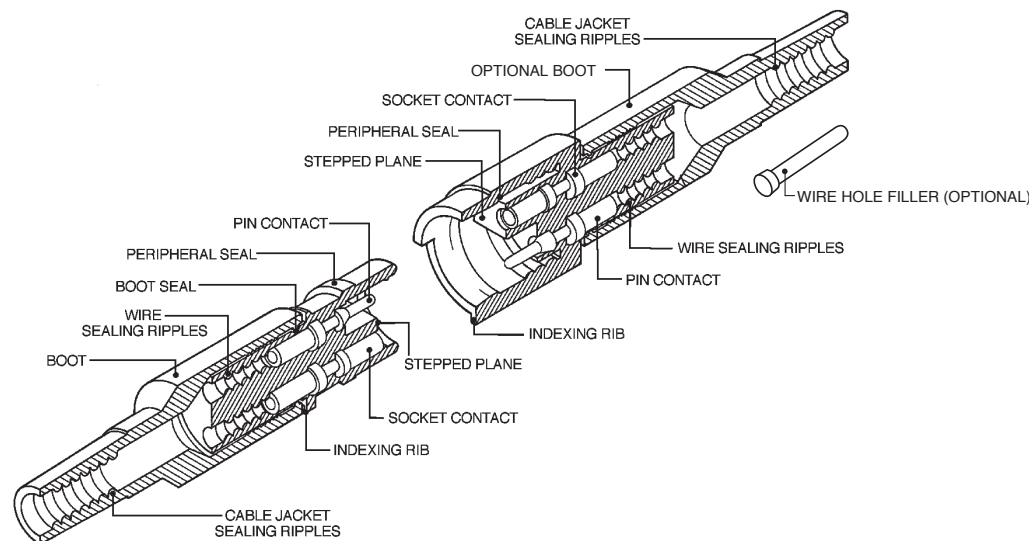


SURE-SEAL® IP67 CONNECTOR SERIES

Get Down and Dirty

Water and Oil Resistant Connectors for Industrial Demands





HOW TO SELECT/ORDER SURE-SEAL® CONNECTORS & ACCESSORIES	
STEP 1.	Choose series: Standard Sure-Seal®, Mini Sure-Seal®, or Power Sure-Seal®
STEP 2.	Determine number of circuits required per connector:
	1 to 10 in Standard Sure-Seal® - 15 Amps per contact
	2 to 4 in Mini Sure-Seal® - 8 Amps per contact
STEP 3.	Select Sure-Seal® body style: straight or flanged plug and receptacle.
STEP 4.	Select connector accessories for strain relief, mounting, tooling, etc.

To view all products,
visit our website here:



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DIRT-DEFYING CONNECTIVITY

Connectors Engineered for the Grittiest Environments

Sure-Seal® connectors offer an unbeatable solution for industrial environments that demand robust, sealed connectivity. These connectors go beyond mere splash-proofing; they’re truly submersible, meeting IP67 and DIN 400 50 standards. Whether it’s marine applications or offshore oil rigs facing corrosive saltwater and extreme weather, Sure-Seal® rises to the challenge. They withstand temperatures ranging from -40°F to +221°F, excelling amidst humidity, vibration, and exposure to harsh substances like those found in mining or construction fields.

Maintaining sealing integrity even in the face of brake fluid, gasoline, diesel fuel, antifreeze, ultraviolet, ozone, and steam, Sure-Seal® proves its resilience. And with only two parts needed—the connector body and the contacts—installation is straightforward and hassle-free.

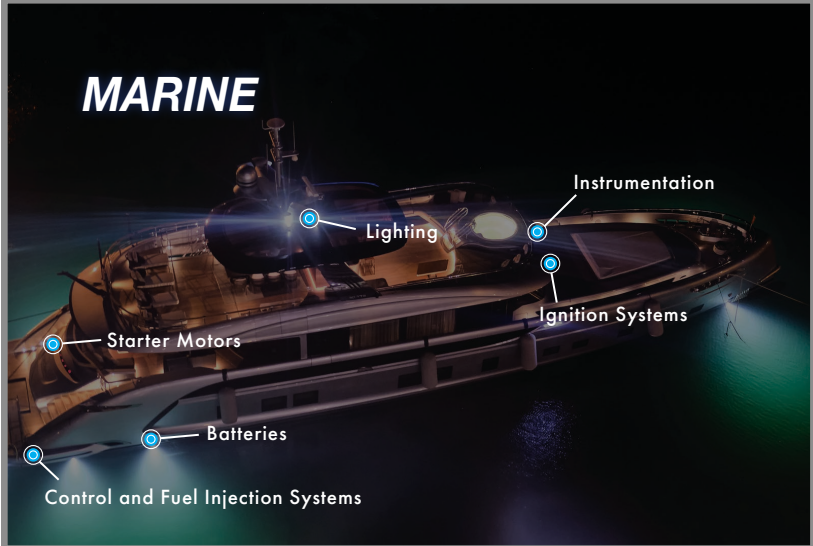
These connectors don’t just meet standards; they exceed them. Sure-Seal® connectors comply with DOT requirements for shock, vibration, temperature cycling, saltwater spray and immersion, petroleum derivatives, and industrial gas. They also ensure low milli-volt drop and low contact resistance, ensuring reliable performance in any condition.

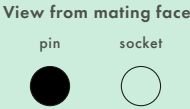
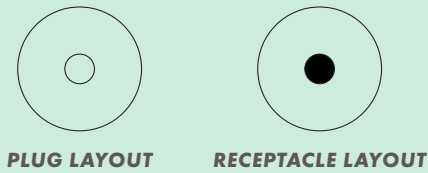
You can choose from three versions to best suit your needs: Standard Sure-Seal®, Mini Sure-Seal®, or Power Sure-Seal®. Each variant promises the same level of quality and protection, tailored to fit various applications with precision.

SURE-SEAL® SOLUTIONS

- LOW INSTALLATION COST
- RESISTANT TO AUTOMOTIVE/ INDUSTRIAL ENVIRONMENTS
- WIDE RANGE OF WIRE GAUGES AND CURRENT CARRYING CAPABILITY
- WATER SUBMERSIBLE
- ONE-PIECE CONNECTOR
- FIELD SERVICEABLE
- POLARIZED AGAINST MIS-MATES
- THREE VERSIONS AVAILABLE

MARKET APPLICATIONS





Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!



