

Positronic



Industries

**CATALOG OF
INDUSTRIAL AND
MILITARY APPLICATION
SUBMINIATURE-D
CONNECTORS**

Catalog C-001 Rev. B

www.connectpositronic.com

Connector Excellence

POSITRONIC INDUSTRIES

ABOUT US

Founded in 1966, Positronic Industries is a vertically integrated manufacturer of high quality interconnect products. Positronic has earned the worldwide reputation as a service oriented, quick-reaction, top quality connector supplier. We are committed to maintaining this reputation by continuous implementation of our **Complete Capability** concept.

COMPLETE CAPABILITY

Design & Development

- Designs new connectors and modifies existing connectors to meet industry requirements
- Continuously conducts marketing studies to identify industry needs for new products
- Ongoing interest in unique connector designs

Tooling

- Tooling support for all manufacturing areas within company
- Provides 80% of new tooling, punch press dies, molds, jigs and fixtures used at Positronic factory locations worldwide

Machining

- Automatic screw machines produce finely crafted contacts and hardware for connector bodies
- Trained technicians operate machines from Tornos, Bechler and Brown & Sharpe

Molding

- Molds all plastic connector components such as insulators, hoods, angle brackets and more
- Overmold capability available

Plating

- Applies gold and other metal finishes to connector components to any required thickness
- Plating conforms to all military specifications

Quality Assurance Lab

- Quality assurance system certified to ISO 9001
- Maintains aggressive TQM program
- Able to test to IEC, EIA, UL, MIL-DTL-24308, MIL-DTL-28748, MIL-C-39029 and MIL-C-85049 requirements

Finished Stock Inventory

- Each main factory location maintains a large inventory of connector components and accessories
- Same day shipments available on many standard connector products
- Stocking agreements available for qualified customers

Worldwide Sales & Service

- Responsive attitude toward customer needs
- Fully trained sales staff located worldwide



Machining



Molding



Finished Stock Inventory

Products described within this catalog may be protected by one or more of the following US. patents:

#4,721,472 #4,900,261 #5,255,580
#5,329,697 #6,260,268

Patented in Canada, 1992

Unless specified otherwise, dimensional tolerances are:

- 1] ± 0.001 inches [0.03 mm] for male contact mating diameters.
- 2] ± 0.003 inches [0.08 mm] for contact termination diameters.
- 3] ± 0.005 inches [0.13 mm] for all other diameters.
- 4] ± 0.015 inches [0.38 mm] for all other dimensions.
- 5] ± 0.0015 inches [0.038 mm] for all press-fit contact terminations.

Positronic Industries believes the data contained herein to be reliable. Since the technical information is given free of charge, the User employs such information at his own discretion and risk. Positronic Industries assumes no responsibility for results obtained or damages incurred from use of such information in whole or in part.

Positronic Industries' FEDERAL SUPPLY CODE [Cage Code] FOR MANUFACTURERS is 28198



CONNECTOR DESCRIPTIONS

MELO-D and EURO-D CONNECTORS

MD Series and ED Series. Fixed contact, 7.5 ampere nominal rating. Solder cup, wrap post, and printed board contact terminations for inch and metric printed board hole patterns. Six connector variants, 9 through 50 contacts. Professional quality connectors to IEC 807-2, Performance Level Two.



SOLI-D CONNECTORS

SD Series. Removable contact, 7.5 ampere nominal rating. Solder cup, crimp and straight printed board mount contact terminations. Five connector variants, 9 through 50 contacts. Professional quality connectors to IEC 807-3, Performance Level Two.

DENSI-D CONNECTORS

DD Series. Removable contact, five ampere nominal rating. Solder cup, crimp and straight and 90° printed board contact terminations. Six connector variants, 15 through 104 contacts. Military quality connectors qualified to MIL-DTL-24308 and MIL-C-39029.



LOW COST HIGH DENSITY CONNECTORS

ODD Series. Removable contact, five ampere nominal rating. Solder cup, crimp and straight and 90° printed board contact terminations. Six connector variants, 15 through 104 contacts. Professional quality connectors.

RHAPSO-D CONNECTORS

RD Series. Removable contact, 7.5 ampere nominal rating. Crimp contact terminations. Six connector variants, 9 through 50 contacts. Military quality connectors qualified to MIL-DTL-24308 and MIL-C-39029. IEC 807-3, Performance Level One.

LOW COST STANDARD DENSITY CONNECTORS

ORD Series. Removable contact, 7.5 ampere nominal rating. Crimp contact terminations. Six connector variants, 9 through 50 contacts. Professional quality connectors.



HARMO-D CONNECTORS

HDC Series. Fixed contact, 7.5 ampere nominal rating. Solder cup, wrap post and straight and 90° printed board contact terminations. Five connector variants, 9 through 50 contacts. Military quality connectors qualified to MIL-DTL-24308, IEC 807-2, Performance Level One.

PRESS-FIT CONNECTORS

PCD Series. Machined contact, compliant termination, repairable, 7.5 ampere nominal rating. Five connector variants, 9 through 50 contacts. Professional quality connectors, conform to IEC 807-2, Performance Level Two.

HIGH DENSITY PRESS-FIT CONNECTORS

PCDD Series. Machined contact, compliant termination, repairable, 5 ampere nominal rating. Five connector variants, 15 through 104 contacts. Professional quality connectors.



T A B L E O F C O N T E N T S

M A T E D C O N N E C T O R A S S E M B L I E S

Exploded Views of Typical Mated Subminiature-D Connector Assemblies	1
Connector Component Description and Terminology	2

M D / E D S E R I E S

Technical Characteristics	3
Contact Variants and Standard Shell Assembly	4
Solder Cup Connector, Straight Printed Board Mount Connector, Ferrite Inductor Bar For EMI/RFI Noise Suppression, and Wrap Post Connector	5
90° Printed Board Mount Connectors - Code 5 and Code 52	6
90° Printed Board Mount Connectors - Code 4 and 90° and Straight Printed Board Contact Hole Pattern	7
90° Printed Board Mount Connectors - Code 42 and Code 44	8
90° and Straight Printed Board Contact Hole Pattern for Code 42 and 52	9
Ordering Information	10

S D S E R I E S

Technical Characteristics	11
Contact Variants and Standard Shell Assembly	12
Crimp Contacts and Reels for Automatic Feed Pneumatic Crimp Tools	13
Straight Printed Board Mount Contacts	14
Straight Printed Board Contact Hole Pattern	15
Crimping Information for RD and SD Series Crimp Contacts and Crimping Installation Tools	16-18
Ordering Information	19

D D S E R I E S

Technical Characteristics	20
Contact Variants and Standard Shell Assembly	21
Crimp Contacts, Solder Cup Contacts and Reels for Automatic Feed Pneumatic Crimp Tools	22
Straight Printed Board Mount Contacts	23
90° Printed Board Mount Connectors - Code 4	24
90° and Straight Printed Board Contact Hole Pattern	25
Crimping Information for DD and ODD Series Crimp Contacts and Crimping Installation Tools	26-28
Ordering Information	29

O D D S E R I E S

Technical Characteristics	30
Contact Variants and Standard Shell Assembly	31
Crimp Contacts, Solder Cup Contacts and Straight Printed Board Mount Connector	32
90° Printed Board Mount Connectors - Code 5 and Code 4	33
Fixed Contact Solder Cup Connector, 90° Printed Board Mount Connector - Code 5 and Code 4	34
90° and Straight Printed Board Contact Hole Pattern	35
Crimping Installation Tools	36
Reels for Automatic Feed Pneumatic Crimp Tools and Ordering Information	37

TABLE OF CONTENTS . . . continued

RD SERIES

Technical Characteristics	38
Contact Variants and Standard Shell Assembly	39
Crimp Contacts - Closed Crimp Barrel and Reels for Automatic Feed Pneumatic Crimp Tools	40
Crimp Contacts - 18 AWG and Thermocouple Contacts	41
Crimping Installation Tools	42
Ordering Information	43

ORD SERIES

Technical Characteristics	44
Contact Variants and Standard Shell Assembly	45
Crimp Contacts and Reels for Automatic Feed Pneumatic Crimp Tools	46
Ordering Information	47

HDC SERIES

Technical Characteristics	48
Contact Variants and Standard Shell Assembly	49
Solder Cup Connector, Straight Printed Board Mount Connector, and Wrap Post Connector	50
90° Printed Board Mount Connectors - Code 5 and Code 42	51
90° and Straight Printed Board Contact Hole Pattern	52
Ordering Information	53

PCD SERIES

Technical Characteristics	54
Contact Variants and Standard Shell Assembly	55
Bi-Spring Compliant Press-Fit Connector and Omega Compliant Press-Fit Connector	56
Compliant Press-Fit Connector Printed Board Contact Hole Pattern and PCD Series Press-Fit Connectors Installation Tools	57
Ordering Information and Replacement Contacts Part Numbers	58

PCDD SERIES

Technical Characteristics	59
Contact Variants and Standard Shell Assembly	60
Omega Compliant Press-Fit Connector and PCDD Series Press-Fit Connectors Installation Tools	61
Compliant Press-Fit Connector Printed Board Contact Hole Pattern	62
Ordering Information and Replacement Contacts Part Numbers	63

MIL QUALIFIED PRODUCTS

MIL-DTL-24308 / MIL-C-39029 / MIL-C-85049 Qualified Product Listings	64-73
--	-------

ORD SERIES

HDC SERIES

PCD SERIES

PCDD SERIES

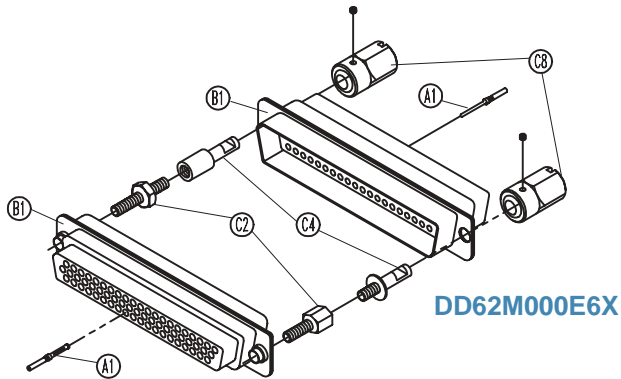
MIL LISTINGS



Positronic Industries, Inc.
www.connectpositronic.com

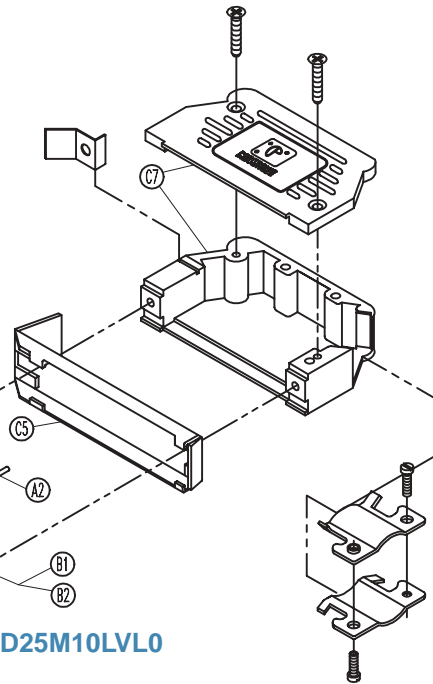
EXPLODED VIEWS OF TYPICAL MATED
SUBMINIATURE-D
CONNECTOR ASSEMBLIES

D-Sub



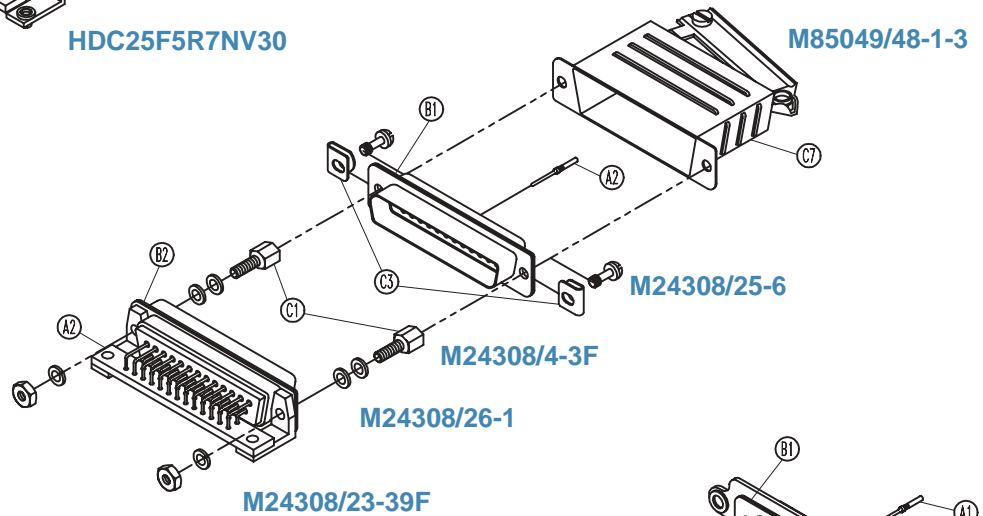
DD62M000E6X

DD62F0S50T6X



RD25M10LVLO

HDC25F5R7NV30



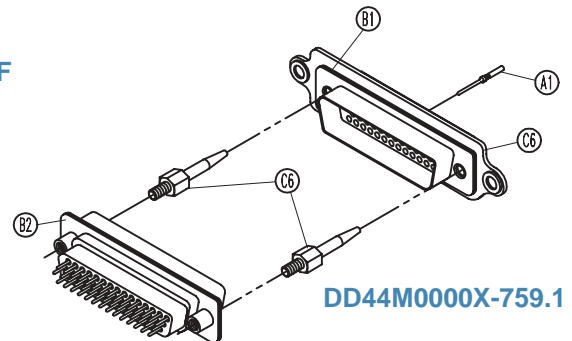
M85049/48-1-3

M24308/25-6

M24308/4-3F

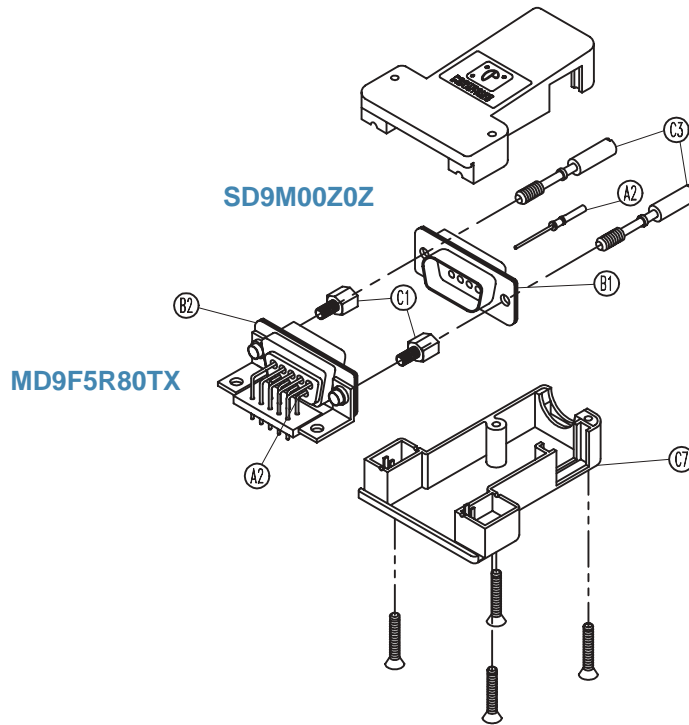
M24308/26-1

M24308/23-39F



DD44M000X-759.1

DD44F3S000-759.0



CONNECTOR COMPONENT DESCRIPTION AND TERMINOLOGY

- A-1** – Male and female signal contacts, size 22. Terminations may be crimp, solder cup and printed board mount.
- A-2** – Male and female signal contacts, size 20. Terminations may be crimp, solder cup, wrap post, press-fit and printed board mount.
- B-1** – Unloaded connector insulators, male and female. Insulator retention system retains all contact termination types. Insulator may be used as a free or fixed connector.
- B-2** – Loaded connector insulators, male and female. Insulators may be preloaded per customer requirements with contacts having terminations of 90° or straight solder printed board mount, wrap post, solder cup and press-fit. Insulator contact positions may be selectively loaded with contacts. Connectors are normally fixed panel or printed board connectors.
- C-1** – Fixed female jackscrews are the stationary threaded members of the non-polarized jackscrew system.
- C-2** – Fixed male and female jackscrews are the stationary threaded members of the polarized jackscrew system.
- C-3** – Rotating male jackscrews and screwlocks are the rotating threaded members of the non-polarized jackscrew system.
- C-4** – Rotating male and female jackscrews are the rotating threaded members of the polarized jackscrew system.
- C-5** – Vibration locking system consists of lock tabs on fixed connector and slide lock lever on free cable connector.
- C-6** – Blind mating connector system with pilot probes on free connector and receptacle guides on panel mounted fixed connector.
- C-7** – Cable adapters [Hoods] are used on the free cable connector to provide cable support and contact protection.
- C-8** – Knobs of the polarized rotating jackscrew system are affixed to the rotating jackscrew by a set screw.



Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, FIXED CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

Size 20 Contacts, Fixed Professional Quality Connectors

IEC Publication 807-2 Performance Level Two

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication
U.L. File #14098



MD / ED SERIES

Melo-D and Euro-D Series connectors are professional 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 807-2, Performance Level Two.

Melo-D and Euro-D Series connectors utilize precision machined contacts which are fixed within the connector body. The female contact is an open entry design contact, precision machined of high tensile phosphor bronze.

Six standard connector variants are offered in arrangements of 9, 15, 25, 29, 37 and 50 contacts. Each Melo-D connector variant is avail-

able with contact terminations for solder cup, wrap post, and straight and 90° printed board mount terminations featuring a choice of three printed board footprints. Each Euro-D connector variant is available with contact terminations for solder cup, wrap post and straight and 90° printed board mount terminations per standard European metric footprints. Melo-D and Euro-D Series connectors are mateable and compatible with all D-Subminiature connectors conforming to IEC 807-2 and MIL-DTL-24308.

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

Melo-D and Euro-D Series connectors conform to EIA RS 232 and RS 449, and CCITT X.24 interface connector requirements.

MELO-D/EURO-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Nylon resin, UL 94V-0, black color.
Contacts:	Male contacts – precision machined brass. Female contacts – precision machined high tensile phosphor bronze.
Contact Plating:	Professional performance Gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc plate with dichromate seal. Other materials and finishes available upon request.
Mounting Spacers and Brackets:	Nylon plastic, or brass with tin plate; zinc plate with dichromate seal.
Push-On Fasteners:	Phosphor bronze or beryllium copper with tin plate.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.008 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:

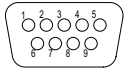
Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.

MECHANICAL CHARACTERISTICS:

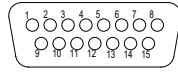
Fixed Contacts:	Size 20 contact, male contact - 0.040 inch [1.02mm] diameter. Female contact - rugged open entry design.
Contact Retention In Insulator:	6 lbs. [27N]
Resistance To Solder Iron Heat:	500°F [260°C] for 10 seconds duration per IEC 512-6.
Melo-D Contact Terminations:	Solder cup contacts – 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] diameter. 90° Printed Board Mount – 0.028 inch [0.71mm] diameter for all printed board footprints. Wrap Post – 0.025 inch [0.64mm] square.
Euro-D 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 – 0.024 inch [0.60mm] diameter. 90° Printed Board Mount – 0.024 inch [0.60mm] diameter for European Metric Footprints.
Shells:	Male shells may be dimpled for EMI/ESD ground paths.
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:	500 operations minimum per IEC 512-5.



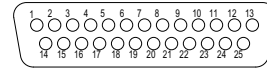
CONTACT VARIANTS
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



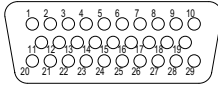
SIZE 9



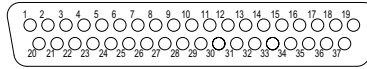
SIZE 15



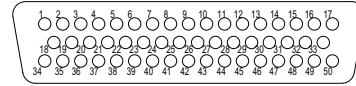
SIZE 25



SIZE 29

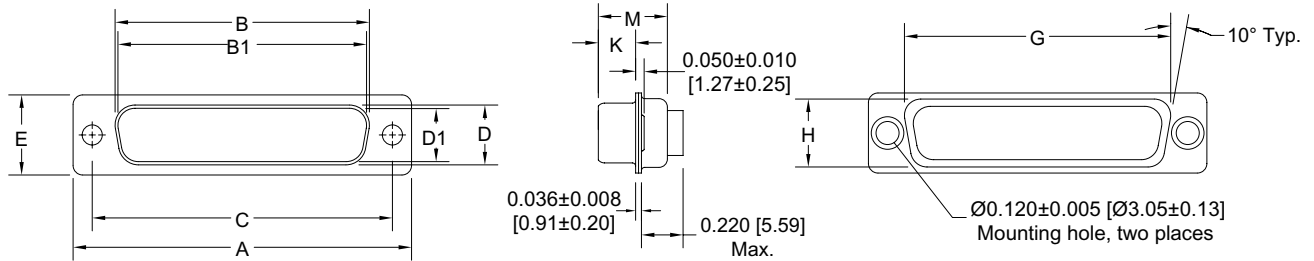


SIZE 37

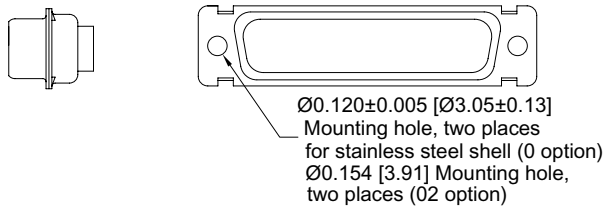


SIZE 50

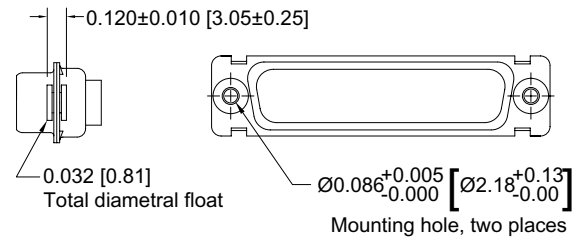
STANDARD SHELL ASSEMBLY



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]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±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 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
9 F	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 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
15 F	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 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
25 F	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]
29 M	1.770 [44.96]		1.274 [32.36]	1.534 [38.96]		0.450 [11.43]	0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.217 [5.51]	0.426 [10.82]
29 F	1.770 [44.96]	1.251 [31.78]		1.534 [38.96]	0.431 [10.95]		0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.237 [6.02]	0.429 [10.90]
37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
37 F	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 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
50 F	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]



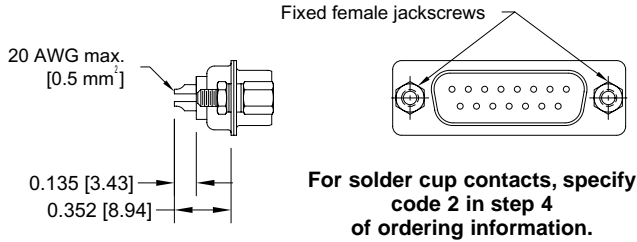
Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, FIXED CONTACT SUBMINIATURE-D CONNECTORS

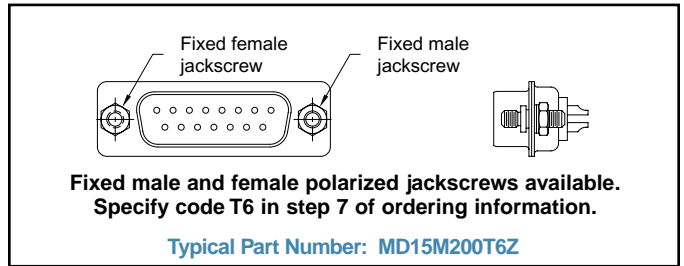
D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

SOLDER CUP CONNECTOR



Typical Part Number: ED15M200T2Z

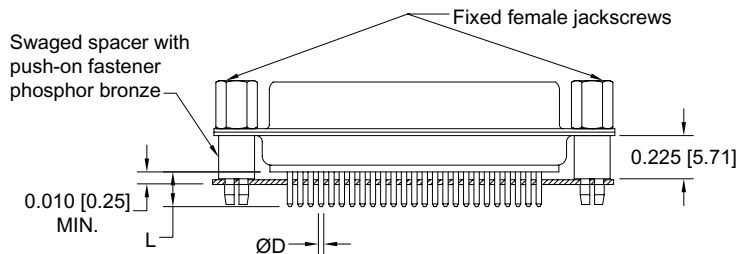


Typical Part Number: MD15M200T6Z

STRAIGHT PRINTED BOARD MOUNT CONNECTOR

CODE NUMBER	L	ØD
3	0.150 [3.81]	0.028 [0.71]
32	0.375 [9.53]	0.028 [0.71]
36	0.236 [5.99]	0.024 [0.61]

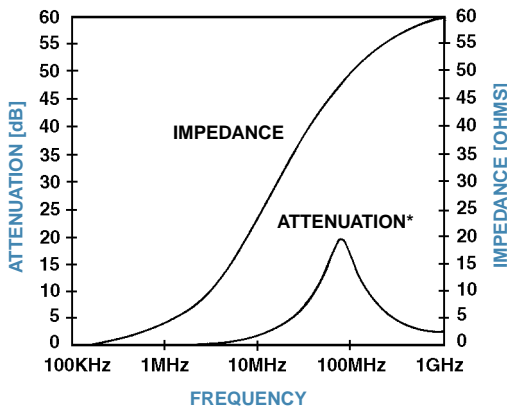
For straight printed board mount contacts, specify code number in step 4 of ordering information.



Typical Part Number: MD25F3S60T0

FERRITE INDUCTOR BAR FOR EMI/RFI NOISE SUPPRESSION

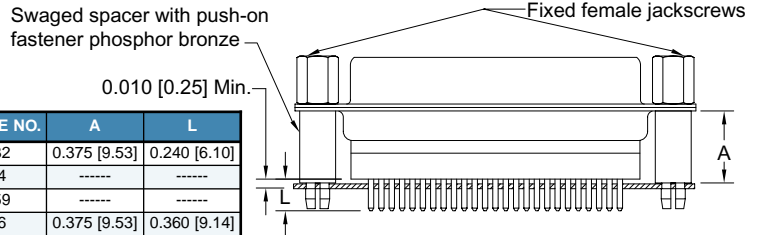
FILTERING CHARACTERISTICS



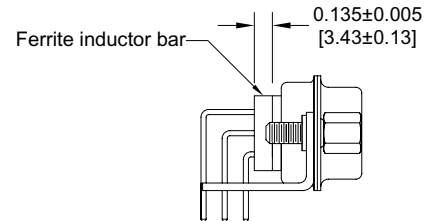
*NO-LOAD CONDITION

MATERIAL: NICKEL ZINC CERAMIC.

STRAIGHT PRINTED BOARD MOUNT CONNECTOR



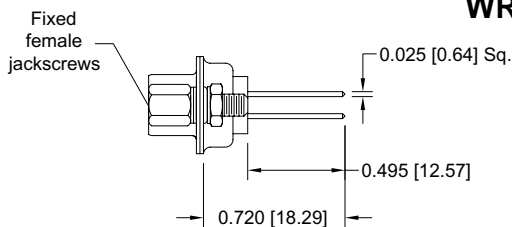
90° PRINTED BOARD MOUNT CONNECTOR



SERIES	CODE NO.	A	L
MD	32	0.375 [9.53]	0.240 [6.10]
MD	4	-----	-----
MD	59	-----	-----
MD	6	0.375 [9.53]	0.360 [9.14]
ED	36	0.375 [9.53]	0.101 [2.57]
ED	6	0.375 [9.53]	0.360 [9.14]
DD	32	0.515 [13.08]	0.165 [4.19]
ODD	32	0.375 [9.53]	0.165 [4.19]
ODD	5	-----	-----
HDC	32	0.375 [9.53]	0.240 [6.10]
HDC	36	0.375 [9.53]	0.101 [2.57]
HDC	6	0.375 [9.53]	0.360 [9.14]

Specify code F or Q in step 6 of ordering information. F for ferrite inductor and Q for ferrite inductor with push-on fastener.

WRAP POST CONNECTOR



Typical Part Number: MD15F600T20

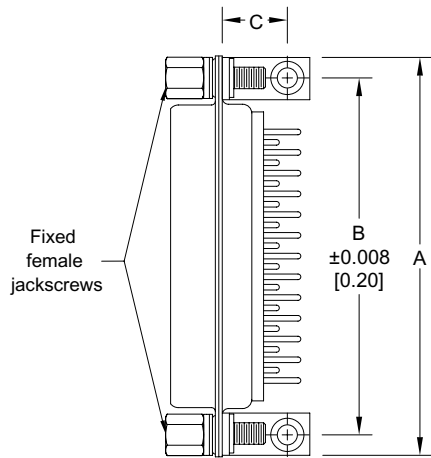
For wrap post contacts, specify code 6 in step 4 of ordering information.



