

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 7

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	MMIP	12W12	F	32	0	0	A1	/AA	—

STEP 1 - BASIC SERIES

MMIP - Mini-Mini-Infinity

STEP 2 - CONNECTOR VARIANTS

- 12W12- 12 size 12 contacts
- 14W9 - 9 size 12 and 5 size 20 contacts
- 18 - 18 size 16 contacts
- 31W6 - 6 size 12 and 25 size 20 contacts

STEP 3 - CONNECTOR GENDER

- M - Male
- F - Female

STEP 4 - CONTACT TERMINATION TYPE

- 0 - Order contacts separately for cable connectors for connection systems 2, 4 and 5. See pages 41-48.
- 3 - Solder, Straight Printed Board Mount with 3.70 [0.146] tail extension for connection systems 1 and 4.
- 32- Solder, Straight Printed Board Mount with 9.58 [0.377] tail extension for connection systems 1 and 4.
- 4 - Solder, Right Angle (90°) Printed Board Mount with 3.70 [0.146] tail extension for connection systems 1, 2, 3 and 7.
- 42- Solder, Right Angle (90°) Printed Board Mount with 9.58 [0.377] tail extension for connection systems 1, 2, 3 and 7.
- 63 - Press-Fit, Compliant Termination Right Angle (90°) Printed Board Mount, for use with board thicknesses of 2.29 to 4.45 [0.090 to 0.175]. With cross bar. Connection systems 1, 2, 3 and 7. Available on connector variant 18 only.
- 93 - Press-Fit, Compliant Termination Straight Printed Board Mount for use with board thicknesses of 2.29 to 4.45 [0.090 to 0.175]. Connection systems 1 and 4.

STEP 5 - MOUNTING STYLE

- 0 - None, mounting screws supplied with board mount connector.
- N - Push-on fasteners supplied installed on board mount connector. Not recommended for code 63 and 93.

STEP 6 - PANEL MOUNT

- 0 - None.
- 82 - Panel Mount 1.52 [0.060] panel thickness
- 83 - Panel Mount 2.28 [0.090] panel thickness

***Hot Plug Note:** If UL approval is required for a Hot Plug connector, HP must be added to the part number. This is to be prior to any special plating or MOS requirements.

Example part numbers:

MMIP12W12M300A1-HP
MIP31W6M400A1-HP-294.0

STEP 9 - SPECIAL OPTIONS

CONTACT TECHNICAL SALES FOR SPECIAL OPTIONS

- * Sequential Mating
- Recessed Female Contacts
- Customer Specified Contact Arrangement
- Hot Plug (see below*)
- Other Customer Requirements

STEP 8 - ENVIRONMENTAL COMPLIANCE OPTIONS

/AA - Compliant per EU Directive 2002/95/EC (RoHS)



NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: MMIP12W12F3200A1

STEP 7 - CONTACT PLATING

- 0 - Crimp contacts ordered separately. See pages 41-48.
- A1 - Gold flash over nickel on mating end and termination end.
- A2 - Gold flash over nickel on mating end and 5.00μ [0.00020 inch] tin-lead solder coat on termination end. Not available with code 63 and 93 in Step 4.
- C1 - 0.76μ [0.000030 inch] gold over nickel on mating end and termination end.
- C2 - 0.76μ [0.000030 inch] gold over nickel on mating end and 5.00μ [0.00020 inch] tin-lead solder coat on termination end. Not available with code types 63 and 93 in Step 4.
- D1 - 1.27μ [0.000050 inch] gold over nickel on mating end and termination end.
- D2 - 1.27μ [0.000050 inch] gold over nickel on mating end and 5.00μ [0.00020 inch] tin-lead solder coat on termination end. Not available with code types 63 and 93 in Step 4.

NOTE: Once you have made a connector selection, contact Technical Sales if you would like to receive a drawing in DXF, PDF format or a 3-dimensional IGES file.



