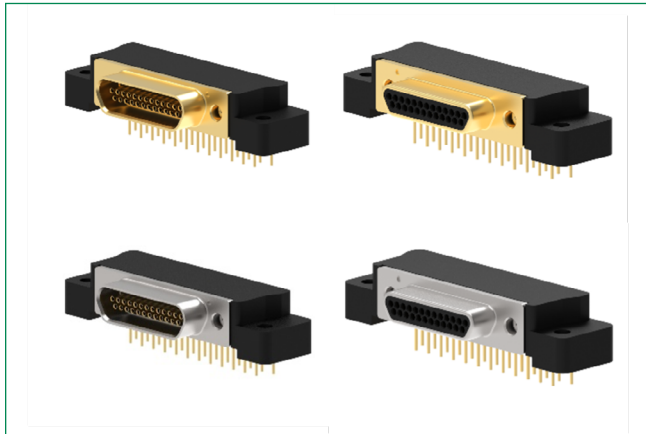


# MDM Series

## Micro D connectors

### PCB right angle termination ESAQ - ESCC 3401/029 Certified



Type	Mating/Unmating Force (N max)	Unmating Force (N min)	Max weight without accessories (g)
Size 9	25	1.3	7.4
Size 15	42	2.0	7.8
Size 21	58	2.9	8.5
Size 25	70	3.5	10.2
Size 31	86	4.3	12.2
Size 37	103	5.1	14.4
Size 51	142	7.1	16.5

#### 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, 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, Cable to Board 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.

## 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

### 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, right angle 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

ESCC specification:

**3401029 01 B 25 P FR136**

**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**

**Profile and contact termination type:**  
**FR136:** MDM standard profile with PCB right angle contacts, length 4.50 mm (all sizes)  
**FR136A:** MDM narrow profile with PCB right angle contacts, length 3.50 mm (Only size 9)

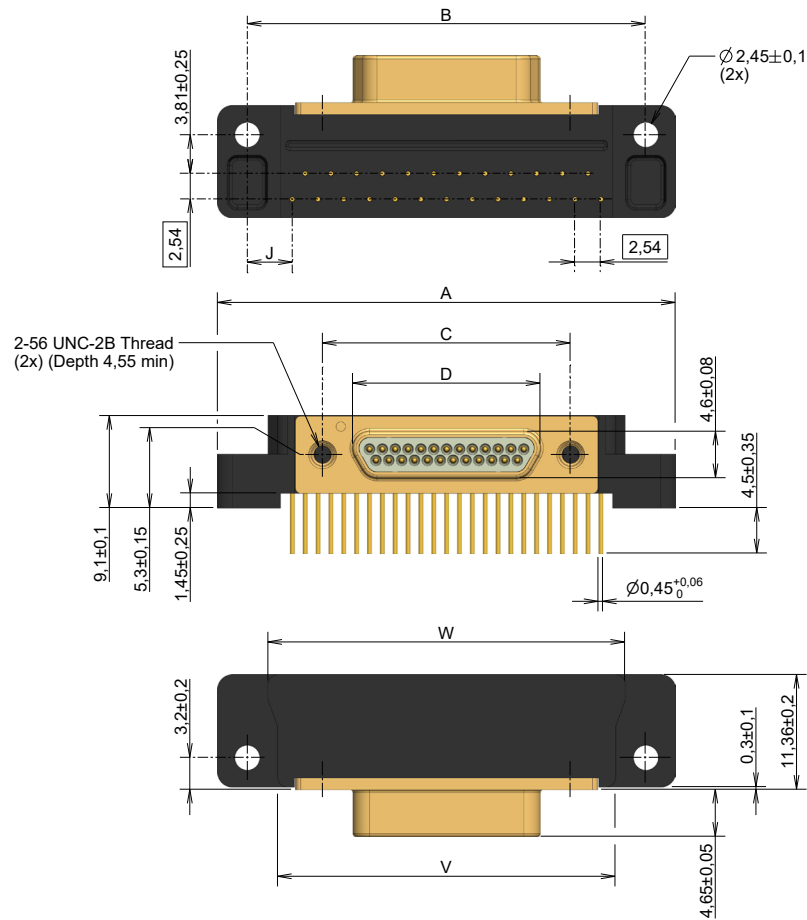
**Type of contact:**  
**P:** Pin (Male)  
**S:** Socket (Female)

