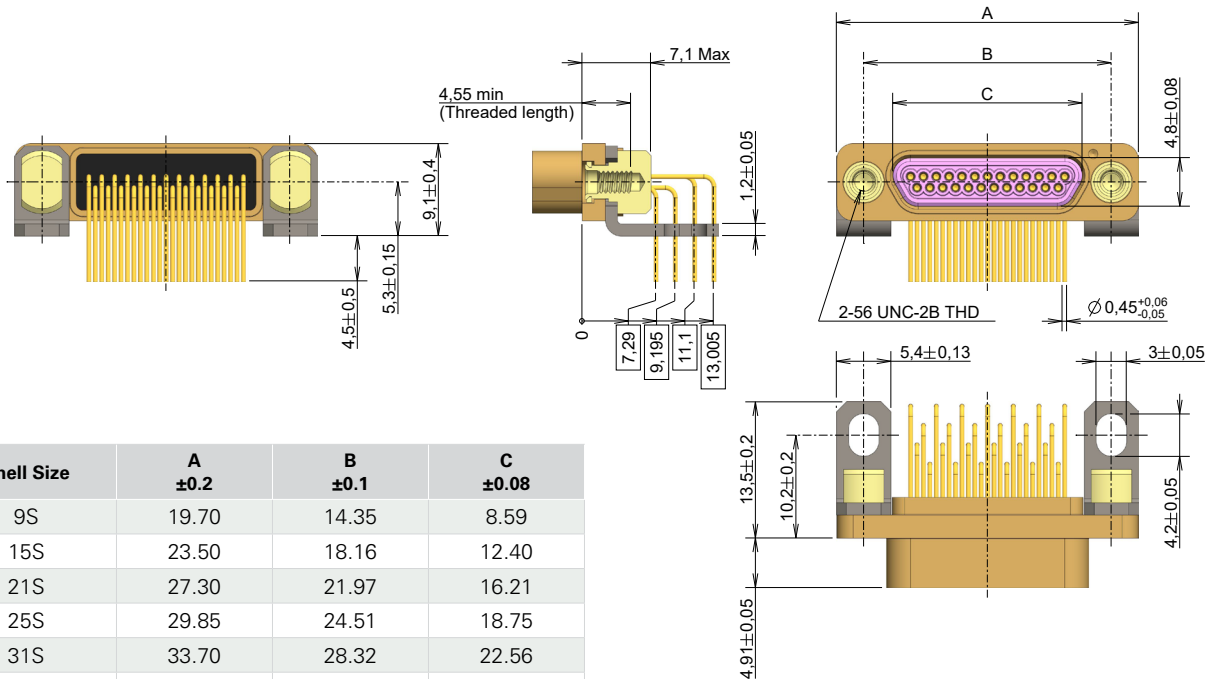


Allowable float	(mm)
Lateral	0.60

MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

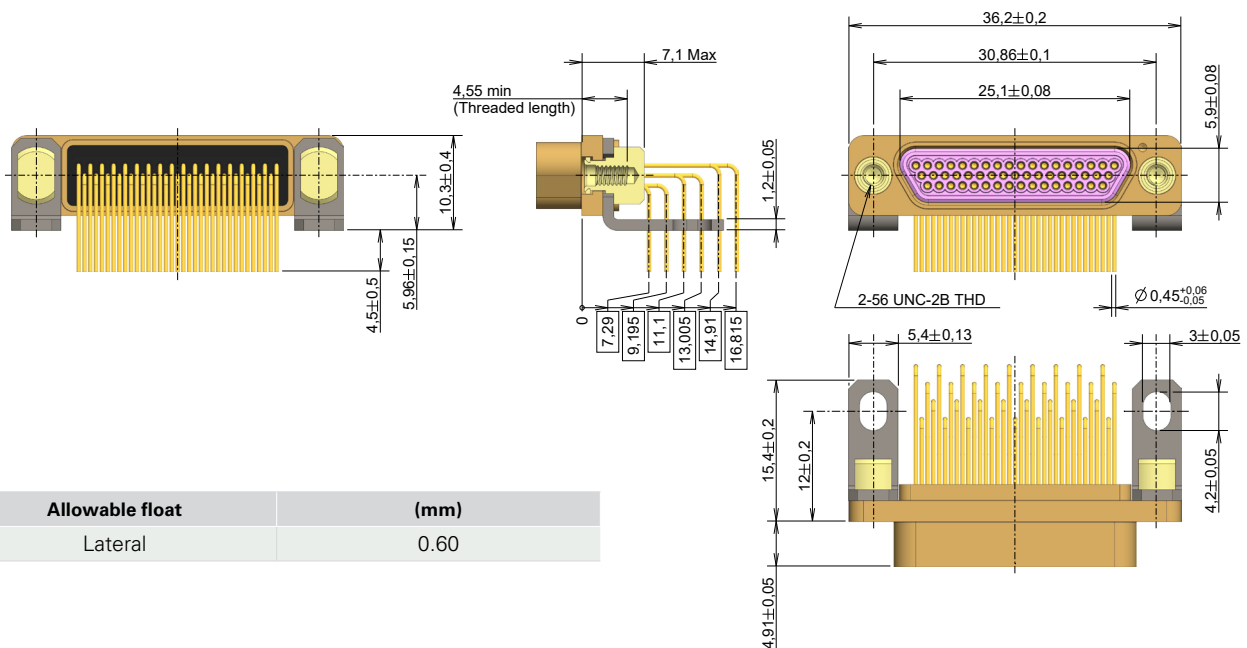
Socket connector dimensions - FR171M2 - Size 9 to 37



Shell Size	A ±0.2	B ±0.1	C ±0.08
9S	19.70	14.35	8.59
15S	23.50	18.16	12.40
21S	27.30	21.97	16.21
25S	29.85	24.51	18.75
31S	33.70	28.32	22.56
37S	37.50	32.13	26.37

