

ITT Cannon MDSM Series Micro-D Connectors



COMMERCIAL MINIATURE D-SUB-TYPE TWIST PIN CONNECTOR

ITT Cannon MDSM series micro-d connectors are a commercial version of MIL-DTL-83513 connectors with a high-reliability twist pin contact system using Pos-Aline Alignment. The MDSM micro-d series is similar to a standard d-sub connector but smaller in size, and is a durable, high-density, shielded connector constructed using UL94-V0-approved materials. ITT Cannon's MDSM connectors are suitable for the harsh environments of commercial industrial applications. For full details on ITT Cannon MDSM series micro-d connectors, see the product specifications below.

APPLICATIONS

- Lap-top computers
- Bar code readers
- Commercial avionics
- Desktop computers
- Telecommunications
- Microcomputer boards
- Cellular phones
- LAN routers
- Industrial automation equipment

FEATURES

- .050" (1.27mm) Pitch Saves Space
- Fully Shielded to Reduce EMI / RFI
- Reeled Crimp Contacts for Automatic Applicators
- PdNi Contact Plating for 10,000 Mating Cycles
- Push-Pull or Thumbscrew Hardware for Easy Securing
- Slide over Backshell Boot Gives Overmold Appearance

TECH SPECS

MATERIALS & FINISHES

Shell	Steel
Shell Plating	Nickel-plated
Shield Can	Steel
Shield Can Plating	Tin
Contacts	Copper alloy
Contact Plating	Gold over nickel over PdNi engaging end, tin/lead termination area
Hardware	Copper alloy
Plating	Nickel
Backshell/Hoods	Thermoplastic, UL94 V-0 rated

ELECTRICAL DATA

Operating Voltage & Test Voltage	350 Vac at sea level
Current Rating	1 Amp at 77°F (25°C), .7 Amps at 158°F (70°C) temp. dependent
Wire Range Sizes	26-30 AWG (CA111972 uses 28 AWG wire)
Contact Resistance	20 milliohms maximum
Insulation Resistance	5000 megaohms minimum

MECHANICAL DATA

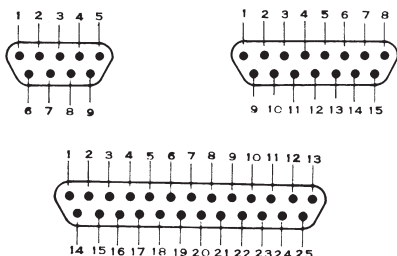
Operating Temperature	-67°F to 257°F (-55°C to +125°C)
Insulation Strip Length	.102" (2.6mm)
Mating Life	10,000 cycles minimum
Vibration	10-32Hz (1-minute) No discontinuities longer than 1-microsecond
Shock	50g 11ms
Contact Type	Crimp, PC
Shield Effectiveness	70dB
Number of Circuits	9, 15, and 25 (18 and 30 double stacked)
Contact Insertion	From rear with insertion tool (Note: contacts are not removable)
Approvals	UL File Number: E8572 SSA-Serial Storage Architecture

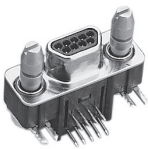
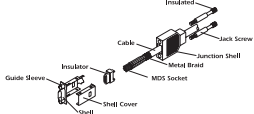
THUMBSCREW STYLE

The thumbscrew style locking system is designed for applications where a secure connection is required and is not unmated frequently.



MATING FACE VIEW OF RECEPTACLE



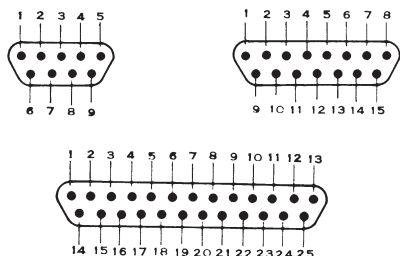
	RECEPTACLES PRINTED CIRCUIT BOARDS		CABLE PLUGS	
				
Number of Contacts	Single	Dual		
9/18	MDSM-9PE-Z10	MDSM-18PE-Z10	MDSM-9SC-Z11	CA111972-22
15/30	MDSM-15PE-Z10	MDSM-30PE-Z10	MDSM-15SC-Z11	CA111972-11
25	MDSM-25PE-Z10	—	MDSM-25SC-Z11	CA111972-12

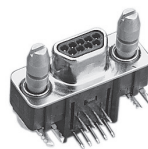
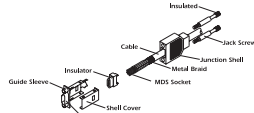
PUSH-PULL STYLE

The push-pull style latching system is designed for applications requiring a quick connect and disconnect. A spring retention mechanism latches to a post on the board-mounted connector to prevent unintentional unmatings.