#### 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
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 right angle termination ESAQ - ESCC 3401/029 Certified

Pin connector dimensions - FR136 - Size 9 to 37



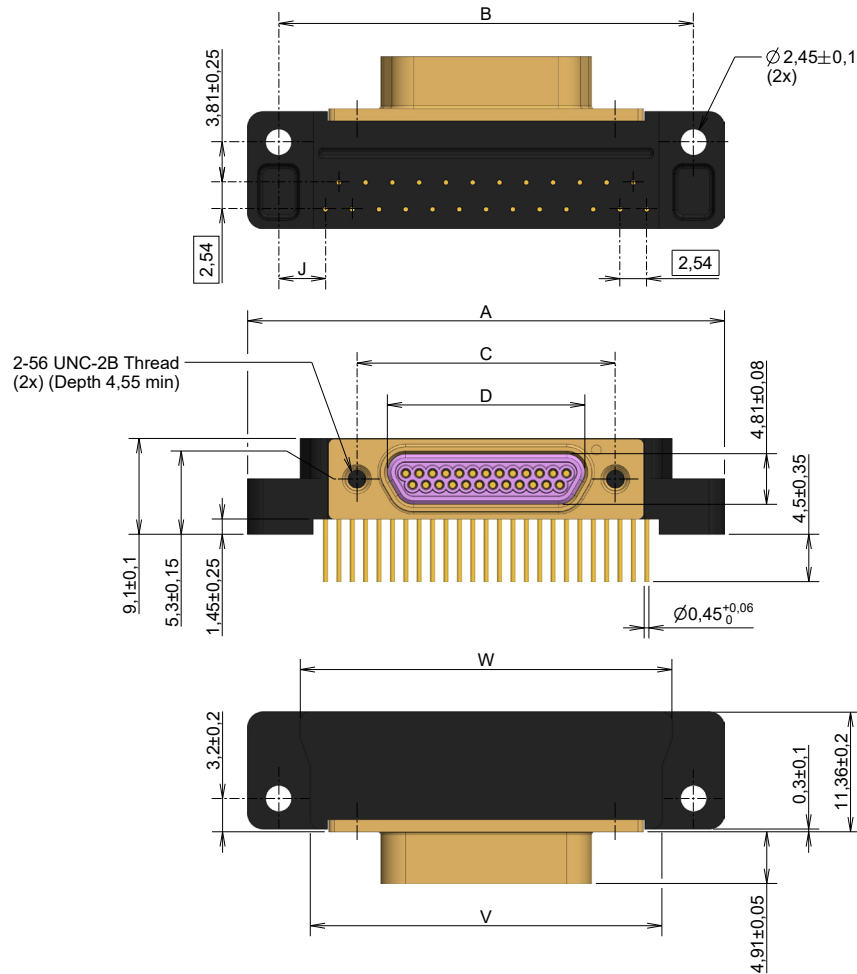
Shell Size	A $\pm 0.15$	B $\pm 0.15$	C $\pm 0.05$	D $\pm 0.07$	J Typ.	V $\pm 0.10$	W $\pm 0.15$
9P	35.10	29.21	14.35	8.39	9.525	23.15	25.05
15P	38.95	33.02	18.16	12.20	7.62	26.95	28.85
21P	42.80	36.83	21.97	16.01	5.715	30.80	32.70
25P	45.30	39.37	24.51	18.55	4.445	33.40	35.30
31P	$51.65 \pm 0.2$	45.72	28.32	22.36	3.81	39.70	41.60
37P	$59.20 \pm 0.2$	53.34	32.13	26.17	3.81	47.25	49.15