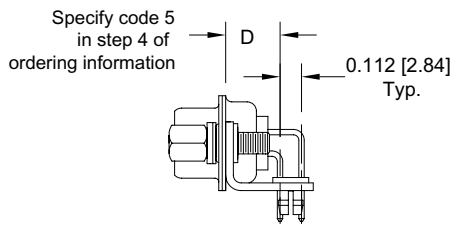
MD25M6S50T0



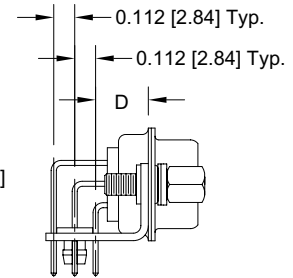
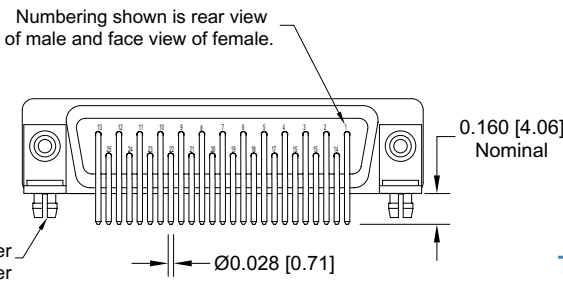
90° PRINTED BOARD MOUNT CONNECTOR
CODE 5, 0.283 [7.19] CONTACT EXTENSION



MD**5R4*** 0.283 [7.19] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
MD9*5R4***	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]
MD15*5R4***	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]
MD25*5R4***	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]
MD29*5R4***	1.754 [44.55]	1.534 [38.96]	0.395 [10.03]	0.283 [7.19]
MD37*5R4***	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]
MD50*5R4***	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.283 [7.19]

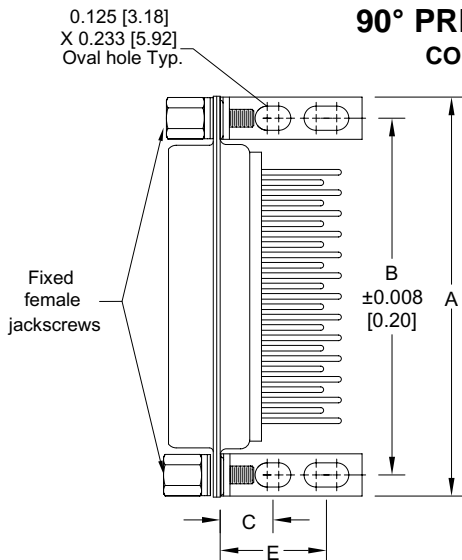


Typical Part Number:
MD25M5R4NT2X

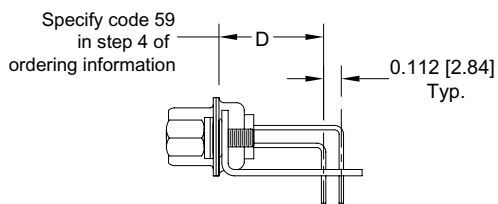


Typical Part Number:
MD50M5R4NT2X

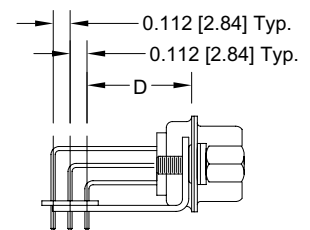
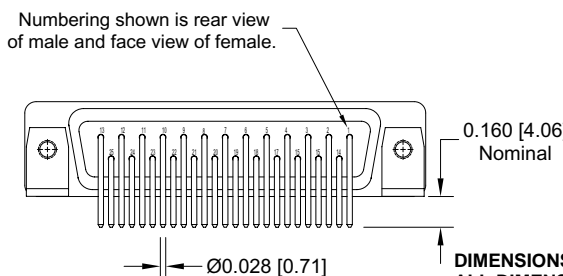
90° PRINTED BOARD MOUNT CONNECTOR
CODE 59, 0.545 [13.84] CONTACT EXTENSION



MD**59B*** 0.545 [13.84] CONTACT EXTENSION					
PART NUMBER	A	B	C	D	E
MD9*59B***	1.204 [30.58]	0.984 [24.99]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD15*59B***	1.532 [38.91]	1.312 [33.32]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD25*59B***	2.072 [52.63]	1.852 [47.04]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD29*59B***	1.754 [44.55]	1.534 [38.96]	0.275 [6.99]	0.545 [13.84]	0.657 [16.69]
MD37*59B***	2.720 [69.09]	2.500 [63.50]	0.275 [6.99]	0.545 [13.84]	0.601 [15.27]
MD50*59B***	2.626 [66.70]	2.406 [61.11]	0.275 [6.99]	0.545 [13.84]	0.657 [16.69]



Typical Part Number:
MD25M59B0T2X



Typical Part Number:
MD29M59B0T2X

DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



Positronic Industries, Inc.
www.connectpositronic.com

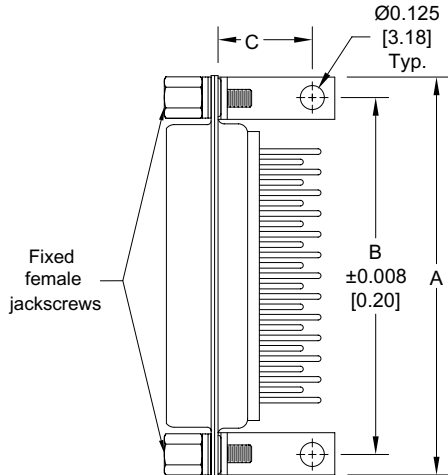
PROFESSIONAL QUALITY, FIXED CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

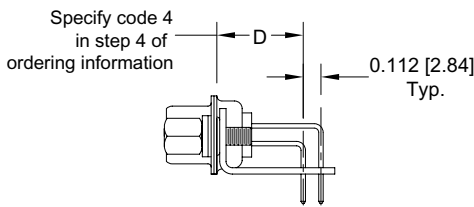
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

90° PRINTED BOARD MOUNT CONNECTOR CODE 4, 0.450 [11.43] CONTACT EXTENSION

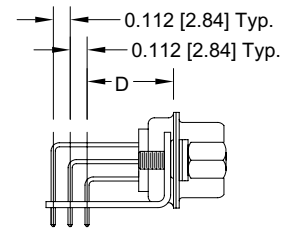
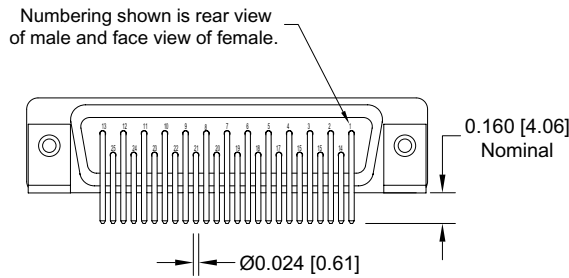
MD / ED SERIES



MD**4B*** 0.450 [11.43] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
MD9*4B***	1.204 [30.58]	0.984 [24.99]	0.506 [12.85]	0.450 [11.43]
MD15*4B***	1.532 [38.91]	1.312 [33.32]	0.506 [12.85]	0.450 [11.43]
MD25*4B***	2.072 [52.63]	1.852 [47.04]	0.506 [12.85]	0.450 [11.43]
MD29*4B***	1.754 [44.55]	1.534 [38.96]	0.562 [14.27]	0.450 [11.43]
MD37*4B***	2.720 [69.09]	2.500 [63.50]	0.506 [12.85]	0.450 [11.43]
MD50*4B***	2.626 [66.70]	2.406 [61.11]	0.562 [14.27]	0.450 [11.43]



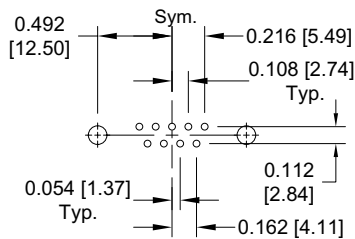
Typical Part Number:
MD25M4B0T20



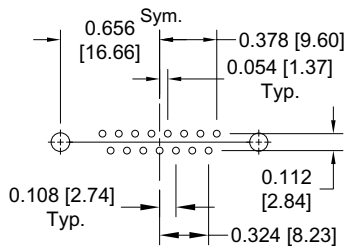
Typical Part Number:
MD50M4B0T20

90° AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

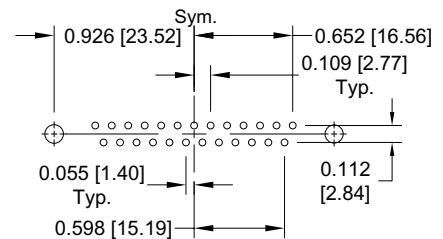
Mount connector with mating face positioned to follow direction of arrow.



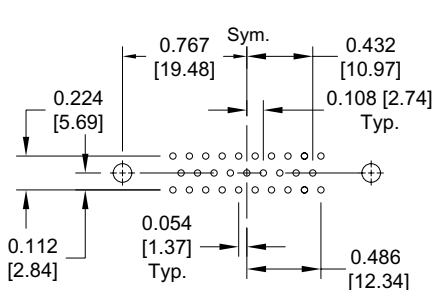
MD9



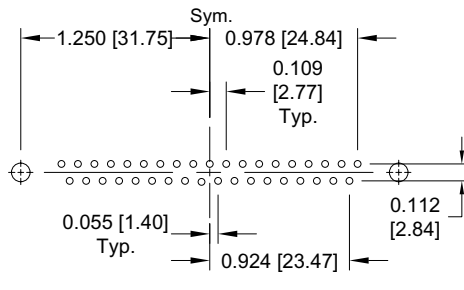
MD15



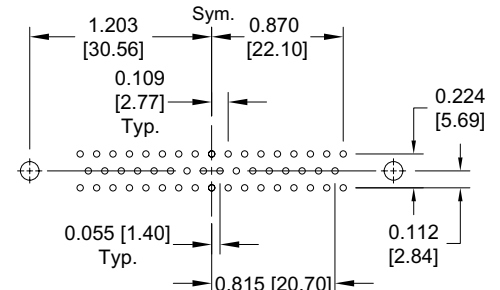
MD25



MD29



MD37



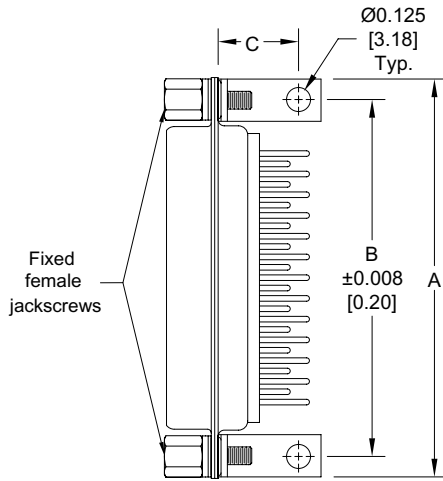
MD50

7 DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

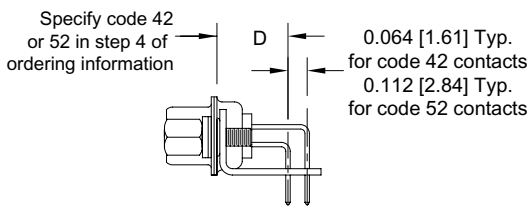
Suggest 0.045 [1.14] Ø hole for contact termination positions.
Suggest 0.123 ±0.003 [3.12 ±0.08] Ø hole for mounting connector with push-on fasteners.



90° PRINTED BOARD MOUNT CONNECTOR
CODE 42 AND 52, 0.370 [9.40] CONTACT EXTENSION

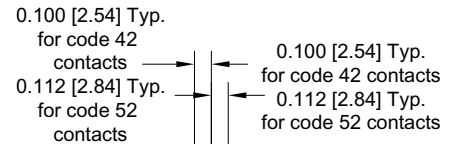
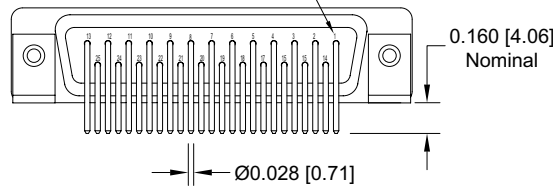


ED***B*** 0.370 [9.40] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
ED9**B***	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]
ED15**B***	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]
ED25**B***	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]
ED29**B***	1.754 [44.55]	1.534 [38.96]	0.470 [11.94]	0.370 [9.40]
ED37**B***	2.720 [69.09]	2.500 [63.50]	0.420 [10.67]	0.370 [9.40]
ED50**B***	2.626 [66.70]	2.406 [61.11]	0.470 [11.94]	0.370 [9.40]



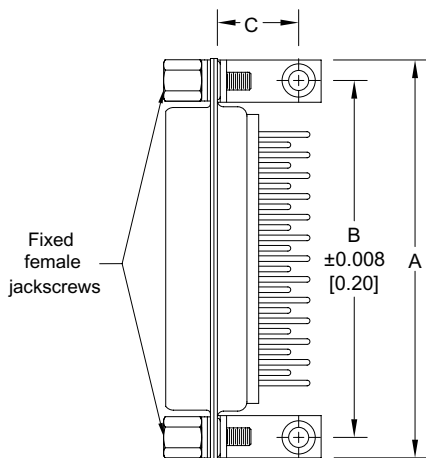
Typical Part Number:
ED25M42B0T2X

Numbering shown is rear view of male and face view of female.

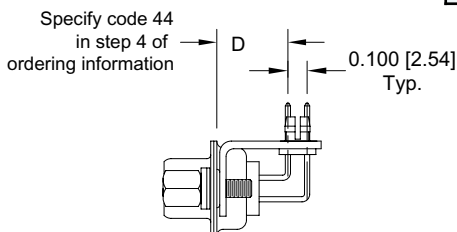


Typical Part Number:
ED50M52B0T2X

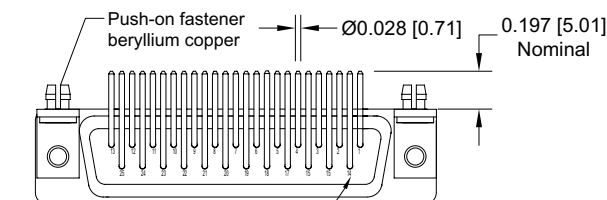
90° PRINTED BOARD MOUNT CONNECTOR
CODE 44, 0.370 [9.40] CONTACT EXTENSION



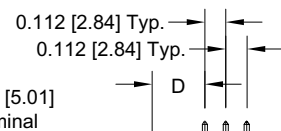
ED**44B*** 0.370 [9.40] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
ED9*44B***	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]
ED15*44B***	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]
ED25*44B***	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]
ED29*44B***	1.754 [44.55]	1.534 [38.96]	0.470 [11.94]	0.370 [9.40]
ED37*44B***	2.720 [69.09]	2.500 [63.50]	0.420 [10.67]	0.370 [9.40]
ED50*44B***	2.626 [66.70]	2.406 [61.11]	0.470 [11.94]	0.370 [9.40]



Typical Part Number:
ED25M44BNT2X



Numbering shown is rear view of male and face view of female.



Typical Part Number:
ED29M44BNT2X

DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

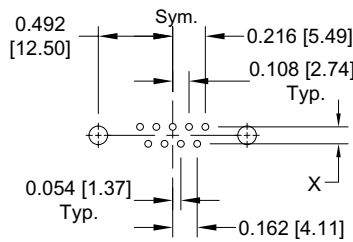


90° AND STRAIGHT PRINTED BOARD
CONTACT HOLE PATTERN

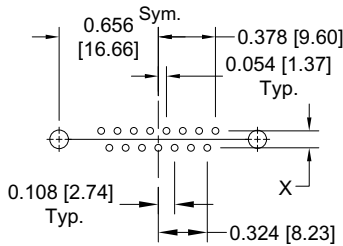
Hole identification shown for male connector, use mirror image for female connector.

For code 42 and 52 contacts, mount connector with mating face positioned to follow direction of arrow.

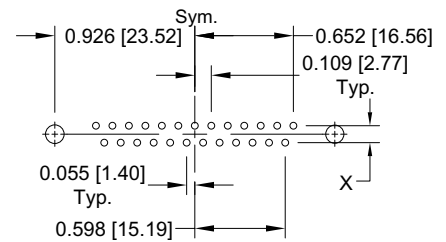
For code 44 contacts, mount connector with mating face positioned to oppose direction of arrow.



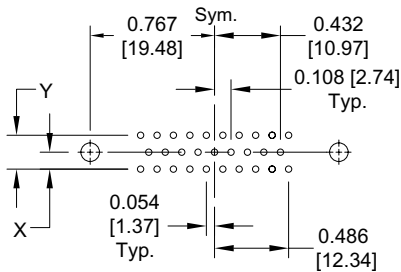
ED9



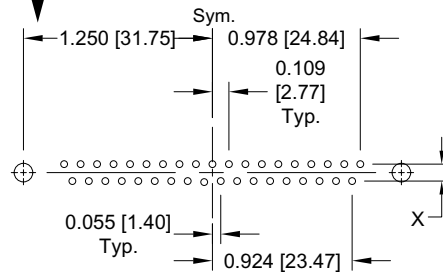
ED15



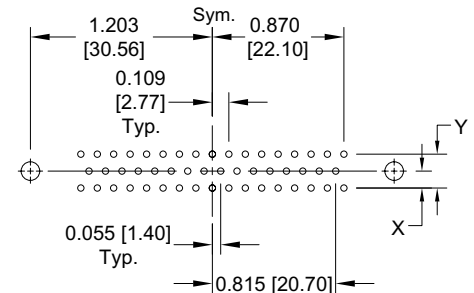
ED25



ED29



ED37



ED50

Suggest 0.040 [1.02] Ø hole for contact termination positions.

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

CODE NUMBER	X	Y
36	0.112 [2.84]	0.224 [5.69]
42	0.100 [2.54]	0.200 [5.08]
44	0.100 [2.54]	0.200 [5.08]
52	0.112 [2.84]	0.224 [5.69]



ORDERING INFORMATION – CODE NUMBERING SYSTEM

MELO-D SERIES

STEP	1	2	3	4	5	6	7	8	9
	MD	25	F	59	R7	N	T6	X	

STEP 1 - Basic Series

MD Series

STEP 2 -

MD Series Connector Variants

9, 15, 25, 29, 37, 50

STEP 3 - Connector Gender

M – Male
F – Female

STEP 4 - Type of Contacts

- 2 – Solder cup.
- 3 – Solder, Straight Printed Board Mount with 0.150 [3.81] Tail Length.
- 32 – Solder, Straight Printed Board Mount with 0.375 [9.52] Tail Length.
- 4 – Solder, 90° Printed Board Mount with 0.450 [11.43] Contact Extension.
- 5 – Solder, 90° Printed Board Mount with 0.283 [7.19] Contact Extension.
- 59 – Solder, 90° Printed Board Mount with 0.545 [13.84] Contact Extension.
- 6 – Wrap Post.

***STEP 5 - Mounting Style**

- 0 – Mounting Hole, 0.120 [3.05] Ø.
- 02 – Mounting Hole, 0.154 [3.91] Ø.
- B – Bracket, Mounting, 90° Metal.
- B3 – Bracket, Mounting, 90° Metal with Cross Bar.
- B7 – Bracket, Mounting, 90° Plastic.
- B8 – Bracket, Mounting, 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, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews.
- R2 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar.
- R3 – Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole.
- R4 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads.
- R5 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Locknut.
- R6 – Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar.
- R7 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar.
- R8 – Bracket, Mounting, 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.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**Ferrite inductor is available on contact types 32, 4, 59 and 6 only.

STEP 9 - Special Options
Consult Sales Department.

STEP 8 - Shell Options

- 0 – Zinc Plated, with Dichromate Seal.
- X – Tin Plated.
- Z – Tin Plated and Dimpled.

***STEP 7 - Locking and Polarizing Systems**

- 0 – None.
- V3 – Lock Tab, connector front panel mounted.
- V5 – Lock Tab, connector rear panel mounted.
- 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.
- E6 – Rotating Male and Female Polarized Jackscrews.

***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.
- W – Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only.
- N – Push-on Fastener, for 90° Mounting Brackets.
- **F – Ferrite inductor.
- **Q – Ferrite inductor for use with Push-on Fastener and 90° Mounting Brackets.

Specify Complete Connector By Following Steps 1 through 9
Insert "0" When Step Is Not Used

EURO-D SERIES

STEP	1	2	3	4	5	6	7	8	9
	ED	25	F	42	R7	N	T2	0	

STEP 1 - Basic Series

ED Series

STEP 2 - ED Series Connector Variants

9, 15, 25, 29, 37, 50

STEP 3 - Connector Gender

M – Male
F – Female

STEP 4 - Type of Contacts

- 2 – Solder cup.
- 36 – Solder, Straight Printed Board Mount with 0.236 [5.99] Tail Length.
- 42 – Solder, 90° Printed Board Mount with 0.370 [9.40] Contact Extension.
- 44 – Solder, Inverted 90° Printed Board Mount with 0.370 [9.40] Contact Extension.
- 52 – Solder, 90° Printed Board Mount with 0.370 [9.40] Contact Extension.

***STEP 5 - Mounting Style**

Refer to MD Series Step 5

STEP 9 - Special Options
Consult Sales Department

STEP 8 - Shell Options

- 0 – Zinc Plated, with Dichromate Seal.
- X – Tin Plated.
- Z – Tin Plated and Dimpled.

***STEP 7 - Locking and Polarizing Systems**

Refer to MD Series Step 7

***STEP 6 - Hoods and Push-On Fasteners**

Refer to MD Series Step 6

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**Ferrite inductor is available on contact types 36 only.



Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, REMOVABLE CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

**Size 20 Contacts,
Removable
Professional Quality
Connectors
IEC Publication 807-3
Performance Level Two**

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication
U.L. File #14098



Soli-D Series connectors are professional quality connectors recommended for use in sheltered, non-corrosive indoor or outdoor environments having normal ventilation, but without temperature or humidity controls. This crimp removable contact connector will meet the Performance Level Two requirements of IEC 807-3.

Soli-D Series connectors utilize precision machined contacts with closed barrel, crimp terminations. The female contact features the Robi-Contact open entry design. Other contact terminations such as solder cup and printed board terminations are also available. The removable contact feature provides for rapid assembly and permits contact repairs on wiring changes.

Five standard contact variants are offered in arrangements of 9, 15, 25, 37 and 50 contacts. Soli-D Series connectors are mateable and compatible with all D-Subminiature connectors conforming to IEC 807-2, IEC 807-3 and MIL-DTL-24308.

A wide assortment of cable support hoods and locking systems is available from stock.

Soli-D Series connectors conform to EIA RS 232 and RS 449, and CCITT X.24 interface connection requirements.

SOLI-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled nylon resin, UL 94V-0, black color.
Contacts:	Male contacts – precision machined brass. Female contacts – precision machined high tensile phosphor bronze.
Contact Plating:	Professional performance – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc plate with dichromate seal. Other materials and finishes available upon request.
Mounting Spacers:	Nylon plastic, or brass, zinc plate with dichromate seal.
Push-On Fasteners:	Phosphor bronze with tin plate.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.008 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.039 inch [1.0mm].
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

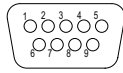
Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.

MECHANICAL CHARACTERISTICS:

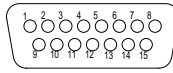
Removable Contacts:	Insert contact to rear face of insulator and release from rear face of insulator. Size 20 contacts, male – 0.040 inch [1.02mm] diameter; female – Robi-D contact open entry design.
Contact Retention In Insulator:	6 lbs. [27 N].
Contact Terminations:	Closed barrel crimp, wire sizes 18 AWG [1.0mm ²] through 32 AWG [0.03mm ²]. Also, solder cup and straight printed board mount terminations.
Shells:	Male shells may be dimpled for EM/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Printed Board Mount:	Rapid installation push-on fasteners.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	500 operations minimum per IEC 512-5.



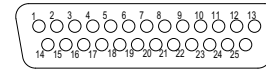
CONTACT VARIANTS
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



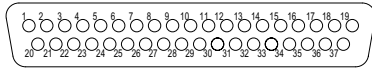
SD 9



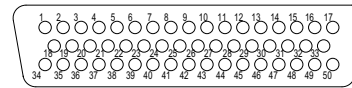
SD 15



SD 25

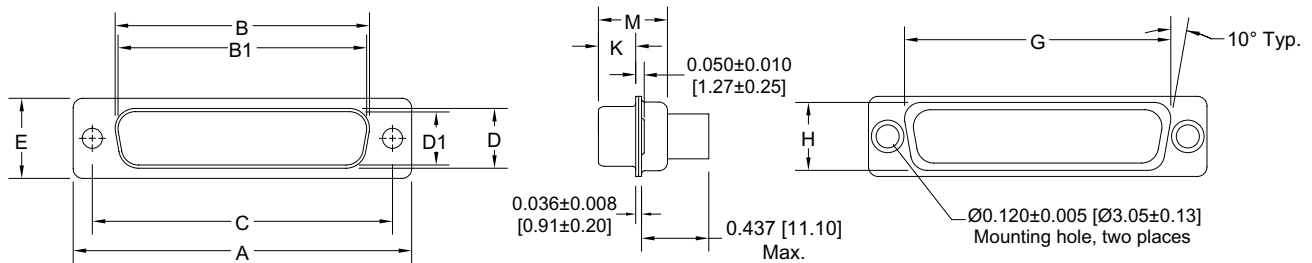


SD 37

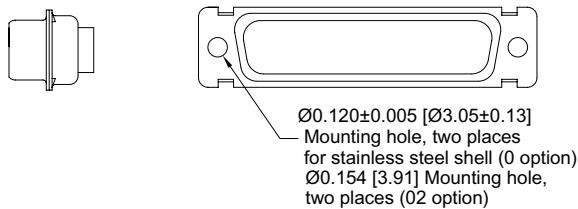


SD 50

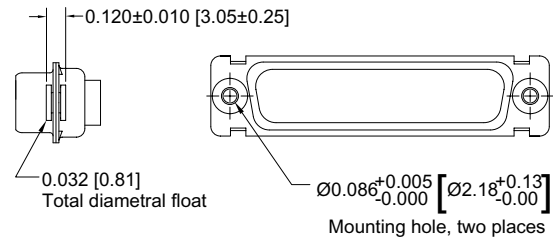
STANDARD SHELL ASSEMBLY



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]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 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]
SD 9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
SD 9 F	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]
SD 15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
SD 15 F	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]
SD 25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
SD 25 F	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]
SD 37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
SD 37 F	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]
SD 50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
SD 50 F	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]



Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, REMOVABLE CONTACT SUBMINIATURE-D CONNECTORS

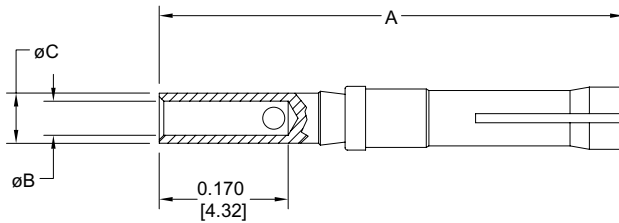
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

D-Sub

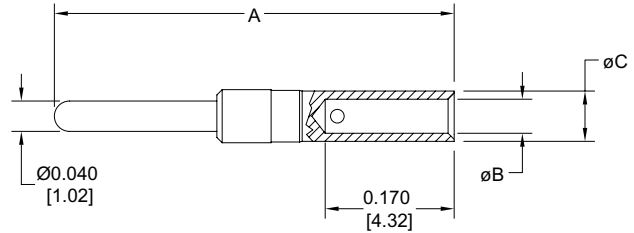
CRIMP CONTACTS

CLOSED CRIMP BARREL

FEMALE CONTACT



MALE CONTACT



PART NUMBER	WIRE SIZE AWG/[mm ²]	A	ØB	ØC
FC7520D	20 / 22 / 24 [0.5/0.3/0.25]	0.612 [15.54]	0.045 [1.14]	0.066 [1.68]
FC7526D	26 / 28 / 30 [0.12/0.08/0.05]	0.612 [15.54]	0.026 [0.66]	0.066 [1.68]

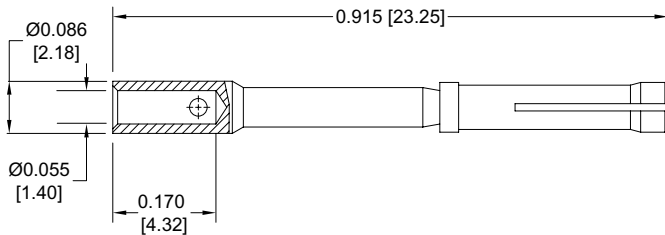
PART NUMBER	WIRE SIZE AWG/[mm ²]	A	ØB	ØC
MC7520D	20 / 22 / 24 [0.5/0.3/0.25]	0.618 [15.70]	0.045 [1.14]	0.066 [1.68]
MC7526D	26 / 28 / 30 [0.12/0.08/0.05]	0.618 [15.70]	0.026 [0.66]	0.066 [1.68]

Note: *C75**D contacts can not be used in the RD series.

Crimp contacts must be ordered separately.

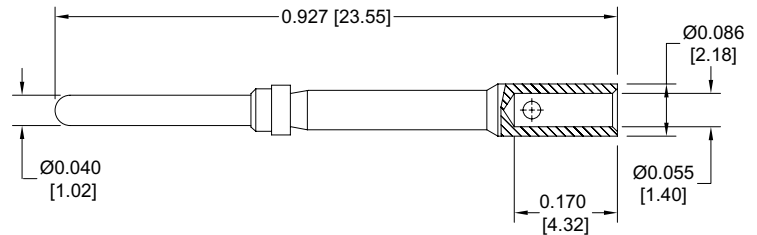
Additional plating options available by adding suffix to part number
add -14 for 0.000030 [0.76 microns] gold over nickel Example: FC7520D-14 or MC7518D-14

FEMALE CONTACT
18 AWG [1.0 mm²] max.



FC7518D

MALE CONTACT
18 AWG [1.0 mm²] max.



MC7518D

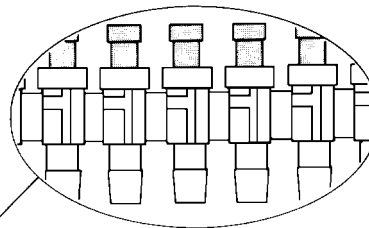
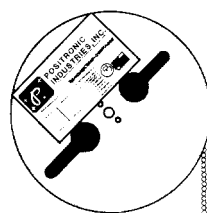
Material – Phosphor bronze.
Plating – Gold flash over nickel.

Material – Brass.
Plating – Gold flash over nickel.

REELS FOR AUTOMATIC FEED PNEUMATIC CRIMP TOOLS

Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic feed pneumatic crimp tools, catalog part number 9550-1. The same type carrier is used for both male and female contacts.

All male and female crimp contacts can be ordered in reels by adding letter "R" after the contact part number, such as MC7526DR for a male contact and FC7520DR for a female contact.

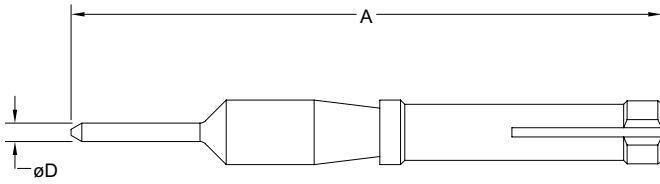


Enlarged section of plastic contact carriers

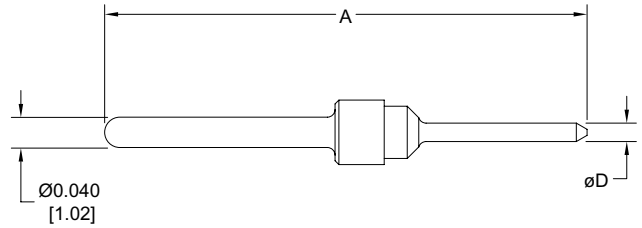


STRAIGHT PRINTED BOARD MOUNT CONTACTS

FEMALE CONTACT



MALE CONTACT

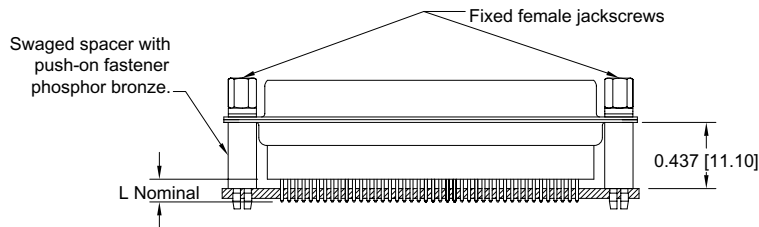


Straight printed board mount contacts are supplied in connector.

CODE NUMBER	L	ØD	A
3	0.125 [3.18]	0.024 [0.61]	0.772 [19.61]
32	0.188 [4.78]	0.024 [0.61]	0.835 [21.21]

CODE NUMBER	L	ØD	A
3	0.125 [3.18]	0.024 [0.61]	0.768 [19.51]
32	0.188 [4.78]	0.024 [0.61]	0.831 [21.11]

For straight printed board mount contacts specify code no. in step 4 of ordering information.



Typical Part Number:
SD37F3S60T2X

Material – Phosphor bronze or brass.
Plating – Gold flash over nickel.