SK Drawing

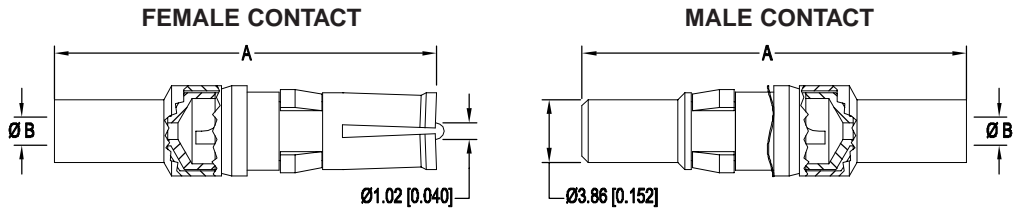


3-dimensional model

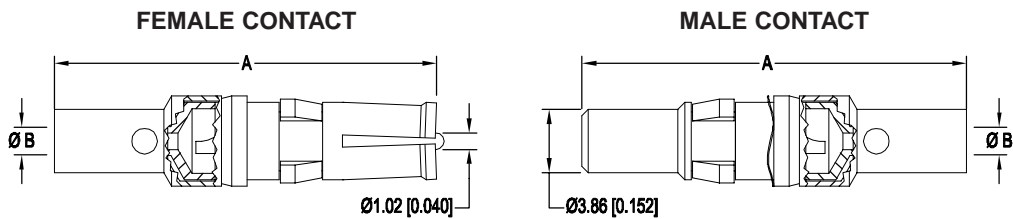


REMOVABLE SHIELDED CONTACT
FOR USE WITH MIP SERIES CONNECTORS
CONTACTS MUST BE ORDERED SEPARATELY
SIZE 8

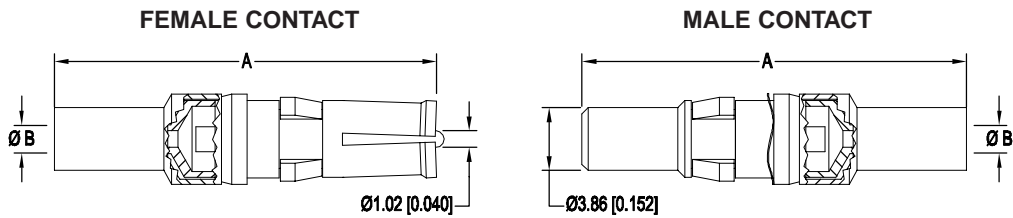
STRAIGHT SOLDER/CRIMP CONTACTS



STRAIGHT SOLDER/SOLDER CONTACTS



STRAIGHT CRIMP/CRIMP CONTACTS



TYPE OF CONTACT	PART NUMBER		A	ØB	RG CABLE NUMBER
	FEMALE	MALE			
SOLDER/CRIMP	FC4101D	MC4101D	23.60 [0.929]	1.02 [0.040]	178 B/U 196 B/U
SOLDER/CRIMP	FC4102D	MC4102D	23.60 [0.929]	1.70 [0.067]	179 B/U 316 /U
SOLDER/CRIMP	FC4103D	MC4103D	26.34 [1.037]	2.74 [0.108]	180 B/U
SOLDER/CRIMP	FC4104D	MC4104D	26.34 [1.037]	3.05 [0.120]	58 B/U
SOLDER/SOLDER	FS4101D	MS4101D	23.60 [0.929]	1.02 [0.040]	178 B/U 196 B/U
SOLDER/SOLDER	FS4102D	MS4102D	23.60 [0.929]	1.70 [0.067]	179 B/U 316 /U
SOLDER/SOLDER	FS4103D	MS4103D	26.34 [1.037]	2.74 [0.108]	180 B/U
SOLDER/SOLDER	FS4104D	MS4104D	26.34 [1.037]	3.05 [0.120]	58 B/U
CRIMP/CRIMP	FCC4101D	MCC4101D	23.60 [0.929]	1.02 [0.040]	178 B/U 196 B/U
CRIMP/CRIMP	FCC4102D	MCC4102D	23.60 [0.929]	1.70 [0.067]	179 B/U 316 /U
CRIMP/CRIMP	FCC4103D	MCC4103D	26.34 [1.037]	2.74 [0.108]	180 B/U
CRIMP/CRIMP	FCC4104D	MCC4104D	26.34 [1.037]	3.05 [0.120]	58 B/U

Two-step crimping action for signal and shielding conductors.

For information regarding crimp tool and crimping tool techniques, see Application Tools section, pages 49-54.

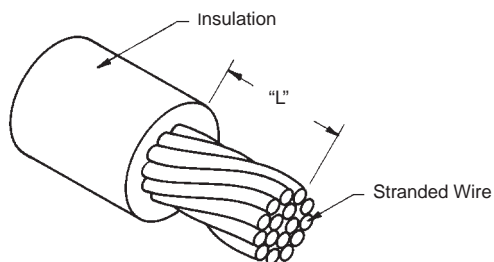


CRIMPING INFORMATION FOR REMOVABLE CRIMP CONTACTS

USE INDICATED POSITRONIC TOOLS FOR BEST RESULTS

STEP 1: STRIP WIRE TO INDICATED LENGTH.