PLUGS



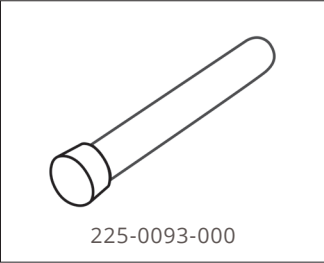
RECEPTACLES



ACCESSORIES

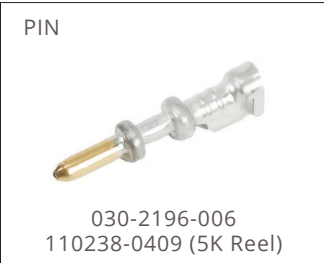


Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



Wire Hole Filler

CONTACTS



Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

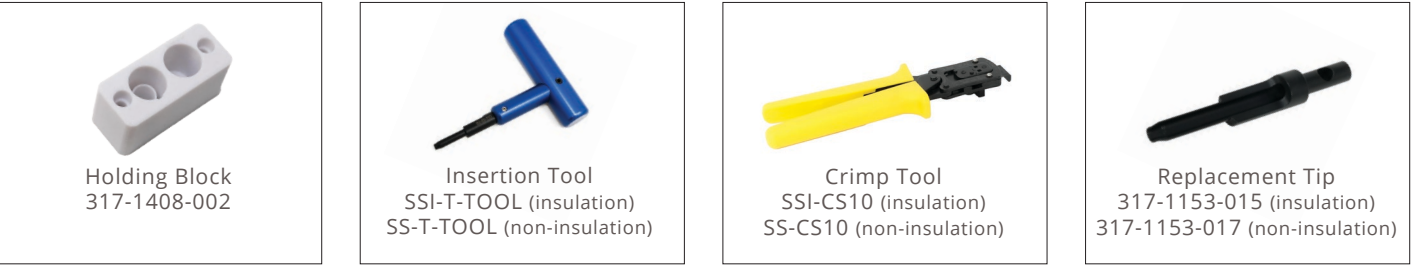
ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

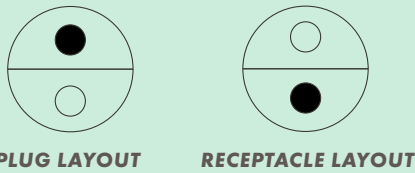
MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



*Contact us about automatic tooling options at sales@suresealconnections.com



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.

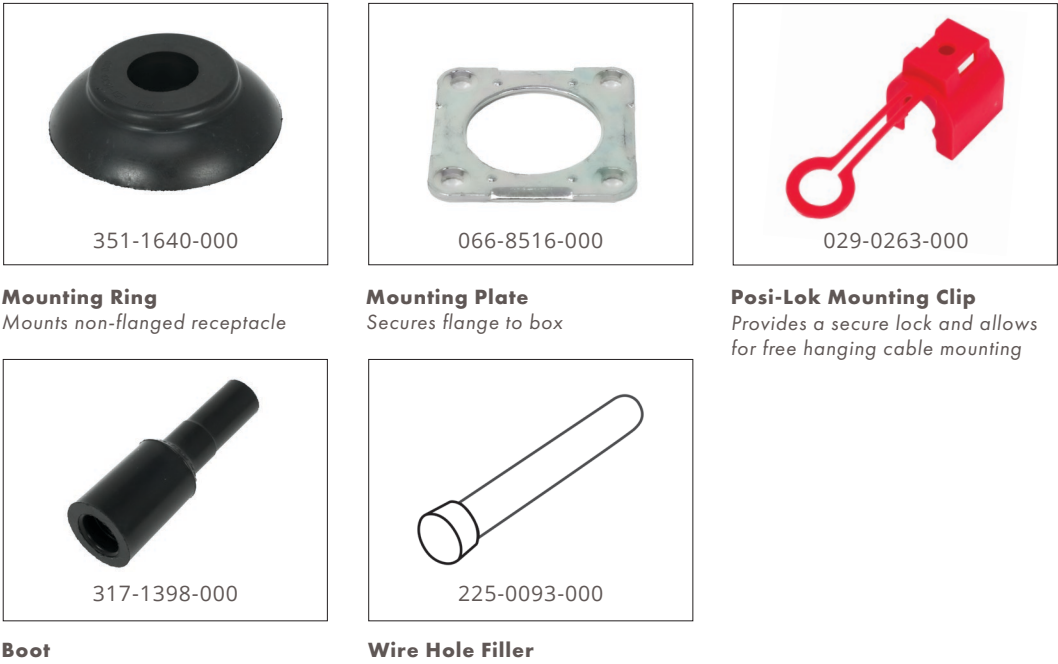


Do you need technical assistance? Contact us!