Positronic Industries, Inc.
www.connectpositronic.com

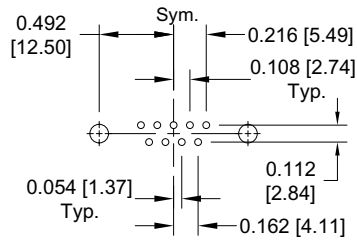
PROFESSIONAL QUALITY, REMOVABLE CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

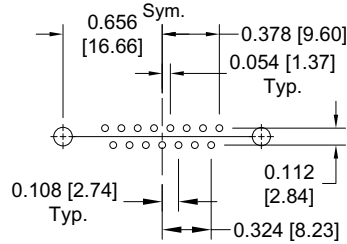
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

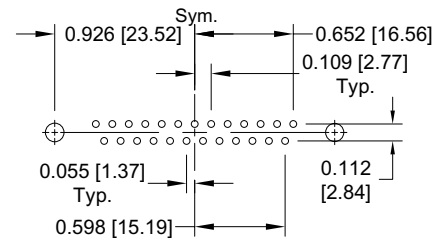
Hole identification shown for male connector, use mirror image for female connector.



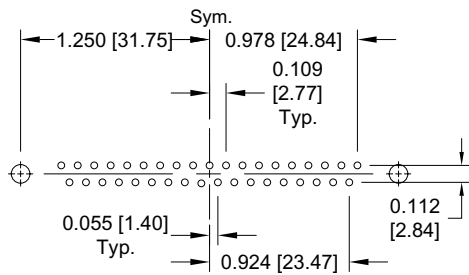
SD9



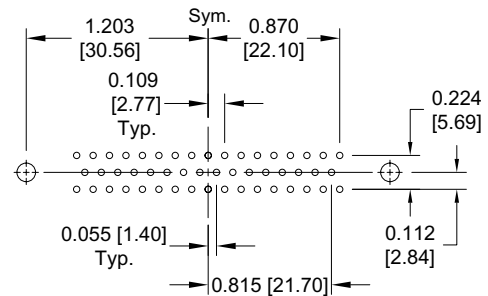
SD15



SD25



SD37



SD50

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.



SD37M3S600Z



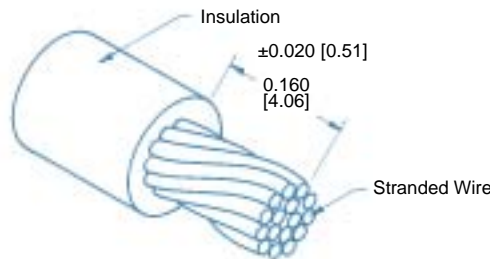
SD25F3S600X



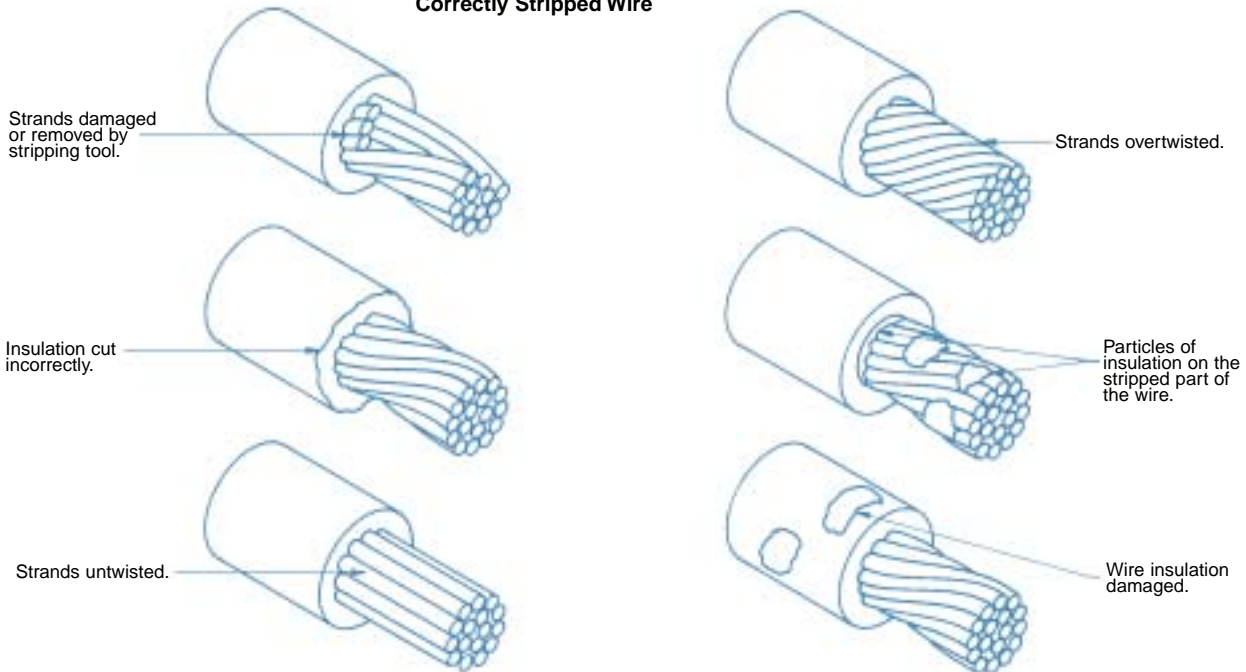
CRIMPING INFORMATION FOR RD AND SD SERIES CRIMP CONTACTS
USE INDICATED POSITRONIC TOOLS FOR BEST RESULTS

Step 1: Strip wire to indicated length.

- Take Care Not To:**
- Damage or remove strands.
 - Untwist or overtwist strands.
 - Leave insulation particles on strands.
 - Damage insulation.



Correctly Stripped Wire



Examples of Stripping Faults

Step 2: Crimp wire to contact.

- For Hand Crimp Tool:**
- Place contact into crimping tool.
 - Insert wire into contact.
 - Center contact by slowly closing the crimping tool until the crimp indenters make contact with the crimp barrel.
 - Complete the cycle of the crimping tool in one smooth motion.
 - Remove the crimped contact.

- For Automatic Feed Pneumatic Crimp Tool:**
- Insert the wire into the contact, positioned in the crimp tool by the plastic carrier.
 - Depress the activating device of the crimping tool to start the crimping cycle.
 - Remove the crimped contact.



Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, REMOVABLE CONTACT SUBMINIATURE-D CONNECTORS

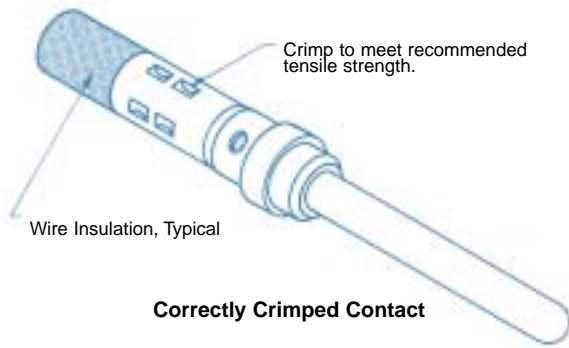
D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

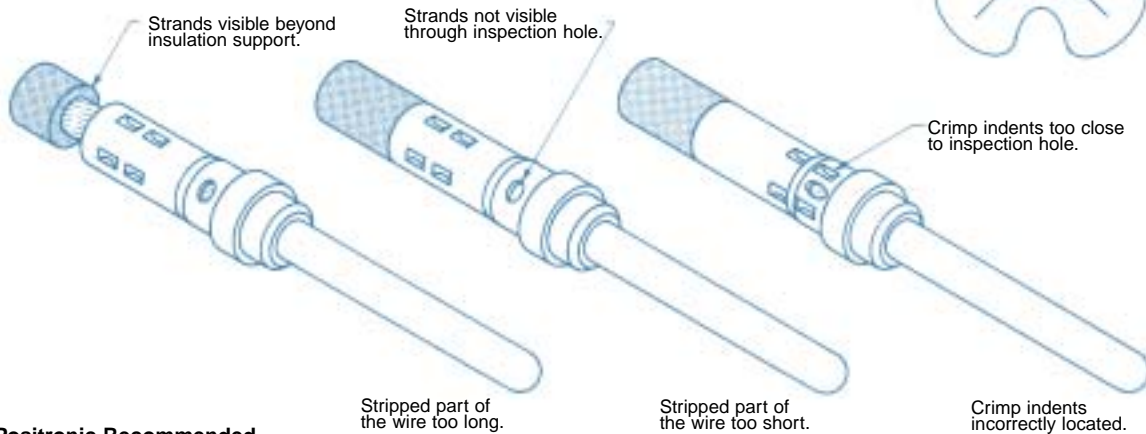
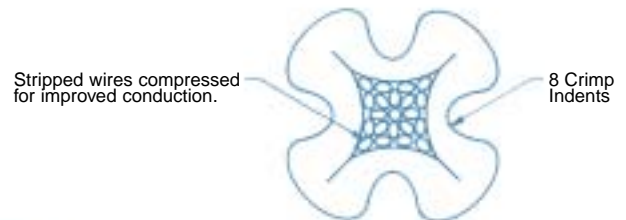
CRIMPING INFORMATION FOR RD AND SD CRIMP CONTACTS

Step 3: Inspect the crimp.

- For All Tools:
- Strands to be visible through the inspection hole.
 - Strands not to be visible beyond the insulation support.
 - Crimped contact to meet recommended conductor tensile force shown in chart.
 - Check for peeled gold and bent contacts.



Cross Section of Correctly Crimped Contact



Examples of Crimping Faults

Positronic Recommended Conductor Tensile Strength

WIRE SIZE AWG/[mm ²]	AXIAL LOAD POUNDS/[N]
<u>18</u> [1.0]	<u>28</u> [125]
<u>20</u> [0.5]	<u>20</u> [89]
<u>22</u> [0.3]	<u>12</u> [53]
<u>24</u> [0.25]	<u>8</u> [36]
<u>26</u> [0.12]	<u>5</u> [22]
<u>28</u> [0.08]	<u>3</u> [13]
<u>30</u> [0.05]	<u>1.5</u> [6.7]

Positronic recommended tools for SD series contacts.
For more information see contact crimp tools and accessories page.

CRIMP TOOLS	POSITIONERS FOR FC7520D, FC7526D, MC7520D, MC7526D	POSITIONERS FOR FC7518D, MC7518D, FC6018D, MC6018D
9507, HAND CRIMP TOOL	9502-10	9502-11
9550-1, AUTOMATIC FEED PNEUMATIC CRIMP TOOL	Supplied in reels	Not Available

Conductor tensile strength values are derived using silver-tin plated copper wires.
Values may change depending upon what type of wire is used.



**AUTOMATIC FEED
CRIMP TOOL,
PNEUMATICALLY ACTUATED**
Part No. 9550-1

This fast cycling automatic feed crimp tool produces an 8 indent crimp on wire sizes 20 AWG [0.5mm²] through 32 AWG [0.03mm²]. Soli-D Series contacts must be ordered on reels.

To order, specify part number 9550-1. Foot control valve is supplied as a standard accessory.



MINIATURE STEP ADJUSTABLE TOOL
(M22520/2-01)
Part No. 9507

This miniature step adjustable hand crimping tool produces an 8 indent crimp configuration and will crimp wire sizes 18 AWG [1.0mm²] through 32 AWG [0.03mm²].

To crimp wire size 18 AWG [1.0mm²], order contact positioner 9502-11. To crimp wire size 20 AWG [0.5mm²] through 32 AWG [0.03mm²], order contact positioner 9502-10. Each positioner is equipped with a data plate which gives the correct crimp-depth setting for each wire size, and must be used with 9507 tool frame for best results when crimping Soli-D Series contacts.



INSERTION/REMOVAL TOOL
(M81969/1-02)

One end of this tool is used to insert contacts into Soli-D Series connectors. The other end is used to extract contacts. This is accomplished by sliding the extraction tip down the wire into the connector until it bottoms against the contact. A slight rotation while pushing will release the contacts, which are then extracted by simultaneously pulling on the wire.





ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9.
Insert "0" When Step Is Not Used.

STEP	1	2	3	4	5	6	7	8	9
	SD	25	F	3	S6	0	T6	X	

STEP 1 - Basic Series

SD Series

STEP 2 - SD Series Connector Variants

9, 15, 25, 37, 50

STEP 3 - Connector Gender

M - Male
F - Female

STEP 4 - Type of Contacts

- 0 - Order Contacts separately.
- 1 - Crimp, 20 AWG–24 AWG [0.5mm²–0.25mm²].
- 12 - Crimp, 26 AWG–30 AWG [0.12mm²–0.05mm²].
- 3 - Solder, Straight Printed Board Mount with 0.125 [3.18] Tail Length.
- 32 - Solder, Straight Printed Board Mount with 0.188 [4.78] Tail Length.

***STEP 5 - Mounting Style**

- 0 - Mounting Hole, 0.120 [3.05] Ø.
- 02 - Mounting Hole, 0.154 [3.91] Ø.
- F - Float Mounts, Universal.
- P - Threaded Post, Brass, 0.437 [11.10] Length.
- P2 - Threaded Post, Nylon, 0.437 [11.10] Length.
- S - Swaged Spacer, 4-40 Threads, 0.437 [11.10] 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, 0.437 [11.10] Length.

STEP 9 - Special Options

Consult Sales Department.

STEP 8 - Shell Options

- 0 - Zinc Plated with Dichromate Seal.
- X - Tin Plated.
- Z - Tin Plated and Dimpled.

***STEP 7 - Locking and Polarizing Systems**

- 0 - None.
- V3 - Lock Tab, connector front panel mounted.
- V5 - Lock Tab, connector rear panel mounted.
- 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.
- E6 - Rotating Male and Female Polarized Jackscrews.

***STEP 6 - Hoods**

- 0 - None.
- J - Hood, Top Opening, Plastic.
- L - Hood, Side Opening, Plastic.
- Y - Hood, Side 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.
- H - Hood, Top Opening, Metal. Available in size 15, 25, 37, and 50 only.
- G - Hood, EMI/RFI, Metal.
- W - Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

SD SERIES



Size 22 Contacts,
Removable Crimp and
Printed Board Mount

Military/Industrial
Quality Connectors

MIL-DTL-24308 and MIL-C-39029

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication
U.L. File #14098



Densi-D Series connectors are Military/Industrial quality, high density rectangular connectors designed for use in sheltered, mildly corrosive environments having a wide range of temperature, pressure and humidity changes. These crimp removable contact connectors are qualified to MIL-DTL-24308 and MIL-C-39029.

Densi-D Series connectors utilize precision machined contacts with closed barrel crimp terminations, solder cup terminations, straight and 90° printed board mount. All female contacts are of closed entry

design, featuring a fluted stainless steel shroud.

Six standard contact variants are offered in arrangements of 15, 26, 44, 62, 78 and 104 contacts. Densi-D Series connectors are mateable and compatible with other high density D-Subminiature connectors conforming to MIL-DTL-24308.

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

DENSI-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulators:	Glass filled polyester per MIL-M-24519, UL 94V-0, blue color.
Contacts:	Male contacts – precision machined high tensile copper alloy. Female contacts – precision machined high tensile copper alloy with stainless steel shroud.
Contact Plating:	Military performance – 0.000050 inch [1.27 microns] gold over copper plate. Industrial performance – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc and cadmium plate with dichromate seal, stainless steel, passivated. Other materials and finishes available upon request.
Mounting Spacers:	Nylon plastic and brass; zinc plate with dichromate seal.
Push-On Fastener:	Phosphor bronze or beryllium copper with tin plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	5 amperes nominal.
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.042 inch [1.06mm].
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	21 days.

MECHANICAL CHARACTERISTICS:

Removable Contacts:	Insert contact to rear face of insulator and release from rear face of insulator. Size 22 contacts, male – 0.030 inch [0.76mm] diameter; female – closed entry design with stainless steel shroud.
Contact Retention In Insulator:	9 lbs. [40 N].
Contact Terminations:	Closed barrel crimp, wire sizes 22 AWG [0.3mm ²] through 30 AWG [0.05mm ²] per IEC 352-2. 90° Printed Board Mount contact terminations.
Shells:	Male shells may be dimpled for EMI/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Mounting To Angle Brackets:	Jackscrews and riveted fasteners with 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 mounting posts.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	1000 operations minimum per IEC 512-5.



Positronic Industries, Inc.
www.connectpositronic.com

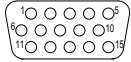
MILITARY QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

D-Sub

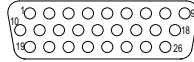
FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

CONTACT VARIANTS

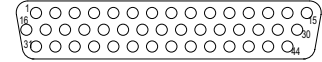
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



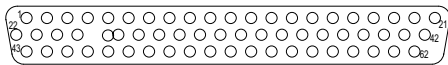
DD 15



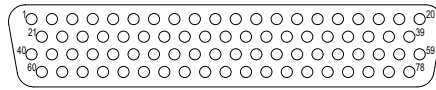
DD 26



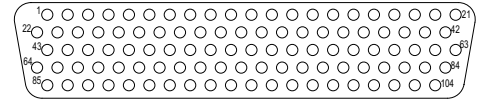
DD 44



DD 62

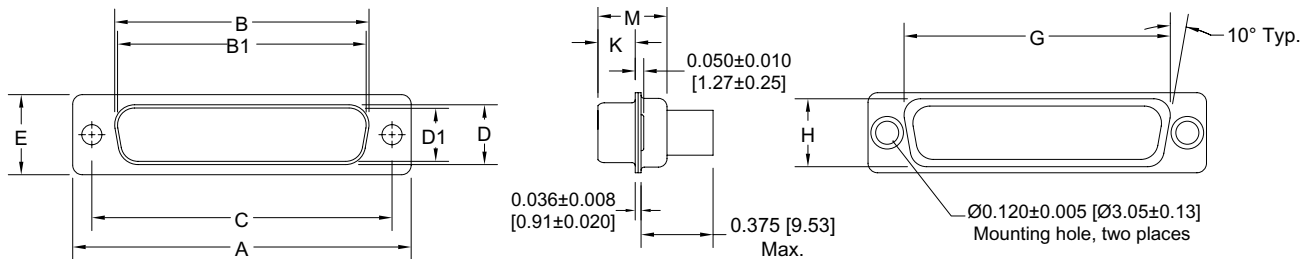


DD 78

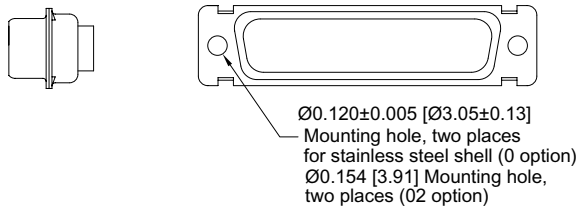


DD 104

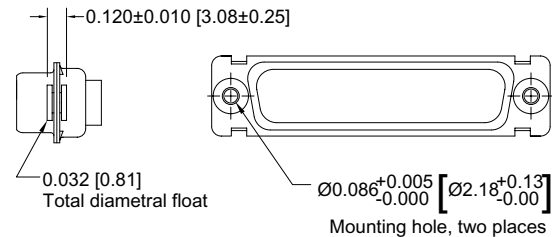
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY [0, 02]



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS [F]

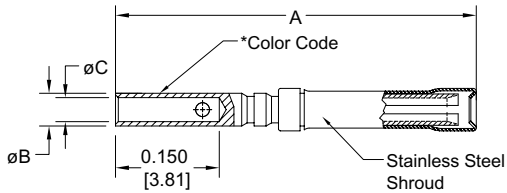


CONNECTOR VARIANT SIZES	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
DD 15 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
DD 15 F	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]
DD 26 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
DD 26 F	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]
DD 44 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
DD 44 F	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]
DD 62 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
DD 62 F	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]
DD 78 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
DD 78 F	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]
DD 104 M	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
DD 104 F	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]

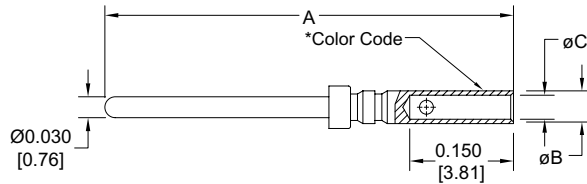


CRIMP CONTACTS
CLOSED CRIMP BARREL

FEMALE CONTACT
“CLOSED ENTRY” DESIGN



MALE CONTACT



Crimp contacts may be supplied kitted with connector or ordered separately.

PART NUMBER	WIRE SIZE AWG/[mm ²]	A	øB	øC
FC8022D	22 / 24 / 26 / 28 / 30 [0.3/0.25/0.12/0.08/0.05]	0.518 [13.16]	0.035 [0.89]	0.047 [1.19]
*M39029/57-354	22 / 24 / 26 / 28 [0.3/0.25/0.12/0.08]	0.518 [13.16]	0.035 [0.89]	0.047 [1.19]

PART NUMBER	WIRE SIZE AWG/[mm ²]	A	øB	øC
MC8022D	22 / 24 / 26 / 28 / 30 [0.3/0.25/0.12/0.08/0.05]	0.531 [13.49]	0.035 [0.89]	0.047 [1.19]
*M39029/58-360	22 / 24 / 26 / 28 [0.3/0.25/0.12/0.08]	0.531 [13.49]	0.035 [0.89]	0.047 [1.19]

Material - Leaded nickel copper.

Plating - Gold flash over nickel or 0.000050 inch [1.27µ] gold over copper for military specification contacts.

*Color Code - ORANGE/GREEN/YELLOW for military specification contacts.

Material - Brass.

Plating - Gold flash over nickel or 0.000050 inch [1.27µ] gold over copper for military specification contacts.

*Color Code - ORANGE/BLUE/BLACK for military specification contacts.

For contact crimp tool information see page 28.

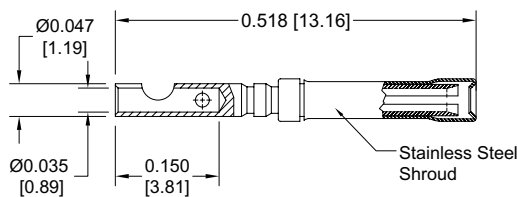
Additional plating options available by adding suffix to part number

add -14 for 0.000030 [0.76 microns] gold over nickel
Example: FC8022D-14

add -50 for 0.000050 [1.27 microns] gold over copper
Example: MC8022D-50

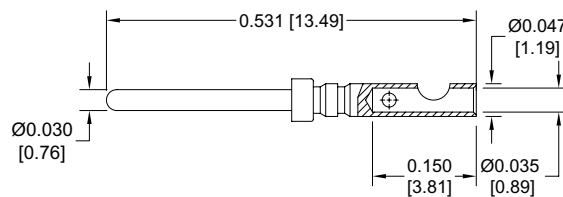
SOLDER CUP CONTACTS

FEMALE CONTACT
“CLOSED ENTRY” DESIGN



Part Number: FS8022D

MALE CONTACT



Part Number: MS8022D

Material - Phosphor bronze.

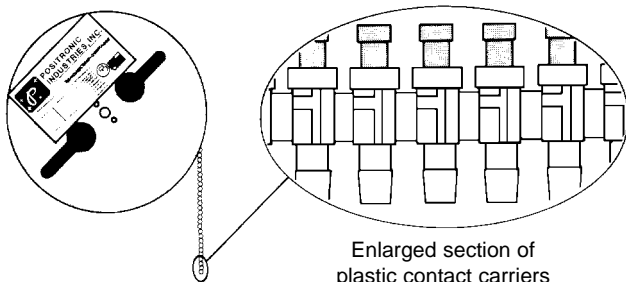
Plating - Gold flash over nickel.

Material - Brass.

Plating - Gold flash over nickel.

Solder contacts may be supplied kitted with connector or ordered separately.

REELS FOR AUTOMATIC FEED PNEUMATIC CRIMP TOOLS



Enlarged section of plastic contact carriers

Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic feed pneumatic crimp tools, catalog part number 9550-1. The same type carrier is used for both male and female contacts.

All male and female crimp contacts can be ordered in reels by adding letter “R” after the contact part number, such as MC8022DR for a male contact and FC8022DR for a female contact.

DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



Positronic Industries, Inc.
www.connectpositronic.com

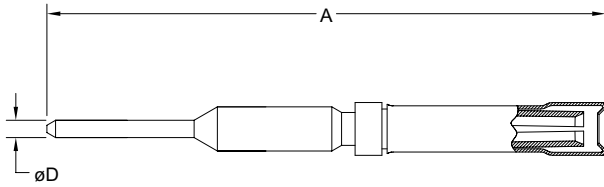
MILITARY QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

D-Sub

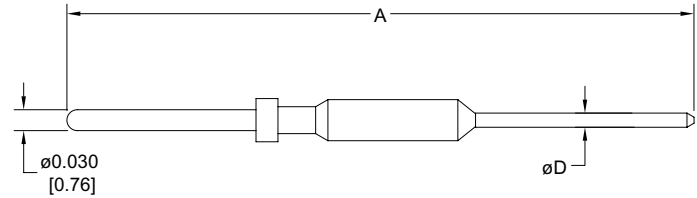
FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

STRAIGHT PRINTED BOARD MOUNT CONTACTS

**FEMALE CONTACT
"CLOSED ENTRY" DESIGN**



MALE CONTACT



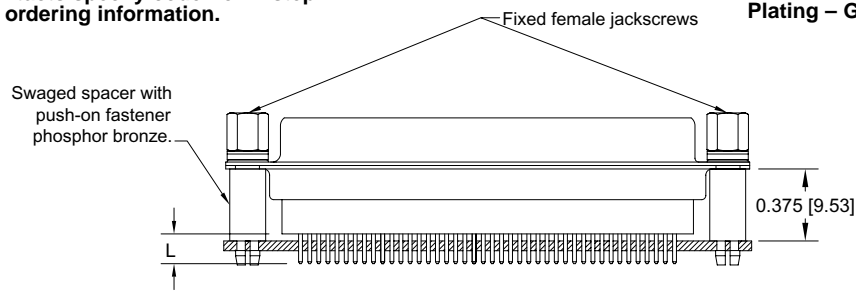
Straight printed board mount contacts are supplied in connector.

CODE NUMBER	L	ØD	A
3	0.150 [3.81]	0.020 [0.51]	0.725 [18.42]
32	0.300 [7.62]	0.020 [0.51]	0.865 [21.97]

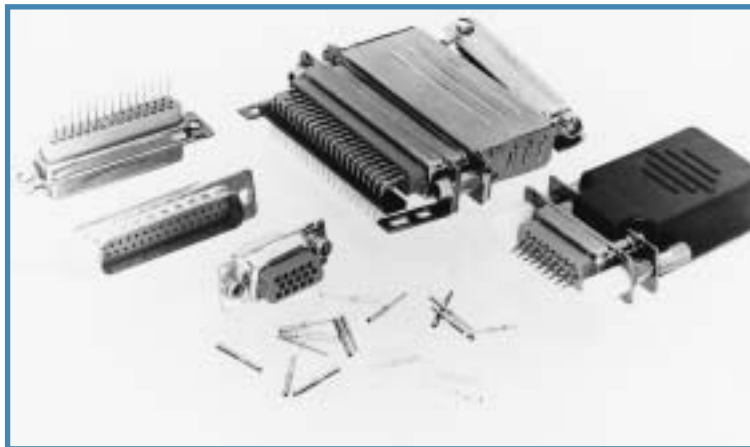
CODE NUMBER	L	ØD	A
3	0.150 [3.81]	0.020 [0.51]	0.737 [18.72]
32	0.300 [7.62]	0.020 [0.51]	0.877 [22.28]

For straight printed board mount contacts specify code no. in step 4 of ordering information.

Material – Phosphor bronze or brass.
Plating – Gold flash over nickel.



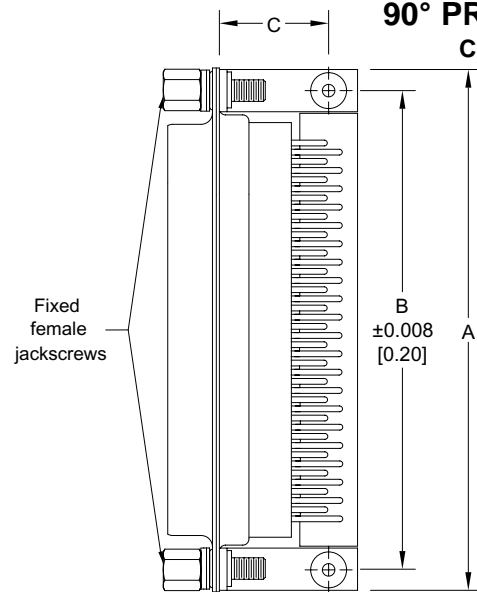
Typical Part Number: DD62F3S60T2X



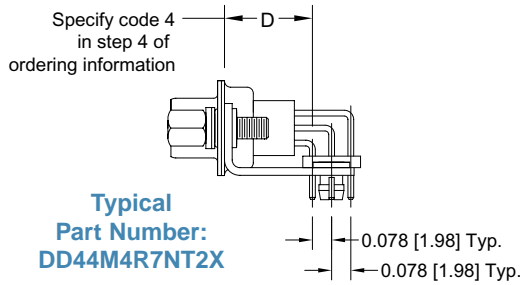
DD SERIES



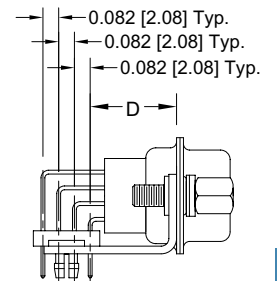
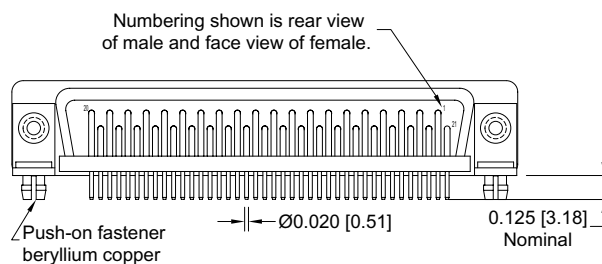
90° PRINTED BOARD MOUNT CONNECTOR
CODE 4, 0.450 [11.43] CONTACT EXTENSION



DD**4R7000 0.450 [11.43] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
DD15*4R7***	1.204 [30.58]	0.984 [24.99]	0.528 [13.41]	0.450 [11.43]
DD26*4R7***	1.532 [38.91]	1.312 [33.32]	0.528 [13.41]	0.450 [11.43]
DD44*4R7***	2.072 [52.63]	1.852 [47.04]	0.528 [13.41]	0.450 [11.43]
DD62*4R7***	2.720 [69.09]	2.500 [63.50]	0.528 [13.41]	0.450 [11.43]
DD78*4R7***	2.626 [66.70]	2.406 [61.11]	0.573 [14.55]	0.450 [11.43]

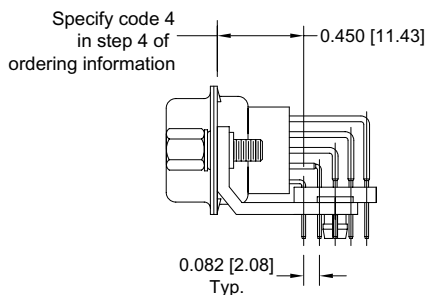
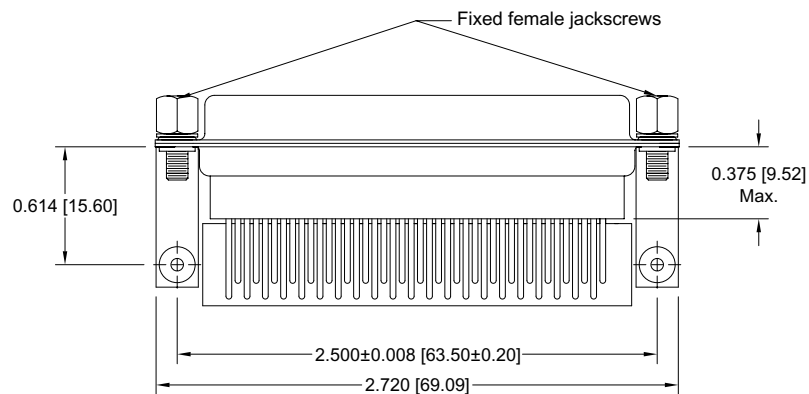


Typical Part Number:
DD44M4R7NT2X

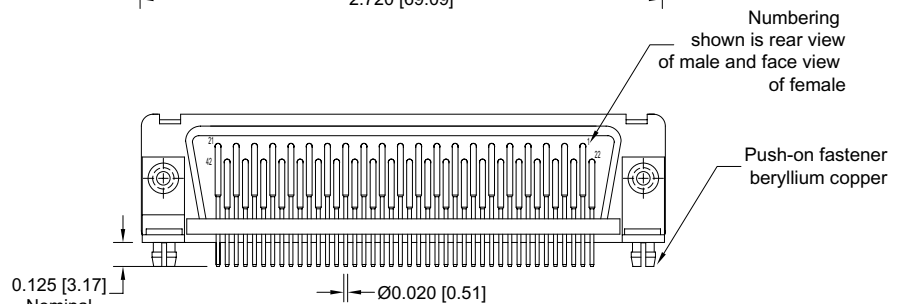


Typical Part Number:
DD78M4R7NT2X

90° PRINTED BOARD MOUNT CONNECTOR, SIZE 104
CODE 4, 0.450 [11.43] CONTACT EXTENSION



Typical Part Number: **DD104M4R7NT20**



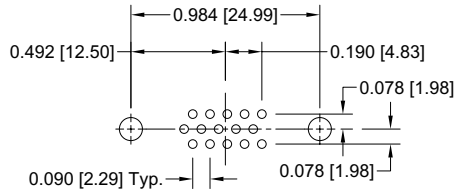
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



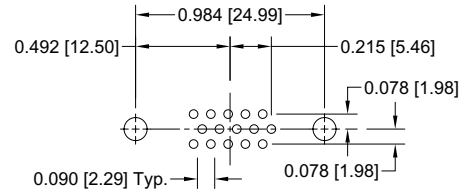
90° AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

Mount connector with mating face positioned to follow direction of arrows.