MATING FACE VIEW OF RECEPTACLE



	RECEPTACLES PRINTED CIRCUIT BOARDS		CABLE PLUGS	
				
Number of Contacts	Single	Dual	Kits***	
9/18	MDSM-9PE-Z42	MDSM-18PE-Z42	MDSM-9SC-Z24	CA111972-43
15/30	MDSM-15PE-Z42	MDSM-30PE-Z42	MDSM-15SC-Z24	CA111972-44
25	MDSM-25PE-Z42	—	MDSM-25SC-Z24	CA111972-45

*** ➔ See page 236 for contact and tooling information. Contacts not included.

WIRE COLOR CODE

(For CA111972 only)

9 PIN:

CONTACT COLOR CODES			
1	Black	6	Green
2	Yellow	7	Blue
3	Brown	8	White
4	Orange	9	Violet
5	Red	-	Gray - Unused

15 PIN:

CONTACT POSITION		TWISTED PAIR NO.	COLOR PAIR
White - 1	Blue - 2	1	White / Blue
White - 3	Orange - 4	2	White / Orange
White - 5	Green - 6	3	White / Green
White - 7	Brown - 8	4	White / Brown
White - 9	Violet - 10	5	White / Violet
White - 11	Yellow - 12	6	White / Yellow
White - 13	Red - 14	7	White / Red
Black - 15	White - Unused	8	White / Black

SINGLE STACK

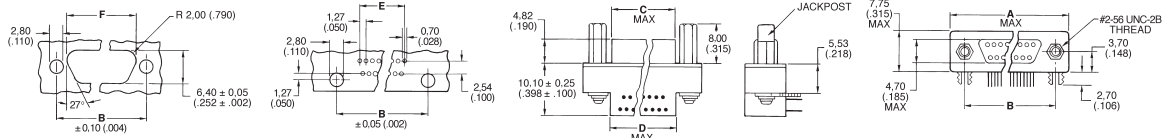
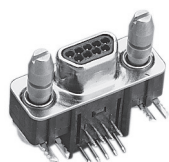


FIGURE PP

DOUBLE STACK

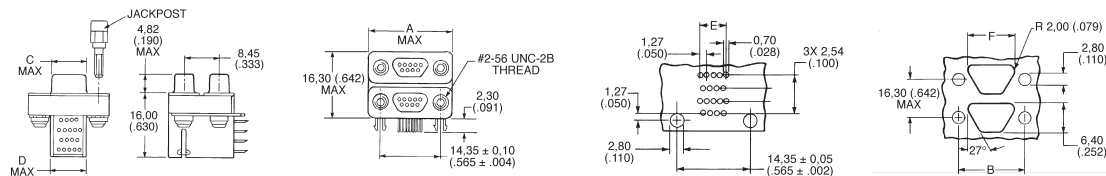
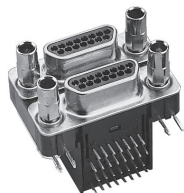


FIGURE T

NUMBER OF CONTACTS	PART NUMBER	FIGURE	A MAX.	B	C MAX.	D MAX.	E	F +/- .002 (.05)
9*	MDSM-9PE-Z10	T	.783 (19.90)	.565 (14.35)	.339 (8.60)	.354 (9.00)	.200 (5.08)	.403 (10.24)
	MDSM-9PE-Z42	PP						
15	MDSM-15PE-Z10	T	.929 (23.60)	.715 (18.16)	.484 (12.30)	.508 (12.90)	.350 (8.89)	.551 (14.01)
	MDSM-15PE-Z42	PP						
25	MDSM-25PE-Z10	T	1.179 (29.95)	.965 (24.51)	.734 (18.65)	.758 (19.25)	.600 (15.24)	.801 (20.354)
	MDSM-25PE-Z42	PP						
9 Dual*	MDSM-18PE-Z10	T	.783 (19.90)	.565 (14.35)	.339 (8.60)	.354 (9.00)	.200 (5.08)	.403 (10.24)
	MDSM-18PE-Z42	PP						
15 Dual	MDSM-30PE-Z10	T	.929 (23.60)	.715 (18.16)	.484 (12.30)	.508 (12.90)	.350 (8.89)	.551 (14.01)
	MDSM-30PE-Z42	PP						