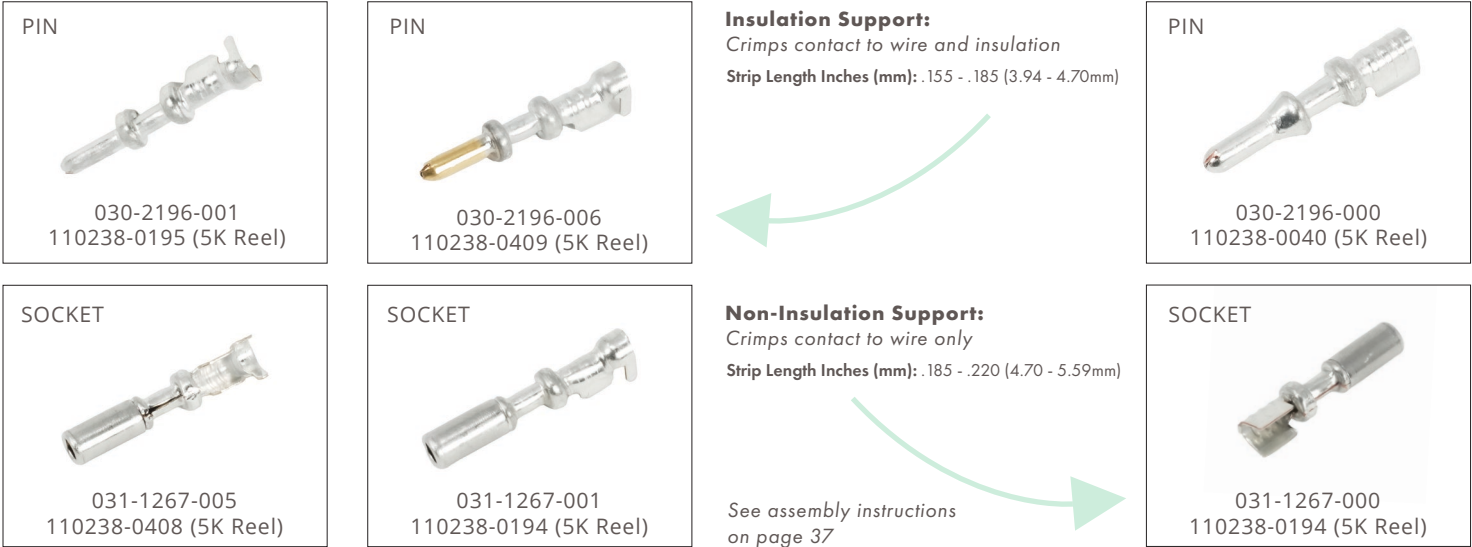
PLUGS



ACCESSORIES



CONTACTS



MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

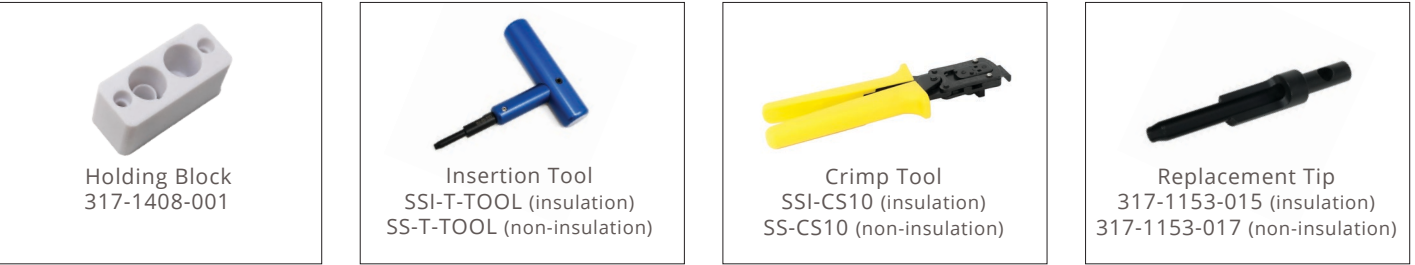
ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
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Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



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PLUG LAYOUT



RECEPTACLE LAYOUT

View from mating face

pin

socket



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!



PLUGS



120-1808-000



120-8552-201



120-1805-000

ACCESSORIES



351-1641-000



066-8516-000



029-0262-000

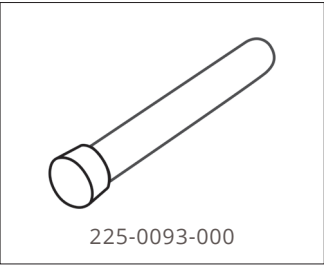
Mounting Ring
Mounts non-flanged receptacle

Mounting Plate
Secures flange to box

Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



317-1397-000
317-1399-000



225-0093-000

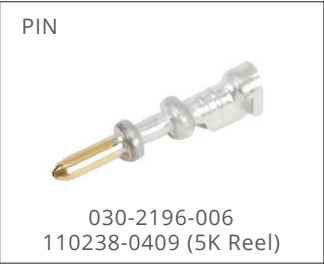
Boot
Provides strain relief and additional sealing

Wire Hole Filler

CONTACTS

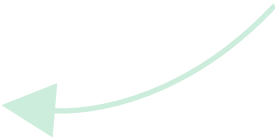


030-2196-001
110238-0195 (5K Reel)



030-2196-006
110238-0409 (5K Reel)

Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



See assembly instructions on page 37



030-2196-000
110238-0040 (5K Reel)



031-1267-000
110238-0194 (5K Reel)



031-1267-005
110238-0408 (5K Reel)



031-1267-001
110238-0194 (5K Reel)

TOOLING



Holding Block
317-1408-000



Insertion Tool
SSI-T-TOOL (insulation)
SS-T-TOOL (non-insulation)



Crimp Tool
SSI-CS10 (insulation)
SS-CS10 (non-insulation)



Replacement Tip
317-1153-015 (insulation)
317-1153-017 (non-insulation)

*Contact us about automatic tooling options at sales@suresealconnections.com



PLUG LAYOUT



RECEPTACLE LAYOUT



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

PLUGS



120-1809-000



120-8552-202



120-1806-000

ACCESSORIES



351-1641-000

Mounting Ring
Mounts non-flanged receptacle



066-8516-000

Mounting Plate
Secures flange to box



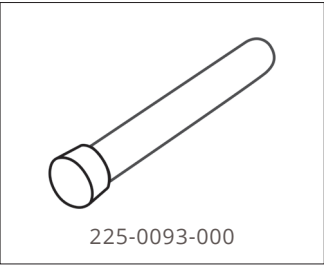
029-0262-000

Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



317-1397-000
317-1399-000

Boot
Provides strain relief and additional sealing



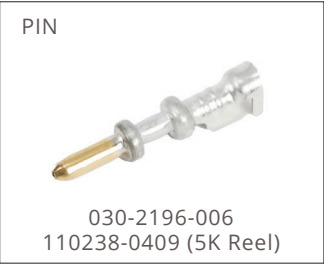
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Wire Hole Filler

CONTACTS

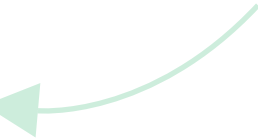


030-2196-001
110238-0195 (5K Reel)



030-2196-006
110238-0409 (5K Reel)

Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



030-2196-000
110238-0040 (5K Reel)



031-1267-005
110238-0408 (5K Reel)



031-1267-001
110238-0194 (5K Reel)

Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



031-1267-000
110238-0194 (5K Reel)

See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



Holding Block
317-1408-000



Insertion Tool
SSI-T-TOOL (insulation)
SS-T-TOOL (non-insulation)

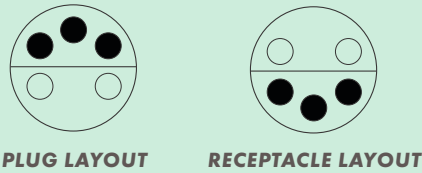


Crimp Tool
SSI-CS10 (insulation)
SS-CS10 (non-insulation)



Replacement Tip
317-1153-015 (insulation)
317-1153-017 (non-insulation)

*Contact us about automatic tooling options at sales@suresealconnections.com



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

PLUGS



RECEPTACLES



ACCESSORIES



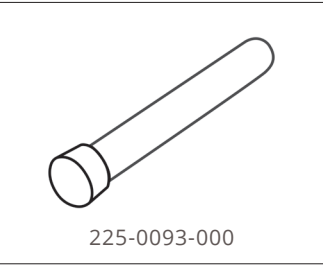
Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



Mounting Ring
Mounts non-flanged receptacle

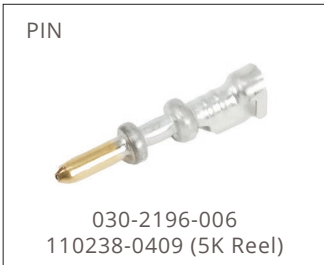
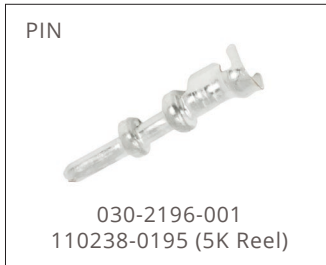


Boot
Provides strain relief and additional sealing



Wire Hole Filler

CONTACTS



Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

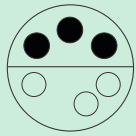
MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