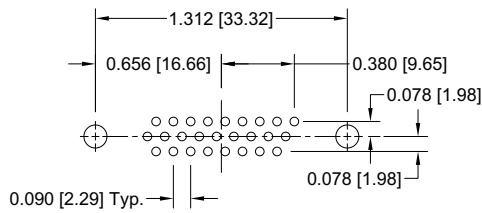
DD15 MALE



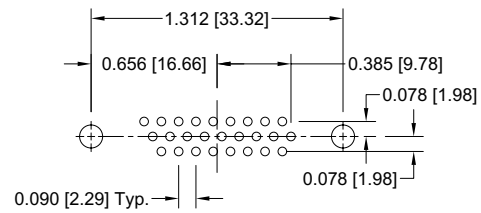
DD15 FEMALE



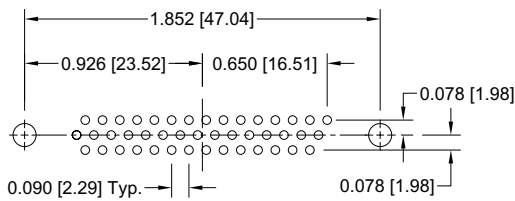
DD 26 MALE



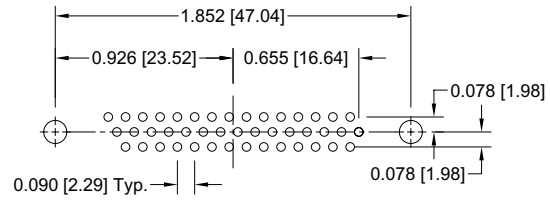
DD 26 FEMALE



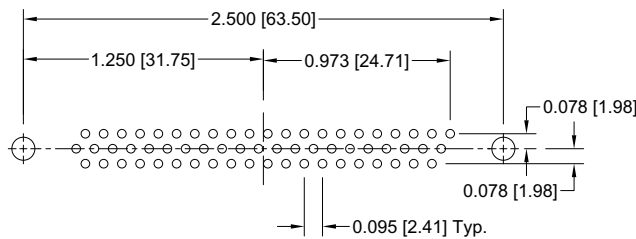
DD44 MALE



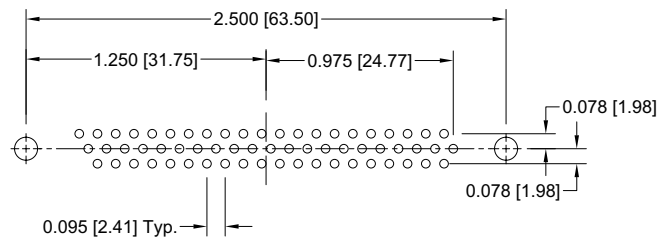
DD44 FEMALE



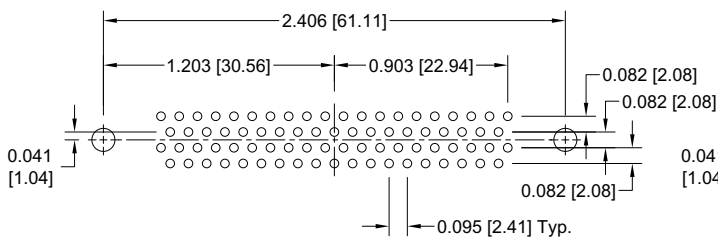
DD62 MALE



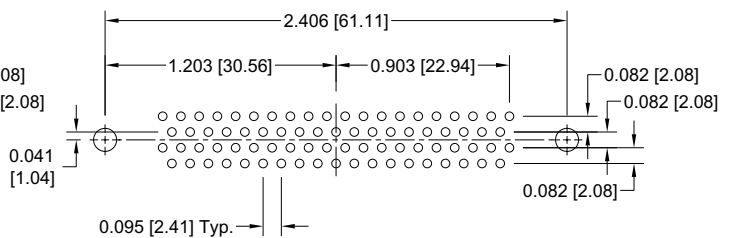
DD62 FEMALE



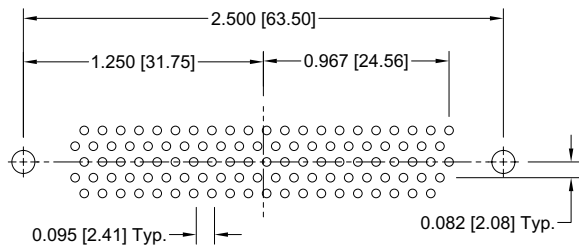
DD78 MALE



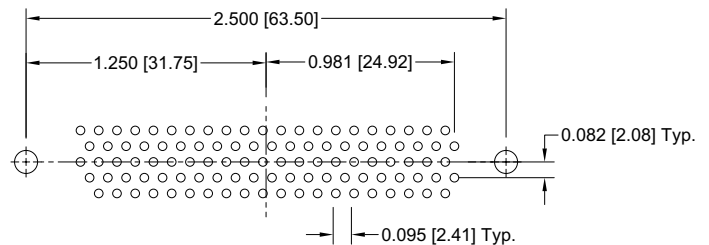
DD78 FEMALE



DD104 MALE



DD104 FEMALE



DD SERIES

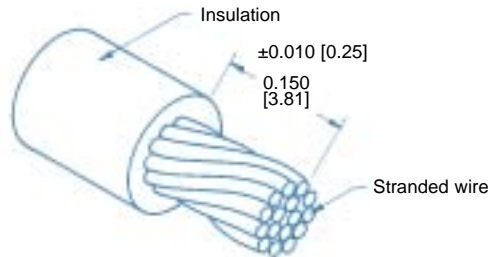


CRIMPING INFORMATION FOR DD AND ODD SERIES CRIMP CONTACTS

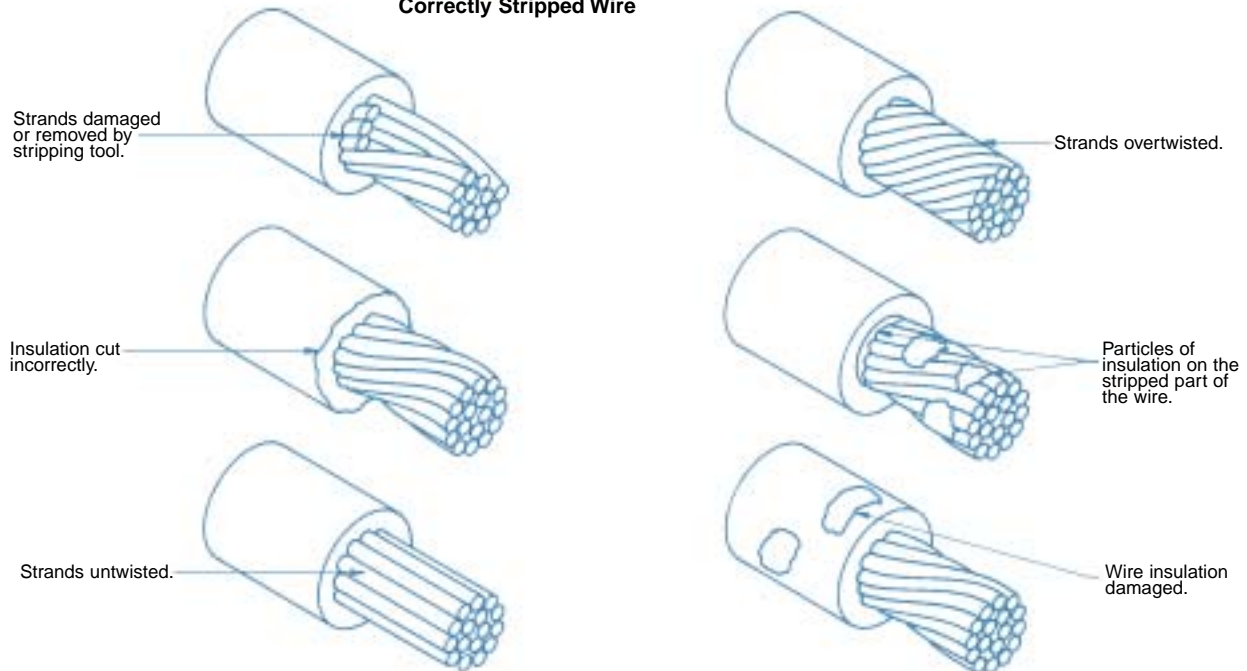
USE INDICATED POSITRONIC TOOLS FOR BEST RESULTS

Step 1: Strip wire to indicated length.

- Take Care Not To:**
- Damage or remove strands.
 - Untwist or overtwist strands.
 - Leave insulation particles on strands.
 - Damage insulation.



Correctly Stripped Wire



Examples of Stripping Faults

Step 2: Crimp wire to contact.

- For Hand Crimp Tool:**
- Place contact into crimping tool.
 - Insert wire into contact.
 - Center contact by slowly closing the crimping tool until the crimp indenters make contact with the crimp barrel.
 - Complete the cycle of the crimping tool in one smooth motion.
 - Remove the crimped contact.

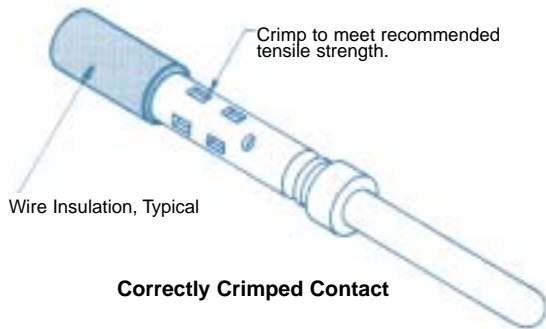
- For Automatic Feed Pneumatic Crimp Tool:**
- Insert the wire into the contact, positioned in the crimp tool by the plastic carrier.
 - Depress the activating device of the crimping tool to start the crimping cycle.
 - Remove the crimped contact.



CRIMPING INFORMATION FOR DD AND ODD CRIMP CONTACTS

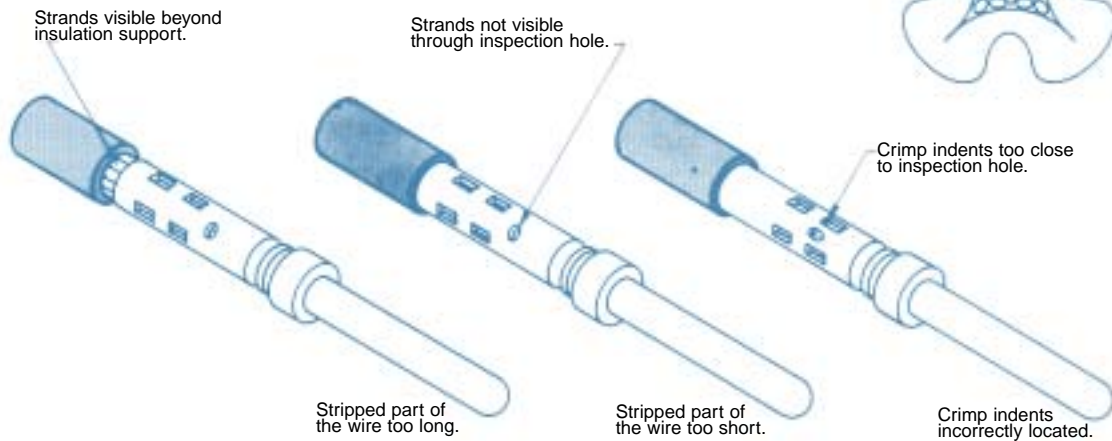
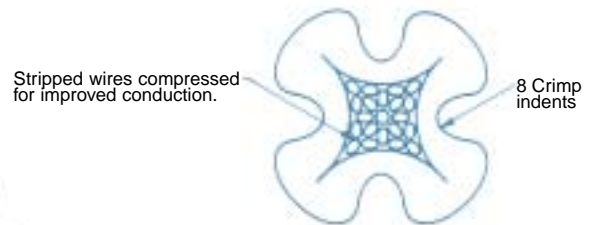
Step 3: Inspect the crimp.

- For All Tools:
- Strands to be visible through the inspection hole.
 - Strands not to be visible beyond the insulation support.
 - Crimped contact to meet recommended conductor tensile force shown in chart.
 - Check for peeled gold and bent contacts.



Correctly Crimped Contact

Cross Section of Correctly Crimped Contact



Examples of Crimping Faults

Positronic Recommended Conductor Tensile Strength

WIRE SIZE AWG/[mm ²]	AXIAL LOAD POUNDS/[N]
<u>.22</u> [0.3]	<u>.12</u> [53]
<u>.24</u> [0.25]	<u>.8</u> [36]
<u>.26</u> [0.12]	<u>.5</u> [22]
<u>.28</u> [0.08]	<u>.3</u> [13]
<u>.30</u> [0.05]	<u>1.5</u> [4.4]

Positronic recommended tools for DD series contacts.
For more information see contact crimp tools and accessories page.

CRIMP TOOLS	POSITIONERS FOR FC8022D	POSITIONERS FOR MC8022D
9507, HAND CRIMP TOOL	9502-3	9502-4
9550-1, AUTOMATIC FEED PNEUMATIC CRIMP TOOL	Supplied in reels	Supplied in reels

Conductor tensile strength values are derived using silver tin-plated copper wires.
Values may change depending upon what type of wire is used.



**AUTOMATIC FEED
CRIMP TOOL,
PNEUMATICALLY ACTUATED
Part No. 9550-1**

This fast cycling automatic feed crimp tool produces an 8 indent crimp on wire sizes 20 AWG [0.5mm²] through 32 AWG [0.03mm²]. DD Series contacts must be ordered on reels.

To order, specify part number 9550-1. Foot control valve is supplied as a standard accessory.



**MINIATURE STEP ADJUSTABLE TOOL
(M22520/2-01)
Part No. 9507**

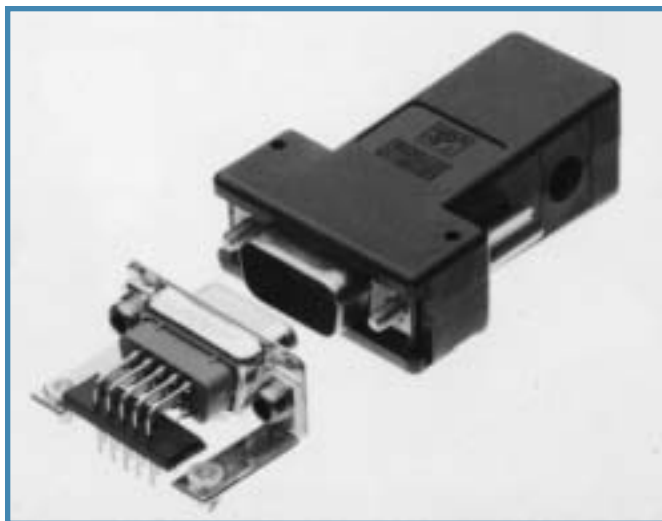
This miniature step adjustable hand crimping tool produces an 8 indent crimp configuration and will crimp wire sizes 20 AWG [0.5mm²] through 32 AWG [0.03mm²].

To crimp female contacts, order contact positioner 9502-3. To crimp male contacts, order contact positioner 9502-4. Each positioner is equipped with a data plate which gives the correct crimp-depth setting for each wire size, and must be used with 9507 tool frame for best results when crimping Densi-D Series contacts.



**INSERTION/REMOVAL TOOL
(M81969/1-04)**

One end of this tool is used to insert contacts into Densi-D Series connectors. The other end is used to extract contacts. This is accomplished by sliding the extraction tip down the wire into the connector until it bottoms against the contact. A slight rotation while pushing will release the contacts, which are then extracted by simultaneously pulling on the wire.





Positronic Industries, Inc.
www.connectpositronic.com

MILITARY QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

D-Sub

ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	DD	62	F	4	R7	N	T6	S	

STEP 1 - Basic Series

DD Series

STEP 2 - DD Series Connector Variants

15, 26, 44, 62, 78, 104

STEP 3 - Connector Gender

M - Male
F - Female

STEP 4 - Type of Contacts

- 0 - Ordered Without Contacts.
- 1 - Crimp, 22 AWG–30 AWG [0.3mm²–0.05mm²].
- 2 - Solder cup, 22 AWG–30 AWG [0.3mm²–0.05mm²].
- 3 - Solder, Straight Printed Board Mount with 0.150 [3.81] Tail Length.
- 32 - Solder, Straight Printed Board Mount with 0.300 [7.62] Tail Length.
- 4 - Solder, 90° Printed Board Mount with 0.450 [11.43] Contact Extension.

*STEP 5 - Mounting Style

- 0 - Mounting Hole, 0.120 [3.05] Ø.
- 02 - Mounting Hole, 0.154 [3.91] Ø.
- B3 - Bracket, Mounting, 90° Metal with Cross Bar.
- B8 - Bracket, Mounting, 90° Plastic with Cross Bar.
- F - Float Mounts, Universal.
- P - Threaded Post, Brass, 0.375 [9.53] Length.
- P2 - Threaded Post, Nylon, 0.375 [9.53] Length.
- R2 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar.
- R6 - Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar.
- R7 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar.
- R8 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Locknut with Cross Bar.
- S - Swaged Spacer, 4-40 Threads, 0.375 [9.53] Length.
- S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length.
- S5 - Swaged Locknut, 4-40 Threads.
- S6 - Swaged Spacer with Push-on Fasteners, 4-40 Threads, 0.375 [9.53] Length.
- S7 - Swaged Spacer with Push-on Fastener for use with Ferrite Inductor, 4-40 Threads, 0.515 [13.08] Length.

STEP 9 - Special Options

Consult Sales Department.

STEP 8 - Shell Options

- 0 - Zinc Plated with Dichromate Seal.
- S - Stainless Steel.
- X - Tin Plated.
- Z - Tin Plated and Dimpled.
- C - Cadmium with Dichromate Seal.

*STEP 7 - Locking and Polarizing Systems

- 0 - None.
- V3 - Lock Tab, connector front panel mounted.
- V5 - Lock Tab, connector rear panel mounted.
- 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.
- E6 - Rotating Male and Female Polarized Jackscrews.

*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 78 and 104 only.
- Y6 - Hood, Top Opening, Plastic with Rotating Male and Female Polarized Jackscrews. Available in size 78 and 104 only.
- Z - Hood, Top or Side Opening, Robust and Extended Height, Composite and Plastic with Rotating Male Jackscrews. Available in size 15, 26, 44, 62, and 78 only.
- H - Hood, Top Opening, Metal. Available in size 26, 44, 62, and 78 only.
- G - Hood, EMI/RFI, Metal.
- W - Hood, Top or Side Opening, Plastic. Available in size 15, 26, and 44 only.
- N - Push-on Fastener, for 90° Mounting Brackets.
- **F - Ferrite Inductor

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**Ferrite inductor is available on contact type 32 only.

DD SERIES



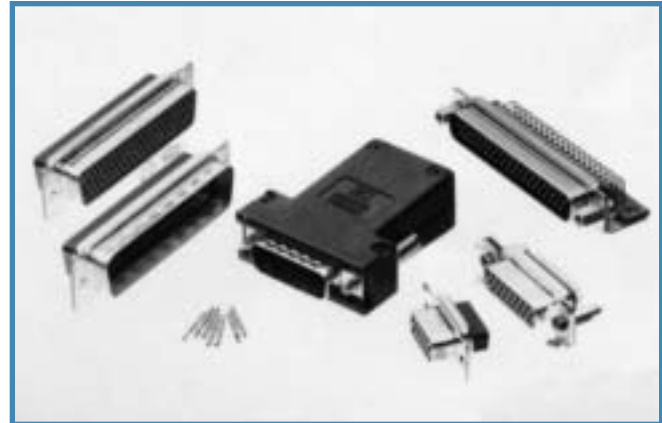
Size 22 Contacts, Removable Crimp and Solder Printed Board Mount

Professional Quality

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication
U.L. File #14098



ODD Series connectors are low cost, professional quality, high density rectangular connectors recommended for use in sheltered, non-corrosive indoor environments having normal ventilation.

ODD Series connectors utilize precision machined, removable contacts having closed barrel crimp terminations and solder cup wire terminations. For printed board mount application, straight solder printed board mount and 90° angled solder terminations are available.

Female removable contacts feature a rugged "Robi-D Open Entry" design. Female, fixed contacts for board mounted applications feature

both rugged Robi-D design and standard open entry design, available to customer requirements.

Six standard contact variants are offered in arrangements of 15, 26, 44, 62, 78, and 104 contacts. ODD Series connectors are mateable and compatible with other high density D-subminiature connectors conforming to MIL-DTL-24308, and are U.L. and CSA recognized.

ODD Series connectors are widely used in computer and industrial control applications.

ODD SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulators:	Glass filled polyester per MIL-M-24519, UL 94V-0, black color.
Contacts:	Male contacts – precision machined brass or phosphor bronze. Female contacts – precision machined high tensile phosphor bronze.
Contact Plating:	Professional quality – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate, zinc plate with dichromate seal. Other materials and finishes available upon request.
Mounting Spacers:	Nylon, plastic and brass, zinc plate with dichromate seal.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Push-On Fasteners:	Phosphor bronze or beryllium copper with tin plate.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	5 amperes nominal.
Initial Contact Resistance:	0.010 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.042 inch [1.06mm].
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

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

MECHANICAL CHARACTERISTICS:

Removable Contacts:	Insert contact to rear face of insulator and release from rear face of insulator. Size 22 contact, male – 0.030 inch [0.76mm] diameter; female removable contacts feature a rugged "Robi-D Open Entry" design.
Fixed Contacts, Board Mounted Applications:	Female contact – both rugged Robi-D design and standard open entry design available to customer requirements.
Contact Retention In Insulator:	9 lbs. [40 N].
Contact Terminations:	Closed barrel crimp, wire sizes 22 AWG [0.3mm ²] through 30 AWG [0.05mm ²]. Solder cup wire, 0.035 inch [0.89mm] hole diameter for 22 AWG [0.3mm ²] wire maximum. 0.020 inch [0.5mm] or 0.030 inch [0.76mm] diameter straight and 90° printed board mount contact terminations.
Shells:	Male shells may be dimpled for EMI/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Mounting To Angle Brackets:	Jackscrews and riveted fasteners with 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 mounting posts.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	500 operations minimum per IEC 512-5.



Positronic Industries, Inc.
www.connectpositronic.com

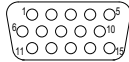
PROFESSIONAL QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

D-Sub

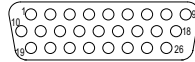
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

CONTACT VARIANTS

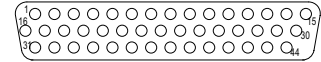
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



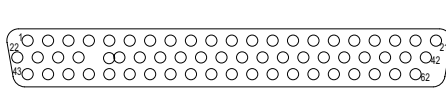
ODD 15



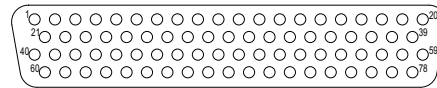
ODD 26



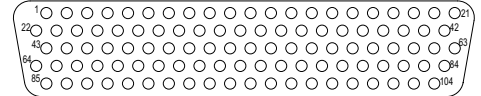
ODD 44



ODD 62

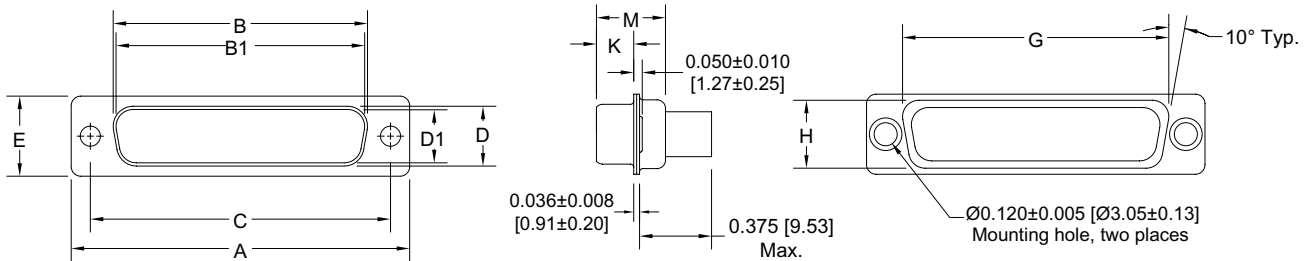


ODD 78



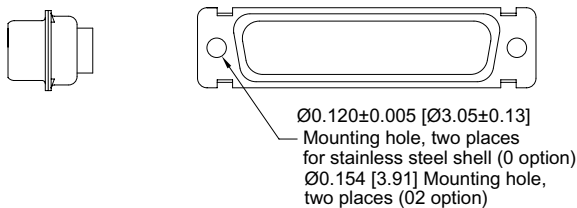
ODD 104

STANDARD SHELL ASSEMBLY

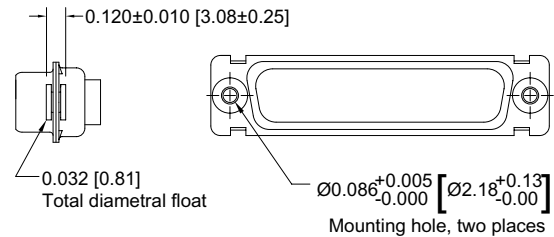


* This dimension is for crimp removable connectors. 0.220 [5.59] maximum for all other connectors.

OPTIONAL SHELL ASSEMBLY [0, 02]



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS [F]

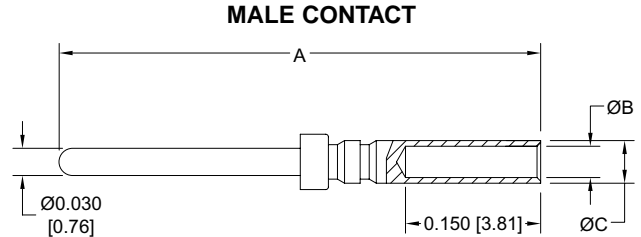
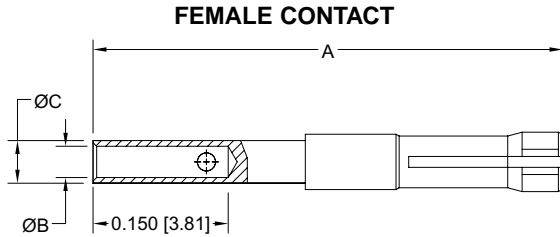


CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
ODD 15 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
ODD 15 F	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]
ODD 26 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
ODD 26 F	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]
ODD 44 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
ODD 44 F	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]
ODD 62 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
ODD 62 F	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]
ODD 78 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
ODD 78 F	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]
ODD 104 M	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
ODD 104 F	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]



CRIMP CONTACTS

CLOSED CRIMP BARREL



Crimp contacts may be supplied kitted with connector or ordered separately.

PART NUMBER	WIRE SIZE AWG/[mm ²]	A	ØB	ØC
FC8122D	22 / 24 / 26 / 28 / 30 [0.3/0.25/0.12/0.08/0.05]	0.529 [13.44]	0.035 [0.89]	0.047 [1.19]

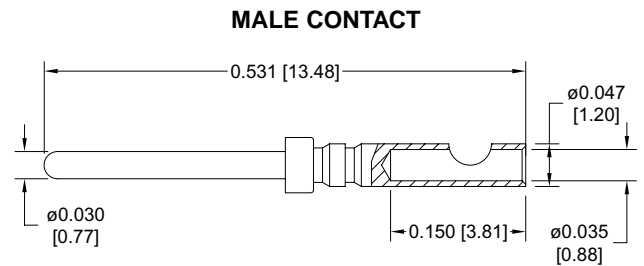
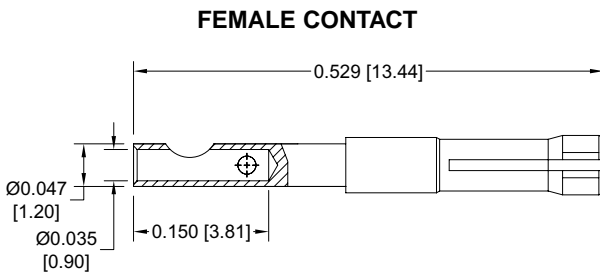
PART NUMBER	WIRE SIZE AWG/[mm ²]	A	ØB	ØC
MC8122D	22 / 24 / 26 / 28 / 30 [0.3/0.25/0.12/0.08/0.05]	0.531 [13.49]	0.035 [0.89]	0.047 [1.19]

Material - Phosphor bronze
Plating - Gold flash over nickel

Material - Brass
Plating - Gold flash over nickel

Additional plating options available by adding suffix to part number
add -14 for 0.00030 [0.76 microns] gold over nickel Example: FC8122D-14 or MS8122D-14

SOLDER CUP CONTACTS



Part Number: FS8122D

Material - Phosphor bronze
Plating - Gold flash over nickel

Part Number: MS8122D

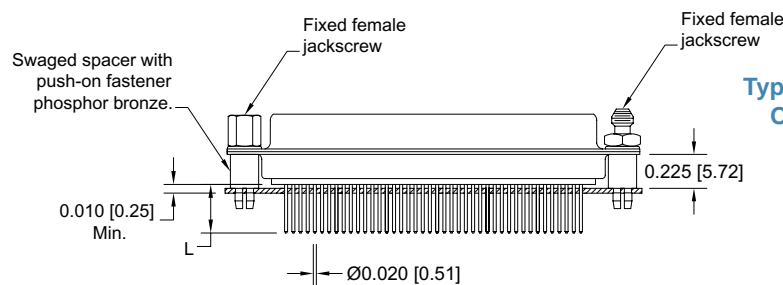
Material - Brass
Plating - Gold flash over nickel

Solder contacts may be supplied kitted with connector or ordered separately.

