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.

ASK FOR DETAILS · POSITRONIC INDUSTRIES · RoHS Compliant per EU Directive 2002/95/EC

Contact Technical Sales for details.

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.

ELECTRICAL CHARACTERISTICS, CONTINUED:

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.

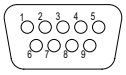
MECHANICAL CHARACTERISTICS:

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 [1.0mm²] through 32 AWG [0.03mm²]. Also, solder cup and straight printed board mount terminations.
Shells:	Male shells may be dimpled for EMI/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.

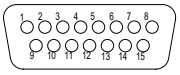
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

CONTACT VARIANTS

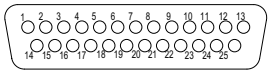
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



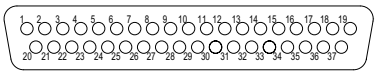
SD 9



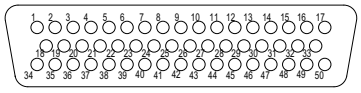
SD 15



SD 25

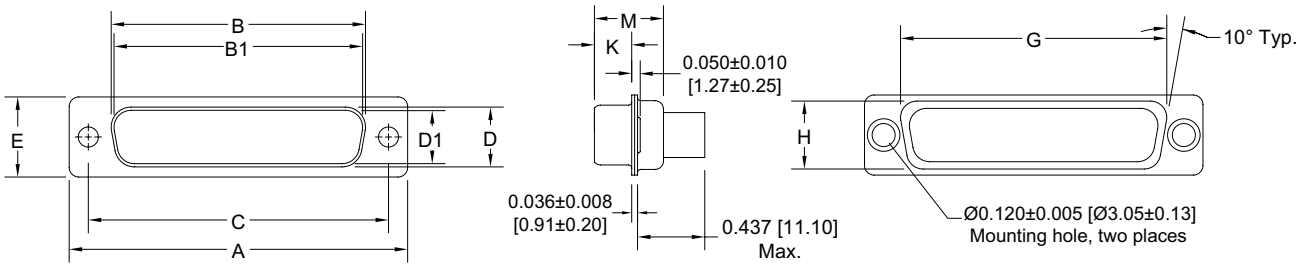


SD 37

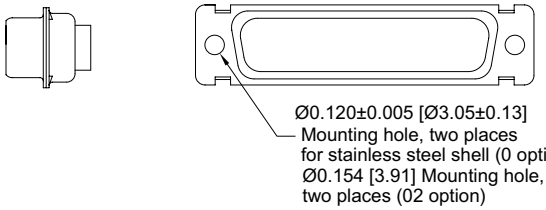


SD 50

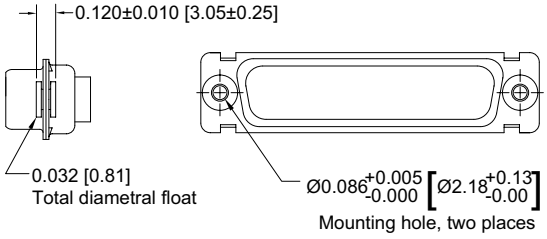
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY [0, 02]



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS [F]



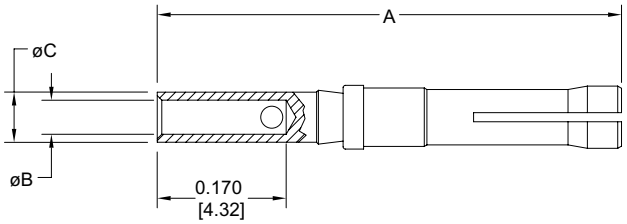
CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
SD 9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	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]

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

CRIMP CONTACTS

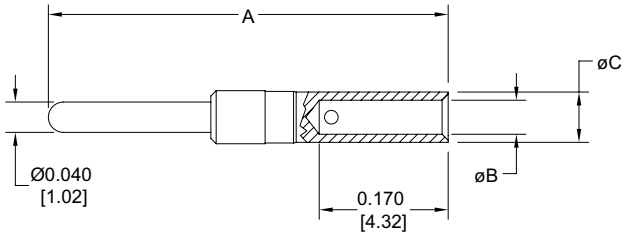
CLOSED CRIMP BARREL

FEMALE CONTACT



PART NUMBER	WIRE SIZE AWG/[mm²]	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]

