



Positronic Industries
connectpositronic.com



INDUSTRIAL QUALITY FIXED CONTACT STANDARD DENSITY D-SUBMINIATURE

D-Sub

Size 20 Contacts, Fixed
PosiBand® Closed Entry

IEC Publication 60807-2
Performance Level One

Consult Technical Sales for
U.L. Recognition



MDX series connectors are industrial quality connectors recommended for use in sheltered, non-corrosive indoor or outdoor environments having normal ventilation, but without temperature or humidity controls. These fixed contact connectors meet the dimensional and performance requirements of IEC 60807-2, Performance Level One.

MDX series connectors utilize precision machined contacts which are fixed within the connector body. The female utilizes Positronic's unique PosiBand closed entry contact system, see page 1 for details.

Five standard connector variants are offered in arrangements of 9, 15, 25, 37 and 50 contacts. Each variant is available with

contact terminations for solder cup and straight and right angle (90°) printed board mount terminations. MDX series connectors are mateable and compatible with all D-subminiature connectors conforming to IEC 60807-2, IEC 60807-3 and MIL-DTL-24308.

A wide assortment of printed board mounting hardware, cable support hoods and locking systems is available from stock.



For RoHS options
see page 15.

MDX SERIES

MDX SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled polyester per MIL-M-24519, U.L. 94V-0, blue color.
Contacts:	Precision machined copper alloy.
Contact Plating:	Professional performance Gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel or brass with tin plate; zinc plate with chromate seal, stainless steel passivated. Other materials and finishes available upon request.
Mounting Spacers and Brackets:	Nylon; copper alloy or steel with zinc plate and chromate seal or tin plate; phosphor bronze with tin plate; stainless steel, passivated.
Push-On Fasteners:	Phosphor bronze or beryllium copper with tin plate.
Jackscrew Systems:	Brass or steel with zinc plate and chromate seal or clear zinc plate or tin plate; stainless steel, passivated..
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Hoods:	Composite and plastic, UL 94V-0; brass or steel with zinc plate and chromate seal; aluminum or aluminum with electroless nickel plate; die cast zinc.
Non-magnetic versions are available, contact Technical Sales.	

MECHANICAL CHARACTERISTICS:

Fixed Contacts:	Size 20 contact, female contact - PosiBand closed entry design, see page 1 for details.
Contact Retention In Insulator:	6 lbs. [27N]

Contact Terminations:	Solder cup contacts - 0.042 inch [1.06mm] minimum hole diameter for 20 AWG [0.5mm ²] wire maximum. Straight Printed Board Mount - 0.028 inch [0.71mm] termination diameter. Right Angle (90°) Printed Board Mount - 0.028 inch [0.71mm] termination diameter for all printed board footprints.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Mounting To Angle Brackets:	Jackscrews and riveted fasteners with a 0.120 inch [3.05mm] clearance hole, and threaded riveted fasteners with 4-40 threads and nylon lock inserts.
Mounting To Printed Board:	Rapid installation push-on fasteners and threaded posts.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	1000 operations minimum per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	14 amperes, tested per U.L. 1977, six contacts energized. See temperature rise curve on page 2 for details.
Initial Contact Resistance:	0.005 ohms maximum.
Insulator Resistance:	5 G ohms.
Proof Voltage:	1000 V r.m.s.
Clearance and Creepage Distance [minimum]:	0.039 inch [1.0mm].
Working Voltage:	300 V r.m.s.

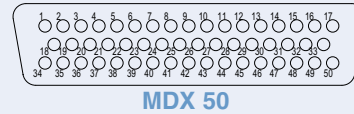
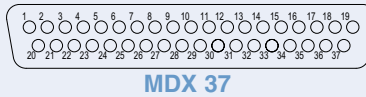
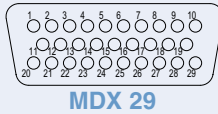
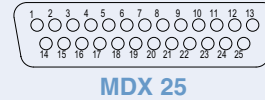
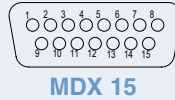
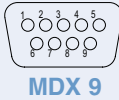
CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.