*Contact us about automatic tooling options at sales@suresealconnections.com



PLUG LAYOUT



RECEPTACLE LAYOUT



View from mating face
pin socket

Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

PLUGS



RECEPTACLES



ACCESSORIES



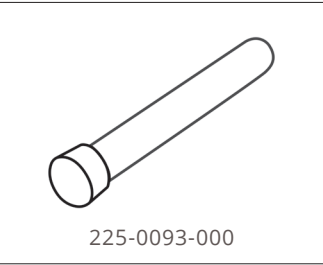
Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



Mounting Ring
Mounts non-flanged receptacle

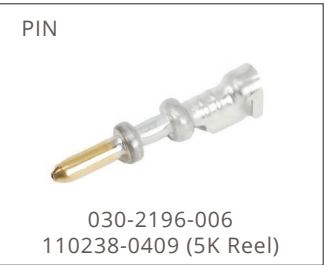
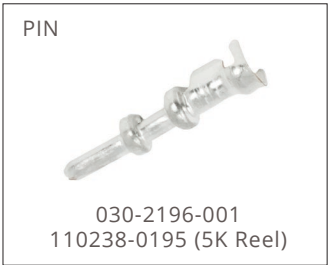


Boot
Provides strain relief and additional sealing



Wire Hole Filler

CONTACTS



Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



*Contact us about automatic tooling options at sales@suresealconnections.com



PLUG LAYOUT



RECEPTACLE LAYOUT

View from mating face

pin

socket



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

PLUGS



120-1873-000

RECEPTACLES



120-1874-000

ACCESSORIES



026-0450-000

Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



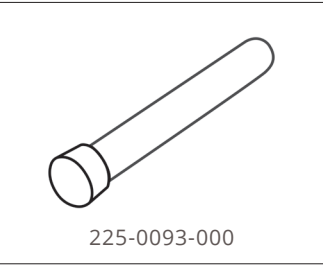
351-1633-000

Mounting Ring
Mounts non-flanged receptacle



317-8657-000

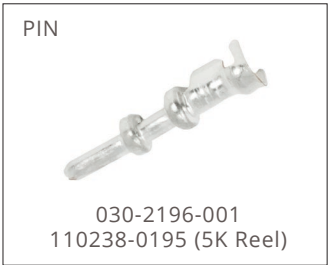
Boot
Provides strain relief and additional sealing



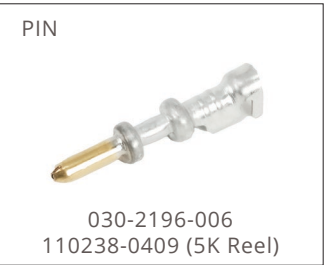
225-0093-000

Wire Hole Filler

CONTACTS

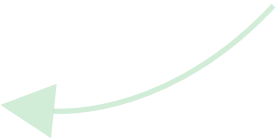


030-2196-001
110238-0195 (5K Reel)



030-2196-006
110238-0409 (5K Reel)

Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



030-2196-000
110238-0040 (5K Reel)



031-1267-005
110238-0408 (5K Reel)



031-1267-001
110238-0194 (5K Reel)

Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



031-1267-000
110238-0194 (5K Reel)

See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
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Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



Holding Block
317-1408-003



Insertion Tool
SSI-T-TOOL (insulation)
SS-T-TOOL (non-insulation)

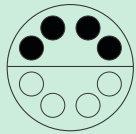


Crimp Tool
SSI-CS10 (insulation)
SS-CS10 (non-insulation)



Replacement Tip
317-1153-015 (insulation)
317-1153-017 (non-insulation)

*Contact us about automatic tooling options at sales@suresealconnections.com



PLUG LAYOUT



RECEPTACLE LAYOUT

View from mating face

pin

socket



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

PLUGS



120-1865-000



120-8552-305



120-1866-000

ACCESSORIES



351-1634-000

Mounting Ring
Mounts non-flanged receptacle



066-8516-002

Mounting Plate
Secures flange to box



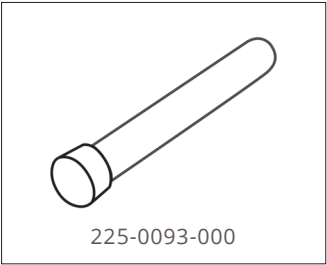
026-0451-000

Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



317-8657-002

Boot
Provides strain relief and additional sealing



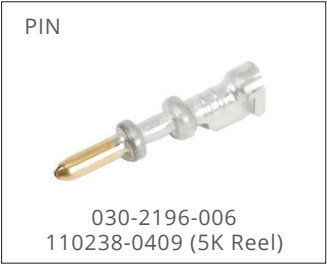
225-0093-000

Wire Hole Filler

CONTACTS

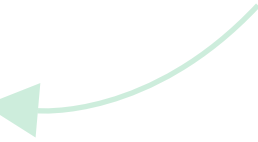


030-2196-001
110238-0195 (5K Reel)



030-2196-006
110238-0409 (5K Reel)

Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



See assembly instructions on page 37



030-2196-000
110238-0040 (5K Reel)



031-1267-000
110238-0194 (5K Reel)

TOOLING



Holding Block
317-1408-004



Insertion Tool
SSI-T-TOOL (insulation)
SS-T-TOOL (non-insulation)

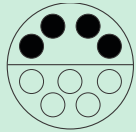


Crimp Tool
SSI-CS10 (insulation)
SS-CS10 (non-insulation)



Replacement Tip
317-1153-015 (insulation)
317-1153-017 (non-insulation)

*Contact us about automatic tooling options at sales@suresealconnections.com



PLUG LAYOUT



RECEPTACLE LAYOUT

View from mating face

pin

socket



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

PLUGS



120-1867-000



120-8552-306



120-1868-000

ACCESSORIES



351-1634-000

Mounting Ring
Mounts non-flanged receptacle



066-8516-002

Mounting Plate
Secures flange to box



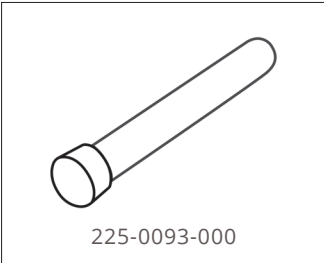
026-0451-000

Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



317-8657-002

Boot
Provides strain relief and additional sealing



225-0093-000

Wire Hole Filler

CONTACTS



PIN

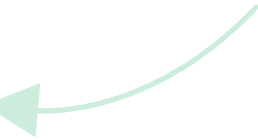
030-2196-001
110238-0195 (5K Reel)



PIN

030-2196-006
110238-0409 (5K Reel)

Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



PIN

030-2196-000
110238-0040 (5K Reel)



SOCKET

031-1267-005
110238-0408 (5K Reel)



SOCKET

031-1267-001
110238-0194 (5K Reel)

Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



SOCKET

031-1267-000
110238-0194 (5K Reel)

See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	15 A
Wire Range Sizes	14- 18 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



Holding Block
317-1408-004



Insertion Tool
SSI-T-TOOL (insulation)
SS-T-TOOL (non-insulation)

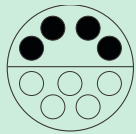


Crimp Tool
SSI-CS10 (insulation)
SS-CS10 (non-insulation)



Replacement Tip
317-1153-015 (insulation)
317-1153-017 (non-insulation)

*Contact us about automatic tooling options at sales@suresealconnections.com



PLUG LAYOUT



RECEPTACLE LAYOUT

View from mating face

pin

socket



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!