Allowable float	(mm)
Lateral	0.60

Socket connector dimensions - FR171M2 - Size 51



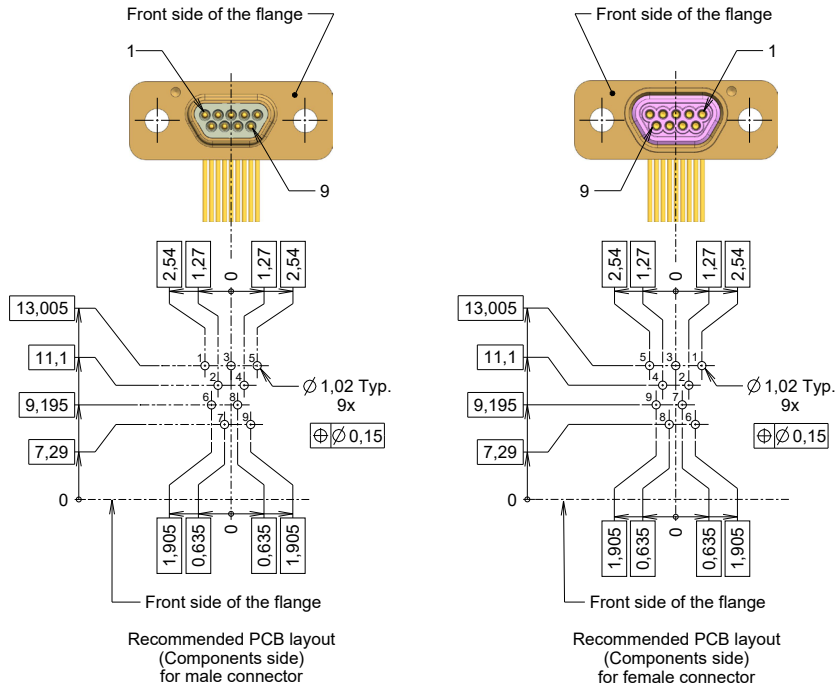
Allowable float	(mm)
Lateral	0.60

MDM Series

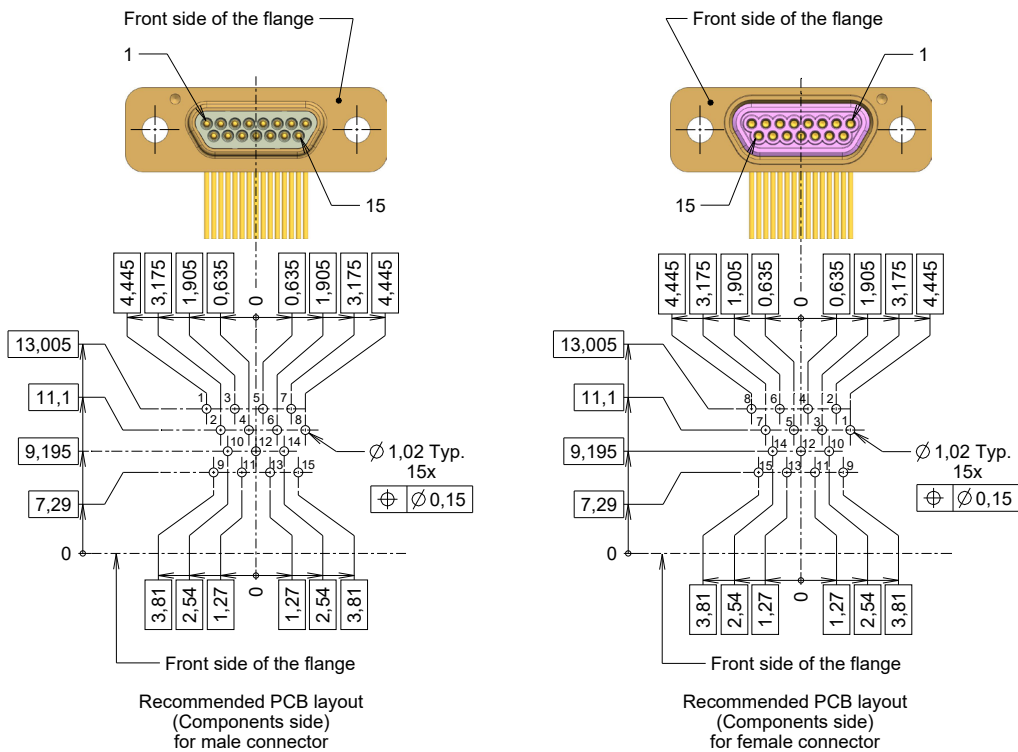
Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171 - 9 positions



PCB layout – FR171 - 15 positions

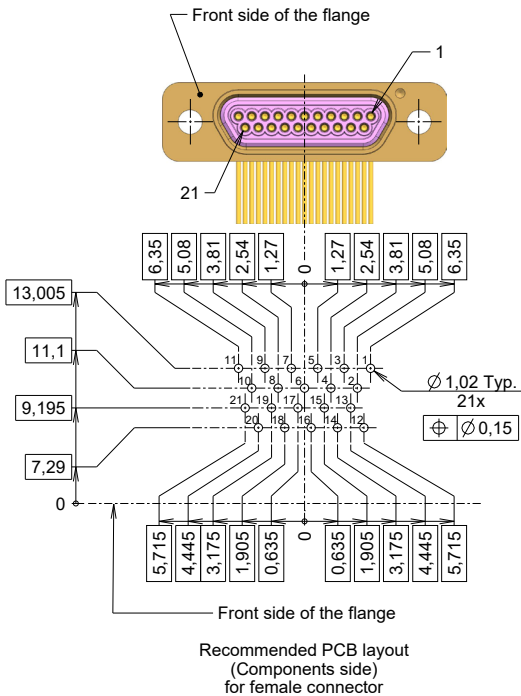
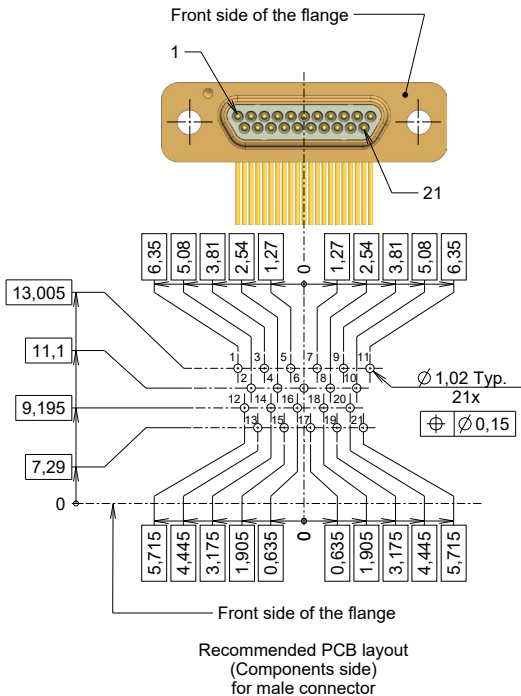