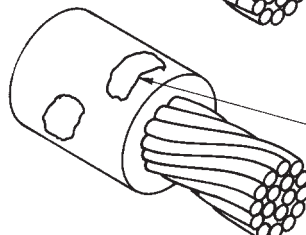
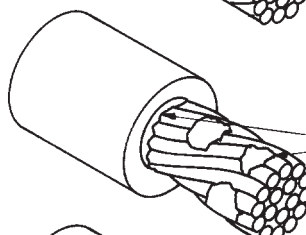
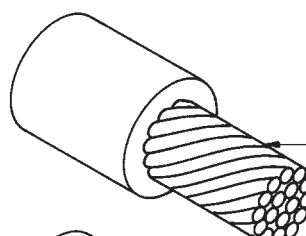
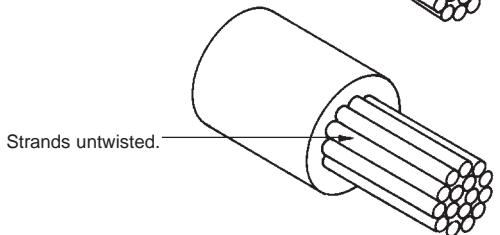
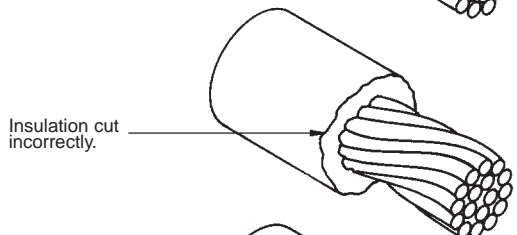
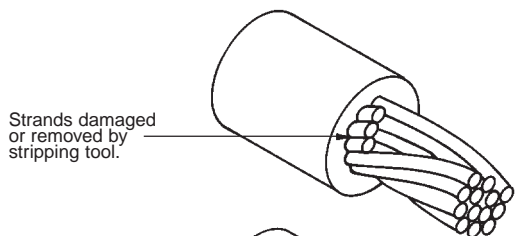
Correctly Stripped Wire



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

CONTACT SIZE	CONTACT PART NUMBER		"L" ±0.020 [±0.51]
	FEMALE	MALE	
20	FC720N2	MC720N	5.84 [0.230]
16	FC1**N2	MC1**N	5.84 [0.230]
16	FS1**N2	MS1**N	5.84 [0.230]
16	F*112N2S	M*112NS	5.84 [0.230]
12	FC610N2S	MC610NS	5.84 [0.230]
12	FC612N2	MC612N	7.37 [0.290]
12	FS610N2S	MS610NS	5.84 [0.230]
12	FS612N2	MS612N	7.37 [0.290]
8	FC40**D	MC40**D	8.89 [0.350]
8	FS40**D	MS40**D	8.89 [0.350]
8	FC4008DS	MC4008DS	8.89 [0.350]
8	FS4*20D	MS4*20D	2.54 [0.100]

Examples of Stripping Faults



CRIMPING INFORMATION FOR REMOVABLE CRIMP CONTACTS

USE INDICATED POSITRONIC TOOLS FOR BEST RESULTS

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 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.

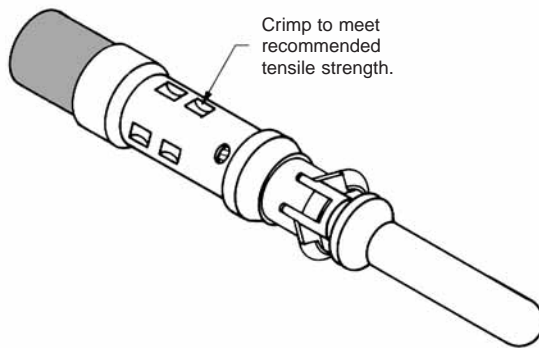
Positronic Recommended Conductor Tensile Strength	
WIRE SIZE AWG/[mm ²]	AXIAL LOAD POUNDS/[N]
6 [16.0]	110 [489]
8 [10.0]	110 [489]
10 [5.3]	110 [489]
12 [4.0]	110 [489]
14 [2.5]	70 [311]
16 [1.5]	50 [222]
18 [1.0]	28 [125]
20 [0.5]	20 [89]
22 [0.3]	12 [53]
24 [0.25]	8 [36]

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

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

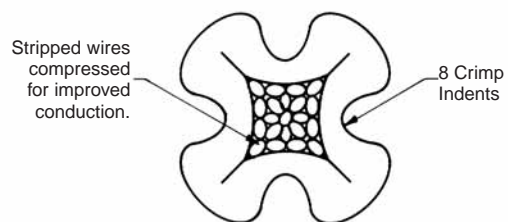
STEP 3: INSPECT THE CRIMP.