# MDM Series

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

Socket connector dimensions - FR136 - Size 9 to 37



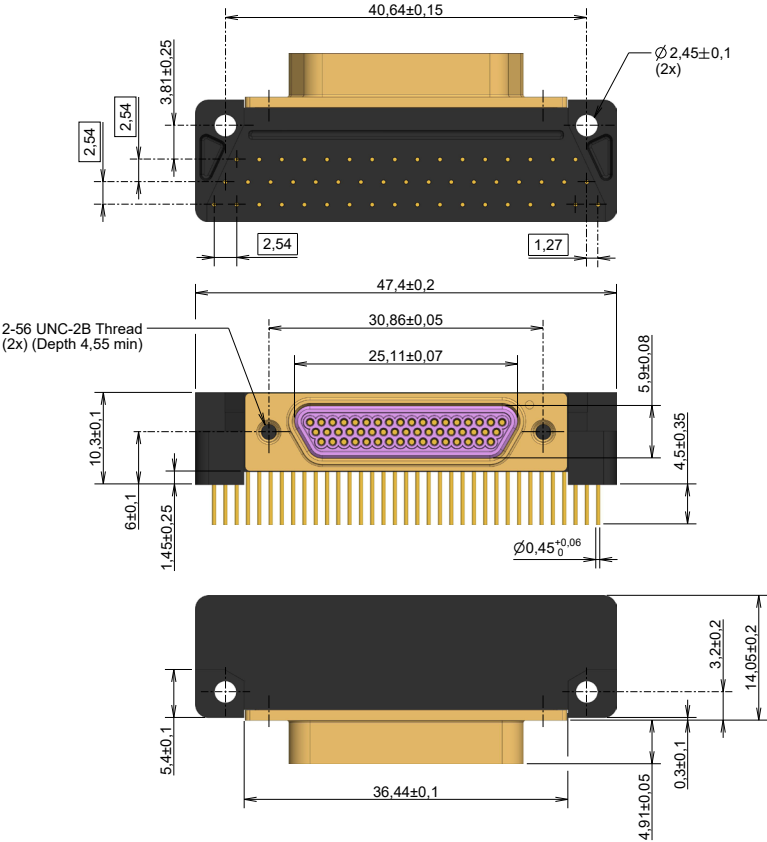
Shell Size	A $\pm 0.15$	B $\pm 0.15$	C $\pm 0.05$	D $\pm 0.07$	J Typ.	V $\pm 0.10$	W $\pm 0.15$
9S	35.10	29.21	14.35	8.60	9.525	23.15	25.05
15S	38.95	33.02	18.16	12.41	7.62	26.95	28.85
21S	42.80	36.83	21.97	16.22	5.715	30.80	32.70
25S	45.30	39.37	24.51	18.76	4.445	33.40	35.30
31S	51.65 $\pm 0.2$	45.72	28.32	22.57	3.81	39.70	41.60
37S	59.20 $\pm 0.2$	53.34	32.13	26.38	3.81	47.25	49.15

# MDM Series

Micro D connectors

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Socket connector dimensions - FR136 - Size 51