MDM Series

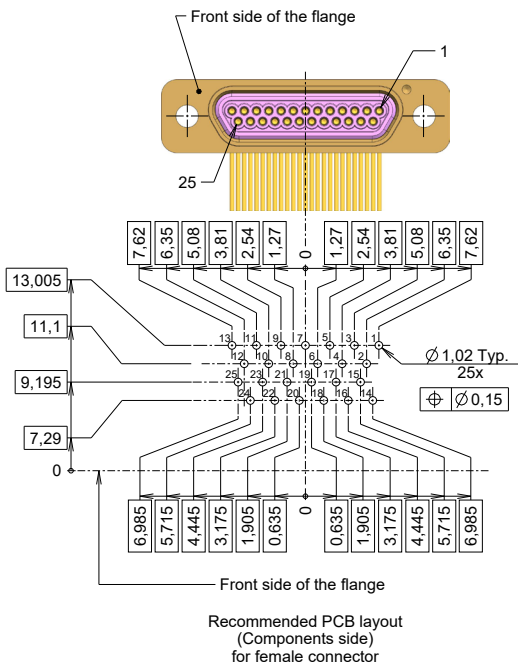
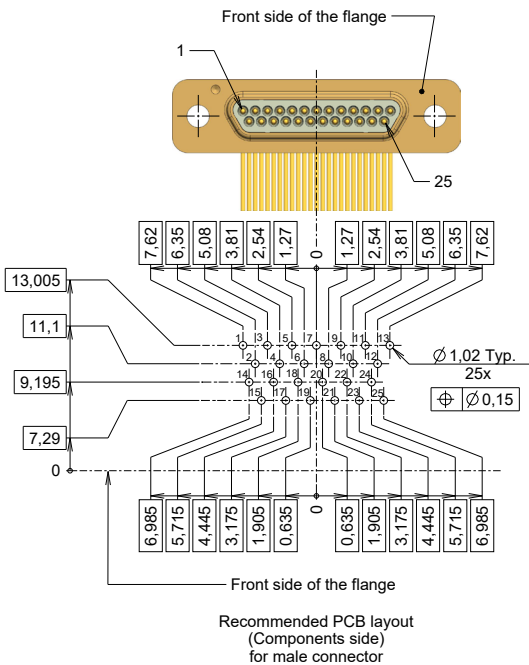
Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171 - 21 positions



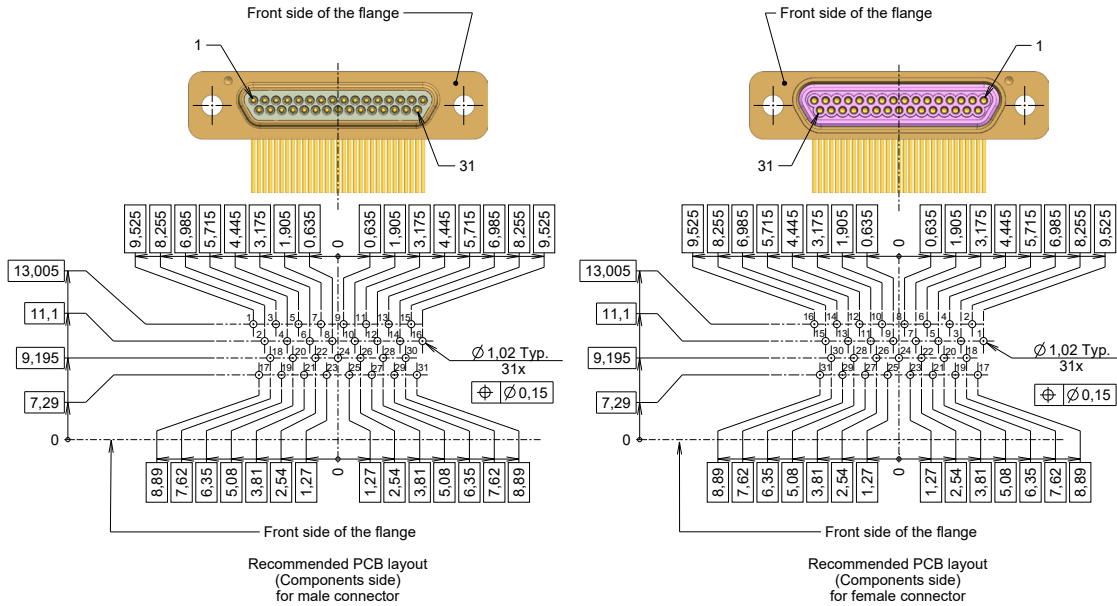
PCB layout – FR171 - 25 positions



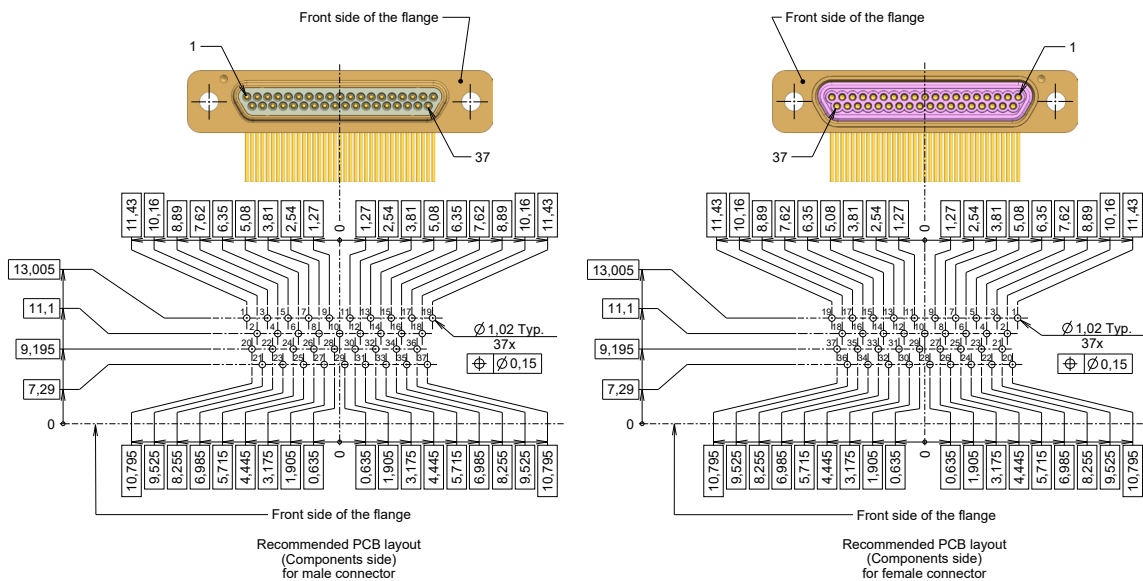
MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171 - 31 positions