PLUGS



120-1869-000



120-8552-307



120-1870-000

ACCESSORIES



351-1634-000

Mounting Ring
Mounts non-flanged receptacle



066-8516-002

Mounting Plate
Secures flange to box



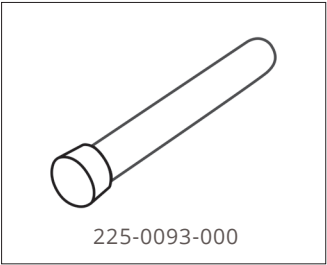
026-0451-000

Posi-Lok Mounting Clip
Provides a secure lock and allows for free hanging cable mounting



317-8657-002

Boot
Provides strain relief and additional sealing



225-0093-000

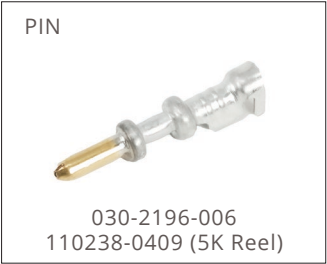
Wire Hole Filler

CONTACTS



PIN

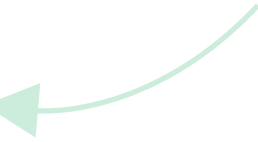
030-2196-001
110238-0195 (5K Reel)



PIN

030-2196-006
110238-0409 (5K Reel)

Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .155 - .185 (3.94 - 4.70mm)



Non-Insulation Support:
Crimps contact to wire only
Strip Length Inches (mm): .185 - .220 (4.70 - 5.59mm)



See assembly instructions on page 37



PIN

030-2196-000
110238-0040 (5K Reel)



SOCKET

031-1267-000
110238-0194 (5K Reel)

TOOLING



Holding Block
317-1408-004



Insertion Tool
SSI-T-TOOL (insulation)
SS-T-TOOL (non-insulation)



Crimp Tool
SSI-CS10 (insulation)
SS-CS10 (non-insulation)



Replacement Tip
317-1153-015 (insulation)
317-1153-017 (non-insulation)

*Contact us about automatic tooling options at sales@suresealconnections.com

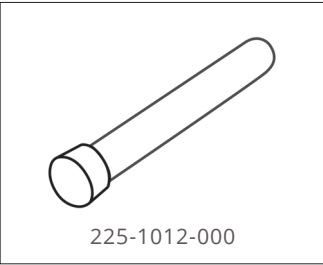
PLUGS



RECEPTACLES

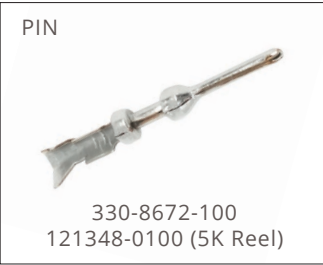


ACCESSORIES



Wire Hole Filler

CONTACTS



Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .118 - .130 (3.00 - 3.30mm)

See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	8 A
Wire Range Sizes	18-20 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	2 to 4
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



*Contact us about automatic tooling options at sales@suresealconnections.com

MINI

4CIRCUIT



PLUG LAYOUT



RECEPTACLE LAYOUT

View from mating face

pin

socket



Notice that all multi-pin Sure-Seal® connectors use a combination of pin and socket contacts in each connector.



Do you need technical assistance? Contact us!

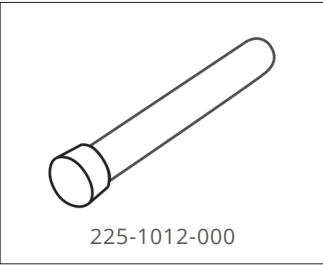


PLUGS

RECEPTACLES

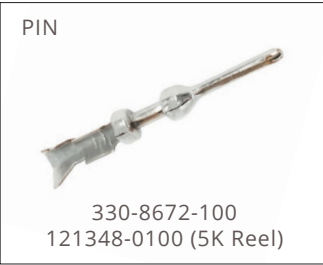


ACCESSORIES



Wire Hole Filler

CONTACTS



Insulation Support:
Crimps contact to wire and insulation
Strip Length Inches (mm): .118 - .130 (3.00 - 3.30mm)

See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	8 A
Wire Range Sizes	18-20 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	2 to 4
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black

TOOLING



*Contact us about automatic tooling options at sales@suresealconnections.com

PLUGS

RECEPTACLES



120-1905-000
4 AWG



120-1906-000
8-10 AWG



120-1903-000
4 AWG



120-1904-000
8-10 AWG

CONTACTS



030-2245-002
4AWG



030-2244-001
8AWG



030-2244-002
10AWG



031-1295-001
4AWG



031-1299-001
8AWG



031-1298-001
10AWG

Strip Length Inches (mm):
(4 AWG): .460 - .480 (11.7 - 12.2mm)
(8-10 AWG): .515 - .535 (13.1 - 13.6mm)

See assembly instructions on page 37

MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard, also available in EPDM)
Contacts	Copper alloy
Contact Plating	Tin standard; gold-plating optional


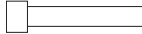
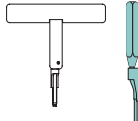

ELECTRICAL DATA

Operating Voltage	400 Vac Maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current Rating	85 A
Wire Range Sizes	4; 8-10 AWG
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)
Contacts Included	No

MECHANICAL DATA

Operating Temperature	-40°F to + 221 °F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution, 24 hours min. ≈NEMA 6 p
Wire Sealing Range	See page 31
Insulation Strip Lengths	See page 32
Mating Life	50 cycles minimum (stamped & formed) 100 cylces (machined)
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221 °F (+115°C) for 1,000 hours
Weather, Ozone & Ultraviolet	In accordance with ASTM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum
Contact Retention	7.5 lbs. (35 N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body
Agency Listing	UL (E176866) & CSA (LR109871-1)
Color	Black


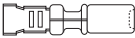
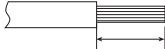
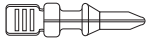
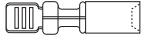

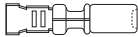
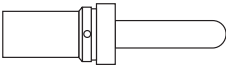
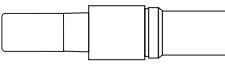
*Contact us about tooling options at sales@suresealconnections.com