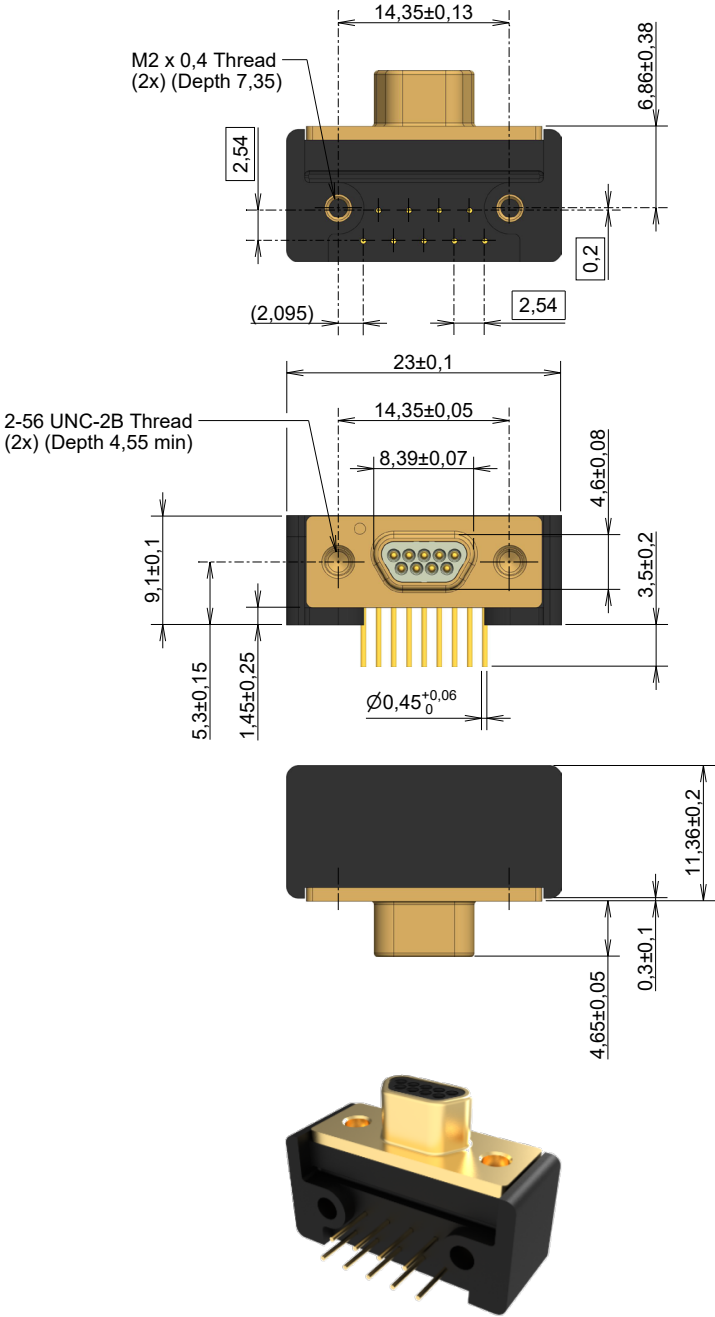


# MDM Series

Micro D connectors

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Pin connector dimensions – FR136A : Narrow profile - Size 9