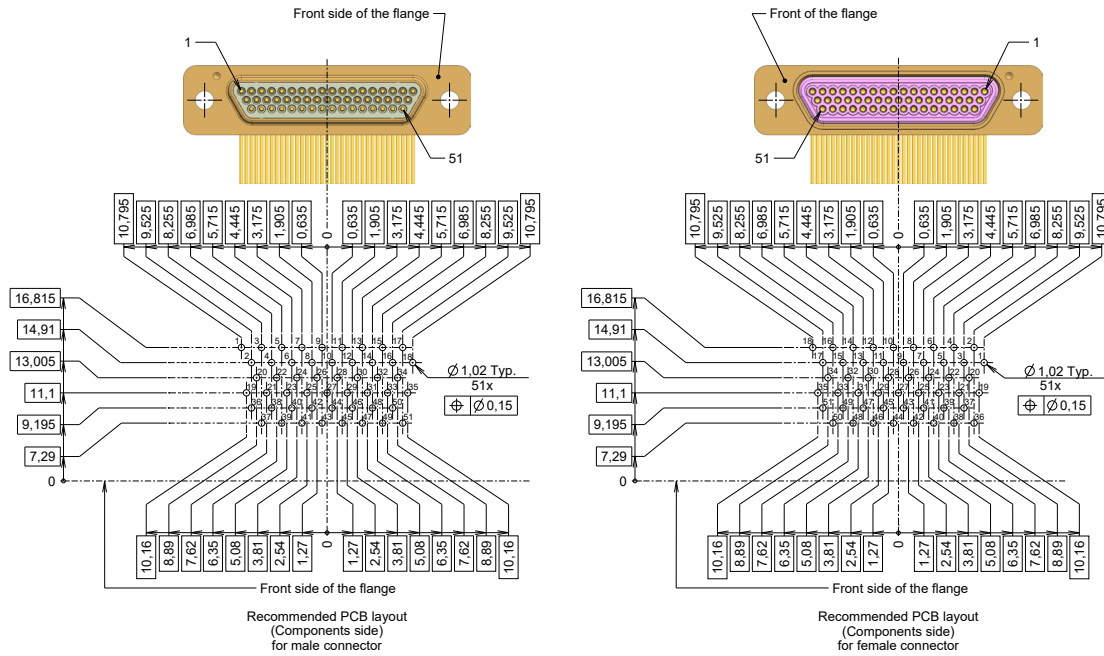
PCB layout – FR171 - 37 positions



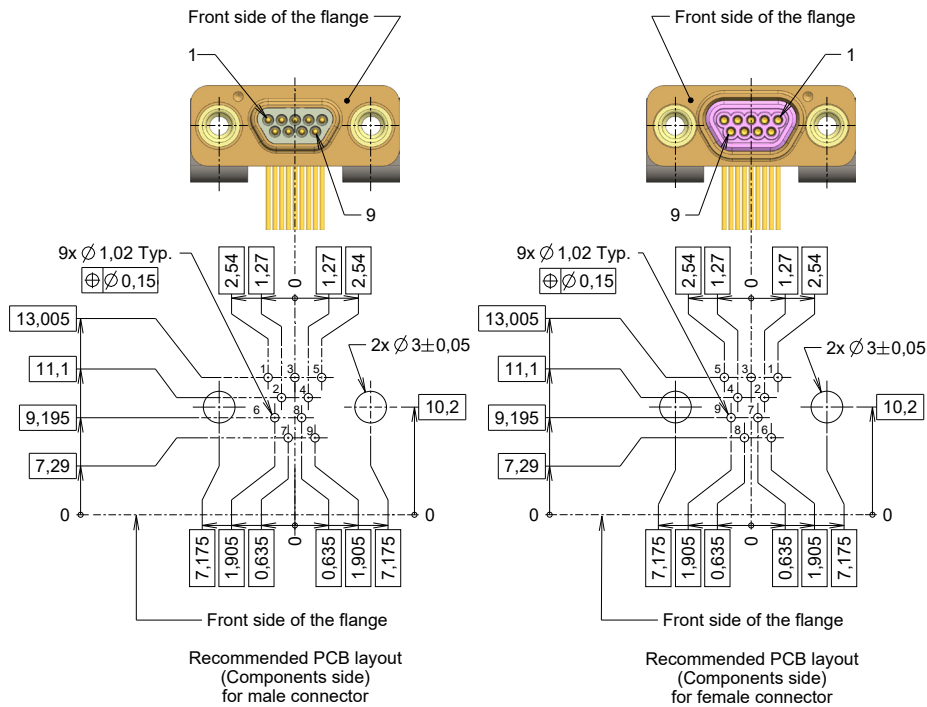
MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171 - 51 positions