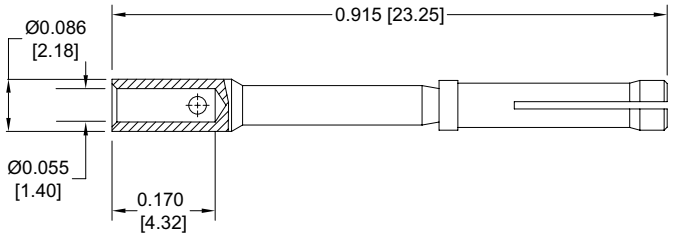
MALE CONTACT



PART NUMBER	WIRE SIZE AWG/[mm²]	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: *C75D 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

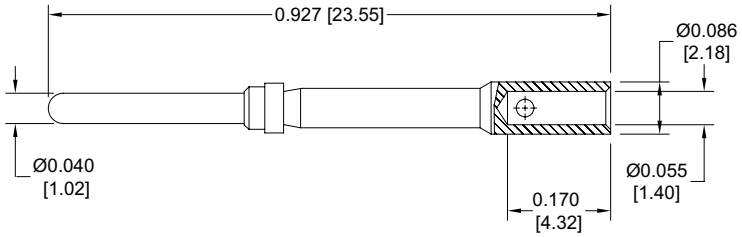
FEMALE CONTACT
18 AWG [1.0 mm²] max.



FC7518D

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

MALE CONTACT
18 AWG [1.0 mm²] max.



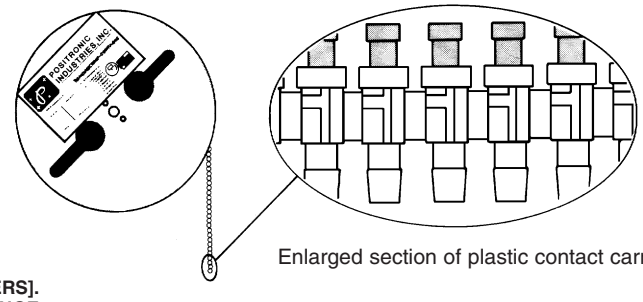
MC7518D

Material – Brass.
Plating – Gold flash over nickel.

REELS FOR AUTOMATIC PNEUMATIC CRIMP TOOLS

Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic 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.

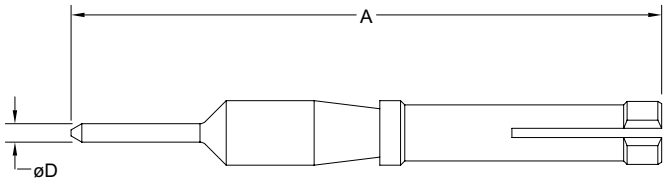


Enlarged section of plastic contact carriers

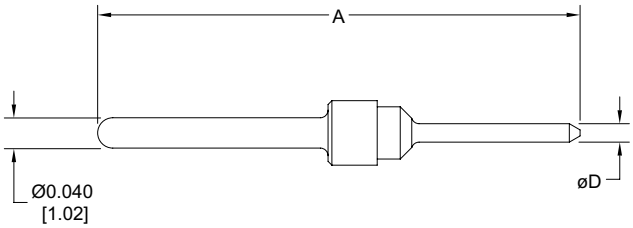
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

STRAIGHT PRINTED BOARD MOUNT CONTACTS

FEMALE CONTACT



MALE CONTACT

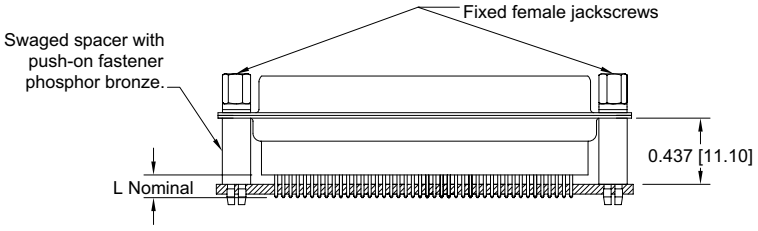


Straight printed board mount contacts are supplied in connector.

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.