STRAIGHT PRINTED BOARD MOUNT CONNECTOR

Code No.	L
3	0.150 [3.81]
32	0.300 [7.62]

For straight printed board mount contacts specify code no. in step 4 of ordering information





Positronic Industries, Inc.
www.connectpositronic.com

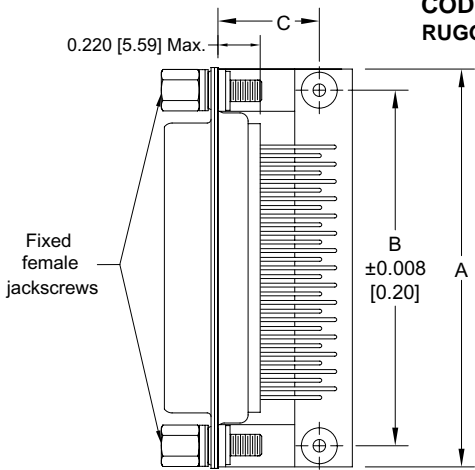
PROFESSIONAL QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

90° PRINTED BOARD MOUNT CONNECTOR

**CODE 5, 0.450 [11.50] CONTACT EXTENSION
RUGGED "Robi-D Open Entry" FEMALE CONTACT**

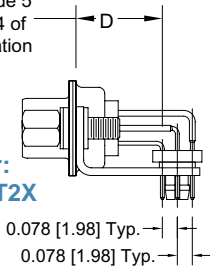


ODD**5R7*** 0.450 [11.43] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
ODD15*5R7***	1.204 [30.58]	0.984 [24.99]	0.528 [13.41]	0.450 [11.43]
ODD26*5R7***	1.532 [38.91]	1.312 [33.32]	0.528 [13.41]	0.450 [11.43]
ODD44*5R7***	2.072 [52.63]	1.852 [47.04]	0.528 [13.41]	0.450 [11.43]
ODD62*5R7***	2.720 [69.09]	2.500 [63.50]	0.528 [13.41]	0.450 [11.43]
ODD78*5R7***	2.626 [66.70]	2.406 [61.11]	0.573 [14.55]	0.450 [11.43]

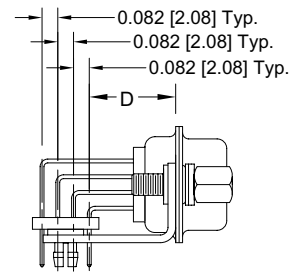
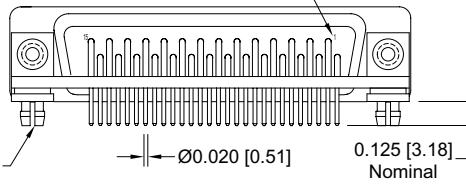
See next page for size 104
Right Angle Connectors.

Specify code 5
in step 4 of
ordering information

**Typical
Part Number:
ODD44M5R7NT2X**



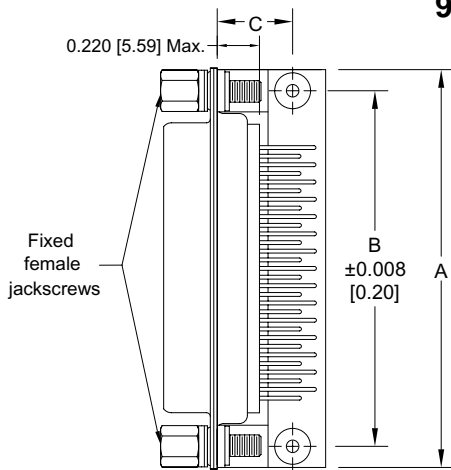
Numbering shown is rear view
of male and face view of female.



**Typical Part Number:
ODD78M5R7NT20**

90° PRINTED BOARD MOUNT CONNECTOR

**CODE 4, 0.314 [7.98] CONTACT EXTENSION
SLOTTED OPEN ENTRY FEMALE CONTACT**

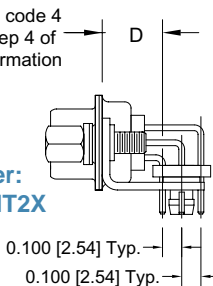


ODD**4R7*** 0.314 [7.98] CONTACT EXTENSION				
PART NUMBER	A	B	C	D
ODD15*4R7***	1.204 [30.58]	0.984 [24.99]	0.414 [10.52]	0.314 [7.98]
ODD26*4R7***	1.532 [38.91]	1.312 [33.32]	0.414 [10.52]	0.314 [7.98]
ODD44*4R7***	2.072 [52.63]	1.852 [47.04]	0.414 [10.52]	0.314 [7.98]
ODD62*4R7***	2.720 [69.09]	2.500 [63.50]	0.414 [10.52]	0.314 [7.98]
ODD78*4R7***	2.626 [66.70]	2.406 [61.11]	0.414 [10.52]	0.314 [7.98]

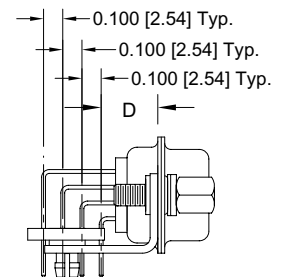
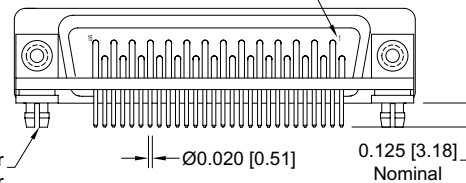
See next page for size 104
Right Angle Connectors.

Specify code 4
in step 4 of
ordering information

**Typical
Part Number:
ODD44F4R7NT2X**

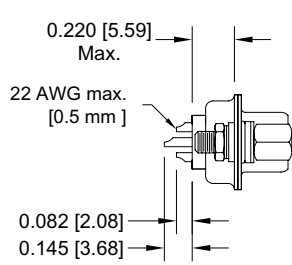


Numbering shown is rear view
of male and face view of female.

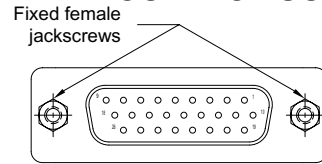


**Typical Part Number:
ODD78M4R7NT20**

ODD SERIES



FIXED CONTACT SOLDER CUP CONNECTOR



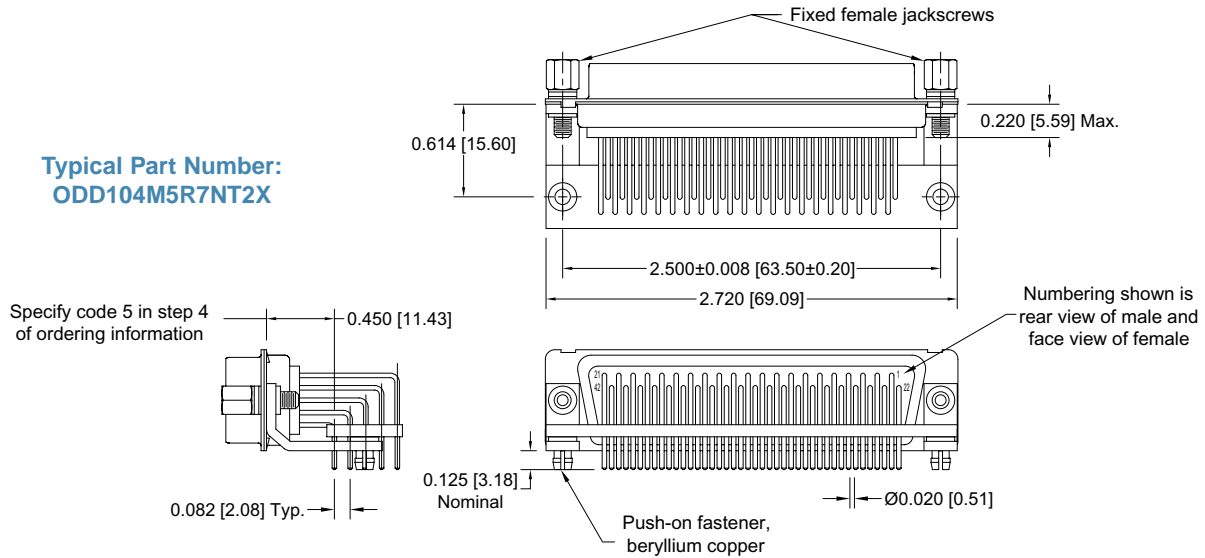
Typical Part Number:
ODD26F2100T2X

Fixed male and female polarized jackscREWS available.
Specify code T6 in step 7 of ordering information.
Typical Part Number: **ODD26F2100T6X**

90° PRINTED BOARD MOUNT CONNECTOR

CODE 5, 0.450 [11.43] CONTACT EXTENSION
RUGGED "Robi-D Open Entry" FEMALE CONTACT
CONTACT VARIANT 104

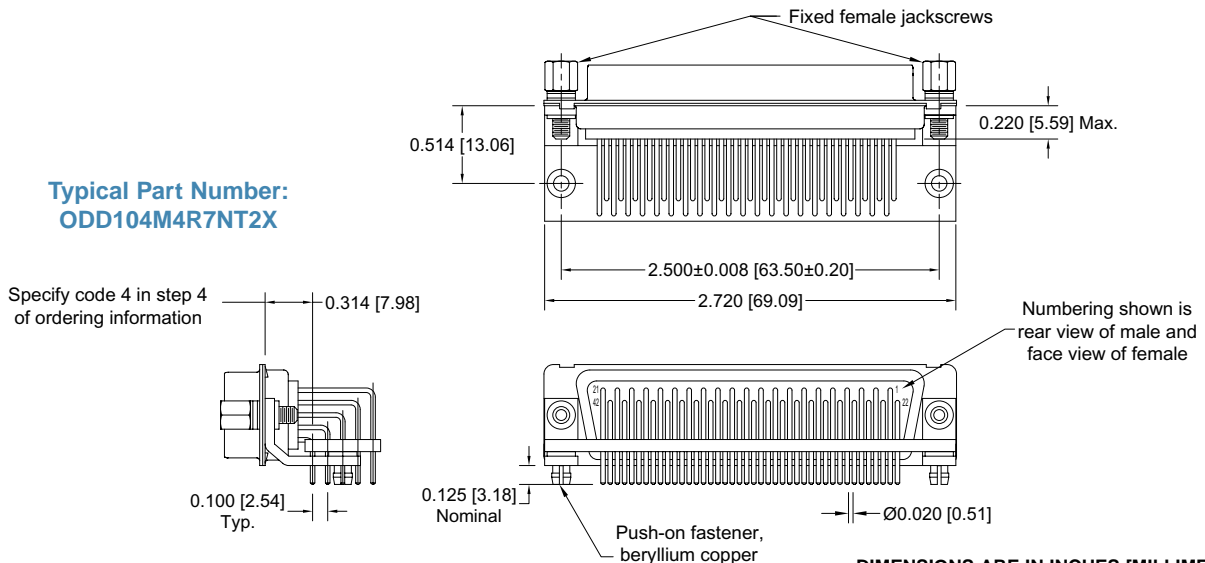
Typical Part Number:
ODD104M5R7NT2X



90° PRINTED BOARD MOUNT CONNECTOR

CODE 4, 0.314 [7.98] CONTACT EXTENSION
SLOTTED OPEN ENTRY FEMALE CONTACT
CONTACT VARIANT 104

Typical Part Number:
ODD104M4R7NT2X



DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



Positronic Industries, Inc.
www.connectpositronic.com

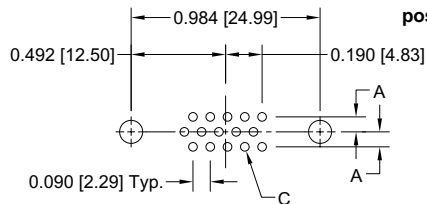
PROFESSIONAL QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

D-Sub

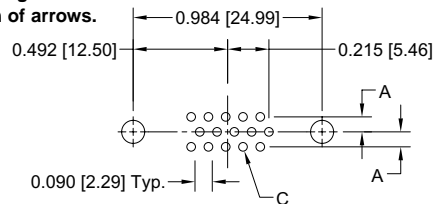
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

90° AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

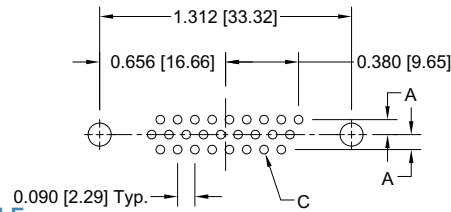
ODD15 MALE



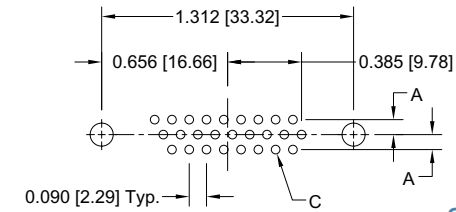
ODD15 FEMALE



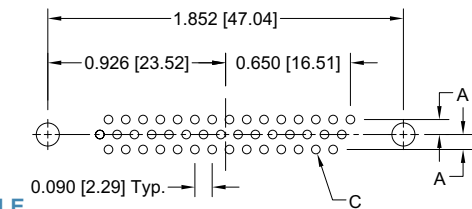
ODD26 MALE



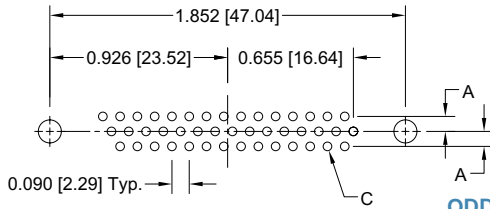
ODD26 FEMALE



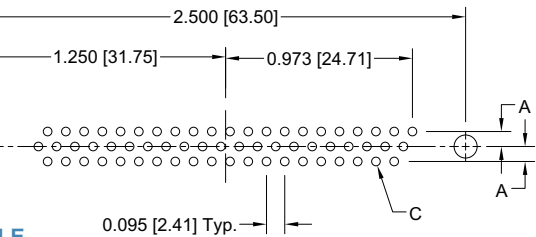
ODD44 MALE



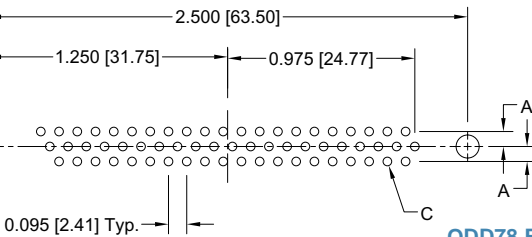
ODD44 FEMALE



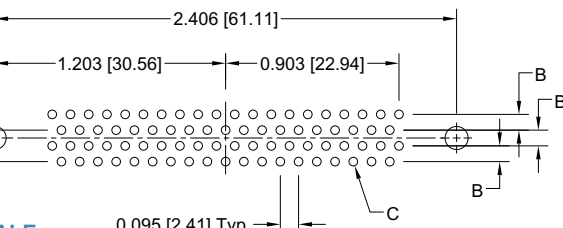
ODD62 MALE



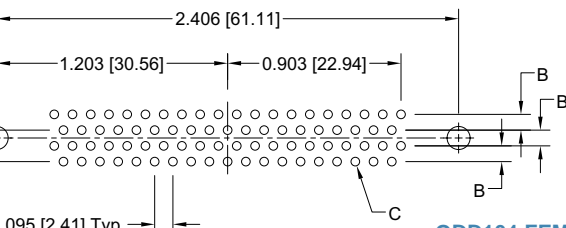
ODD62 FEMALE



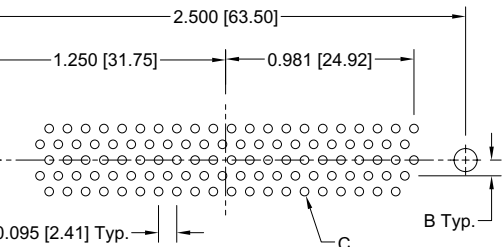
ODD78 MALE



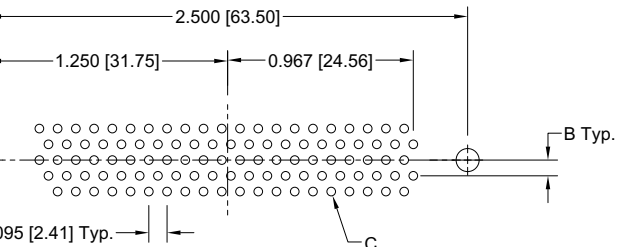
ODD78 FEMALE



ODD104 MALE



ODD104 FEMALE



CODE NUMBER	A	B	ØC	D
4	0.100 [2.54]	0.100 [2.54]	0.045 [1.14]	0.100 [2.54]
3, 32, 5	0.078 [1.98]	0.082 [2.08]	0.035 [0.89]	0.123 [3.12]

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



**AUTOMATIC FEED
CRIMP TOOL,
PNEUMATICALLY ACTUATED**
Part No. 9550-1

This fast cycling automatic feed crimp tool produces an 8 indent crimp on wire sizes 20 AWG [0.5mm²] through 32 AWG [0.03mm²]. ODD Series contacts must be ordered on reels.

To order, specify part number 9550-1. Foot control valve is supplied as a standard accessory.



MINIATURE STEP ADJUSTABLE TOOL
(M22520/2-01)
Part No. 9507

This miniature step adjustable hand crimping tool produces an 8 indent crimp configuration and will crimp wire sizes 20 AWG [0.5mm²] through 32 AWG [0.03mm²].

To crimp female contacts, order contact positioner 9502-3. To crimp male contacts, order contact positioner 9502-4. Each positioner is equipped with a data plate which gives the correct crimp-depth setting for each wire size, and must be used with 9507 tool frame for best results when crimping ODD Series contacts.



INSERTION/REMOVAL TOOL
(M81969/1-04)

One end of this tool is used to insert contacts into ODD Series connectors. The other end is used to extract contacts. This is accomplished by sliding the extraction tip down the wire into the connector until it bottoms against the contact. A slight rotation while pushing will release the contacts, which are then extracted by simultaneously pulling on the wire.



**Positronic Recommended
Conductor Tensile Strength**

WIRE SIZE AWG/[mm ²]	AXIAL LOAD POUNDS/[N]
.22 [0.3]	12 [53]
.24 [0.25]	8 [36]
.26 [0.12]	5 [22]
.28 [0.08]	3 [13]
.30 [0.05]	1.5 [4.4]

Conductor tensile strength values are derived using silver-tin plated copper wires.

Values may change depending upon what type of wire is used.

Positronic recommended tools for ODD series contacts.

CRIMP TOOLS	POSITIONERS FOR FC8122D	POSITIONERS FOR MC8122D
9507, HAND CRIMP TOOL	9502-3	9502-4
9550-1, AUTOMATIC FEED PNEUMATIC CRIMP TOOL	Supplied in reels	Supplied in reels



Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, REMOVABLE CONTACT, HIGH DENSITY SUBMINIATURE-D CONNECTORS

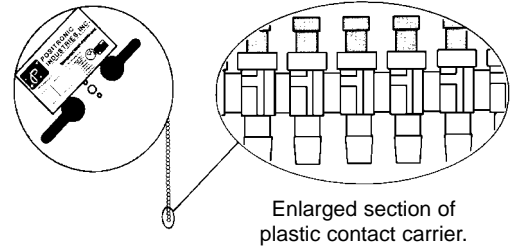
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

D-Sub

REELS FOR AUTOMATIC FEED PNEUMATIC CRIMP TOOLS

Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic feed pneumatic crimp tools, catalog part number 9550-1. The same type carrier is used for both male and female contacts.

All male and female crimp contacts can be ordered in reels by adding letter "R" after the contact part number, such as MC8122DR for a male contact and FC8122DR for a female contact.



ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	ODD	62	F	5	R7	N	T6	S	

STEP 1 - Basic Series

ODD Series

STEP 2 - ODD Series Connector Variants

15, 26, 44, 62, 78, 104

STEP 3 - Connector Gender

M - Male
F - Female

STEP 4 - Type of Contacts

- 0 - Ordered Without Contacts.
- 1 - Crimp, 22 AWG–30 AWG [0.3mm²–0.05mm²].
- 2 - Solder cup, 22 AWG–30 AWG [0.3mm²–0.05mm²], Removable contacts.
- 21 - Solder cup, 22 AWG–30 AWG [0.3mm²–0.05mm²], Fixed contacts.
- 3 - Solder, Straight Printed Board Mount with 0.150 [3.81] Tail Length.
- 32 - Solder, Straight Printed Board Mount with 0.300 [7.62] Tail Length.
- 4 - Solder, 90° Printed Board Mount with 0.314 [7.98] Contact Extension.
- 5 - Solder, 90° Printed Board Mount with 0.450 [11.43] Contact Extension.

*STEP 5 - Mounting Style

- 0 - Mounting Hole, 0.120 [3.05] Ø.
- 02 - Mounting Hole, 0.154 [3.91] Ø.
- B3 - Bracket, Mounting, 90° Metal with Cross Bar.
- B8 - Bracket, Mounting, 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.
- R2 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar.
- R6 - Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar.
- R7 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar.
- R8 - Bracket, Mounting, 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 Fasteners, 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.

STEP 9 - Special Options

Consult Sales Department.

STEP 8 - Shell Options

- 0 - Zinc Plated with Dichromate Seal.
- S - Stainless Steel.
- X - Tin Plated.
- Z - Tin Plated and Dimpled.

*STEP 7 - Locking and Polarizing Systems

- 0 - None.
- V3 - Lock Tab, connector front panel mounted.
- V5 - Lock Tab, connector rear panel mounted.
- 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.
- E6 - Rotating Male and Female Polarized Jackscrews.

*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 78 and 104 only.
- Y6 - Hood, Top Opening, Plastic with Rotating Male and Female Polarized Jackscrews. Available in size 78 and 104 only.
- Z - Hood, Top or Side Opening, Robust Extended Height, Composite and Plastic with Rotating Male Jackscrews. Available in size 15, 26, 44, 62 and 78 only.
- H - Hood, Top Opening, Metal. Available in size 26, 44, 62, and 78 only.
- G - Hood, EMI/RFI, Metal.
- W - Hood, Top or Side Opening, Plastic. Available in size 15, 26, and 44 only.
- N - Push-on Fastener, for 90° Mounting.
- **F - Ferrite Inductor.
- **Q - Ferrite Inductor with Push-on Fastener, for 90° Mounting Brackets.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**Ferrite inductor is available on contact types 32 and 5 only.

For ODD crimping information, see DD Series, p. 26 & 27.

ODD SERIES



Size 20 Signal and
Thermocouple Contacts,
Crimp Removable
Military/Industrial
Quality Connectors
IEC Publication 807-3
Performance Level One

MIL-DTL-24308 and MIL-C-39029

 U.L. Recognized
File #E49351

 CSA Recognized
File #LR54219

 Telecommunication
U.L. File #14098


Rhapsody-D Series connectors are Military/Industrial quality rectangular connectors designed for use in sheltered, mildly corrosive environments having a wide range of temperature, pressure and humidity changes. These crimp removable contact connectors are qualified to MIL-DTL-24308 and MIL-C-39029, and will meet the performance requirements of IEC 807-3, Performance Level One.

Rhapsody-D Series connectors utilize precision machined contacts with closed barrel, crimp terminations. The female contact features a rugged closed entry design contact with stainless steel shroud. A "Robi-D Open Entry" female contact is also available.

Six standard connector variants are offered in arrangements of 9, 15, 25, 29, 37 and 50 contacts. Rhapsody-D Series connectors are mateable and compatible with all D-Subminiature connectors conforming to MIL-DTL-24308, IEC 807-2 and IEC 807-3.

A wide assortment of cable support hoods and locking systems is available from stock.

Rhapsody-D Series connectors conform to EIA RS 232 and RS 449, and CCITT X.24 interface connection requirements.

RHAPSO-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled DAP per ASTM-D-5948, SDG-F, UL 94V-0, green color.
Contacts:	Signal: Male contacts – precision machined brass. Female contacts – precision machined high tensile copper alloy with stainless steel shroud or open entry Robi-D design.
	Thermocouple: See page 41.
Contact Plating:	Military performance – 0.000050 inch [1.27 microns] gold over copper plate. Industrial performance – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc and cadmium plate with dichromate seal, stainless steel, passivated. Other materials and finishes available upon request.
Mounting Spacers:	Brass, zinc plate with dichromate seal.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
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:	21 days.

MECHANICAL CHARACTERISTICS:

Removable Contacts:	Insert contact to rear face of insulator and release from rear face of insulator. Size 20 contact, male – 0.040 inch [1.02mm] diameter; female – closed entry design with stainless steel shroud or open entry Robi-D design.
Contact Retention In Insulator:	9 lbs. [40 N].
Contact Terminations:	Closed barrel crimp, wire sizes 18 AWG [1.0mm ²] through 30 AWG [0.05mm ²].
Shells:	Male shells may be dimpled for EM/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	1000 operations minimum per IEC 512-5 for closed entry female contact. 500 operations per IEC 512-5 for "Robi-D Open Entry" design female contact.



Positronic Industries, Inc.
www.connectpositronic.com

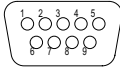
MILITARY QUALITY, CRIMP REMOVABLE CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

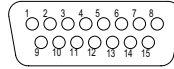
FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

CONTACT VARIANTS

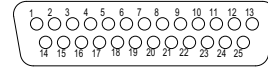
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



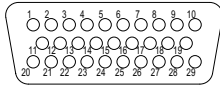
RD 9



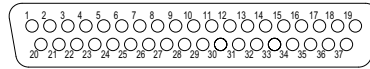
RD 15



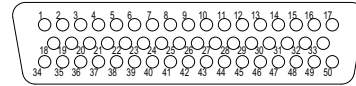
RD 25



RD 29

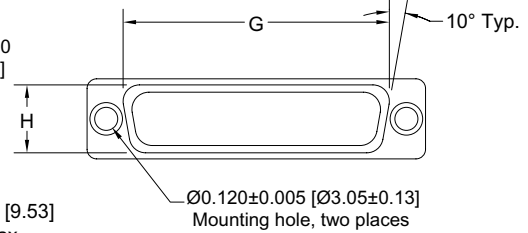
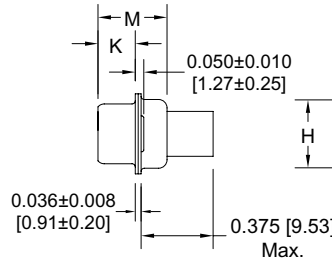
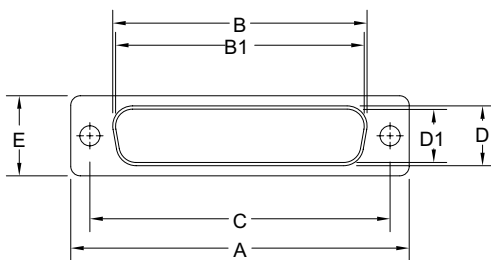


RD 37

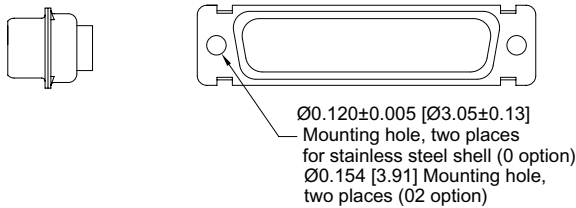


RD 50

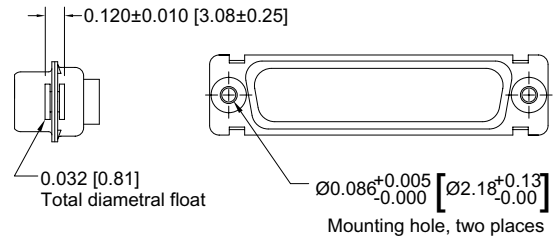
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY [0, 02]



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS [F]

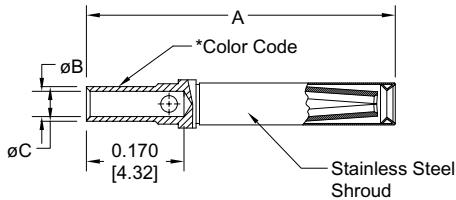


CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
RD 9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
RD 9 F	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]
RD 15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
RD 15 F	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]
RD 25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
RD 25 F	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]
RD 29 M	1.770 [44.96]		1.274 [32.36]	1.534 [38.96]		0.450 [11.43]	0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.217 [5.51]	0.426 [10.82]
RD 29 F	1.770 [44.96]	1.251 [31.78]		1.534 [38.96]	0.431 [10.95]		0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.237 [6.02]	0.429 [10.90]
RD 37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
RD 37 F	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]
RD 50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
RD 50 F	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]

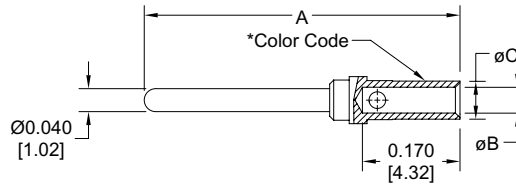


CRIMP CONTACTS
CLOSED CRIMP BARREL

FEMALE CONTACT
“CLOSED ENTRY” DESIGN



MALE CONTACT



Material - Leaded nickel copper.

Plating - Gold flash over nickel or 0.000050 inch [1.27µ] gold over copper for military specification contacts.

***Color Code -** ORANGE/BLUE/GRAY for military specification contacts.

PART NUMBER	WIRE SIZE AWG/[mm ²]	A	øB	øC
FC6020D	20 / 22 / 24 [0.5/0.3/0.25]	0.538 [13.67]	0.045 [1.14]	0.066 [1.68]
FC6026D	26 / 28 / 30 [0.12/0.08/0.05]	0.538 [13.67]	0.027 [0.69]	0.066 [1.68]
*M39029/63-368	20 / 22 / 24 [0.5/0.3/0.25]	0.538 [13.67]	0.045 [1.14]	0.066 [1.68]

Material - Brass.

Plating - Gold flash over nickel or 0.000050 inch [1.27µ] gold over copper for military specification contacts.