PCB layout – FR171M1 & FR171M2 - 9 positions

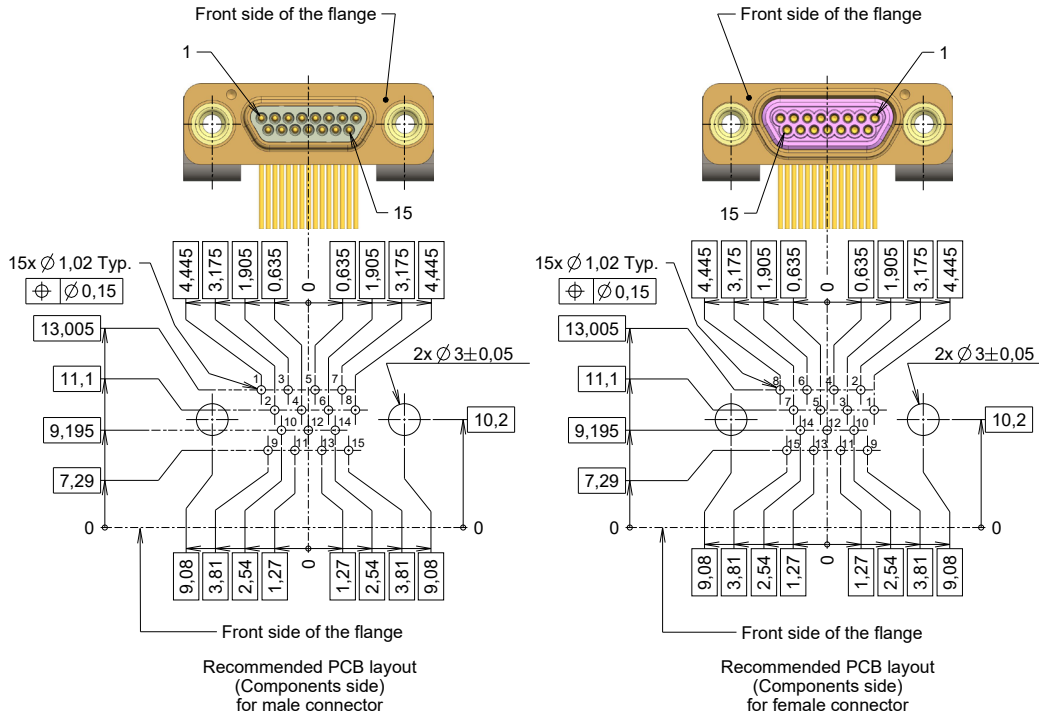


MDM Series

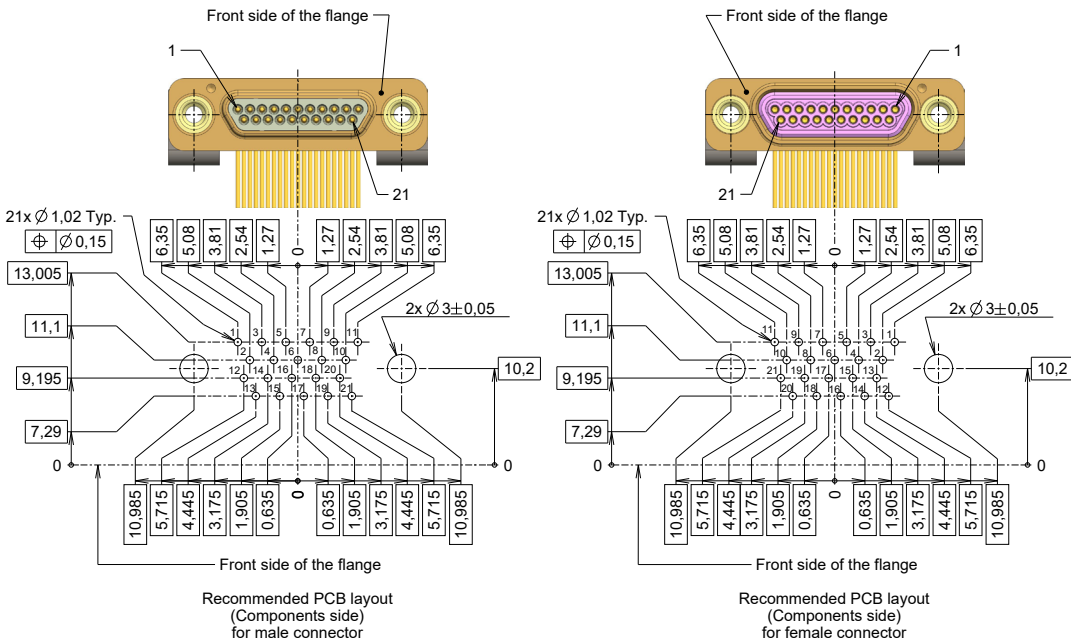
Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171M1 & FR171M2 - 15 positions



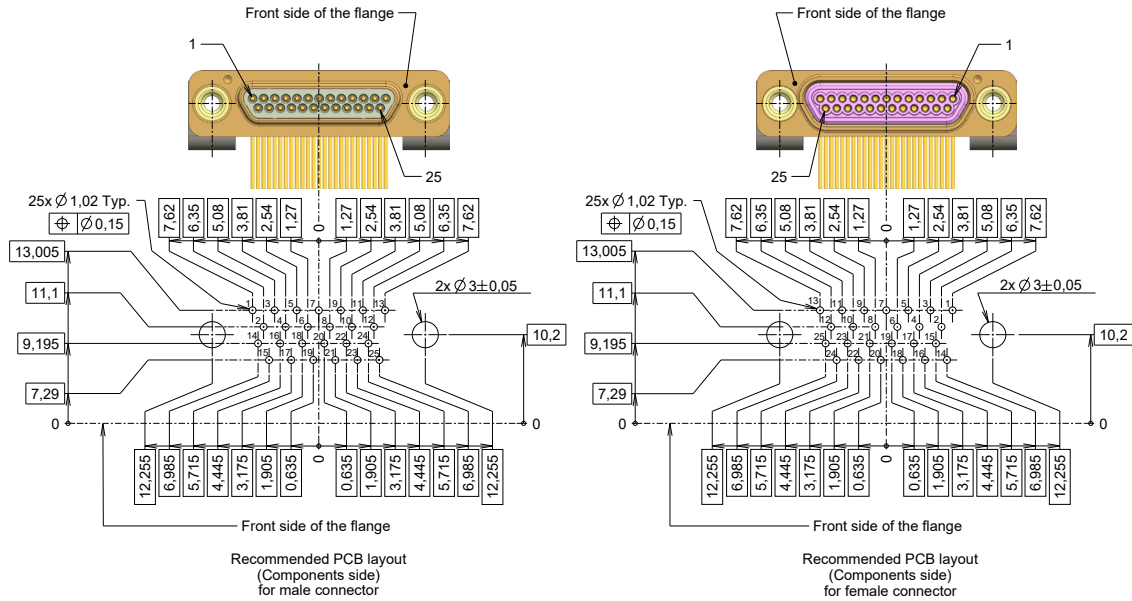
PCB layout – FR171M1 & FR171M2 - 21 positions