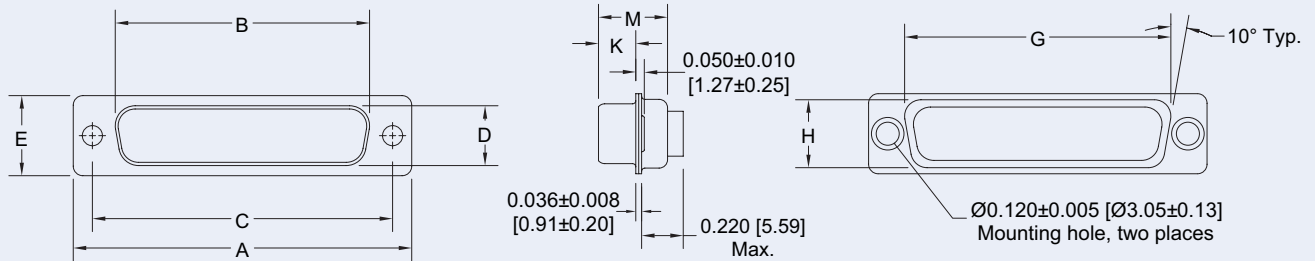


CONTACT VARIANTS

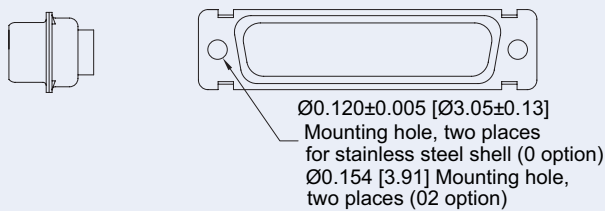
FACE VIEW OF FEMALE OR REAR VIEW OF MALE



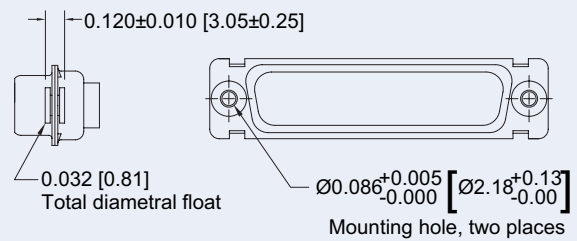
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY (0, 02)



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
9 S	1.213 [30.81]	0.643 [16.33]	0.984 [24.99]	0.311 [7.90]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
15 S	1.541 [39.14]	0.971 [24.66]	1.312 [33.32]	0.311 [7.90]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
25 S	2.088 [53.04]	1.511 [38.38]	1.852 [47.04]	0.311 [7.90]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
37 S	2.729 [69.32]	2.159 [54.84]	2.500 [63.50]	0.311 [7.90]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
50 S	2.635 [66.93]	2.064 [52.43]	2.406 [61.11]	0.423 [10.74]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]



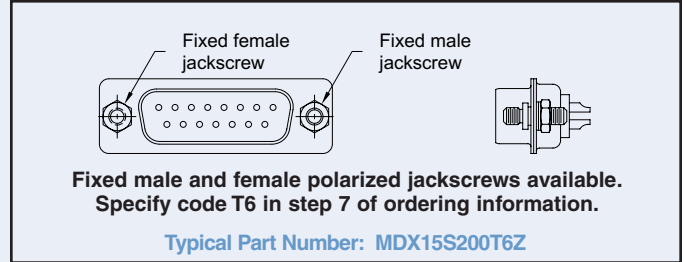
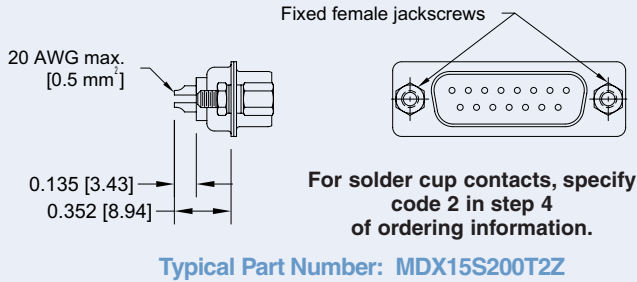
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D-Sub