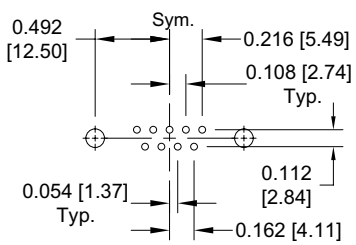


Typical Part Number:
SD37F3S60T2X

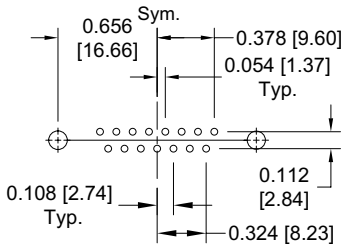
Material – Phosphor bronze or brass.
Plating – Gold flash over nickel.

STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

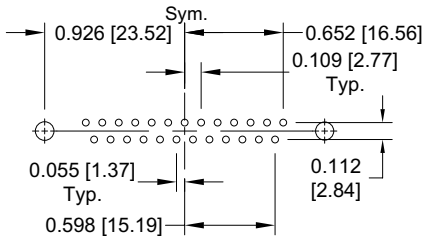
Hole identification shown for male connector, use mirror image for female connector.



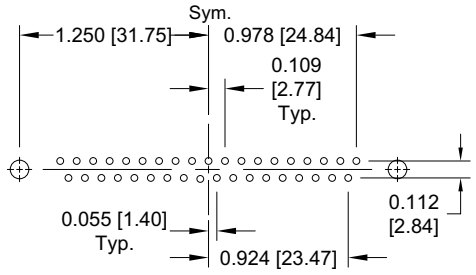
SD9



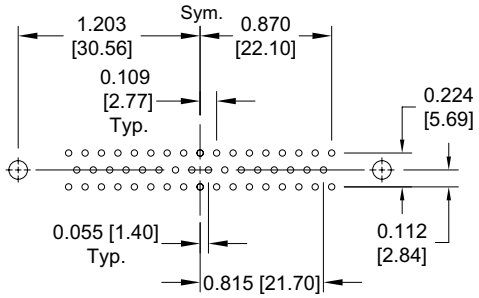
SD15



SD25



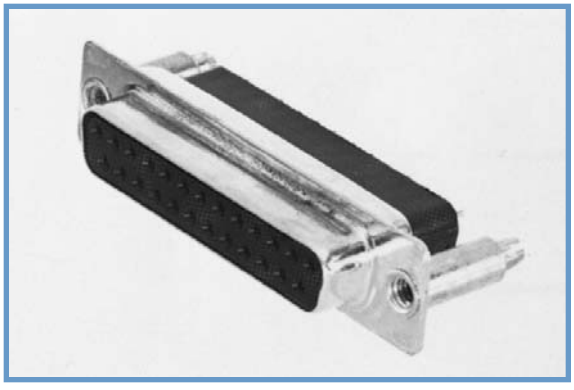
SD37



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

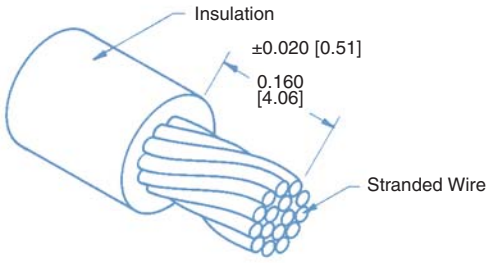
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