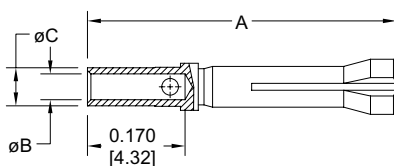
***Color Code -** ORANGE/BLUE/WHITE for military specification contacts.

PART NUMBER	WIRE SIZE AWG/[mm ²]	A	øB	øC
MC6020D	20 / 22 / 24 [0.5/0.3/0.25]	0.550 [13.97]	0.045 [1.14]	0.066 [1.68]
MC6026D	26 / 28 / 30 [0.12/0.08/0.05]	0.550 [13.97]	0.027 [0.69]	0.066 [1.68]
*M39029/64-369	20 / 22 / 24 [0.5/0.3/0.25]	0.550 [13.97]	0.045 [1.14]	0.066 [1.68]

Note: *C60**D contacts can be used in the SD series.

Crimp contacts may be supplied kitted with connector or ordered separately. See page 42 for crimp tool information.

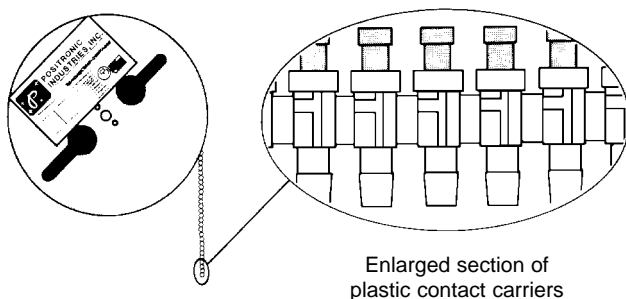
FEMALE CONTACT
“Robi-D Open Entry” DESIGN
20/22/24 AWG [0.5/0.3/0.25 mm²]



Material - Phosphor bronze.
Plating - Gold flash over nickel.

For RD crimping information, see SD Series, p. 16 and 17.

REELS FOR AUTOMATIC FEED PNEUMATIC CRIMP TOOLS



Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic feed pneumatic crimp tools, catalog part number 9550-1. The same type carrier is used for both male and female contacts.

All male and female crimp contacts can be ordered in reels by adding letter “R” after the contact part number, such as MC6020DR for a male contact and FC6026DR for a female contact.



Positronic Industries, Inc.
www.connectpositronic.com

MILITARY QUALITY, CRIMP REMOVABLE CONTACT SUBMINIATURE-D CONNECTORS

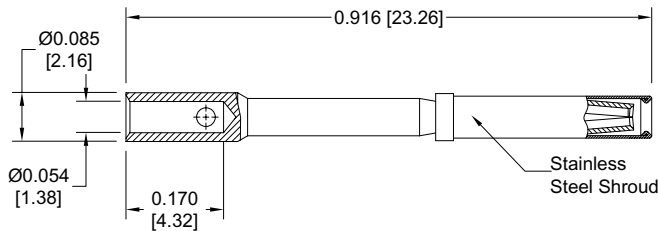
D-Sub

FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

CRIMP CONTACTS

18 AWG [1.0mm²] max.

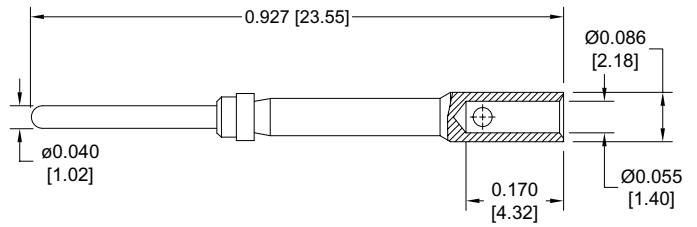
FEMALE CONTACT "CLOSED ENTRY" DESIGN



Part Number: **FC6018D**

Material - Phosphor bronze.
Plating - Gold flash over nickel.

MALE CONTACT



Part Number: **MC6018D**

Material - Brass.
Plating - Gold flash over nickel.

For RD crimping information, see SD Series, p. 16 and 17.

Additional plating options available by adding suffix to part number

add -14 for 0.000030 [0.76 microns] gold over nickel

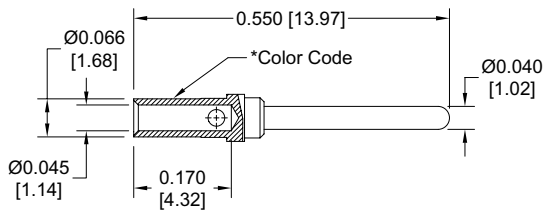
Example: FC6018D-14

add -50 for 0.000050 [1.27 microns] gold over copper

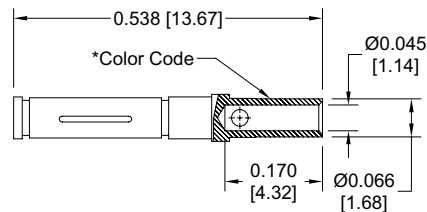
Example: MC6018D-50

THERMOCOUPLE CONTACTS

MALE CONTACT



FEMALE CONTACT



For RD crimping information, see SD Series, p. 16 and 17.

TYPE	MATERIAL	MALE PART NUMBER	FEMALE PART NUMBER	COLOR CODE	WIRE SIZE AWG [mm ²]
K	Chromel® (+)	MC6020DCH [†]	FC6020DCH ^{††}	White	20 / 22 / 24 [0.5 / 0.3 / 0.25]
K	Alumel® (-)	MC6020DAL [†]	FC6020DAL ^{††}	Green	20 / 22 / 24 [0.5 / 0.3 / 0.25]
T	Copper (+)	MC6020DCU [†]	FC6020DCU ^{††}	Red	20 / 22 / 24 [0.5 / 0.3 / 0.25]
T	Constantan (-)	MC6020DCO [†]	FC6020DCO ^{††}	Yellow	20 / 22 / 24 [0.5 / 0.3 / 0.25]
E	Chromel® (+)	MC6020DCH [†]	FC6020DCH ^{††}	White	20 / 22 / 24 [0.5 / 0.3 / 0.25]
E	Constantan (-)	MC6020DCO [†]	FC6020DCO ^{††}	Yellow	20 / 22 / 24 [0.5 / 0.3 / 0.25]

[†]Dimensionally equivalent to M39029/64-369

^{††}Dimensionally equivalent to M39029/63-368

Chromel® and Alumel® are registered trademarks of Hoskins Manufacturing Company.

For more information on the availability of Type J thermocouple contacts, and information about thermocouple contacts with PCB solder termination, please contact Technical Sales.

RD SERIES



**AUTOMATIC FEED
CRIMP TOOL,
PNEUMATICALLY ACTUATED**
Part No. 9550-1

This fast cycling automatic feed crimp tool produces an 8 indent crimp on wire sizes 20 AWG [0.5mm²] through 32 AWG [0.03mm²]. Rhapsody Series contacts must be ordered on reels.

To order, specify part number 9550-1. Foot control valve is supplied as a standard accessory.



**Positronic Recommended
Conductor Tensile Strength**

WIRE SIZE AWG/[mm ²]	AXIAL LOAD POUNDS/[N]
.18 [1.0]	.28 [125]
.20 [0.5]	.20 [89]
.22 [0.3]	.12 [53]
.24 [0.25]	.8 [36]
.26 [0.12]	.5 [22]
.28 [0.08]	.3 [13]
.30 [0.05]	1.5 [6.7]

Conductor tensile strength values are derived using silver-tin plated copper wires.

Values may change depending upon what type of wire is used.

MINIATURE STEP ADJUSTABLE TOOL
(M22520/2-01)
Part No. 9507

This miniature 8 step adjustable hand crimping tool produces an 8 indent crimp configuration and will crimp wire sizes 18 AWG [1.0mm²] through 32 AWG [0.03mm²].

To crimp wire size 18 AWG [1.0mm²], order contact positioner 9502-11. To crimp wire size 20 AWG [0.5mm²] through 30 AWG [0.05mm²], order contact positioner 9502-5. Each positioner is equipped with a data plate which gives the correct crimp-depth setting for each wire size, and must be used with 9507 tool frame for best results when crimping Rhapsody Series contacts.



INSERTION/REMOVAL TOOL
(M81969/1-02)

One end of this tool is used to insert contacts into Rhapsody Series connectors. The other end is used to extract contacts. This is accomplished by sliding the extraction tip down the wire into the connector until it bottoms against the contact. A slight rotation while pushing will release the contacts, which are then extracted by simultaneously pulling on the wire.



Positronic recommended tools for RD series contacts.
For more information see contact crimp tools
and accessories page.

CRIMP TOOLS	POSITIONERS FOR FC6020D, MC6020D, FC6026D, MC6026D, FC6120D M39029/63-368 M39029/64-369	POSITIONERS FOR FC6018D, MC6018D, FC6118D
9507, HAND CRIMP TOOL	9502-5	9502-11
9550-1, AUTOMATIC FEED PNEUMATIC CRIMP TOOL	Supplied in reels	Not Available



ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	RD	15	M	12	0	H	0	0	

STEP 1 - Basic Series

RD Series

STEP 2 - RD Series Connector Variants

9, 15, 25, 29, 37, 50

STEP 3 - Connector Gender

M - Male
F - Female

STEP 4 - Type of Contacts

0 - Ordered Without Contacts.
1 - Crimp, 20 AWG–24 AWG [0.5mm²–0.25mm²].
12 - Crimp, 26 AWG–30 AWG [0.12mm²–0.08mm²].
14 - Crimp, 20 AWG–24 AWG [0.5mm²–0.25mm²]
"Robi-D Open Entry" female contact.

*STEP 5 - Mounting Style

0 - Mounting Hole, 0.120 [3.05] Ø.
02 - Mounting Hole, 0.154 [3.91] Ø.
F - Float Mounts, Universal.
S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length.
S5 - Swaged Locknut, 4-40 Threads.

STEP 9 - Special Options

Consult Sales Department.

STEP 8 - Shell Options

0 - Zinc Plated with Dichromate Seal.
S - Stainless Steel.
X - Tin Plated.
Z - Tin Plated and Dimpled.
C - Cadmium plated with Dichromate Seal.

*STEP 7 - Locking and Polarizing Systems

0 - None.
V3 - Lock Tab, connector front panel mounted.
V5 - Lock Tab, connector rear panel mounted.
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.
E6 - Rotating Male and Female Polarized Jackscrews.

*STEP 6 - Hoods

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 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 size 50 only.
W - Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

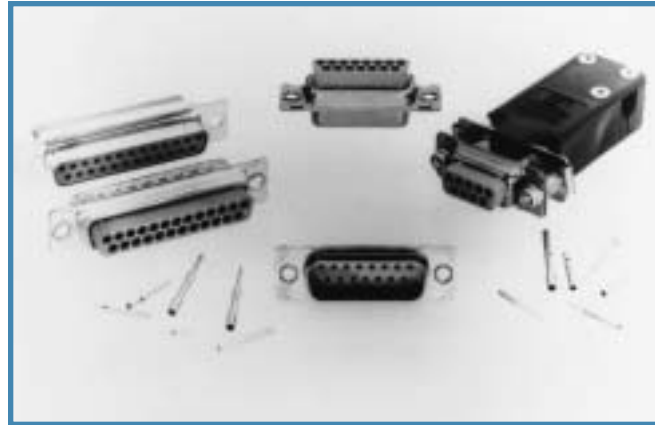
For RD crimping information,
see SD Series, p. 16 and 17.



Size 20 Signal and
Thermocouple Contacts,
Removable Crimp

Industrial Quality
Connectors

IEC Publication 807-3
Performance Level Two



ORD Series connectors are low cost, industrial/professional quality D-Subminiature connectors with closed barrel crimp removable contacts. ORD Series connectors are recommended for use in sheltered, mildly corrosive environments having a wide range of temperatures with normal ventilation where high performance is required.

ORD Series connectors utilize precision-machined contacts to provide durability. Female contacts feature the low cost, high performance Robi-D Open Entry design. ORD Series connectors meet the performance requirements of IEC 807-3, Performance Level Two. Closed entry female contacts are available upon request.

Six [6] standard contact variants are offered in arrangements of 9, 15, 25, 29, 37, and 50 contacts. ORD Series connectors are mateable and compatible with all D-Subminiature connectors conforming to MIL-DTL-24308, IEC 807-2, and IEC 807-3.

A wide assortment of cable support hoods and locking systems is available from stock.

ORD Series connectors also conform to EIA RS 232 and RS 449, and CCITTX.24 interface connection requirements.

ORD SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulators:	Glass filled DAP per ASTM-D-5948, SDG-F, UL 94V-0, green color.
Contacts:	Signal: Male contacts – precision machined brass. Female contacts – precision machined high tensile copper alloy with rugged “Robi-D Open Entry” design.
	Thermocouple: See page 41.
Contact Plating:	Industrial performance – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc plate with dichromate seal, or stainless steel, passivated. Other materials and finishes available upon request.
Mounting Spacers:	Brass, zinc plate with dichromate seal, or clear zinc plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.039 inch [1.0mm].
Working Voltage:	300 V r.m.s.

CLIMACTIC CHARACTERISTICS:

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

MECHANICAL CHARACTERISTICS:

Removable Contacts:	Insert contact to rear face of insulator and release from rear face of insulator. Size 20 male contact – 0.040 inch [1.02mm] diameter; Size 20 female contacts – Rugged “Robi-D Open Entry” design.
Contact Retention In Insulator:	9 lbs. [40 N].
Contact Terminations:	Closed barrel crimp, wire sizes 18 AWG [1.0mm ²] through 24 AWG [0.25mm ²].
Shells:	Tin-plated male shells may be dimpled for EMI/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	500 operations minimum per IEC 512-5 for “Robi-D” Open Entry” design.



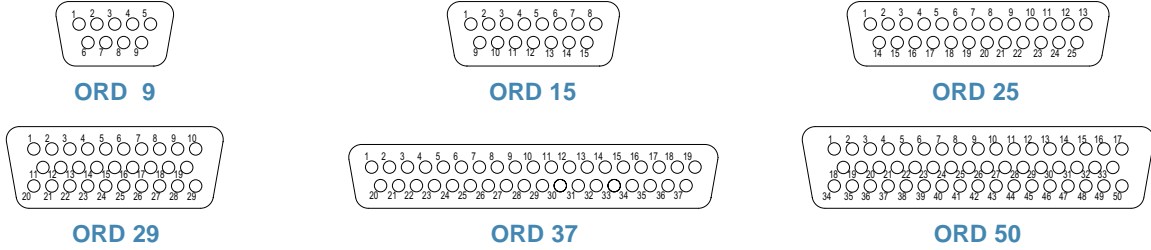
Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY,
CRIMP REMOVABLE CONTACT
SUBMINIATURE-D CONNECTORS

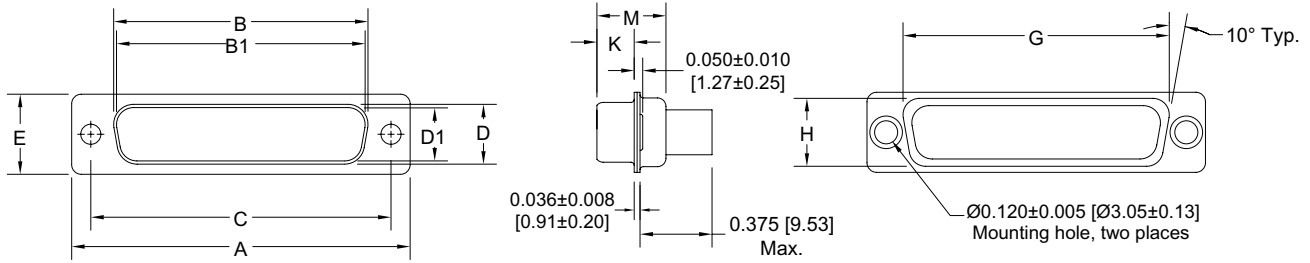
D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

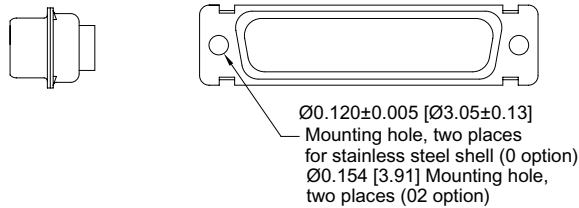
CONTACT VARIANTS
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



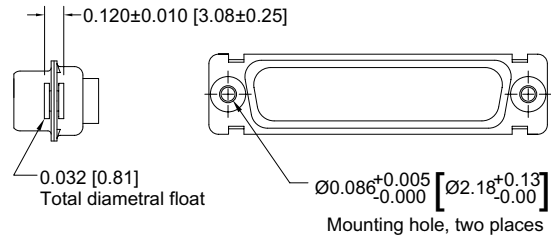
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY [0, 02]



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS [F]

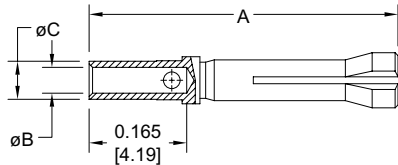


CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
ORD 9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
ORD 9 F	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]
ORD 15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
ORD 15 F	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]
ORD 25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
ORD 25 F	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]
ORD 29 M	1.770 [44.96]		1.274 [32.36]	1.534 [38.96]		0.450 [11.43]	0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.217 [5.51]	0.426 [10.82]
ORD 29 F	1.770 [44.96]	1.251 [31.78]		1.534 [38.96]	0.431 [10.95]		0.605 [15.37]	1.322 [33.58]	0.539 [13.69]	0.237 [6.02]	0.429 [10.90]
ORD 37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
ORD 37 F	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]
ORD 50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
ORD 50 F	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]



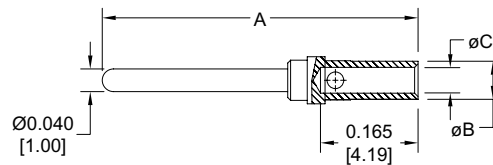
**CRIMP CONTACTS
CLOSED CRIMP BARREL**

**FEMALE CONTACT
RUGGED 'ROBI-D' OPEN ENTRY DESIGN**



Material – Phosphor bronze.
Plating – Gold flash over nickel.

MALE CONTACT



Material – Brass.
Plating – Gold flash over nickel.

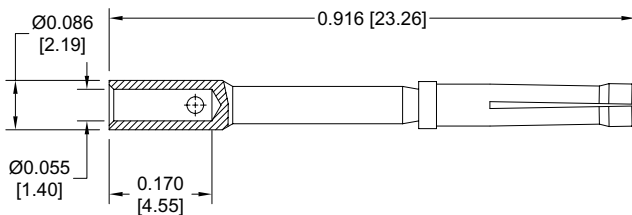
Thermocouple contacts are available.
See page 41.
Closed entry contacts are available.
See page 43.

PART NUMBER	WIRE SIZE	A	ϕB ± 0.005 [0.13]	ϕC ± 0.005 [0.13]
FC6120D	20 / 22 / 24 [0.5/0.3/0.25]	0.538 [13.67]	0.045 [1.14]	0.066 [1.68]
MC6020D	20 / 22 / 24 [0.5/0.3/0.25]	0.550 [13.97]	0.045 [1.14]	0.066 [1.68]

Additional plating options available by adding suffix to part number
add -14 for 0.000030 [0.76 microns] gold over nickel
Example: FC6120D-14
add -50 for 0.000050 [1.27 microns] gold over copper
Example: MC6018D-50

**CRIMP CONTACTS
18 AWG [1.0mm²]**

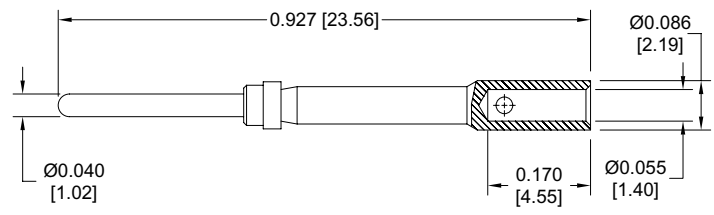
**FEMALE CONTACT
RUGGED 'ROBI-D' OPEN ENTRY DESIGN**



FC6118D

Material – Phosphor bronze.
Plating – Gold flash over nickel.

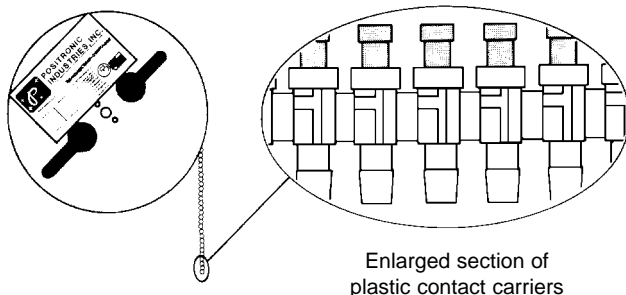
MALE CONTACT



MC6018D

Material – Brass.
Plating – Gold flash over nickel.

REELS FOR AUTOMATIC FEED PNEUMATIC CRIMP TOOLS



Enlarged section of plastic contact carriers

Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic feed pneumatic crimp tools, catalog part number 9550-1. The same type carrier is used for both male and female contacts.

All male and female crimp contacts can be ordered in reels by adding letter "R" after the contact part number, such as MC6020DR for a male contact and FC6120DR for a female contact.



Positronic Industries, Inc.
www.connectpositronic.com

**PROFESSIONAL QUALITY,
CRIMP REMOVABLE CONTACT
SUBMINIATURE-D CONNECTORS**

D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	ORD	15	M	1	0	H	0	0	

STEP 1 - Basic Series

ORD Series

STEP 2 - ORD Series Connector Variants

9, 15, 25, 29, 37, 50

STEP 3 - Connector Gender

M - Male
F - Female

STEP 4 - Type of Contacts

0 - Ordered Without Contacts.
1 - Crimp, 20 AWG–24 AWG [0.5mm²–0.25mm²].

***STEP 5 - Mounting Style**

0 - Mounting Hole, 0.120 [3.05] Ø.
02 - Mounting Hole, 0.154 [3.91] Ø.
F - Float Mounts, Universal.
S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length.
S5 - Swaged Locknut, 4-40 Threads.

STEP 9 - Special Options

Consult Sales Department.

STEP 8 - Shell Options

0 - Zinc Plated with Dichromate Seal.
S - Stainless Steel.
X - Tin Plated.
Z - Tin Plated and Dimpled.
C - Cadmium plated with Dichromate Seal.

***STEP 7 - Locking and Polarizing Systems**

0 - None.
V3 - Lock Tab, connector front panel mounted.
V5 - Lock Tab, connector rear panel mounted.
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.
E6 - Rotating Male and Female Polarized Jackscrews.

***STEP 6 - Hoods**

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 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.
W - Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**For ORD crimping information,
see SD Series, p. 16 and 17.
For ORD crimp tools,
see RD Series, p. 42.**



Size 20 Contacts, Fixed
Military/Industrial
Quality Connectors
IEC Publication 807-2
Performance Level One
MIL-DTL-24308

U.L. Recognized File #E49351
CSA Recognized File #LR54219
Telecommunication
U.L. File #14098



Harmo-D Series connectors are Military/Industrial quality rectangular connectors designed for use in sheltered, mildly corrosive environments having a wide range of temperature, pressure and humidity changes. These fixed contact connectors are qualified to MIL-DTL-24308 and meet the performance requirements of IEC 807-2, Performance Level One.

Harmo-D Series connectors utilize precision machined contacts which are fixed within the connector body. The female contact features a rugged, closed entry design contact with a stainless steel shroud.

Five standard connector variants are offered in arrangements of 9, 15,

25, 37 and 50 contacts. Each connector variant is available with contact terminations for solder cup, wrap post and straight and 90° printed board mount terminations with Inch and Metric footprints. Harmo-D Series connectors are mateable and compatible with all D-Subminiature connectors conforming to IEC 807-2 and MIL-DTL-24308.

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

Harmo-D Series connectors conform to EIA RS 232 and RS 449, and CCITT X.24 interface connection requirements.

HARMO-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled DAP per ASTM-D-5948, SDG-F, UL 94V-0, green color.
Contacts:	Male contacts – precision machined brass. Female contacts – precision machined high tensile phosphor bronze with stainless steel shroud.
Contact Plating:	Military performance – 0.000050 inch [1.27 microns] gold over copper plate. Industrial performance – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc and cadmium plate with dichromate seal, stainless steel, passivated. Other materials and finishes available upon request.
Mounting Spacers and Brackets:	Nylon plastic, or brass with tin plate; zinc plate with dichromate seal.
Push-On Fasteners:	Phosphor bronze or beryllium copper with tin plate.
Jackscrew Systems:	Steel with zinc plate and dichromate seal, or clear zinc plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and dichromate seal.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
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:	56 days.

MECHANICAL CHARACTERISTICS:

Fixed Contacts:	Size 20 contact, male contact – 0.040 inch [1.02mm] diameter. Female contact – closed entry design with stainless steel shroud.
Contact Retention In Insulator:	9 lbs. [40 N].
Resistance To Solder Iron Heat:	650°F [350°C] for 10 seconds duration per IEC 512-6.
Contact Terminations:	Solder cup contacts – 0.042 inch [1.06mm] minimum hole diameter in solder style contact for 20 AWG [0.5mm ²] wire maximum. Straight Printed Board Mount – 0.028 inch [0.71mm] diameter and 0.024 inch [0.61mm] diameter. 90° Printed Board Mount – 0.028 [0.71mm] diameter for Inch System footprint, and 0.024 [0.61mm] diameter for European Metric footprint. Wrap Post – 0.025 inch [0.64mm] square.
Shells:	Male shells may be dimpled for EM/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Mounting To Angle Brackets:	Jackscrews and riveted fasteners with 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 mounting posts.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	1000 operations minimum per IEC 512-5.



Positronic Industries, Inc.
www.connectpositronic.com

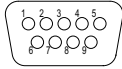
MILITARY QUALITY, FIXED CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

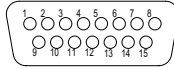
FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

CONTACT VARIANTS

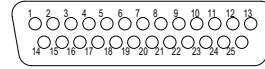
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



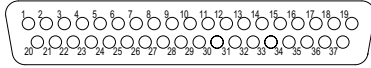
HDC 9



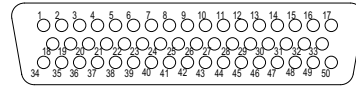
HDC 15



HDC 25

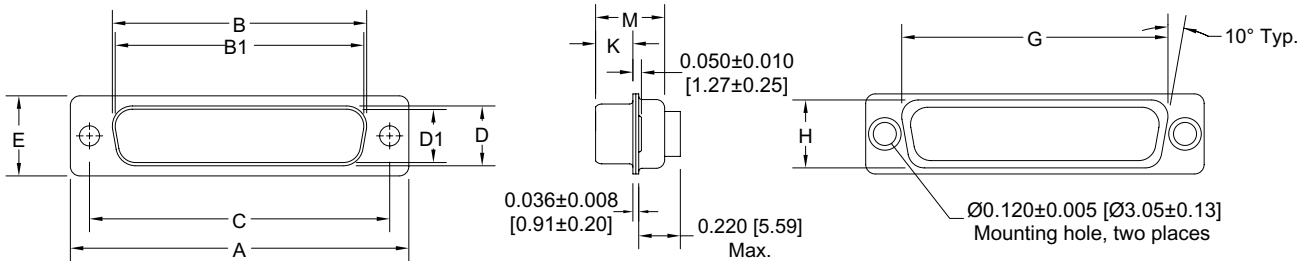


HDC 37

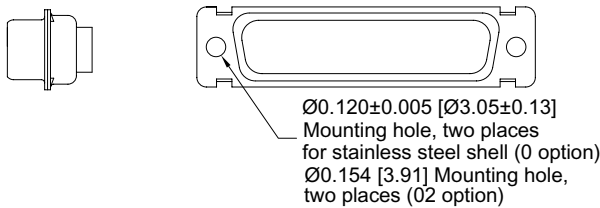


HDC 50

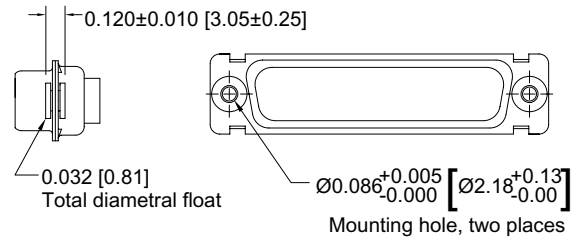
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY [0, 02]



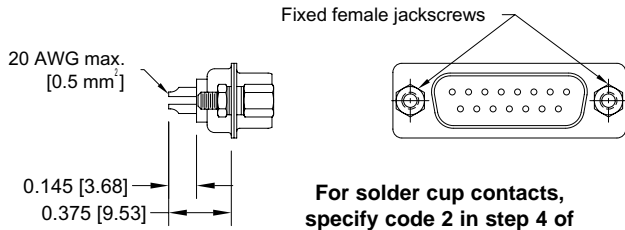
OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS [F]



CONNECTOR VARIANT SIZES	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 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]
HDC 9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
HDC 9 F	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]
HDC 15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
HDC 15 F	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]
HDC 25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
HDC 25 F	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]
HDC 37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
HDC 37 F	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]
HDC 50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
HDC 50 F	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]



SOLDER CUP CONNECTOR



For solder cup contacts, specify code 2 in step 4 of ordering information.

Typical Part Number: **HDC15M200T2Z**

Fixed female jackscrew
Fixed male jackscrew

Fixed male and female polarized jackscrews available. Specify code T6 in step 7 of ordering information.

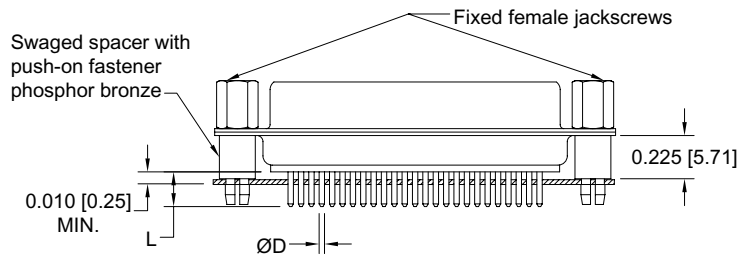
Typical Part Number: **HDC15M200T6Z**

HDC SERIES

STRAIGHT PRINTED BOARD MOUNT CONNECTOR

CODE NUMBER	L	ØD
3	0.170 [4.32]	0.028 [0.71]
32	0.375 [9.53]	0.028 [0.71]
36	0.236 [6.00]	0.024 [0.61]

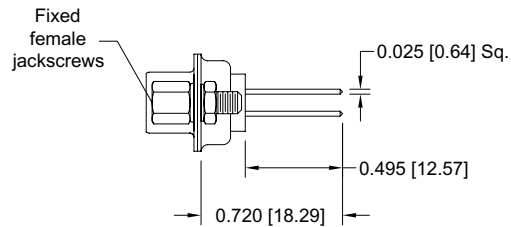
For straight printed board mount contacts, specify code no. in step 4 of ordering information.



Typical Part Number: **HDC25F3S60T0**

WRAP POST CONNECTOR

For wrap post contacts, specify code 6 in step 4 of ordering information.