Correctly Crimped Contact

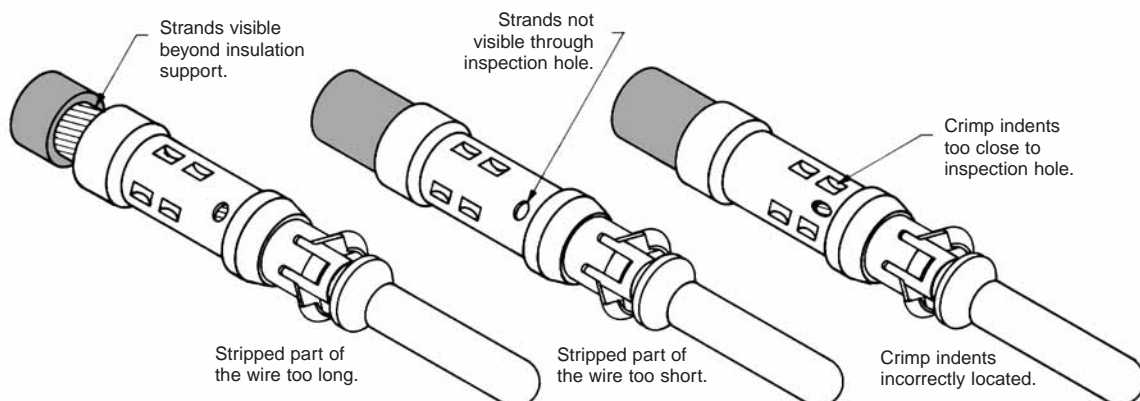


- For All Tools:**
- Strands to be visible through the inspection hole.
 - Strands not to be visible beyond the insulation support.
 - Crimped contact to meet recommended conductor tensile force shown in chart.
 - Check for peeled gold and bent contacts.

Cross Section of Correctly Crimped Contact



Examples of Crimping Faults





Positronic Industries
connectpositronic.com

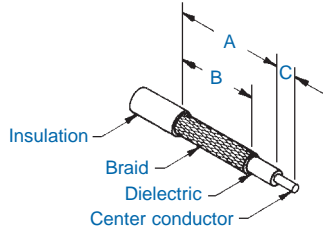


SOLDERING AND CRIMPING INFORMATION FOR SHIELDED CONTACTS

Infinity
High Power
Connector

SOLDERING AND CRIMPING INFORMATION FOR SHIELDED CONTACTS

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.

STEP 2: CRIMP WIRE TO CONTACT

- Trim cable.
- Slide ferrule over jacket. Insert dielectric and center conductor into barrel. Crimp center conductor into contact.
- Butt ferrule against shoulder. Crimp ferrule over braid.

STEP 2: SOLDER WIRE TO CONTACT

- Trim cable. Tin center conductor.
- Slide ferrule over jacket. Insert dielectric and center conductor into barrel. Solder center conductor into contact.
- Butt ferrule against shoulder. Solder cable to barrel through hole in ferrule. Solder cap into body.

STEP 2: SOLDER/CRIMP WIRE TO CONTACT

- Trim cable. Tin center conductor.
- Slide ferrule over jacket. Insert dielectric and center conductor into barrel. Solder center conductor into contact.
- Butt ferrule against shoulder. Crimp ferrule over braid. Solder cap into body.



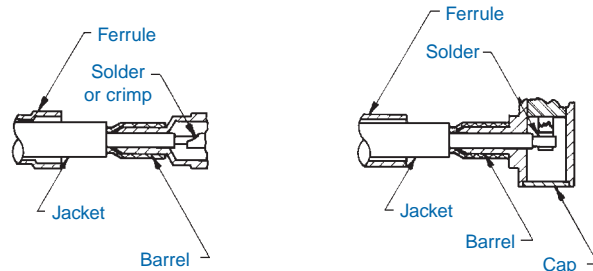
Shielded Contact Hand Crimp Tool

For crimp tool part numbers, see Contact Application Tools Cross Reference Chart on pages 53 & 54.