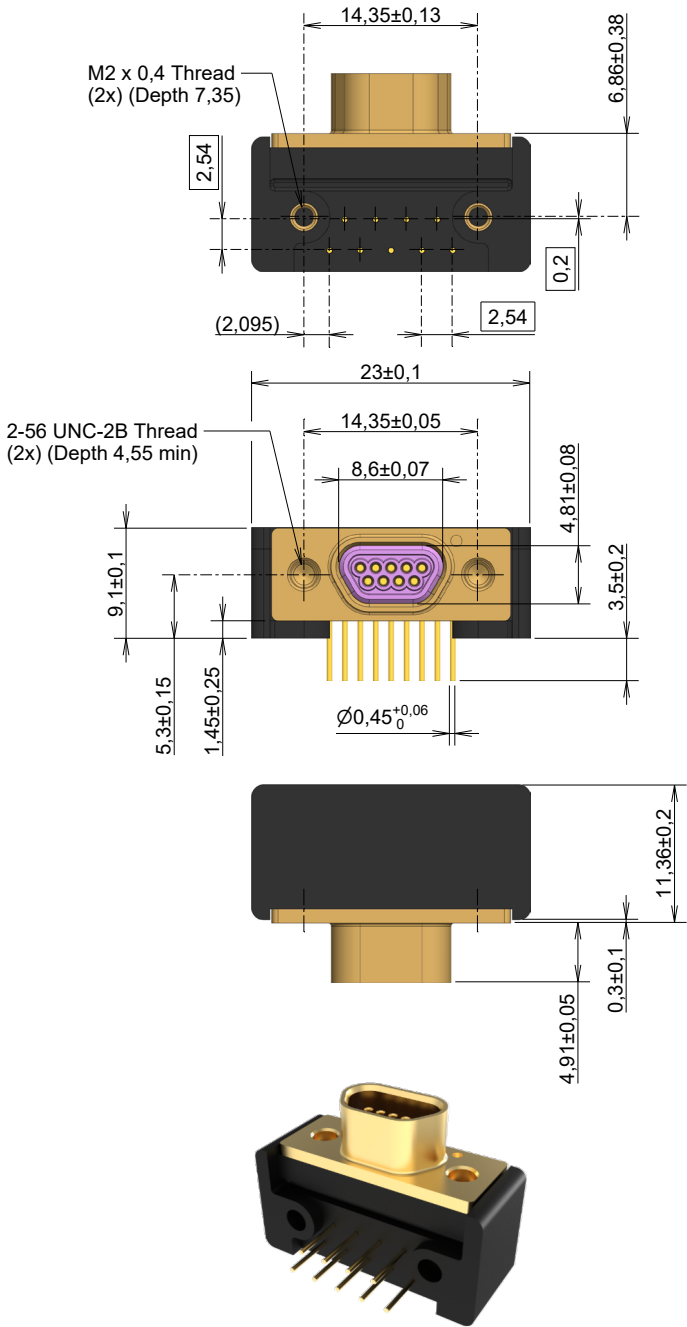


# MDM Series

Micro D connectors

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Socket connector dimensions – FR136A : Narrow profile - Size 9