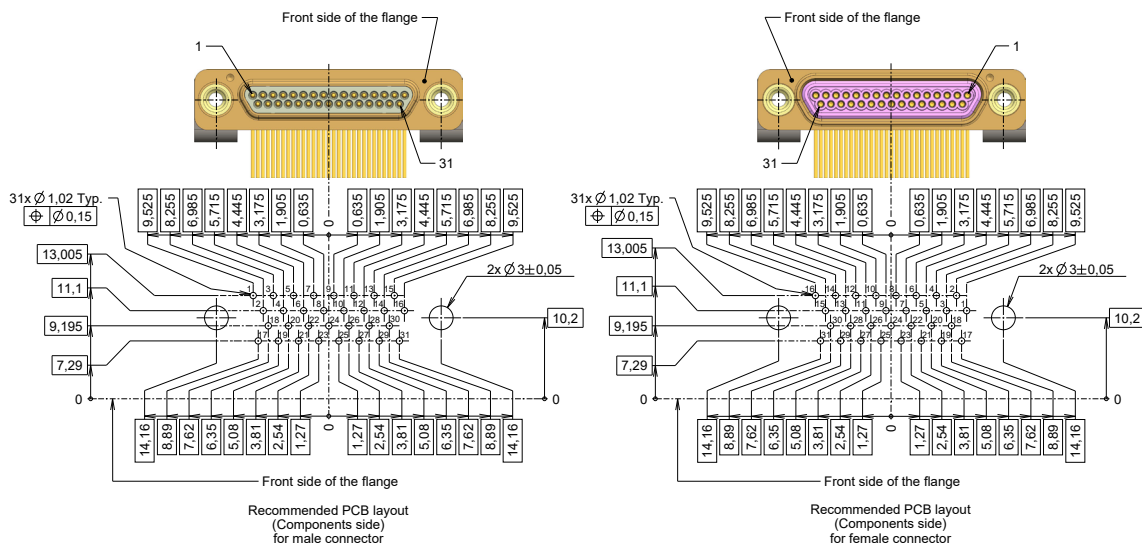
MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171M1 & FR171M2 - 25 positions



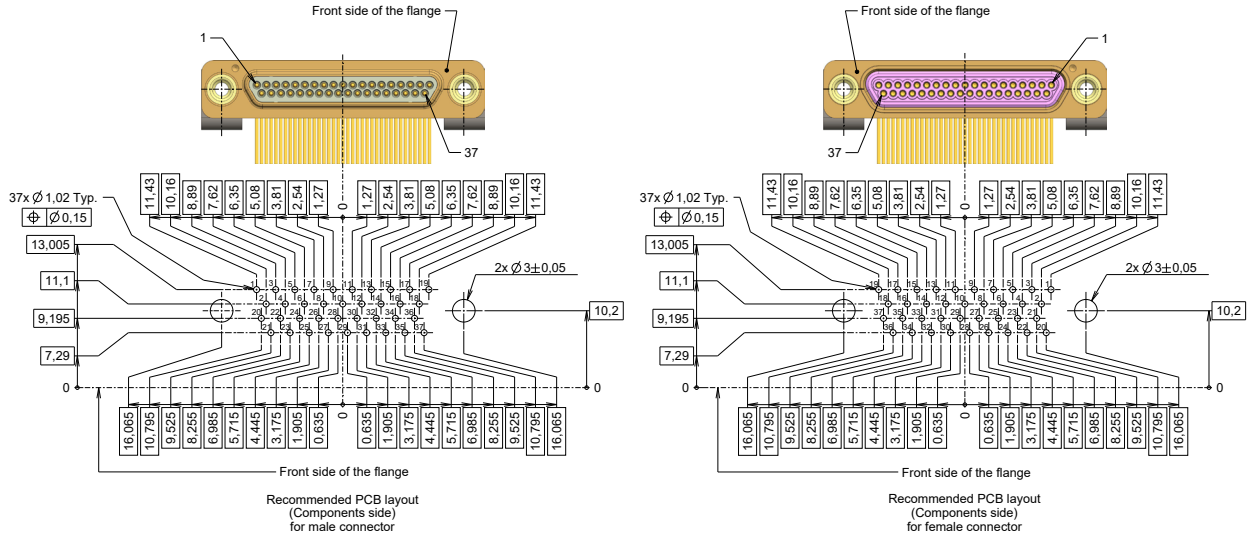
PCB layout – FR171M1 & FR171M2 - 31 positions



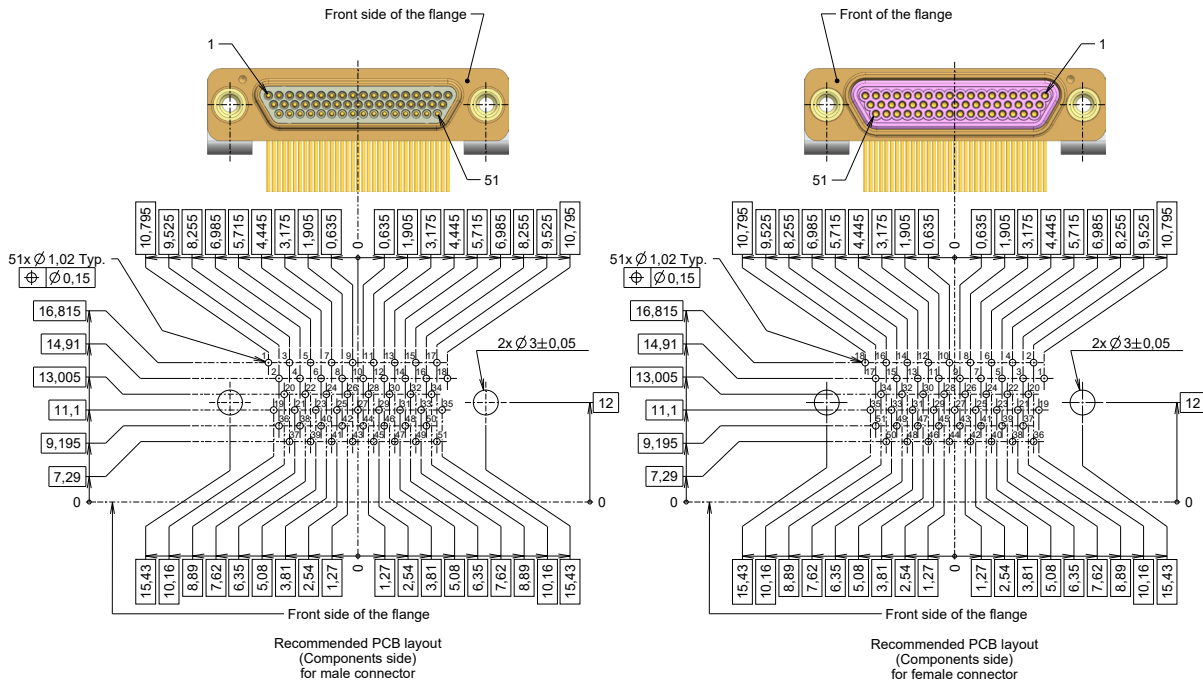
MDM Series

Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

PCB layout – FR171M1 & FR171M2 - 37 positions



PCB layout – FR171M1 & FR171M2 - 51 positions



MDM Series


Micro D connectors, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Accessories