* For use with SSA Applications T = Thumbscrew PP = Push-Pull



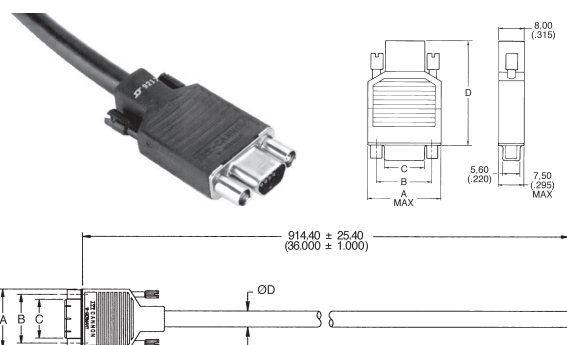
FIGURE 1



FIGURE 2

NUMBER OF CONTACTS	PART NUMBER	FIGURE	A MAX.	B	C MAX.	D MAX.
9*	MDSM-9SC-Z11	1	.783 (19.90)	.565 (14.35)	.372 (9.45)	.224 (5.70)
	MDSM-9SC-Z24	2				
	CA111972-22	3				
	CA111972-43					
15	MDSM-15SC-Z11	1	.993 (23.7)	.715 (18.16)	.519 (13.17)	.264 (6.70)
	MDSM-15SC-Z24	2				
	CA111972-11	3				
	CA111972-44					
25	MDSM-25SC-Z11	1	1.183 (30.05)	.965 (24.51)	.758 (19.52)	.311 (7.90)
	MDSM-25SC-Z24	2				
	CA111972-12	3				
	CA111972-45					

* For use with SSA Applications



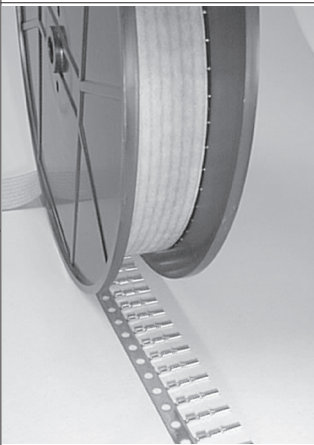
25 PIN:

CONTACT POSITION		TWISTED PAIR NO.	COLOR PAIR
Black - 1	Brown - 2	1	Black / Brown
Black - 3	Red - 4	2	Black / Red
Black - 5	Orange - 6	3	Black / Orange
Black - 7	Yellow - 8	4	Black / Yellow
White - 9	Black - 10	5	White / Black
White - 11	Brown - 12	6	White / Brown
White - 13	Red - 14	7	White / Red

CONTACT POSITION		TWISTED PAIR NO.	COLOR PAIR
White - 15	Orange - 16	8	White / Orange
White - 17	Yellow - 18	9	White / Yellow
White - 19	Green - 20	10	White / Green
White - 21	Blue - 22	11	White / Blue
White - 23	Violet - 24	12	White / Violet
White - 25	Gray - Unused	13	White / Gray
White - 13	Red - 14	7	White / Red

All dimensions in inches (millimeters in parentheses) unless otherwise stated.

CONTACTS & TOOLS

CONTACT PART #	DESCRIPTION	CRIMP TOOL	INSERTION TOOL
MDS-S-TS/PC	Individual piece for Prototype 	CCTP-MDS 112108-0015 	
MDS-S-TS 1000 piece Reel		CCTR-MDS 121086-3259 	CIT-MDS 120090-0102  Actual Size
MDS-S-RL 10,000 piece Reel		ABT-620-MDS Leased Automatic Stripper Crimper  Contact us.	

CONNECTOR ASSEMBLY TOOLS

SHIELD CAN ASSEMBLY TOOL	CRIMP KITS	
	CONNECTOR SIZE	PART NUMBER
Hand Operated Arbor Press CHP-MDSM-SR 	9	MDSM9 Shield Crimp Kit
Pneumatic Press CPT-MSSM-SR 	15	MDSM15 Shield Crimp Kit
	25	MDSM25 Shield Crimp Kit

Contains locator and both upper and lower crimpers

SCREW LOCK ASSEMBLY FOR INSTALLING
SCREW LOCKS & PUSH PULL HARDWARE
ON PC MOUNT RECEPTACLES

CIET-MDSM
204-0018-000



CONNECTOR ASSEMBLY

- STEP 1:** Slip junction shell over cable
- STEP 2:** Strip cable as shown
- STEP 3:** Crimp contacts with appropriate tool
- STEP 4:** Insert contacts into the insulator from rear and push into place using insertion tool (Note: contacts are NOT removable.)
- STEP 5:** Slide insulator into shell
- STEP 6:** Crimp strain relief onto metal braid using arbor press & correct size Shield Crimp Kit & cable jacket
- STEP 7:** Snap on shell cover
- STEP 8:** Slip junction shell over shell & shell cover
- STEP 9:** Push jack screws into junction shell hole (Note: threads on thumb screws will be visible inside guide sleeves.)

Cable Preparation