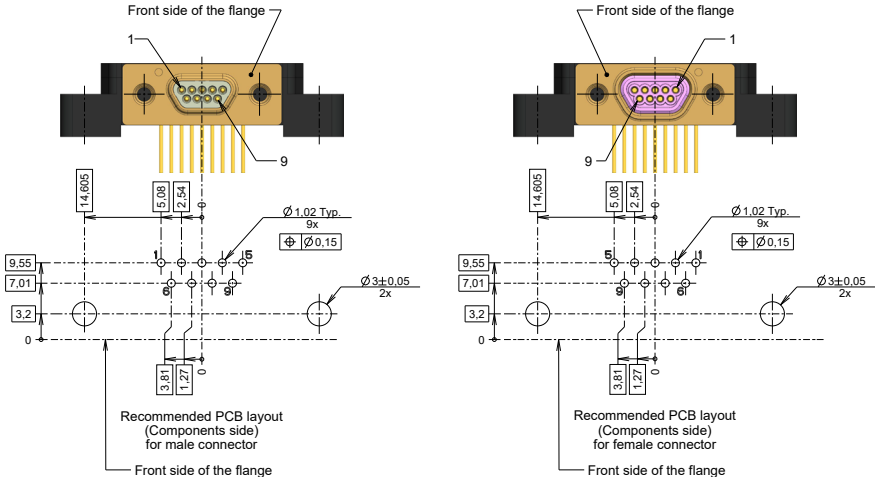


# MDM Series

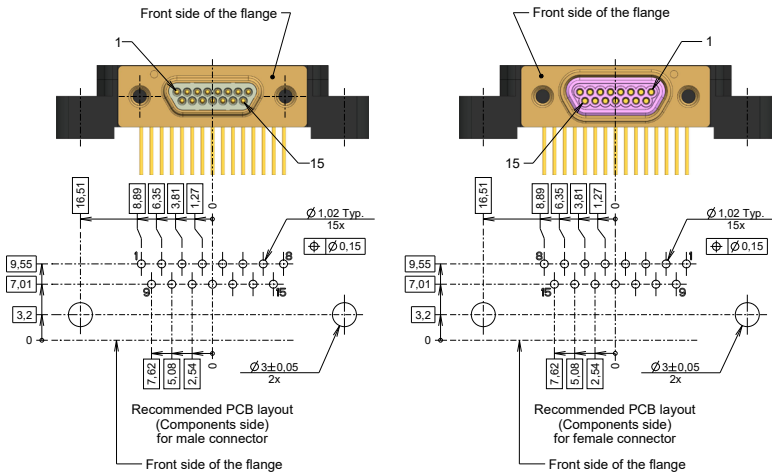
Micro D connectors

PCB right angle termination ESAQ - ESCC 3401/029 Certified

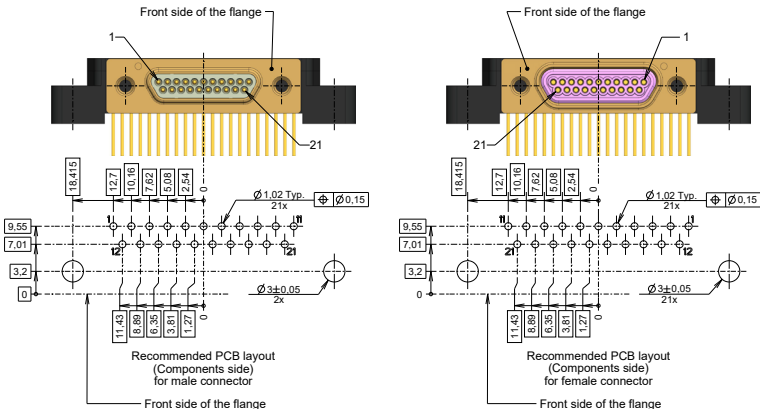
### PCB layout – FR136 - 9 positions



### PCB layout – FR136 - 15 positions



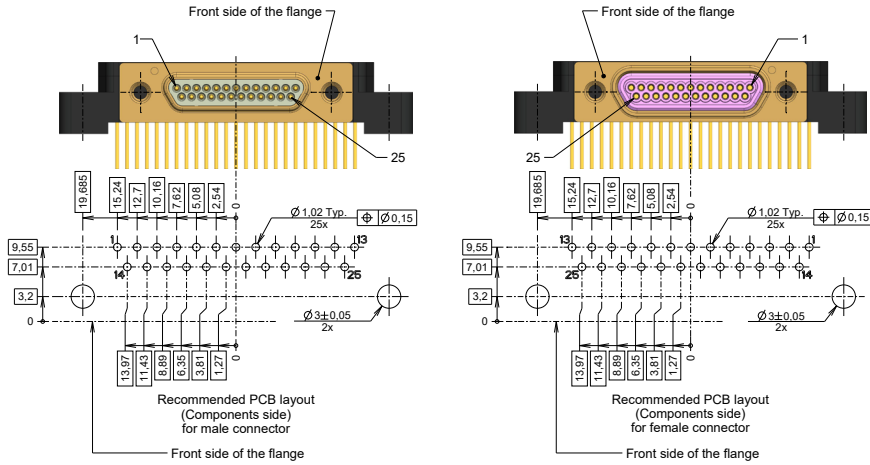
### PCB layout – FR136 - 21 positions



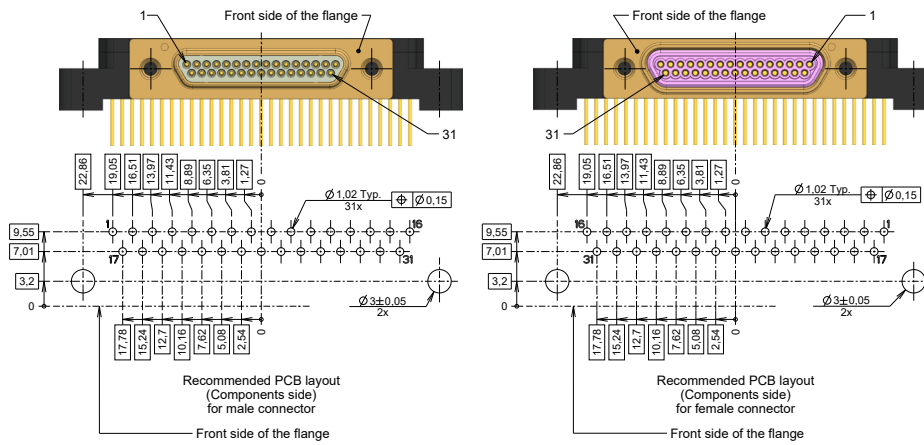
# MDM Series

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

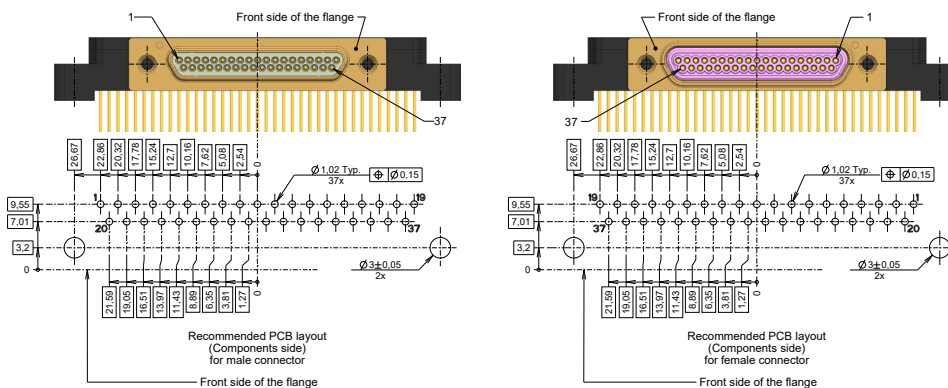