CONTACTS, RANGE, & TOOLING INFORMATION					
		RANGE	TOOLING		
CONTACT STYLE	AWG WIRE SIZE	WIRE INSULATION DIAMETER	WIRE HOLE FILLER ₍₁₎	INSERTION TOOL ₍₂₎	CRIMP TOOL ₍₃₎
STANDARD SURE-SEAL® INSULATION SUPPORT					
Tin Plating (Standard) Gold Plating	14-18	 .100 - .147in (2.54 - 3.73mm)	 225-0093-000	 Replacement tip 317-1153-017	 Replacement locator 1181-92015
				SSI-T-TOOL or 070306-0000	SSI-CS10
STANDARD SURE-SEAL® NON-INSULATION SUPPORT					
Tin Plating (Standard) Gold Plating	14-18	.100 - .147in (2.54 - 3.73mm)	225-0093-000	Replacement tip 317-1153-015	Replacement locator 1181-92015
				SS-T-TOOL or 070235-0001	SS-CS10
MINI SURE-SEAL® INSULATION SUPPORT					
Tin Plating (Standard) Gold Plating	18-20	.055 - .071in (1.40 - 1.80mm)	225-1012-000	Replacement tip MSS2000-TIP	Replacement locator 1181-89005
				MSS-T-TOOL or MSS-2000	MSS-CS10
POWER SURE-SEAL®					
	4	.247 - .380in (6.96 - 9.65mm)	-	CIT-VE4-6	
	6		-		
	8	.159 - .245in (4.04 - 6.22mm)	-	CIT-VE-8-10	
	10		-		

1) Wire Hole Fillers: These fillers are inserted into unused cavities in place of a contact. Wire hole fillers are required to retain the watertight sealing if less than a full compliment of contacts are to be used.

(2) Insertion Tool: An Insertion tool is required to insert contacts into the connector. These tools are heavy duty production hand tools. A holding block should also be used during the insertion process. An extraction tool is not required. See assembly instructions (pages 37-38). Semi-Automatic insertion tools are also available.

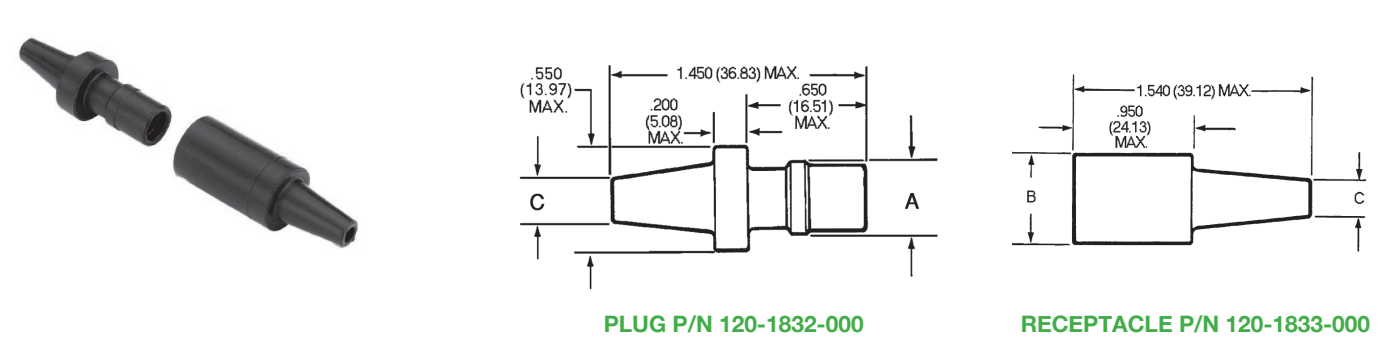
(3) Hand Crimp Tools: These are heavy duty tools with a ratchet mechanism that will only release the contact when the crimp is completed. These tools produce consistent, high quality crimps. They are the only hand crimping tools recommended for Sure-Seal® contacts.

CONTACTS, RANGE, & TOOLING INFORMATION				
INDEX		CONTACTS		WIRE
CONTACT STYLE	AWG WIRE SIZE	LOOSE PINS	LOOSE SOCKET	STRIP LENGTH INCHES (MM)
STANDARD SURE-SEAL® INSULATION SUPPORT				
				
Tin Plating (Standard)	14-18	030-2196-001	031-1267-001	.155 - .185 (3.94 - 4.70mm)
Gold Plating	14-18	030-2193-006	031-1267-005	
STANDARD SURE-SEAL® NON-INSULATION SUPPORT				
				.185 - .220 (4.70 - 5.59mm)
Tin Plating (Standard)	14-18	030-2196-000	031-1267-000	
Gold Plating	14-18	030-2196-008	031-1267-007	
MINI SURE-SEAL® INSULATION SUPPORT				
RoHS				.118 - .130 (3.00 - 3.30mm)
	18-20	330-8672-100	031-8703-100	
POWER SURE-SEAL®				
				.460 - .480 (11.7 - 12.2mm)
	4	030-2245-002	031-1295-001	
	6	030-2245-001	031-1294-001	Note: 6 AWG & 10 AWG socket contacts have unique strip lengths .515 - .535 (13.1 - 13.6)
	8	030-2244-001	031-1299-001	
	10	030-2244-002	031-1298-001	

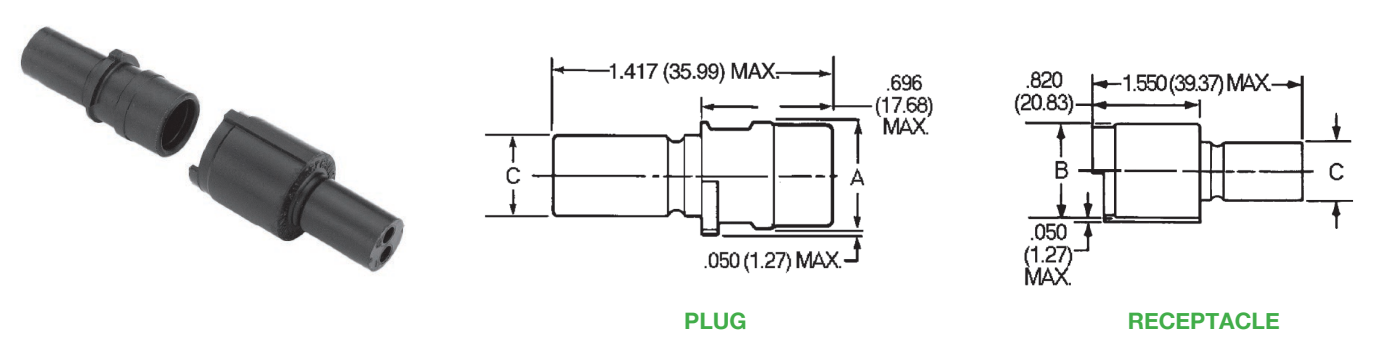
Note:
6 AWG & 10 AWG socket contacts have unique strip lengths .515 - .535 (13.1 - 13.6)