Typical part number: **HDC15F600T0**



HDC25M6S50T0



Positronic Industries, Inc.
www.connectpositronic.com

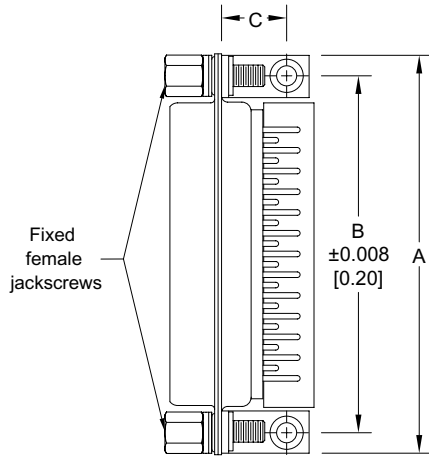
MILITARY QUALITY, FIXED CONTACT SUBMINIATURE-D CONNECTORS

D-Sub

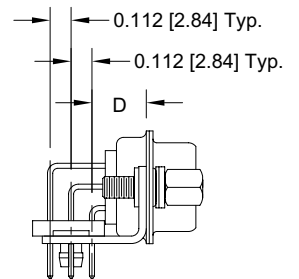
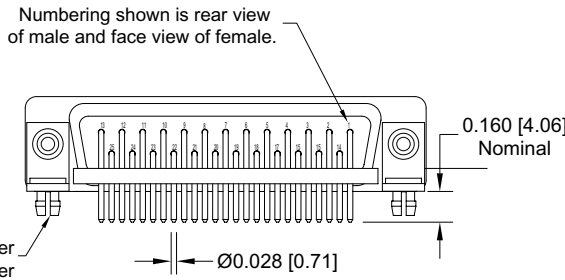
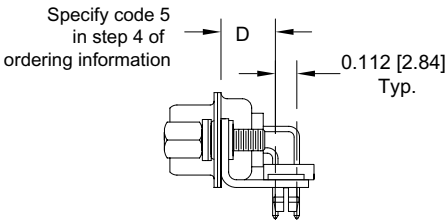
FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

90° PRINTED BOARD MOUNT CONNECTOR CODE 5, 0.283 [7.19] CONTACT EXTENSION

HDC SERIES



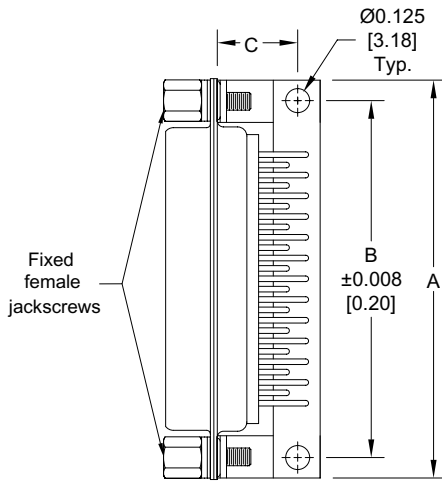
HDC**5B3*** 0.283 [7.19] CONTACT EXTENSION					
PART NUMBER	A	B	C	D	E
HDC9*5B3***	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]	0.112 [2.84]
HDC15*5B3***	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]	0.112 [2.84]
HDC25*5B3***	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]	0.112 [2.84]
HDC37*5B3***	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]	0.112 [2.84]
HDC50*5B3***	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.283 [7.19]	0.112 [2.84]



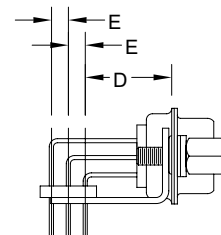
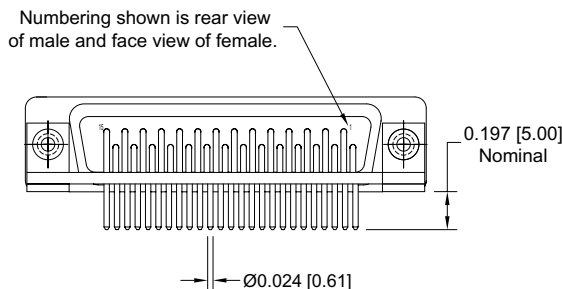
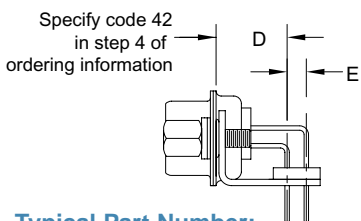
Typical Part Number:
HDC25M5R7NT2X

Typical Part Number:
HDC50F5R7NTX

90° PRINTED BOARD MOUNT CONNECTOR CODE 42, 0.370 [9.40] CONTACT EXTENSION



HDC**42B3*** 0.370 [9.40] CONTACT EXTENSION					
PART NUMBER	A	B	C	D	E
HDC9*42B3***	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]	0.100 [2.54]
HDC15*42B3***	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]	0.100 [2.54]
HDC25*42B3***	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]	0.100 [2.54]
HDC37*42B3***	2.720 [69.09]	2.500 [63.50]	0.420 [10.67]	0.370 [9.40]	0.100 [2.54]
HDC50*42B3***	2.626 [66.70]	2.406 [61.11]	0.470 [11.94]	0.370 [9.40]	0.100 [2.54]



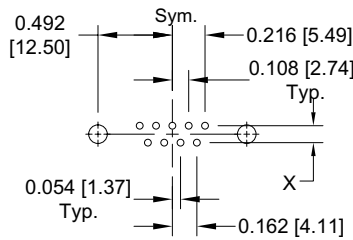
Typical Part Number:
HDC25M42B30T2X

Typical Part Number:
HDC50M42B30T2X

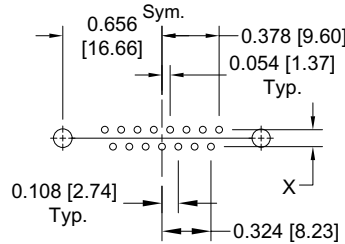


90° AND STRAIGHT PRINTED BOARD
CONTACT HOLE PATTERN

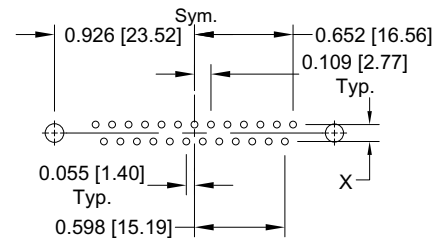
Hole identification shown for male connector, use mirror image for female connector.
Mount connector with mating face positioned to follow direction of arrows.



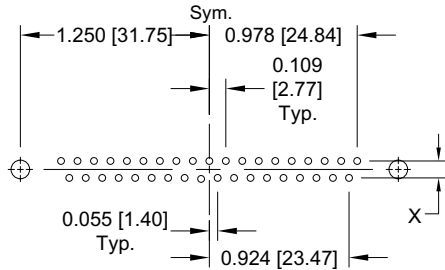
HDC 9



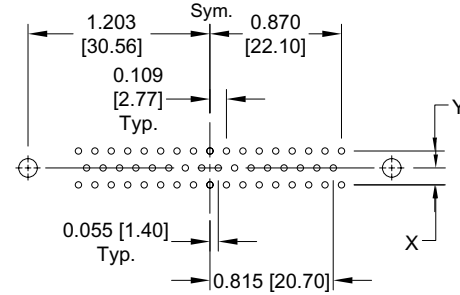
HDC 15



HDC 25



HDC 37



HDC 50

CODE NUMBER	X	Y
3	0.112 [2.84]	0.224 [5.69]
5	0.112 [2.84]	0.224 [5.69]
32	0.112 [2.84]	0.224 [5.69]
36	0.112 [2.84]	0.224 [5.69]
*42	0.100 [2.54]	0.200 [5.08]

*Metric system,
European contact hole pattern.

Suggest 0.039 [0.99] Ø hole for 0.024 [0.61] Ø contact termination positions.
Suggest 0.045 [1.14] Ø hole for 0.028 [0.71] Ø contact termination positions.
Suggest 0.123 ±0.003 [3.12 ±0.08] Ø hole for mounting connector with push-on fasteners.





Positronic Industries, Inc.
www.connectpositronic.com

MILITARY QUALITY, FIXED CONTACT SUBMINIATURE-D CONNECTORS

FOR MILITARY AND SEVERE INDUSTRIAL ENVIRONMENTAL APPLICATIONS

D-Sub

ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	HDC	37	F	5	B3	0	T	0	

STEP 1 - Basic Series

HDC Series

STEP 2 - HDC Series Connector Variants

9, 15, 25, 37, 50

STEP 3 - Connector Gender

M - Male
F - Female

STEP 4 - Type of Contacts

- 2 - Solder cup.
- 3 - Solder, Straight Printed Board Mount with 0.170 [4.32] Tail Length.
- 32 - Solder, Straight Printed Board Mount with 0.375 [9.52] Tail Length.
- 36 - Solder, Straight Printed Board Mount with 0.236 [5.99] Tail Length.
- 42 - Solder, Metric System 90° Printed Board Mount with 0.370 [9.40] Contact Extension.
- 5 - Solder, 90° Printed Board Mount with 0.283 [7.19] Contact Extension.
- 6 - Wrap Post.

*STEP 5 - Mounting Style

- 0 - Mounting Hole, 0.120 [3.05] Ø.
- 02 - Mounting Hole, 0.154 [3.91] Ø.
- B3 - Bracket, Mounting, 90° Metal with Cross Bar.
- B8 - Bracket, Mounting, 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.
- R2 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar.
- R6 - Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar.
- R7 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar.
- R8 - Bracket, Mounting, 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.

STEP 9 - Special Options

Consult Sales Department.

STEP 8 - Shell Options

- 0 - Zinc Plated with Dichromate Seal.
- S - Stainless Steel.
- X - Tin Plated.
- Z - Tin Plated and Dimpled.
- C - Cadmium plated with Dichromate Seal

*STEP 7 - Locking and Polarizing Systems

- 0 - None.
- V3 - Lock Tab, connector front panel mounted.
- V5 - Lock Tab, connector rear panel mounted.
- 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.
- E6 - Rotating Male and Female Polarized Jackscrews.

*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.
- H - Hood, Top Opening, Metal. Available in size 15, 25, 37 and 50 only.
- G - Hood, EMI/RFI, Metal.
- W - Hood, Top or Side Opening, Plastic. Available in size 9, 15, and 25 only.
- N - Push-on Fastener, for 90° Mounting Brackets.
- **F - Ferrite Inductor.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**Ferrite inductor is available on contact types 32, 36 and 6 only.

HDC SERIES



Size 20 Contacts,
Fixed
Machined Contact,
“Bi-Spring” or “Omega”
Compliant Termination
Repairable Contact

Professional Quality
IEC 807-2 & IEC 352-5

U.L. Recognized File #E49351 Telecommunication
U.L. File #140980



PCD Series connectors are professional quality rectangular connectors with compliant terminations. The low press-in force required to install the contacts into the board eliminates printed board pressure-warp and twisting stresses which can result in expensive repair or replacement of printed boards and back panels. Female connectors are available with closed entry contacts for high reliability applications.

These connectors were designed to allow removal and replacement of individual contacts damaged in manufacturing, testing, or field use without removing the connector from the board. The compliant section of the contact causes no damage or deformation of the plated-through-hole during installation or removal from the printed board. With a minimum axial push-out force of 5 lbs. [21 N], an individual contact may be removed from both the printed board and connector insulator. A virgin contact may then be pushed into the connector insulator and plated-through-hole, thereby accomplishing the repair of the connector with-

out the removal of the connector from the printed board.

Bi-Spring Compliant Contacts have press-in and push-out forces of 2 lbs [8.4 N] to 2.5 lbs [10.5 N]. The requirement for finished printed board hole diameter is 0.0394 inches [1.19 mm]. The compliant contact will permit up to three replacement operations.

Omega Compliant Contacts have press-in and push-out forces of 4 lbs [16.8 N] to 6 lbs [25.2 N]. The requirement for the finished printed board hole diameter is 0.0394 inches [1.00mm]. This contact style offers an economically priced connector with a finished hole diameter common to many press fit contacts.

Five standard connector variants are offered in arrangement of 9, 15, 25, 37, and 50 contacts. PCD connectors are mateable and compatible with all D-Subminiature connectors conforming to IEC 807-2, IEC 807-3, and dimensional requirements of MIL-DTL-24308.

COMPLIANT PRESS-D CONNECTOR TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled polyester per MIL-M-24519, U.L. 94V-0, blue color.
Contacts:	Male and female contacts are precision machined—high tensile phosphor bronze.
Contact Plating:	Professional performance - Gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate or zinc plate with dichromate seal. Other materials and finishes available upon request.
Mounting Spacers and Brackets:	Brass with tin plate; zinc plate with dichromate seal.
Jackscrew System:	Steel; zinc plate with dichromate seal.
Vibration Lock Systems:	Lock tabs, nickel plated steel.

ELECTRICAL CHARACTERISTICS OF COMPLIANT CONNECTION TO PLATED-THROUGH-HOLE OF PRINTED BOARD:

Initial Contact Resistance of Connection:	Less than 0.001 ohms per IEC 512-2, Test 2a.
Change in Contact Resistance of Connection after Mechanical, Electrical or Climatic Conditioning:	Less than 0.001 ohms increase per IEC 512-2, Test 2a.
Gas-tight Connections Test:	Less than 0.001 ohms increase in contact resistance after 1 hour per EIA 364, TP36, Method One.

ELECTRICAL CHARACTERISTICS OF CONNECTOR:

Contact Current Rating:	7.5 amperes, nominal.
Initial Contact Resistance:	0.008 ohms maximum per IEC 512-2, Test 2a.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.039 inch [1.0mm].
Working Voltage:	300 V.

CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
---------------------------	------------------

MECHANICAL CHARACTERISTICS:

Repairable Contacts	
Solid Metal Construction:	Size 20 contact male – 0.040 inch [1.02mm] diameter; female contact – rugged open-entry design or closed entry design.
Contact Retention In Insulator:	5 lbs. [21 N] minimum.
Compliant Termination Bi-Spring Construction:	0.053 inch [1.35mm] diameter with 0.034 inch [0.86mm] lead-in diameter. Offered with three termination lengths for 0.063 inch [1.60mm] 0.093 inch [2.36mm] 0.125 [3.18mm] thick printed boards or back planes.
Press-In Force of Contact into plated-through-hole of 0.125 inch [3.18mm] printed board:	2.5 lbs. [10.5 N].
Push-Out Force of Contact from plated-through-hole of 0.125 inch [3.18mm] printed board:	2 lbs. [8.4 N].
Compliant Termination Omega Construction:	0.047 inch [1.18mm] diameter with 0.022 inch [0.56mm] lead-in diameter. A single termination length accommodates any thickness printed board or backplane.
Press-In Force of Contact into plated-through-hole of 0.125 inch [3.18mm] printed board:	4 lbs. [16.8 N].
Push-Out Force of Contact from plated-through-hole of 0.125 inch [3.18mm] printed board:	6 lbs. [25.2 N].
Vibration Test per MIL-STD 1344, Method 2005, Test Conditioning:	No electrical discontinuity of 1 μ s or greater.
Connector Polarization:	Trapezoidal shaped shells and polarized jackscrews.
Locking System:	Jackscrews and vibration locking systems.
Mechanical Operations:	500 operations per IEC 512-5.



Positronic Industries, Inc.
www.connectpositronic.com

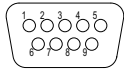
PROFESSIONAL QUALITY, STANDARD DENSITY, COMPLIANT TERMINATION REPAIRABLE CONTACT, PRESS-FIT SUBMINIATURE-D CONNECTORS

D-Sub

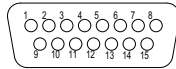
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

PCD CONTACT VARIANTS

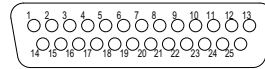
FACE VIEW OF MALE CONNECTOR OR REAR VIEW OF FEMALE CONNECTOR



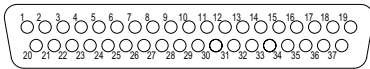
PCD 9



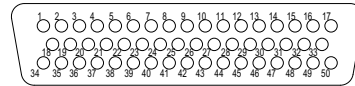
PCD 15



PCD 25

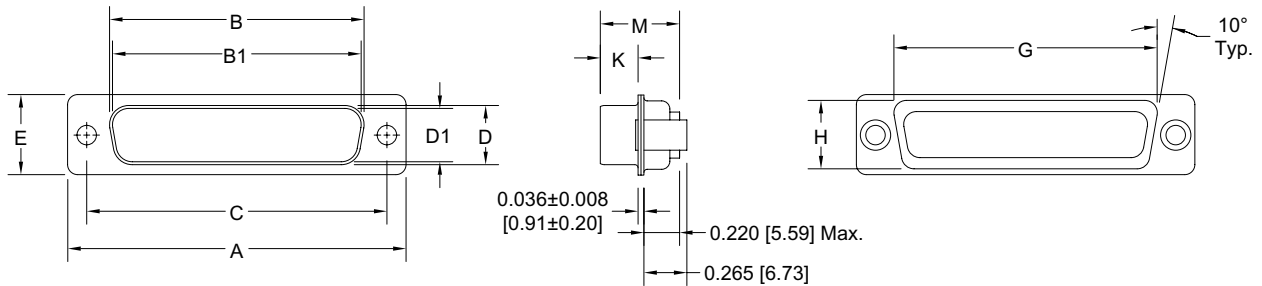


PCD 37



PCD 50

STANDARD SHELL ASSEMBLY



CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±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]
PCD 9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
PCD 9 F	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]
PCD 15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
PCD 15 F	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]
PCD 25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
PCD 25 F	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]
PCD 37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
PCD 37 F	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]
PCD 50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
PCD 50 F	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]

“Bi-Spring” Compliant Termination

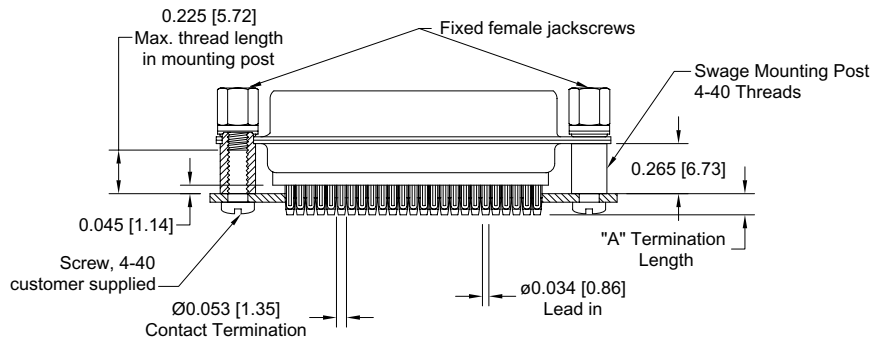


“Omega” Compliant Termination

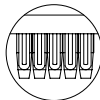




BI-SPRING COMPLIANT PRESS-FIT CONNECTOR



Typical Part Number: **PCD25F9S0T20**



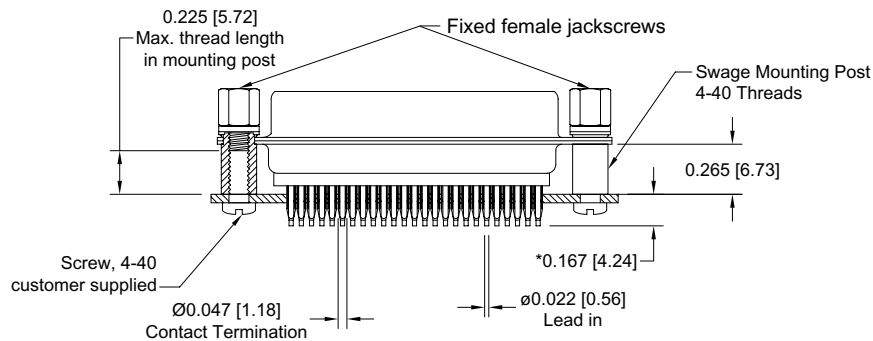
Detail of Bi-Spring contacts

For "Bi-Spring" Press-Fit contacts, specify code 9, 92 or 93 in step 4 of ordering information.

*CONTACT TERMINATION LENGTH

BOARD THICKNESS	A	CONTACT TYPE
0.063 [1.60]	0.153 [3.89]	9
0.093 [2.36]	0.183 [4.65]	92
0.125 [3.18]	0.218 [5.54]	93

OMEGA COMPLIANT PRESS-FIT CONNECTOR



Typical Part Number: **PCD25F98S0T20**



Detail of Omega contacts

For "Omega" Press-Fit contacts, specify code 98 in step 4 of ordering information.

*The effective length of the compliant section may also be varied [longer or shorter] and can be selectively positioned and centered at several points along the contact termination length, permitting high or low profile mounting of the connector on printed boards.



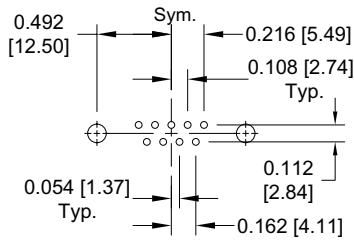
Positronic Industries, Inc.
www.connectpositronic.com

**PROFESSIONAL QUALITY,
STANDARD DENSITY, COMPLIANT TERMINATION
REPAIRABLE CONTACT, PRESS-FIT
SUBMINIATURE-D CONNECTORS**

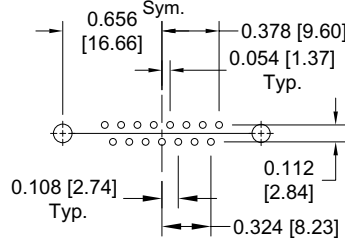
D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

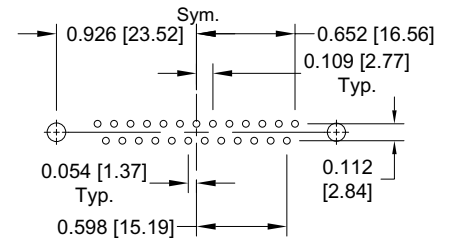
**COMPLIANT PRESS-FIT CONNECTOR PRINTED BOARD
CONTACT HOLE PATTERN**



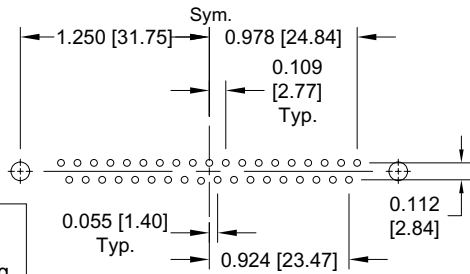
PCD 9



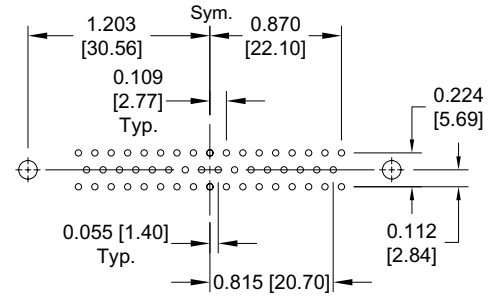
PCD 15



PCD 25



PCD 37



PCD 50

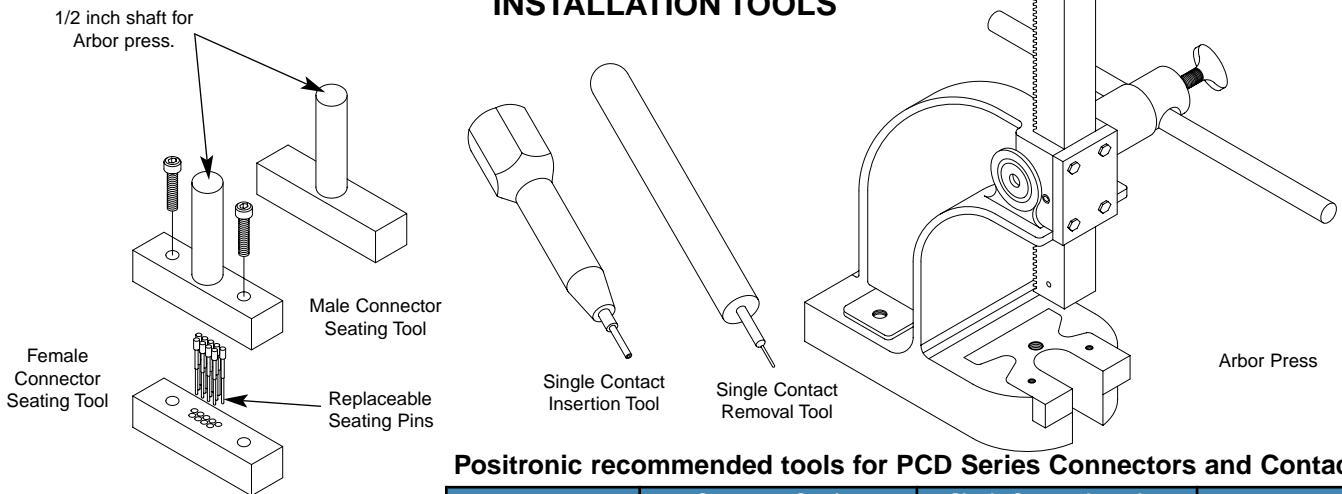
Suggest
0.120 [3.05]Ø
hole for mounting
connector

For Bi-Spring contact terminations: Suggest hole with 0.0001 [0.003] minimum solder over 0.001 [0.03] minimum copper plate. Final hole size is $\varnothing 0.047 \pm 0.002$ [1.19 ± 0.05].

For Omega contact terminations: Suggest $\varnothing 0.0453 \pm 0.0010$ [1.150 ± 0.025] hole with 0.0005 [0.013] minimum tin or tin/lead over 0.001 [0.03] minimum copper plate. Final hole size is $\varnothing 0.0394 + 0.0035 - 0.0024$ [1.000 + 0.090 - 0.060].

Note: For other PCB plating compositions, i.e. ENIG, (Electroless Nickel, Immersion Gold), consult Technical Sales.

**PCD SERIES PRESS-FIT CONNECTORS
INSTALLATION TOOLS**



Positronic recommended tools for PCD Series Connectors and Contacts

Series	Connector Seating		Single Contact Insertion		Single Contact Removal
	Male	Female	Male	Female	
PCD 9	9512-1-0-41	9512-6-0-41	9512-100-0 FOR ALL SIZES	9512-101-0 FOR ALL SIZES	9512-102-0 FOR ALL SIZES
PCD 15	9512-2-0-41	9512-7-0-41			
PCD 25	9512-3-0-41	9512-8-0-41			
PCD 37	9512-4-0-41	9512-9-0-41			
PCD 50	9512-5-0-41	9512-10-0-41			
Arbor press for connector seating tools-9530-1-0			1 ton capacity	4 inch throat	
Replacement pins for connector seating tools.			Female - 855-658-0-41		



ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert “0” When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	PCD	25	M	9	S	0	T2	X	
STEP 1 - Basic Series PCD Series									STEP 9 - Special Options Consult Sales Department.
STEP 2 - PCD Series Connector Variants 9, 15, 25, 37, 50									STEP 8 - Shell Options 0 - Zinc Plated with Dichromate Seal. X - Tin Plated. Z - Tin Plated and Dimpled.
STEP 3 - Connector Gender M - Male F - Female FC - Female, Closed Entry									STEP 7 - Locking and Polarizing Systems 0 - None. V3 - Lock Tab. T6 - Fixed Male and Female Polarized Jackscrews. T2 - Fixed Female Jackscrews, 4-40 Thread. Note: These options must be ordered with connector and cannot be ordered separately.
STEP 4 - Type of Contacts – Compliant Press-Fit 9 - Bi-Spring type compliant, termination length 0.153 [3.89]. 92 - Bi-Spring type compliant, termination length 0.183 [4.65]. 93 - Bi-Spring type compliant, termination length 0.218 [5.54]. 98 - Omega type compliant.									STEP 6 - Hoods 0 - None
STEP 5 - Mounting Style S - Swaged Mounting Post 4-40 Threads 0.265 [6,73] Length.									

PCD SERIES

REPLACEMENT CONTACTS PART NUMBERS

CODE	MALE	OPEN ENTRY FEMALE	CLOSED ENTRY FEMALE
9	4305-13-1-*	4306-14-1-*	4306-139-1-*
92	4305-13-2-*	4306-14-2-*	4306-139-2-*
93	4305-13-3-*	4306-14-3-*	4306-139-3-*
98	4305-15-0-*	4306-17-0-*	4306-189-0-*

* - PLATING OPTIONS FOR REPLACEMENT CONTACTS
 -14 GOLD 0.000030 [0.76 MICRONS] OVER NICKEL PLATE
 -51 GOLD FLASH OVER NICKEL PLATE



Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, HIGH DENSITY COMPLIANT TERMINATION REPAIRABLE CONTACT, PRESS-FIT SUBMINIATURE-D CONNECTORS

D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

Size 22 Contacts Fixed Machined Contact, “Omega” Compliant Termination Repairable Contact

Professional Quality
IEC 807-2 & IEC 352-5

U.L. Recognized
File #E49351

Telecommunication
U.L. File #140980



PCDD Series connectors are professional quality rectangular connectors with compliant termination repairable contacts. The low press-in force required to install the contacts into the board eliminates printed board pressure-warp and twisting stresses which can result in expensive repair or replacement of printed boards and back panels. Female connectors are available with closed entry contacts for high reliability applications.

These connectors were designed to allow removal and replacement of individual contacts damaged in manufacturing, testing, or field use without removing the connector from the board. The compliant section of the contact causes no damage or deformation of the plated-through-hole during installation or removal from the printed board. With a minimum axial push-out force of 5 lbs [21 N], an individual contact may be

removed from both the printed board and connector insulator and plated-through-hole, thereby accomplishing the repair of the connector without the removal of the connector from the printed board.

Omega Compliant Contacts have press-in and push-out forces of 4 lbs [16.8 N] to 6 lbs [25.2 N]. The requirement for the finished printed board hole diameter is 0.0394 inch [1.00 mm]. This contact style offers an economically priced connector with a finished hole diameter common to many press fit contacts.

Six standard connector variants are offered in arrangements of 15, 26, 44, 62, 72, and 104 contacts. PCDD connectors are mateable and compatible with all Subminiature-D connectors conforming to dimensional requirements of MIL-DTL-24308.

COMPLIANT PRESS-D CONNECTOR TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled polyester per MIL-M-24519, U.L. 94V-0, blue color.
Contacts:	Male and female contacts are precision machined—high tensile phosphor bronze.
Contact Plating:	Professional performance - Gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate or zinc plate with dichromate seal. Other materials and finishes available upon request.
Mounting Spacers and Brackets:	Brass with tin plate; zinc plate with dichromate seal.
Jackscrew System:	Steel; zinc plate with dichromate seal.
Vibration Lock Systems:	Lock tabs, nickel plated steel.

ELECTRICAL CHARACTERISTICS OF COMPLIANT CONNECTION TO PLATED-THROUGH-HOLE OF PRINTED BOARD:

Initial Contact Resistance of Connection:	Less than 0.001 ohms per IEC 512-2, Test 2a.
Change in Contact Resistance of Connection after Mechanical, Electrical or Climatic Conditioning:	Less than 0.001 ohms increase per IEC 512-2, Test 2a.
Gas-tight Connections Test:	Less than 0.001 ohms increase in contact resistance after 1 hour per EIA 364, TP36, Method One.