## PCB layout – FR136 - 25 positions



## PCB layout – FR136 - 31 positions



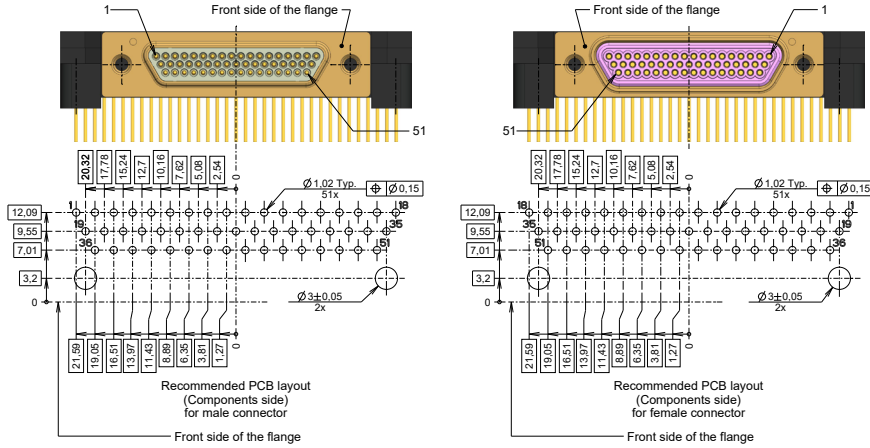
## PCB layout – FR136 - 37 positions



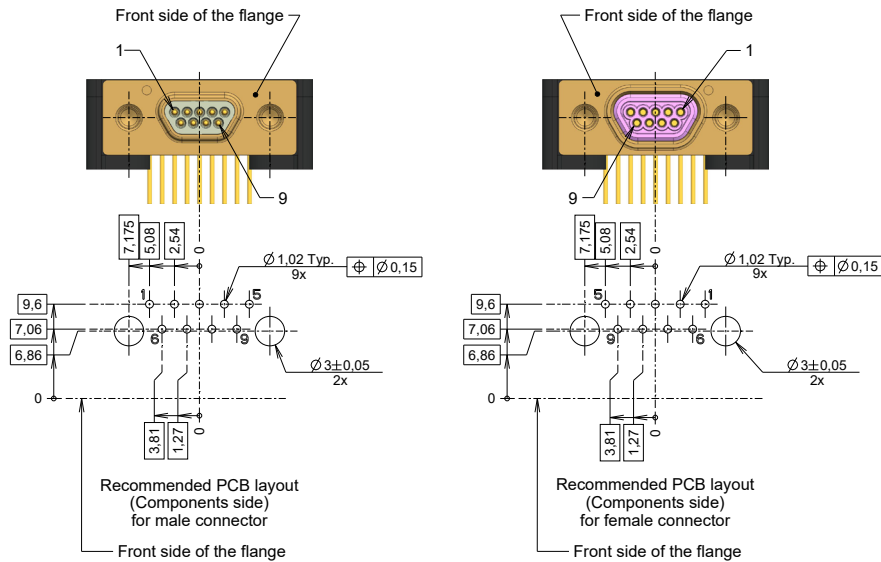
# MDM Series

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

## PCB layout – FR136 - 51 positions




## PCB layout – FR136A : NARROW PROFILE - 9 positions




# MDM Series

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

## 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)	ESCC description	P/N
 <p>Weight for one pair: 0.86 g max</p>	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