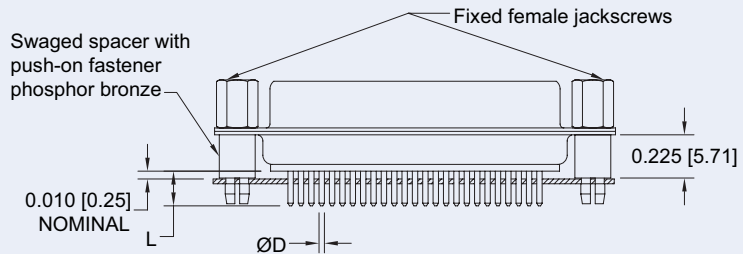
SOLDER CUP CONNECTOR CODE 2



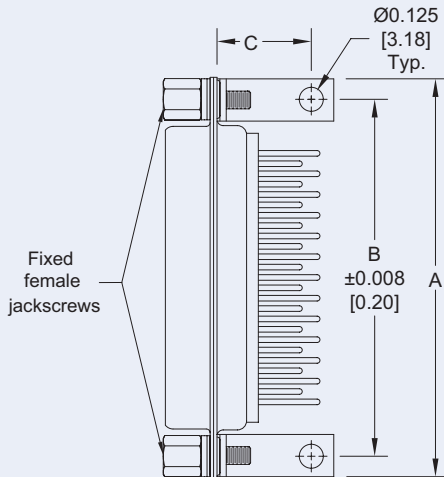
STRAIGHT PRINTED BOARD MOUNT CONNECTOR CODE 3, 32 AND 33

CODE NUMBER	L	ØD
3	0.170 [4.32]	0.028 [0.71]
32	0.375 [9.53]	0.028 [0.71]
33	0.500 [12.70]	0.028 [0.71]

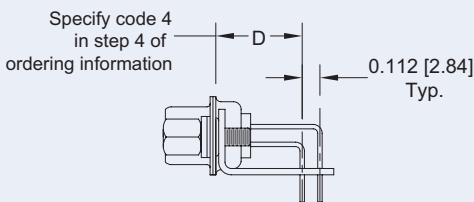
For straight printed board mount contacts, specify code number in step 4 of ordering information.



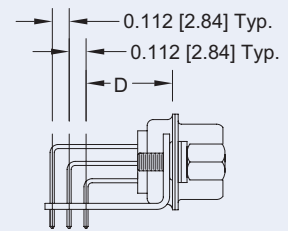
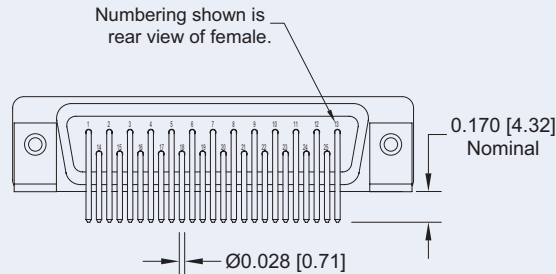
RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR CODE 4, 0.450 [11.43] CONTACT EXTENSION



MDX**4B*** 0.450 [11.43] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
MDX9S4B***	1.204 [30.58]	0.984 [24.99]	0.506 [12.85]	0.450 [11.43]
MDX15S4B***	1.532 [38.91]	1.312 [33.32]	0.506 [12.85]	0.450 [11.43]
MDX25S4B***	2.072 [52.63]	1.852 [47.04]	0.506 [12.85]	0.450 [11.43]
MDX37S4B***	2.720 [69.09]	2.500 [63.50]	0.506 [12.85]	0.450 [11.43]
MDX50S4B***	2.626 [66.70]	2.406 [61.11]	0.562 [14.27]	0.450 [11.43]