STANDARD SURE-SEAL® PLUGS & RECEPTACLES

1 CIRCUIT



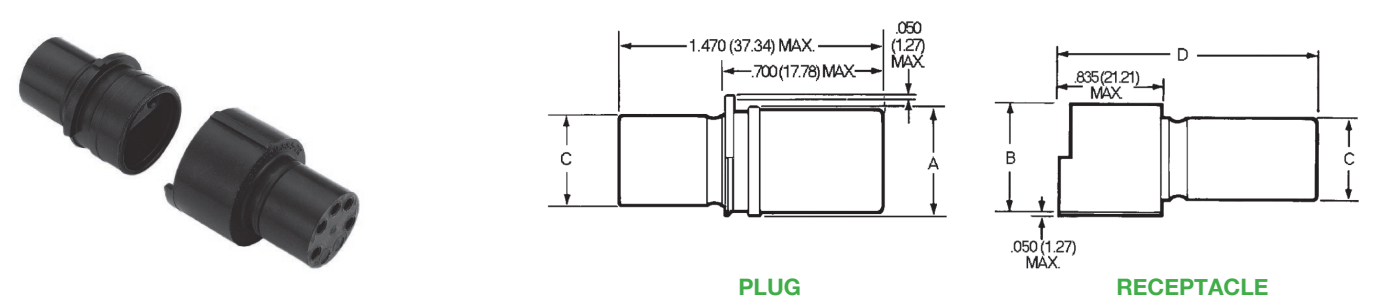
2 - 4 CIRCUIT



BODY IDENTIFIER	PLUG NUMBER (P)	RECEPTACLE NUMBER (R)	A DIA MAX.	B DIA MAX.	C MAX.
SS-1 P/R	120-1832-000	120-1833-000	.380 (9.65)	.550 (13.97)	.230 (5.84)
SS-2 P/R*	120-1807-000	120-1804-000	.550 (13.97)	.710 (18.03)	.430 (10.92)
SS-3 P/R*	120-1808-000	120-1805-000	.600 (15.24)	.760 (19.30)	.500 (12.70)
SS-4 P/R*	120-1809-000	120-1806-000	.600 (15.24)	.760 (19.30)	.500 (12.70)

* Can use heat shrink boot : LSB1 for cable range .40 - .12
All dimensions in inches (millimeters in parentheses)

5 - 10 CIRCUIT

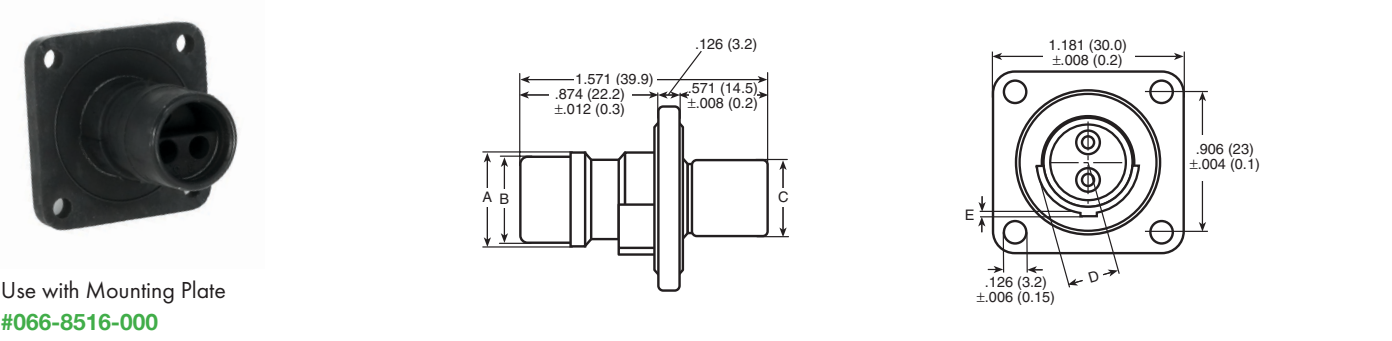


BODY IDENTIFIER	PLUG NUMBER (P)	RECEPTACLE NUMBER (R)	A DIA MAX.	B DIA MAX.	C MAX.	D MAX.
SS-5 P/R*	120-1841-000	120-1839-000	1.010 (25.65)	1.160 (29.46)	.810 (20.57)	1.610 (40.89)
SS-6 P/R*	120-1842-000	120-1840-000	1.010 (25.65)	1.160 (29.46)	.810 (20.57)	1.610 (40.89)
SS-7 P/R*	120-1873-000	120-1874-000	1.010 (25.65)	1.160 (29.46)	.810 (20.57)	1.610 (40.89)
SS-8 P/R*	120-1865-000	120-1866-000	1.135 (28.83)	1.285 (32.64)	.935 (23.75)	1.610 (40.89)
SS-9 P/R*	120-1867-000	120-1868-000	1.135 (28.83)	1.285 (32.64)	.935 (23.75)	1.610 (40.89)
SS-10 P/R*	120-1869-000	120-1870-000	1.135 (28.83)	1.285 (32.64)	.935 (23.75)	1.610 (40.89)

* Can use heat shrink boot : SB2 for cable range 1.01 - .290
All dimensions in inches (millimeters in parentheses)

FLANGED PLUGS

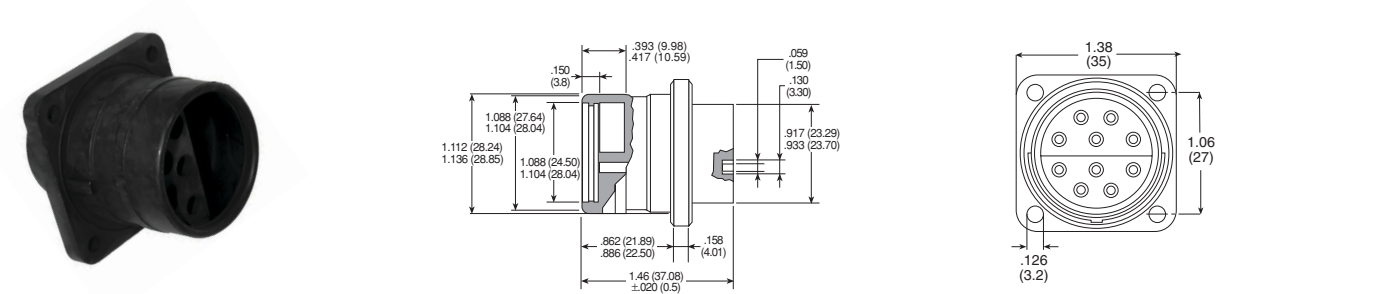
2 - 4 CIRCUIT



BODY IDENTIFIER	PLUG NUMBER	A DIA. +.012 (.3)	B DIA. +.008 (.2)	C DIA. +.012 (.3)	D DIA. +.012 (.3)	E .008 (.2)
SSF-2P	120-8552-200	.547 (13.9)	.524 (13.3)	.425 (10.8)	.307 (7.8)	.039 (1.0)
SSF-3P	120-8552-201	.598 (15.2)	.583 (14.8)	.484 (12.3)	.315 (8.0)	.020 (.50)
SSF-4P	120-8552-202	.598 (15.2)	.583 (14.8)	.484 (12.3)	.354 (9.0)	.039 (1.0)