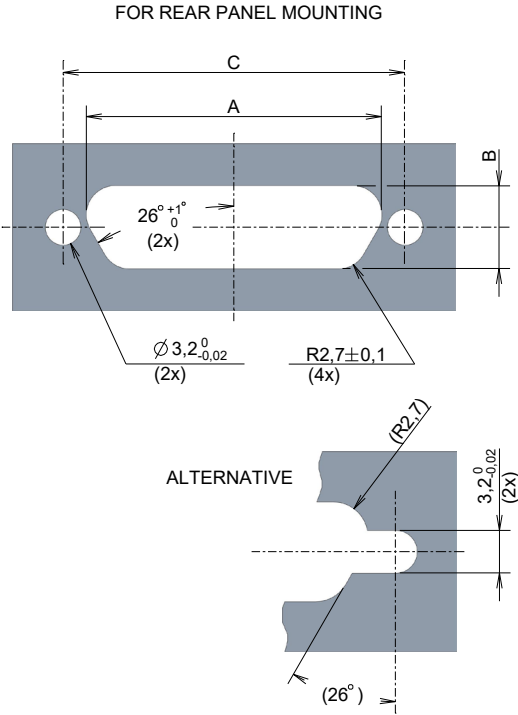
Female screwlocks, mounting without panel (To be ordered separately)	ESCC description	P/N
 <p>Weight for one pair: 1.32 g max</p>	340103211B	C115366-9222C

**MDM Series**

Micro D connectors

PCB right angle termination ESAQ - ESCC 3401/029 Certified

**Panel cutouts – FR136 & FR136A – 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 right angle termination ESAQ - ESCC 3401/029 Certified

## Connectors description and Part Numbers

Shell plating	Contact type	Number of contacts	Standard profile FR136	
			ESCC description	P/N
Nickel plated	Pin	9	340102901B 9PFR136	C115366-1072C
		15	340102901B 15PFR136	C115366-1074C
		21	340102901B 21PFR136	C115366-1076C
		25	340102901B 25PFR136	C115366-1078C
		31	340102901B 31PFR136	C115366-1080C
		37	340102901B 37PFR136	C115366-1082C
		51	340102901B 51PFR136	C115366-1084C
	Socket	9	340102901B 9SFR136	C115366-1073C
		15	340102901B 15SFR136	C115366-1075C
		21	340102901B 21SFR136	C115366-1077C
		25	340102901B 25SFR136	C115366-1079C
		31	340102901B 31SFR136	C115366-1081C
		37	340102901B 37SFR136	C115366-1083C
		51	340102901B 51SFR136	C115366-1085C
Gold plated	Pin	9	340102902B 9PFR136	C115366-1086C
		15	340102902B 15PFR136	C115366-1088C
		21	340102902B 21PFR136	C115366-1090C
		25	340102902B 25PFR136	C115366-1092C
		31	340102902B 31PFR136	C115366-1094C
		37	340102902B 37PFR136	C115366-1096C
		51	340102902B 51PFR136	C115366-1098C
	Socket	9	340102902B 9SFR136	C115366-1087C
		15	340102902B 15SFR136	C115366-1089C
		21	340102902B 21SFR136	C115366-1091C
		25	340102902B 25SFR136	C115366-1093C
		31	340102902B 31SFR136	C115366-1095C
		37	340102902B 37SFR136	C115366-1097C
		51	340102902B 51SFR136	C115366-1099C

# MDM Series

Micro D connectors

PCB right angle termination ESAQ - ESCC 3401/029 Certified

Shell plating	Contact type	Number of contacts	Narrow profile FR136A	
			ESCC description	P/N
Nickel plated	Pin	9	340102901B 9PFR136A	C115366-1130C
	Socket	9	340102901B 9SFR136A	C115366-1131C
Gold plated	Pin	9	340102902B 9PFR136A	C115366-1132C
	Socket	9	340102902B 9SFR136A	C115366-1133C