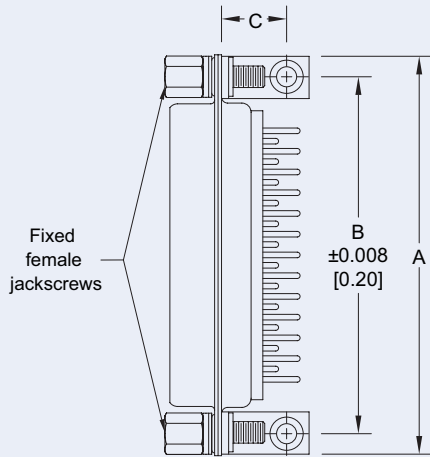
Typical Part Number: MDX25S4B0T20



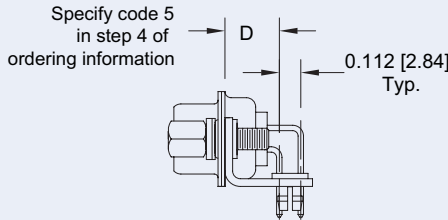
Typical Part Number: MDX50S4B0T20



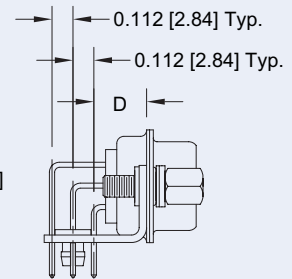
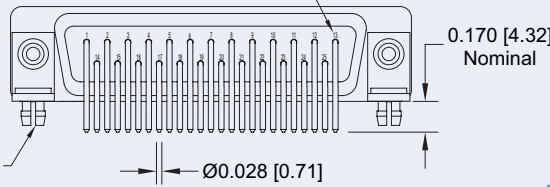
RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR
CODE 5, 0.283 [7.19] CONTACT EXTENSION



MDX**5R4*** 0.283 [7.19] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
MDX9S5R4***	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]
MDX15S5R4***	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]
MDX25S5R4***	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]
MDX37S5R4***	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]
MDX50S5R4***	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.283 [7.19]



Numbering shown is rear view of female.

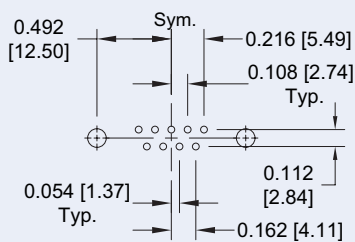


Typical Part Number:
MDX25S5R4NT2X

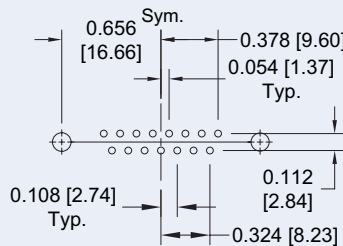
Typical Part Number:
MDX50S5R4NT2X

RIGHT ANGLE (90°) AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

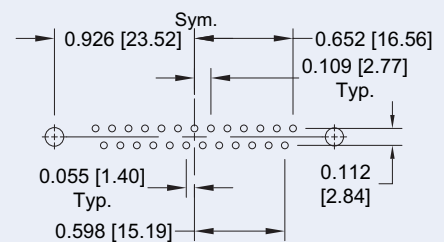
MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROW.



MDX9



MDX15

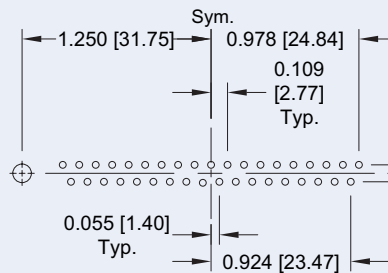


MDX25

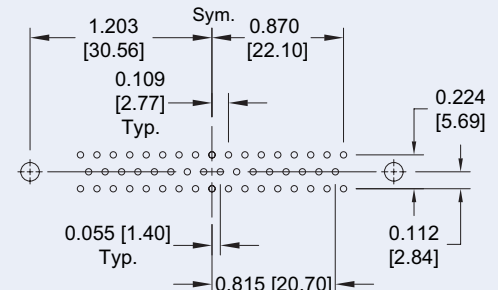
SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for contact termination positions.

Suggest 0.123 ±0.003 [3.12 ±0.08] Ø hole for mounting connector with push-on fasteners.