ELECTRICAL CHARACTERISTICS OF CONNECTOR:

Contact Current Rating:	5 amperes, nominal.
Initial Contact Resistance:	0.010 ohms maximum per IEC 512-2, Test 2a.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.042 inch [1.02 mm].
Working Voltage:	300 V.

MECHANICAL CHARACTERISTICS:

Repairable Contacts	
Solid Metal Construction:	Size 22 contact male – 0.030 inch [0.76 mm] diameter; female contact – rugged open-entry design or closed entry design.
Contact Retention In Insulator:	5 lbs. [21 N] minimum.

Compliant Termination	
Omega Construction:	0.047 inch [1.18mm] diameter with 0.022 inch [0.56mm] lead-in diameter. A single termination length accommodates any thickness printed board or backplane.

Press-In Force of Contact into plated-through-hole of 0.125 inch [3.18mm] printed board:	4 lbs. [16.8 N].
---	------------------

Push-Out Force of Contact from plated-through-hole of 0.125 inch [3.18mm] printed board:	6 lbs. [25.2 N].
---	------------------

Vibration Test per MIL-STD 1344, Method 2005, Test Conditioning:	No electrical discontinuity of 1 μ s or greater.
Connector Polarization:	Trapezoidal shaped shells and polarized jackscrews.

Locking System:	Jackscrews and vibration locking systems.
Mechanical Operations:	500 operations per IEC 512-5.

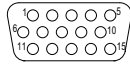
CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
---------------------------	------------------

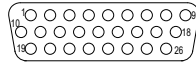
PCDD SERIES



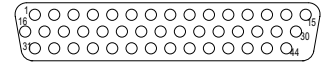
PCDD CONTACT VARIANTS
FACE VIEW OF MALE AND REAR VIEW OF FEMALE



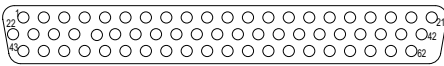
PCDD 15



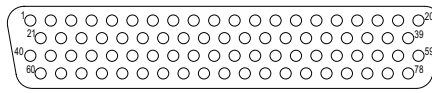
PCDD 26



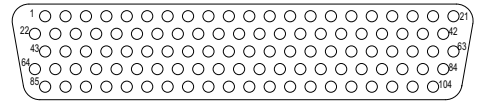
PCDD 44



PCDD 62

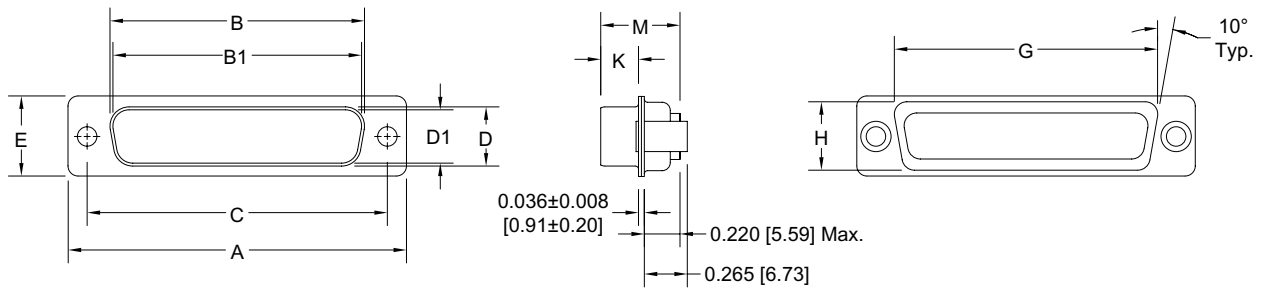


PCDD 78

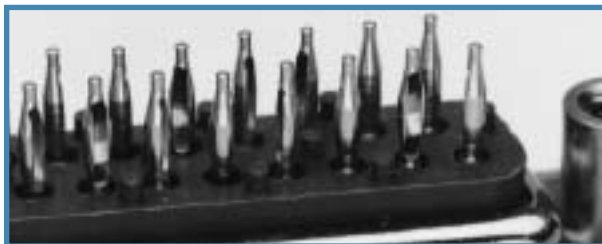


PCDD 104

STANDARD SHELL ASSEMBLY



CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±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]
PCDD 15 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
PCDD 15 F	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]
PCDD 26 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
PCDD 26 F	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]
PCDD 44 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
PCDD 44 F	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]
PCDD 62 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
PCDD 62 F	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]
PCDD 78 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
PCDD 78 F	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]
PCDD 104 M	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
PCDD 104 F	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]



“Omega” Compliant Termination



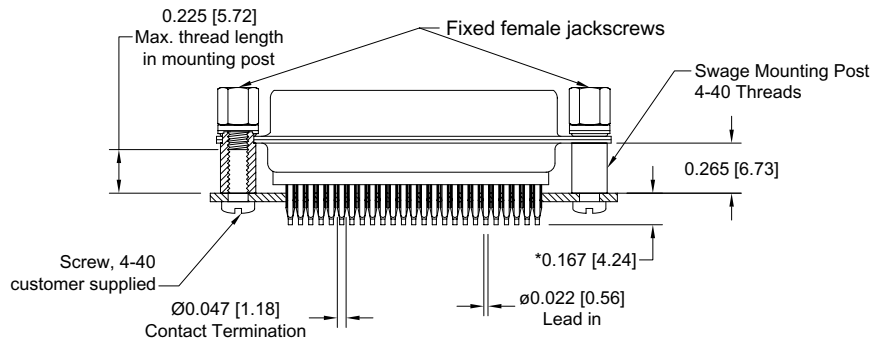
Positronic Industries, Inc.
www.connectpositronic.com

PROFESSIONAL QUALITY, HIGH DENSITY COMPLIANT TERMINATION REPAIRABLE CONTACT, PRESS-FIT SUBMINIATURE-D CONNECTORS

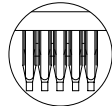
D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

OMEGA COMPLIANT PRESS-FIT CONNECTOR



Typical Part Number: **PCDD44F98S0T20**

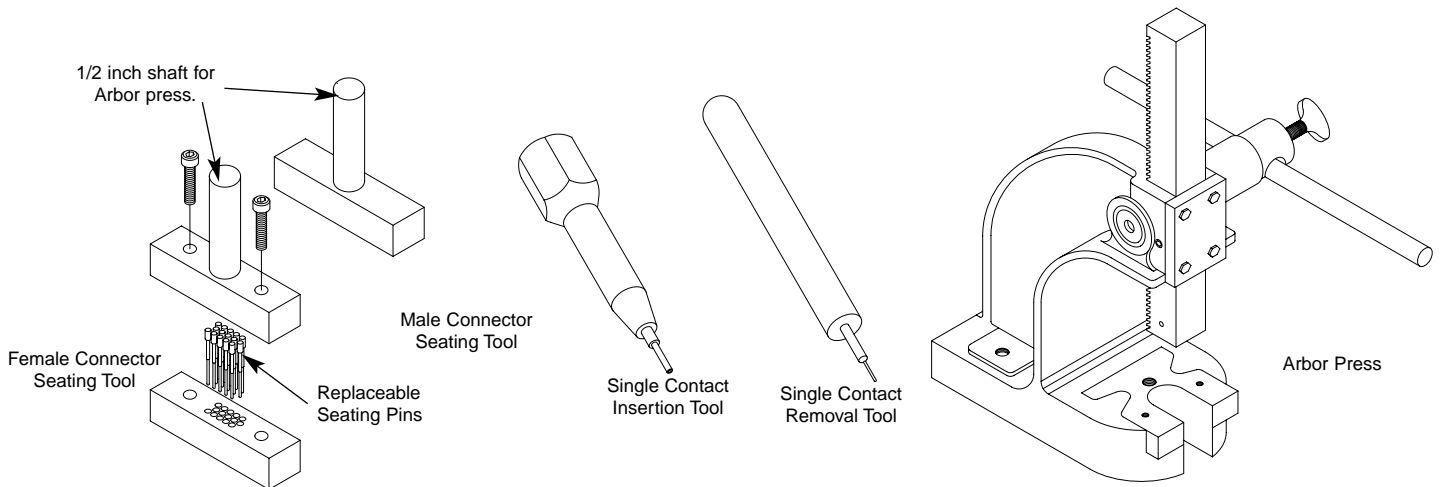


Detail of Omega contacts

For "Omega" Press-Fit contacts, specify code 98 in step 4 of ordering information.

*The effective length of the compliant section may also be varied [longer or shorter] and can be selectively positioned and centered at several points along the contact termination length, permitting high or low profile mounting of the connector on printed boards.

PCDD SERIES PRESS-FIT CONNECTORS INSTALLATION TOOLS



Positronic recommended tools for PCDD Series Connectors and Contacts

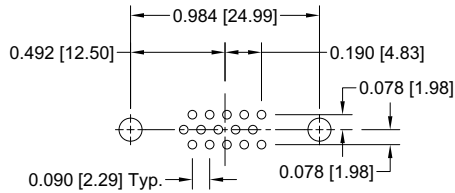
Series	Connector Seating		Single Contact Insertion		Single Contact Removal
	Male	Female	Male	Female	
PCDD 15	9512-1-0-41	9512-11-0-41	9512-103-0 FOR ALL SIZE	9512-104-0 FOR ALL SIZE	9512-105-0 FOR ALL SIZE
PCDD 26	9512-2-0-41	9512-12-0-41			
PCDD 44	9512-3-0-41	9512-13-0-41			
PCDD 62	9512-4-0-41	9512-14-0-41			
PCDD 78	9512-5-0-41	9512-15-0-41			
PCDD 104	9512-16-0-41	9512-17-0-41			
Arbor press for connector seating tools-9530-1-0			1 ton capacity		4 inch throat
Replacement pins for connector seating tools,			Female - 855-751-0-41		

61 DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

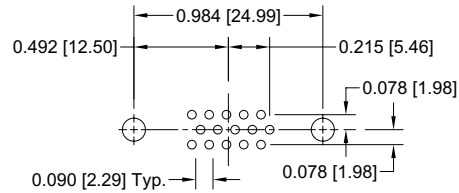


COMPLIANT PRESS-FIT CONNECTOR PRINTED BOARD
CONTACT HOLE PATTERN

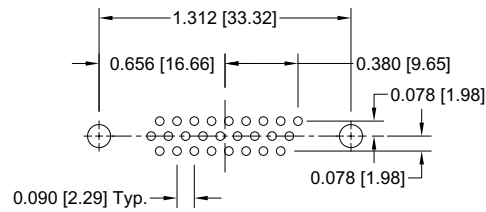
PCDD 15 MALE



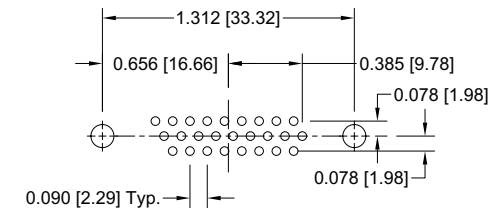
PCDD 15 FEMALE



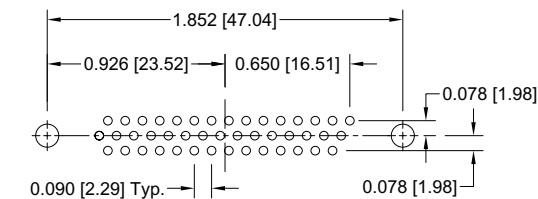
PCDD 26 MALE



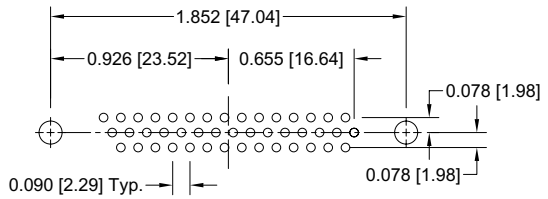
PCDD 26 FEMALE



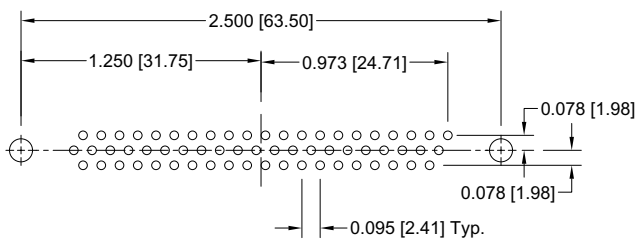
PCDD 44 MALE



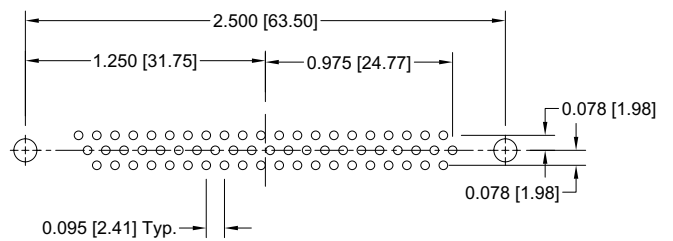
PCDD 44 FEMALE



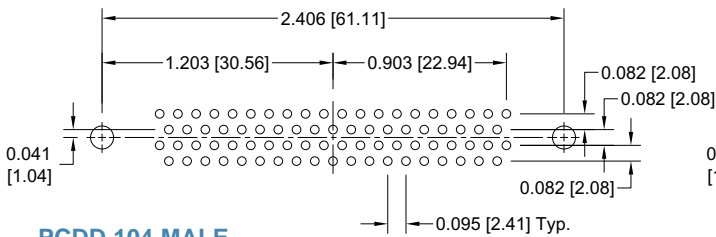
PCDD 62 MALE



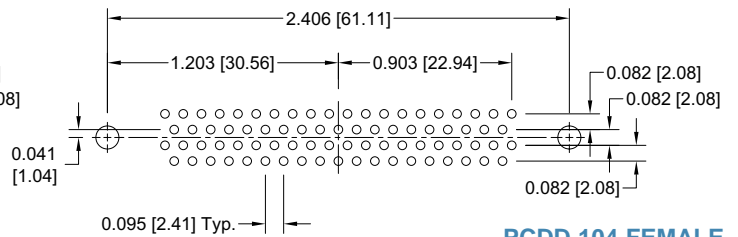
PCDD 62 FEMALE



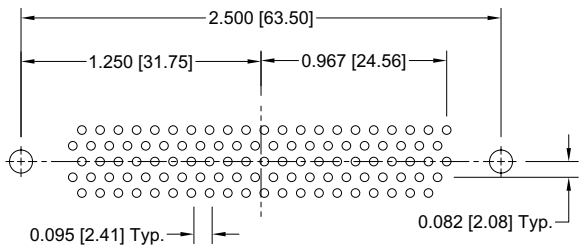
PCDD 78 MALE



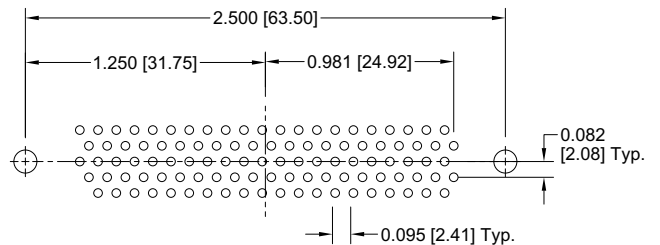
PCDD 78 FEMALE



PCDD 104 MALE



PCDD 104 FEMALE



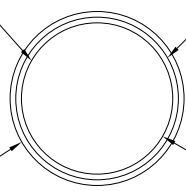
CONTACT HOLE DIAMETERS

0.0005 [15µ] Minimum
Tin or Tin-Lead
Plate Thickness

0.0010 [25µ] Minimum
Copper Plate Thickness

Ø0.0453±0.0010
[1.150±0.025]
Drilled Hole

Ø0.0394+0.0035-0.0024
[1.000+0.090-0.060]
Finished Hole



Note: For other PCB plating compositions, i.e. ENIG, (Electroless Nickel, Immersion Gold), consult Technical Sales.

DIMENSIONS ARE IN INCHES [MILLIMETERS]. ALL DIMENSIONS ARE SUBJECT TO CHANGE.



Positronic Industries, Inc.
www.connectpositronic.com

**PROFESSIONAL QUALITY,
HIGH DENSITY COMPLIANT TERMINATION
REPAIRABLE CONTACT, PRESS-FIT
SUBMINIATURE-D CONNECTORS**

D-Sub

FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8	9
	PCDD	26	M	98	S	0	T2	X	

STEP 1 - Basic Series
PCDD Series

STEP 2 - PCDD Series Connector Variants
15, 26, 44, 62, 78, 104

STEP 3 - Connector Gender
M - Male
F - Female
FC - Female, Closed Entry

STEP 4 - Type of Contacts
98 - Omega type compliant.

STEP 5 - Mounting Style
S - Swaged Mounting Post 4-40 Threads
0.265 [6,73] Length.

STEP 9 - Special Options
Consult Sales Department.

STEP 8 - Shell Options
0 - Zinc Plated with Dichromate Seal.
X - Tin Plated.
Z - Tin Plated and Dimpled.

STEP 7 - Locking and Polarizing Systems
0 - None.
V3 - Lock Tab.
T6 - Fixed Male and Female Polarized Jackscrews.
T2 - Fixed Female Jackscrews, 4-40 Thread.
Note: These options must be ordered with connector and cannot be ordered separately.

STEP 6 - Hoods
0 - None

PCDD SERIES

REPLACEMENT CONTACTS PART NUMBERS

MALE	OPEN ENTRY FEMALE	CLOSED ENTRY FEMALE
4803-21-0-*	4804-25-0-*	4804-249-0-*

* - PLATING OPTIONS FOR REPLACEMENT CONTACTS
-14 GOLD 0.000030 [0.76 MICRONS] OVER NICKEL PLATE
-51 GOLD FLASH OVER NICKEL PLATE



*NOTE: Parts are to be ordered to the military number,
the Positronic part number is for reference only.

Positronic Industries, Inc.
www.connectpositronic.com

Positronic HDC Series connectors are Q.P.L. approved to MIL-DTL-24308 per test report number 24308-618-79/24308-1210-85.
Positronic RD Series hoods are Q.P.L. approved to MIL-C-85049 per test report number 85049-870-84.
Positronic DD Series connectors are Q.P.L. approved to MIL-DTL-24308 per test report number 24308-1209-85/24308-1210-85/24308-117-89.
Positronic RD Series connectors are Q.P.L. approved to MIL-DTL-24308 per test report number 24308-211-79/24308-1210-85.
Positronic RD Series contacts are Q.P.L. approved to MIL-C-39029 per test report number 39029-694-79.

Table with 8 columns: MILITARY PART NUMBER, REFERENCE NUMBER*, MILITARY PART NUMBER, REFERENCE NUMBER*, MILITARY PART NUMBER, REFERENCE NUMBER*, MILITARY PART NUMBER, REFERENCE NUMBER*. It lists various connector models and their corresponding military and reference numbers.



Positronic Industries, Inc.
www.connectpositronic.com

MIL-DTL-24308 / MIL-C-39029 / MIL-C-85049 QUALIFIED PRODUCTS LISTING

D-Sub

***NOTE:** Parts are to be ordered to the military number, the Positronic part number is for reference only.

Positronic HDC Series connectors are Q.P.L. approved to MIL-DTL-24308 per test report number 24308-618-79/24308-1210-85.
Positronic RD Series hoods are Q.P.L. approved to MIL-C-85049 per test report number 85049-870-84.
Positronic DD Series connectors are Q.P.L. approved to MIL-DTL-24308 per test report number 24308-1209-85/24308-1210-85/24308-117-89.
Positronic RD Series connectors are Q.P.L. approved to MIL-DTL-24308 per test report number 24308-211-79/24308-1210-85.
Positronic RD Series contacts are Q.P.L. approved to MIL-C-39029 per test report number 39029-694-79.

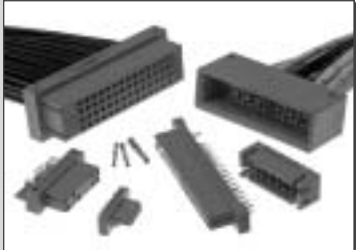
MILITARY PART NUMBER	REFERENCE NUMBER*	MILITARY PART NUMBER	REFERENCE NUMBER*	MILITARY PART NUMBER	REFERENCE NUMBER*	MILITARY PART NUMBER	REFERENCE NUMBER*
M24308/24-164	DD62M3P000-50-403.27	M24308/24-273	DD15M4B8000-50-403.0				
M24308/24-264	DD62M3P000-50-403.0	M24308/24-273F	DD15M4B800C-50-403.0				
M24308/24-264F	DD62M3P00C-50-403.0	M24308/24-273P	DD15M4B800S-50				
M24308/24-264P	DD62M3P00S-50	M24308/24-373	DD15M4B8000-50-799.12				
M24308/24-364	DD62M3P000-50-799.7	M24308/24-74	DD26M4B8000-50				
M24308/24-65	DD78M3P000-50	M24308/24-74F	DD26M4B800C-50				
M24308/24-65F	DD78M3P00C-50	M24308/24-74P	DD26M4B800S-50				
M24308/24-65P	DD78M3P00S-50	M24308/24-174	DD26M4B8000-50-403.36				
M24308/24-165	DD78M3P000-50-403.27	M24308/24-274	DD26M4B8000-50-403.0				
M24308/24-265	DD78M3P000-50-403.0	M24308/24-274F	DD26M4B800C-50-403.0				
M24308/24-265F	DD78M3P00C-50-403.0	M24308/24-274P	DD26M4B800S-50				
M24308/24-265P	DD78M3P00S-50	M24308/24-374	DD26M4B8000-50-799.12				
M24308/24-365	DD78M3P000-50-799.7	M24308/24-75	DD44M4B8000-50				
M24308/24-67	DD15M32P000-50	M24308/24-75F	DD44M4B800C-50				
M24308/24-67F	DD15M32P00C-50	M24308/24-75P	DD44M4B800S-50				
M24308/24-67P	DD15M32P00S-50	M24308/24-175	DD44M4B8000-50-403.36				
M24308/24-167	DD15M32P000-50-403.27	M24308/24-275	DD44M4B8000-50-403.0				
M24308/24-267	DD15M32P000-50-403.0	M24308/24-275F	DD44M4B800C-50-403.0				
M24308/24-267F	DD15M32P00C-50-403.0	M24308/24-275P	DD44M4B800S-50				
M24308/24-267P	DD15M32P00S-50	M24308/24-375	DD44M4B8000-50-799.12				
M24308/24-367	DD15M32P000-50-799.7	M24308/24-76	DD62M4B8000-50				
M24308/24-68	DD26M32P000-50	M24308/24-76F	DD62M4B800C-50				
M24308/24-68F	DD26M32P00C-50	M24308/24-76P	DD62M4B800S-50				
M24308/24-68P	DD26M32P00S-50	M24308/24-176	DD62M4B8000-50-403.36				
M24308/24-168	DD26M32P000-50-403.27	M24308/24-276	DD62M4B8000-50-403.0				
M24308/24-268	DD26M32P000-50-403.0	M24308/24-276F	DD62M4B800C-50-403.0				
M24308/24-268F	DD26M32P00C-50-403.0	M24308/24-276P	DD62M4B800S-50				
M24308/24-268P	DD26M32P00S-50	M24308/24-376	DD62M4B8000-50-799.12				
M24308/24-368	DD26M32P000-50-799.7	M24308/24-77	DD78M4B8000-50				
M24308/24-69	DD44M32P000-50	M24308/24-77F	DD78M4B800C-50				
M24308/24-69F	DD44M32P00C-50	M24308/24-77P	DD78M4B800S-50				
M24308/24-69P	DD44M32P00S-50	M24308/24-177	DD78M4B8000-50-403.36				
M24308/24-169	DD44M32P000-50-403.27	M24308/24-277	DD78M4B8000-50-403.0				
M24308/24-269	DD44M32P000-50-403.0	M24308/24-277F	DD78M4B800C-50-403.0				
M24308/24-269F	DD44M32P00C-50-403.0	M24308/24-277P	DD78M4B800S-50				
M24308/24-269P	DD44M32P00S-50	M24308/24-377	DD78M4B8000-50-799.12				
M24308/24-369	DD44M32P000-50-799.7	M24308/25-6	D00000E20				
M24308/24-70	DD62M32P000-50	M24308/25-6F	D00000E20-462.31				
M24308/24-70F	DD62M32P00C-50	M24308/25-6P	D00000E20-462.23				
M24308/24-70P	DD62M32P00S-50	M24308/26-1	D00000T20-462.32				
M24308/24-170	DD62M32P000-50-403.27	M24308/26-1F	D00000T20-462.33				
M24308/24-270	DD62M32P000-50-403.0	M24308/26-1P	D00000T20-462.7				
M24308/24-270F	DD62M32P00C-50-403.0	M24308/26-2	D00000T30-462.32				
M24308/24-270P	DD62M32P00S-50	M24308/26-2F	D00000T30-462.33				
M24308/24-370	DD62M32P000-50-799.7	M24308/26-2P	D00000T30-462.7				
M24308/24-71	DD78M32P000-50						
M24308/24-71F	DD78M32P00C-50	CRIMP CONTACTS					
M24308/24-71P	DD78M32P00S-50	M39029/57-354	FC8022D-50				
M24308/24-171	DD78M32P000-50-403.27	M39029/58-360	MC8022D-50				
M24308/24-271	DD78M32P000-50-403.0	M39029/63-368	FC6020D-50				
M24308/24-271F	DD78M32P00C-50-403.0	M39029/64-369	MC6020D-50				
M24308/24-271P	DD78M32P00S-50	METAL HOODS					
M24308/24-371	DD78M32P000-50-799.7	M85049/48-1-3F	RD25000H00				
M24308/24-73	DD15M4B8000-50	M85049/48-1-4F	RD37000H00				
M24308/24-73F	DD15M4B800C-50	M85049/48-1-5F	RD50000H00				
M24308/24-73P	DD15M4B800S-50						
M24308/24-173	DD15M4B8000-50-403.36						

MIL LISTINGS

POSITRONIC PRODUCTS

Power

Contact Sizes: 0, 8, 12, 16, 20 and 22
Current Ratings: To 150 amperes
Terminations: Crimp, wire solder, straight solder, right angle solder, straight press-fit and right angle press-fit
Configurations: Multiple variants in a variety of package sizes
Compliance: PICMG 2.11, PICMG 3.0, VITA 41



FEATURES: Hot swap capability • AC/DC operation in a single connector • Signal contacts for hardware management • Blind mating • Sequential mating • Large Surface Area Contact Mating System • Wide variety of accessories • Customer specified contact arrangements

D-Subminiature

Contact Sizes: 8, 20 and 22
Current Ratings: To 40 amperes nominal
Terminations: Crimp, wire solder, straight solder, right angle solder and straight press-fit
Configurations: Multiple variants in both standard and high densities
Qualifications: MIL-DTL-24308, Goddard Space Flight 311P, MIL-C-39029, IP65, IP67



FEATURES: Three performance levels available: professional quality, military quality and space-flight quality provide multiple performance to cost choices • Options include thermocouple contacts, filtered, environmentally sealed and dual port package including mixed density • Broad selection of accessories

Rectangular

Contact Sizes: 16, 20 and 22
Current Ratings: To 13 amperes
Terminations: Crimp, wire solder, straight solder and right angle solder
Configurations: Multiple variants in both standard and high densities
Qualifications: MIL-DTL-28748, MIL-C-39029, CCITT V.35



FEATURES: Two performance levels available: industrial quality and military quality provide two performance to cost choices • Large Surface Area Contact Mating System • A wide variety of accessories • Broad selection of contact variants and package sizes

Circular

Contact Sizes: 12, 16, 20 and 22
Current Ratings: To 25 amperes nominal
Terminations: Crimp, wire solder, straight solder and right angle solder
Configurations: Multiple variants in two package sizes
Qualifications: Environmental protection to IP67



FEATURES: Non-corrodible / lightweight composite construction • EMI/RFI shielded versions • Thermocouple contacts • Environmentally sealed versions • Rear insertion/ front release of removable contacts • Two level sequential mating • Overmolding available on full assemblies

Cable

All Positronic connector products can be supplied as part of cable assemblies whose technical characteristics would reflect those of the connectors being used within the assembly.



FEATURES: Shorten the supply chain and reduce additional costs and delays by "cablizing" • Overmolding available • Shielded and environmentally sealed versions available • Power cables and access boxes which meet the SAE J2496 specification

Hermetic

Contact Sizes: 8, 12, 16, 20 and 22
Current Ratings: To 40 amperes nominal
Terminations: Feed through is standard; flying leads and board mount available upon request
Configurations: See D-Subminiature and Circular Configurations above
Qualifications: Space-D32



FEATURES: Intended for use as an electrical feedthrough in high vacuum applications • Leakage rate: 1×10^{-9} mbar.l/s • Signal, power, coax and high voltage versions available • Connectors can be mounted on flange assembly per customer specification

NORTH AMERICAN HEADQUARTERS

UNITED STATES, Springfield, Missouri

Factory Sales and Engineering Offices (800) 641-4054

PUERTO RICO, Ponce Factory

Factory Sales and Engineering Offices (787) 841-0920

MEXICO

Factory Sales and Engineering Offices (800) 872-7674

CANADA

Factory Sales and Engineering Offices (800) 327-8272

PACIFIC BASIN HEADQUARTERS

SINGAPORE

Factory Sales and Engineering Offices 65-6842-1419

ASIA, Direct Sales Offices

Taiwan Sales Office 8862-2937-8775

Japan Sales Office 813-5661-3047

India Sales Office 91-98220-11175

ASIA-PACIFIC, Technical Agents

Technical Agents in China: Shenzhen, Shanghai, Chengdu, Beijing; Korea, Malaysia: Penang; Australia, New Zealand, Philippines, Hong Kong, Thailand, Sri Lanka, Pakistan, Cambodia

EUROPEAN HEADQUARTERS

FRANCE, Auch Factory

Factory Sales and Engineering Offices 33 (0)5 62 63 44 91

EUROPE, Direct Sales Offices

Northern France Sales Office 33 (0)1 45 88 13 88

Southern France Sales Office 33 (0)4 67 72 80 28

Italy Sales Office 39 (0)2 54 116 106

Germany Sales Office 49 (0)2351 63 47 39

EUROPE, Technical Agents

Technical Agents in Austria, Benelux, Denmark, Finland, Greece, Ireland, Scotland, Slovenia, Spain, Sweden, Switzerland and the United Kingdom

MIDEAST, Technical Agents

Technical Agents in Israel and Turkey



POSITRONIC INDUSTRIES, INC.

423 N Campbell Ave • PO Box 8247 • Springfield, MO 65801
Tel (417) 866-2322 • Fax (417) 866-4115 • Toll Free (800) 641-4054
info@connectpositronic.com

POSITRONIC INDUSTRIES, S.A.S.

Zone Industrielle d'Engachies • 46 Route d'Engachies
France 32020 Auch Cedex 9
Telephone 33 (0)5 62 63 44 91 • Fax 33 (0)5 62 63 51 17
contact@connectpositronic.com

POSITRONIC ASIA PTE LTD.

3014A Ubi Road 1 #07-01 • Singapore 408703
Telephone (656) 842 1419 • Fax (656) 842 1421
singapore@connectpositronic.com