CONTACT SIZE	PART NUMBER	RG CABLE NUMBER	A	B	C
12	MC601D	178 B/U	6.99	5.72	3.18
	FC601D	196 B/U	[0.275]	[0.225]	[0.125]
	MC602D	179 B/U	6.99	5.72	3.18
	FC602D	316 /U	[0.275]	[0.225]	[0.125]
8	*C4101D	178 B/U	7.14	6.35	1.98
	*S4101D		[0.281]	[0.250]	[0.078]
	*C4102D	179 B/U	7.14	6.35	1.98
	*S4102D		[0.281]	[0.250]	[0.078]
	*C4103D	180 B/U	9.53	7.92	1.98
	*S4103D		[0.375]	[0.312]	[0.078]
	*C4104D	58 B/U	9.53	7.92	1.98
	*S4104D		[0.375]	[0.312]	[0.078]
	*CC4101D	178 B/U	7.14	6.35	3.05
	*CC4102D	179 B/U	[0.281]	[0.250]	[0.120]
	*CC4103D	180 B/U	9.53	7.92	3.05
	*CC4104D	58 B/U	[0.375]	[0.312]	[0.120]

*Contact gender is designated by M for male contacts and F for female contacts.

Typical Part Number: FC4101D





**AUTOMATIC CRIMP TOOL,
PNEUMATICALLY ACTUATED
(SHOWN FOR REFERENCE ONLY)**

This fast cycling automatic crimp tool produces a four double-indent crimp on wire sizes. For use with size 8, 12, 16 and 20 contacts. Contacts must be ordered on reels. Foot control valve is supplied as a standard accessory.

For complete automatic crimp tool selection part numbers, see Contact Application Tools Cross Reference Chart on pages 53 & 54.

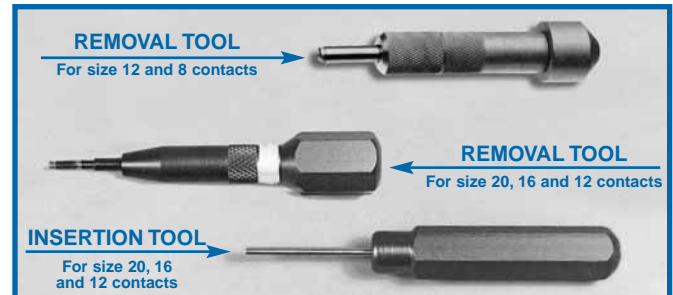


**CYCLE-CONTROLLED HAND CRIMP TOOLS
(SHOWN FOR REFERENCE ONLY)**

The hand crimp tool, pictured at the top of the image uses 8 AWG wire with produces a hex shaped crimp.

All other wire are eight step adjustable hand crimping tool produces a four double-indent crimp configuration. Each positioner is equipped with a data plate which gives the correct crimp-depth setting for each wire size.

For complete crimp tool and positioner selection part numbers, see Contact Application Tools Cross Reference Chart on pages 53 & 54.

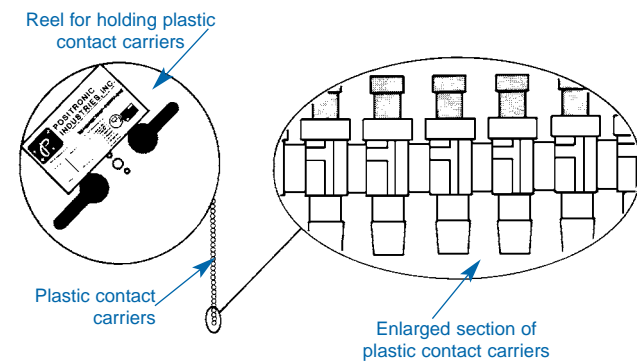


**INSERTION AND REMOVAL TOOLS
(SHOWN FOR REFERENCE ONLY)**

An easy-to-use contact insertion tool used for rear insertion of contacts into connector, see illustration below.

The contact removal tool is spring-loaded to simplify the extraction of removable contacts from the connector insulators. For contact removal, simply insert the hollow tool tip over the male or female contact from the front face of the insulator, rotate the tool slightly while increasing the pushing force against the butt of the extraction tool. The contact will be released from the insulator retention system and will "pop out" of the rear face of the insulator.

For insertion and removal tool selection part numbers, see Contact Application Tools Cross Reference Chart on pages 53 & 54.



**CONTACT 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 numbers 9550-0 and 9550-1; packaged in reels holding 1,000 contacts for use with the automatic pneumatic crimp tools, catalog part number 9555-0-2. 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 MC112NR for a male contact and FC112N2R for a female contact.



Connector Excellence
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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 • www.connectpositronic.com