MDX37



MDX50



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INDUSTRIAL QUALITY FIXED CONTACT STANDARD DENSITY D-SUBMINIATURE

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ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9	10
EXAMPLE	MDX	25	S	5	R7	N	T6	X	/AA	-14
STEP 1 - BASIC SERIES MDX series.										
STEP 2 - CONNECTOR VARIANTS 9, 15, 25, 37, 50										
STEP 3 - CONNECTOR GENDER S - Female - Industrial Level PosiBand closed entry contacts										
STEP 4 - CONTACT TERMINATION TYPE 2 - Solder cup. 3 - Solder, Straight Printed Board Mount with 0.170 [4.32] Tail Length. *4 32 - Solder, Straight Printed Board Mount with 0.375 [9.52] Tail Length. *4 33 - Solder, Straight Printed Board Mount with 0.500 [12.70] tail length. *4 4 - Solder, Right Angle (90°) Printed Board Mount with 0.450 [11.43] Contact Extension. 5 - Solder, Right Angle (90°) Printed Board Mount with 0.283 [7.19] Contact Extension.										
*1 STEP 5 - MOUNTING STYLE 0 - Mounting Hole, 0.120 [3.05] Ø. 02 - Mounting Hole, 0.154 [3.91] Ø. B - Bracket, Mounting, Right Angle (90°) Metal. B3 - Bracket, Mounting, Right Angle (90°) Metal with Cross Bar. B7 - Bracket, Mounting, Right Angle (90°) Plastic. B8 - Bracket, Mounting, Right Angle (90°) Plastic with Cross Bar. F - Float Mounts, Universal. P - Threaded Post, Brass, 0.225 [5.71] Length. P2 - Threaded Post, Nylon, 0.225 [5.71] Length. R - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews. R2 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar. R3 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole. R4 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Threads. R5 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Locknut. R6 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar. R7 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Threads with Cross Bar. R8 - Bracket, Mounting, Right Angle (90°) Metal, Swaged to Connector with 4-40 Locknut with Cross Bar. S - Swaged Spacer, 4-40 Threads, 0.225 [5.71] Length. S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length. S5 - Swaged Locknut, 4-40 Threads. S6 - Swaged Spacer with Push-on Fastener, 4-40 Threads, 0.225 [5.71] Length. S7 - Swaged Spacer with Push-on Fastener for use with Ferrite Inductor, 4-40 Threads, 0.375 [9.53] Length.										
*1 STEP 6 - HOODS AND PUSH-ON FASTENERS 0 - None. J - Hood, Top Opening, Plastic. L - Hood, Side Opening, Plastic. Y - Hood, Top Opening, Plastic with Rotating Male Jackscrews. Available in size 50 only. Y6 - Hood, Top Opening, Plastic with Rotating Male and Female Polarized Jackscrews. Available in size 50 only. Z - Hood, Top or Side Opening, Robust and Extended Height, Composite and Plastic with Rotating Male Jackscrews. Available in size 9, 15, 25, 37, and 50 only. H - Hood, Top Opening, Metal. Available in size 15, 25, 37, and 50 only. G - Hood, EMI/RFI, Metal. Available in size 9, 15, 25, 37, and 50 only. AN - Lightweight Aluminum Hood, nickel finish. AC - Lightweight Aluminum Hood, no finish. W - Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only. N - Push-on fastener for right angle (90°) mounting brackets. *2 F - Ferrite inductor. *2 Q - Ferrite inductor for use with push-on fastener and right angle (90°) mounting brackets.										
*1 STEP 7 - LOCKING AND POLARIZING SYSTEMS 0 - None. *3 V3 - Lock Tab, connector front panel mounted. *3 V5 - Lock Tab, connector rear panel mounted. *3 VL - Lock Lever, used with Hoods only. T - Fixed Female Jackscrews. T2 - Fixed Female Jackscrews. T6 - Fixed Male and Female Polarized Jackscrews. E - Rotating Male Jackscrews. E2 - Rotating Male Screw Locks. E3 - Rotating Male with Internal Hex for 3/32 Hex Drives E6 - Rotating Male and Female Polarized Jackscrews.										
STEP 8 - Shell Options 0 - Zinc plated, with chromate seal. S - Stainless steel, passivated. X - Tin plated. Z - Tin plated and dimpled (male connectors only).										
STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS /AA - Compliant per EU Directive 2002/95/EC (RoHS)										
STEP 10 - SPECIAL OPTIONS -14 - 0.000030 [0.76µ] gold over nickel. -15 - 0.000050 [1.27µ] gold over nickel. CONTACT TECHNICAL SALES FOR SPECIAL OPTIONS										



MDX SERIES