CRIMPING INFORMATION FOR RD AND SD SERIES CRIMP CONTACTS

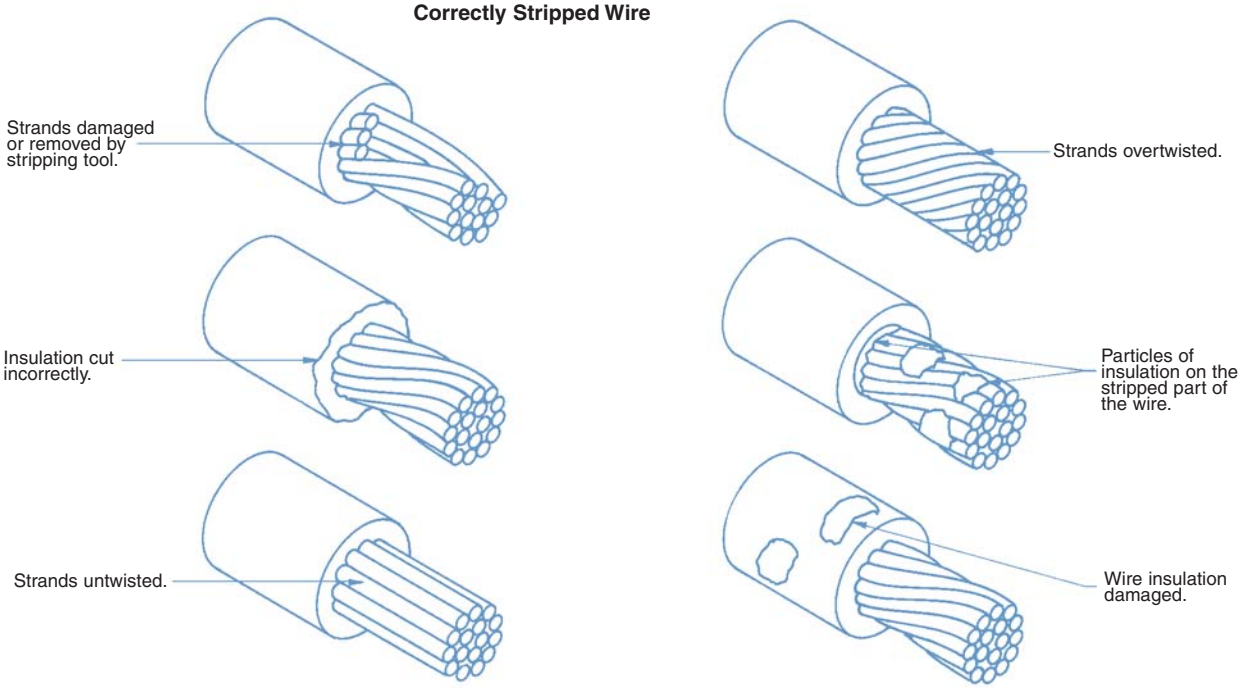
USE INDICATED POSITRONIC TOOLS FOR BEST RESULTS

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.

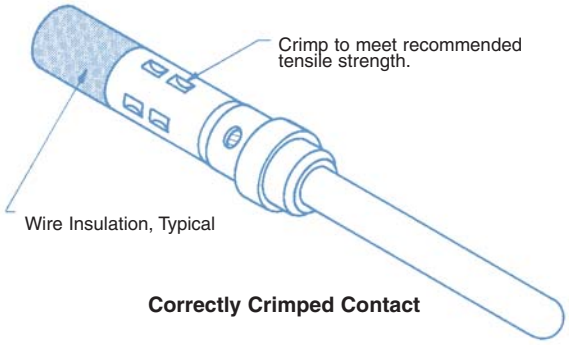
For Hand Crimp Tool:
- **Place contact into crimping tool.**
- **Insert wire into contact.**
- **Center contact by slowly closing the crimping tool until the crimp indenters make contact with the crimp barrel.**
- **Complete the cycle of the crimping tool in one smooth motion.**
- **Remove the crimped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

For Automatic 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 RD AND SD CRIMP CONTACTS

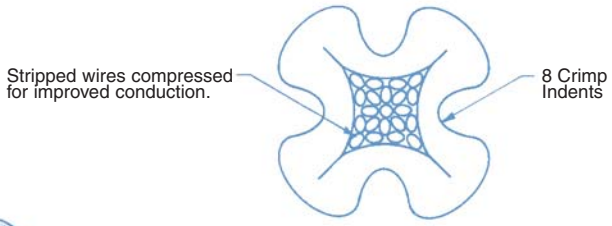
Step 3: Inspect the crimp.