Female screwlocks. MDM connector mounted without panel (FR171 & FR171M1) (To be ordered separately)		ESCC description	P/N
	Weight for one pair: 1.32 g max	340103208B	C115366-9219C

Female screwlocks. MDM connector mounted on panel by rear side (FR171 & FR171M1) (To be ordered separately)		Panel thickness (mm)	ESCC description	P/N
	Weight for one pair: 1.20 g max	0.7 < Thickness < 1.1	340103223B	C115366-9223C
		1.1 < Thickness < 1.5	340103224B	C115366-9224C
		1.5 < Thickness < 2.0	340103209B	C115366-9220C
		2.0 < Thickness < 2.4	340103225B	C115366-9916C
		2.4 < Thickness < 2.8	340103226B	C115366-9917C


Female screwlocks. MDM connector mounted without panel (FR171M2) (To be ordered separately)		ESCC description	P/N
	Weight for one pair: 1.32 g max	340103211B	C115366-9222C

Female screwlocks. MDM connector mounted on panel by rear side (FR171M2) (To be ordered separately)		Panel thickness (mm)	ESCC description	P/N
	Weight for one pair: 0.86 g max	0.7 < Thickness < 1.1	MDM-115366-9225C	C115366-9225C
		1.1 < Thickness < 1.5	MDM-115366-9226C	C115366-9226C
		1.5 < Thickness < 2.0	MDM-115366-9227C	C115366-9227C

MDM Series

Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

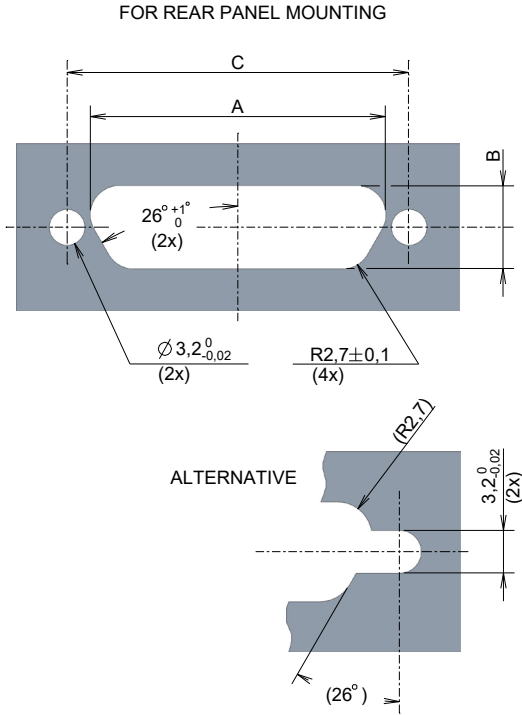
Dust cap (if additional need)	Size	Description	P/N
	9 P	MDM-DUSTCAP-9P-FR022	C115288-6927
	9 S	MDM-DUSTCAP-9S-FR022	C115288-6928
	15 P	MDM-DUSTCAP-15P-FR022	C115288-6929
	15 S	MDM-DUSTCAP-15S-FR022	C115288-6930
	21 P	MDM-DUSTCAP-21P-FR022	C115288-6931
	21 S	MDM-DUSTCAP-21S-FR022	C115288-6932
	25 P	MDM-DUSTCAP-25P-FR022	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

MDM Series

Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Panel cutouts – FR171 / FR171M1 / FR171M2 – 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, Narrow profile
PCB right angle termination ESAQ - ESCC 3401/029 Certified