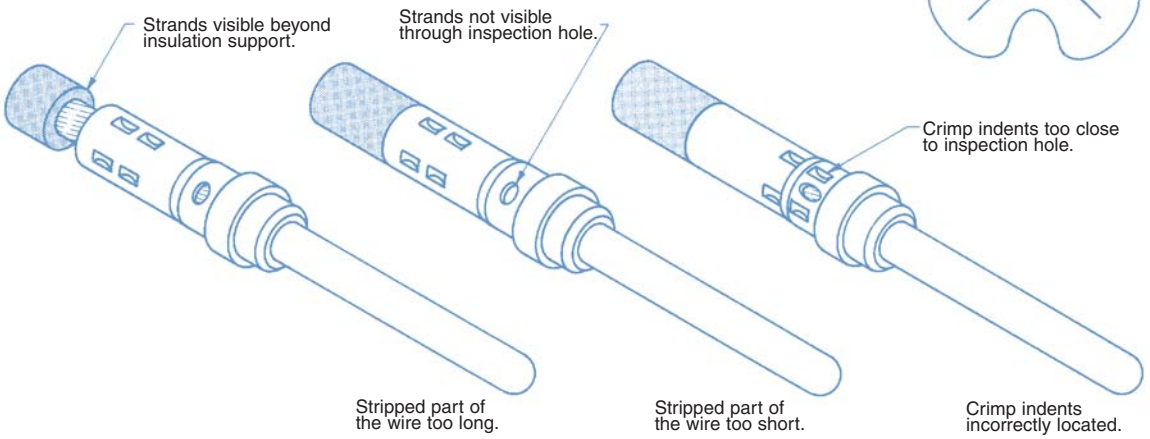
For All Tools:
- **Strands to be visible through the inspection hole.**
- **Strands not to be visible beyond the insulation support.**
- **Crimped contact to meet recommended conductor tensile force shown in chart.**
- **Check for peeled gold and bent contacts.**



Correctly Crimped Contact

Cross Section of Correctly Crimped Contact





Examples of Crimping Faults

Positronic Recommended Conductor Tensile Strength							
WIRE SIZE AWG/[mm²]	18 [1.0]	20 [0.5]	22 [0.3]	24 [0.25]	26 [0.12]	28 [0.08]	30 [0.05]
AXIAL LOAD POUNDS/[N]	28 [125]	20 [89]	12 [53]	8 [36]	5 [22]	3 [13]	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.

Positronic recommended tools for SDseries 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 PNEUMATIC CRIMP TOOL	Supplied in reels	Not Available

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

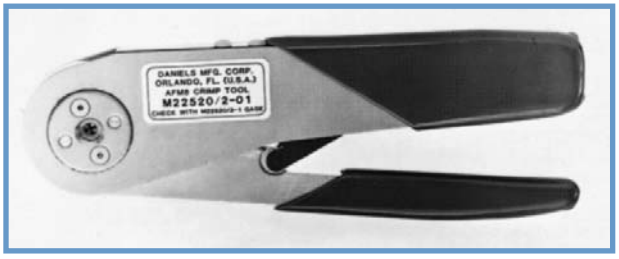
This fast cycling automatic crimp tool produces an 8 indent crimp on wire sizes 20 AWG [0.5mm^2] through 32 AWG [0.03mm^2]. Soli-D Series contacts must be ordered on reels.

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

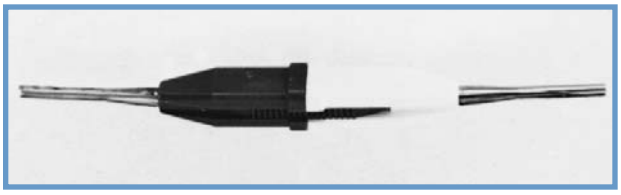
This miniature step adjustable hand crimping tool produces an 8 indent crimp configuration and will crimp wire sizes 18 AWG [1.0mm^2] through 32 AWG [0.03mm^2].

To crimp wire size 18 AWG [1.0mm^2], order contact positioner 9502-11. To crimp wire size 20 AWG [0.5mm^2] through 32 AWG [0.03mm^2], 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)
Part No. 4711-2

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 Selecting An Option From Step 1 Through 8

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

STEP 1 - BASIC SERIES

SD Series

STEP 2 - CONNECTOR VARIANTS

9, 15, 25, 37, 50

STEP 3 - CONNECTOR GENDER

M - Male
F - Female

STEP 4 - CONTACT TERMINATION TYPE

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 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.

*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.
E3 - Rotating Male wtih internal hex for 3/32 hex drives
E6 - Rotating Male and Female Polarized Jackscrews.

STEP 8 -SHELL OPTIONS

0 - Zinc Plated with Dichromate Seal.
X - Tin Plated.
Z - Tin Plated and Dimpled (male connectors only).

STEP 9 - SPECIAL OPTIONS

CONTACT TECHNICAL SALES FOR SPECIAL OPTIONS

ASK FOR DETAILS · POSITRONIC INDUSTRIES · RoHS Compliant per EU Directive 2002/95/EC

Contact Technical Sales for details.

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