Connectors description and Part Numbers

Shell plating	Contact type	Number of contacts	FR171 - Attachment options					
			Standard connector		Connector with captive nut (E)		Connector with floating mount (F)	
			ESCC description	P/N	ESCC description	P/N	ESCC description	P/N
Nickel plated	Pin	9	340102901B 9P-FR171	C115366-1420C	340102901B 9P-FR171E	C115366-1448C	340102901B 9P-FR171F	C115366-1434C
		15	340102901B 15P-FR171	C115366-1422C	340102901B 15P-FR171E	C115366-1450C	340102901B 15P-FR171F	C115366-1436C
		21	340102901B 21P-FR171	C115366-1424C	340102901B 21P-FR171E	C115366-1452C	340102901B 21P-FR171F	C115366-1438C
		25	340102901B 25P-FR171	C115366-1426C	340102901B 25P-FR171E	C115366-1454C	340102901B 25P-FR171F	C115366-1440C
		31	340102901B 31P-FR171	C115366-1428C	340102901B 31P-FR171E	C115366-1456C	340102901B 31P-FR171F	C115366-1442C
		37	340102901B 37P-FR171	C115366-1430C	340102901B 37P-FR171E	C115366-1458C	340102901B 37P-FR171F	C115366-1444C
		51	340102901B 51PFR171	C115366-1432C	340102901B 51PFR171E	C115366-1460C	340102901B 51PFR171F	C115366-1446C
	Socket	9	340102901B 9S-FR171	C115366-1421C	340102901B 9S-FR171E	C115366-1449C	340102901B 9S-FR171F	C115366-1435C
		15	340102901B 15S-FR171	C115366-1423C	340102901B 15S-FR171E	C115366-1451C	340102901B 15S-FR171F	C115366-1437C
		21	340102901B 21S-FR171	C115366-1425C	340102901B 21S-FR171E	C115366-1453C	340102901B 21S-FR171F	C115366-1439C
		25	340102901B 25S-FR171	C115366-1427C	340102901B 25S-FR171E	C115366-1455C	340102901B 25S-FR171F	C115366-1441C
		31	340102901B 31S-FR171	C115366-1429C	340102901B 31S-FR171E	C115366-1457C	340102901B 31S-FR171F	C115366-1443C
		37	340102901B 37S-FR171	C115366-1431C	340102901B 37S-FR171E	C115366-1459C	340102901B 37S-FR171F	C115366-1445C
		51	340102901B 51SFR171	C115366-1433C	340102901B 51SFR171E	C115366-1461C	340102901B 51SFR171F	C115366-1447C
Gold plated	Pin	9	340102902B 9P-FR171	C115366-1630C	340102902B 9P-FR171E	C115366-1658C	340102902B 9P-FR171F	C115366-1644C
		15	340102902B 15P-FR171	C115366-1632C	340102902B 15P-FR171E	C115366-1660C	340102902B 15P-FR171F	C115366-1646C
		21	340102902B 21P-FR171	C115366-1634C	340102902B 21P-FR171E	C115366-1662C	340102902B 21P-FR171F	C115366-1648C
		25	340102902B 25P-FR171	C115366-1636C	340102902B 25P-FR171E	C115366-1664C	340102902B 25P-FR171F	C115366-1650C
		31	340102902B 31P-FR171	C115366-1638C	340102902B 31P-FR171E	C115366-1666C	340102902B 31P-FR171F	C115366-1652C
		37	340102902B 37P-FR171	C115366-1640C	340102902B 37P-FR171E	C115366-1668C	340102902B 37P-FR171F	C115366-1654C
		51	340102902B 51PFR171	C115366-1642C	340102902B 51P-FR171E	C115366-1670C	340102902B 51PFR171F	C115366-1656C
	Socket	9	340102902B 9S-FR171	C115366-1631C	340102902B 9S-FR171E	C115366-1659C	340102902B 9S-FR171F	C115366-1645C
		15	340102902B 15S-FR171	C115366-1633C	340102902B 15S-FR171E	C115366-1661C	340102902B 15S-FR171F	C115366-1647C
		21	340102902B 21S-FR171	C115366-1635C	340102902B 21S-FR171E	C115366-1663C	340102902B 21S-FR171F	C115366-1649C
		25	340102902B 25S-FR171	C115366-1637C	340102902B 25S-FR171E	C115366-1665C	340102902B 25S-FR171F	C115366-1651C
		31	340102902B 31S-FR171	C115366-1639C	340102902B 31S-FR171E	C115366-1667C	340102902B 31S-FR171F	C115366-1653C
		37	340102902B 37S-FR171	C115366-1641C	340102902B 37S-FR171E	C115366-1669C	340102902B 37S-FR171F	C115366-1655C
		51	340102902B 51SFR171	C115366-1643C	340102902B 51SFR171E	C115366-1671C	340102902B 51SFR171F	C115366-1657C

MDM Series

Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Shell plating	Contact type	Number of contacts	FR171M1 PCB right angle MDM, narrow profile, with bracket	
			ESCC description	P/N
Nickel plated	Pin	9	340102901B 9PFR171M1	C115366-1462C
		15	340102901B 15PFR171M1	C115366-1464C
		21	340102901B 21PFR171M1	C115366-1466C
		25	340102901B 25PFR171M1	C115366-1468C
		31	340102901B 31PFR171M1	C115366-1470C
		37	340102901B 37PFR171M1	C115366-1472C
		51	340102901B 51PFR171M1	C115366-1474C
	Socket	9	340102901B 9SFR171M1	C115366-1463C
		15	340102901B 15SFR171M1	C115366-1465C
		21	340102901B 21SFR171M1	C115366-1467C
		25	340102901B 25SFR171M1	C115366-1469C
		31	340102901B 31SFR171M1	C115366-1471C
		37	340102901B 37SFR171M1	C115366-1473C
		51	340102901B 51SFR171M1	C115366-1475C
Gold plated	Pin	9	340102902B 9PFR171M1	C115366-1672C
		15	340102902B 15PFR171M1	C115366-1674C
		21	340102902B 21PFR171M1	C115366-1676C
		25	340102902B 25PFR171M1	C115366-1678C
		31	340102902B 31PFR171M1	C115366-1680C
		37	340102902B 37PFR171M1	C115366-1682C
		51	340102902B 51PFR171M1	C115366-1684C
	Socket	9	340102902B 9SFR171M1	C115366-1673C
		15	340102902B 15SFR171M1	C115366-1675C
		21	340102902B 21SFR171M1	C115366-1677C
		25	340102902B 25SFR171M1	C115366-1679C
		31	340102902B 31SFR171M1	C115366-1681C
		37	340102902B 37SFR171M1	C115366-1683C
		51	340102902B 51SFR171M1	C115366-1685C

MDM Series

Micro D connectors, Narrow profile

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Shell plating	Contact type	Number of contacts	FR171M2 PCB right angle MDM, narrow profile, with floating bracket	
			ESCC description	P/N
Nickel plated	Pin	9	340102901B 9PFR171M2	C115366-1476C
		15	340102901B 15PFR171M2	C115366-1478C
		21	340102901B 21PFR171M2	C115366-1480C
		25	340102901B 25PFR171M2	C115366-1482C
		31	340102901B 31PFR171M2	C115366-1484C
		37	340102901B 37PFR171M2	C115366-1486C
		51	340102901B 51PFR171M2	C115366-1488C
	Socket	9	340102901B 9SFR171M2	C115366-1477C
		15	340102901B 15SFR171M2	C115366-1479C
		21	340102901B 21SFR171M2	C115366-1481C
		25	340102901B 25SFR171M2	C115366-1483C
		31	340102901B 31SFR171M2	C115366-1485C
		37	340102901B 37SFR171M2	C115366-1487C
		51	340102901B 51SFR171M2	C115366-1489C
Gold plated	Pin	9	340102902B 9PFR171M2	C115366-1686C
		15	340102902B 15PFR171M2	C115366-1688C
		21	340102902B 21PFR171M2	C115366-1690C
		25	340102902B 25PFR171M2	C115366-1692C
		31	340102902B 31PFR171M2	C115366-1694C
		37	340102902B 37PFR171M2	C115366-1696C
		51	340102902B 51PFR171M2	C115366-1698C
	Socket	9	340102902B 9SFR171M2	C115366-1687C
		15	340102902B 15SFR171M2	C115366-1689C
		21	340102902B 21SFR171M2	C115366-1691C
		25	340102902B 25SFR171M2	C115366-1693C
		31	340102902B 31SFR171M2	C115366-1695C
		37	340102902B 37SFR171M2	C115366-1697C
		51	340102902B 51SFR171M2	C115366-1699C