All dimensions in inches (millimeters in parentheses)

8 - 10 CIRCUIT

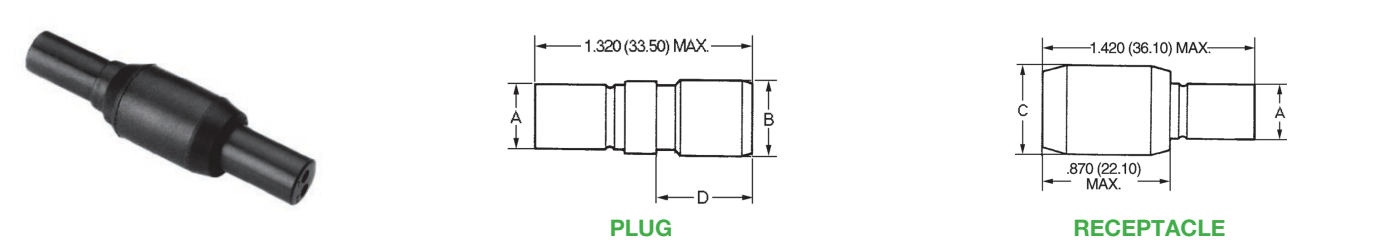


Use with Mounting Plate
#066-8516-002 or #066-8516-003

BODY IDENTIFIER	PLUG NUMBER
SSF-8P	120-8552-305
SSF-9P	120-8552-306
SSF-10P	120-8552-307

MINI SURE-SEAL® PLUGS & RECEPTACLES

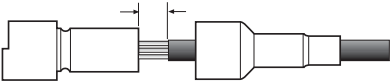
2 - 4 CIRCUIT



BODY IDENTIFIER	PLUG NUMBER (P)	RECEPTACLE NUMBER (R)	A DIA. MAX.	B DIA. MAX.	C DIA. MAX.	D MAX.
MSS-2 P/R*	120-8552-100	120-8551-100	.340 (8.64)	.390 (9.91)	.540 (13.72)	.660 (16.6)
MSS-3 P/R*	120-8552-101	120-8551-101	.360 (9.15)	.420 (10.67)	.580 (14.74)	.550 (13.97)
MSS-4 P/R*	120-8552-102	120-8551-102	.360 (9.15)	.450 (11.43)	.610 (15.50)	.550 (13.97)

* Can use heat shrink boot : LSB1 for cable range .40 - .12
All dimensions in inches (millimeters in parentheses)

WIRE AND JACKETED CABLE PREPARATION



Strip wires to appropriate length.
If using a boot, strip jacket so no more than listed dimension is exposed when contact is fully inserted.

Note: Try stripping back jacket approximately 1.25 inches (32mm) because strip lengths will vary depending on cable being used.

# CIRCUITS	MAX EXPOSED LENGTH INCHES (MM)
2, 3, 4	.87 (22)
5, 6, 7	1.02 (26)
8, 9, 10	1.02 (26)

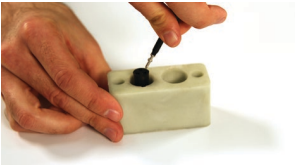
MANUAL INSERTION OF CONTACTS



STEP 1: Affix proper connector holding block to stable surface (i.e. vice or table).

STEP 2: If a jacket wire sealing boot is to be used, it must be slid up the cable (isopropyl alcohol will help in doing this).

STEP 3: Dip connector in isopropyl alcohol and place in holding block with the back end up (wire side).



STEP 4: Using the proper contact insertion tool
A. Place contact in groove of tool
B. Make sure that the end of the tool is up against the shoulder of the contact.

STEP 5: Insert contact into proper cavity of the connector body by applying constant pressure until contact snaps into place. Isopropyl alcohol will help in doing this. (Warning: Do not tilt the tool during the insertion).

STEP 6: Insert all remaining contacts. To insure environmental sealing of the connector any empty contact cavities must be filled with wire hole fillers.



STEP 7: Check mating side of the connector to be sure that all contacts are on the same plane (fully inserted).

STEP 8: If you are using jacket sealing boot, slide the boot down the cable and onto the connector.

STEP 9: Remove connector and wire assembly from holding block.

EXTRACTION OF CONTACTS



STEP 1: Slide up any rear accessories (i.e. jacket cable sealing boots). Using isopropyl alcohol will help you slide these up your cable.

STEP 2: Grasp individual wire firmly and gently pull the contact out of the connector.
*Extraction tool is available, DRK32 & DRK152, contact us for more information.

HAND CRIMP TOOL OPERATION

The Sure-Seal® hand crimp tool has a full cycle ratchet controlled release and straight action crimp jaws. The flap locator makes it easy to load the terminal and the pre-positioner assures that the terminal is loaded for proper crimping. To open the tool, you must apply force to the handles to allow the tool to spring open.



STEP 1: Open proper hand crimper (see Contacts & Tooling) by squeezing handles until handles spring open.



STEP 2: Open flap locator. Insert contact up to stop. Make sure contact is inserted properly.



STEP 3: Close flap locator.



STEP 4: Press pre-positioner firmly downward for contact alignment (crimp area should be facing upward).



STEP 5: Pre-close the handles.



STEP 6: Insert stripped wire into contact up to insulation stop.



STEP 7: Squeeze handles until they pop open. Remove contact from the locator.

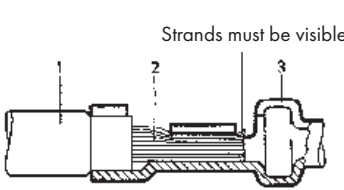
HAND TOOL PART NUMBER	CONTACT TYPE	FOR CONTACTS		WIRE STRIP LENGTH
		PIN	SOCKET	
SSI-CS10	Insulation support	030-2196-001	031-1267-001	.155 - .185
		030-2196-006	031-1267-005	(4.0 - 4.7)
SS-CS10	Non-insulation support	030-2196-000	031-1267-000	.185 - .220
		030-2196-008	031-1267-007	(4.7 - 5.6)

TOOL MAINTENANCE:
Maintenance and inspection should be performed regularly. The tool should be wiped clean with special emphasis on crimping cavities. The tool may be cleaned by immersing in a suitable commercial solvent or cleaner that does not attack paints or plastic material. The tool should be re-lubricated after cleaning using a light film of a medium weight oil on bearing surfaces and pivot pins. When not in use, keep handles closed to prevent objects from becoming lodged in the crimping dies. Store in a clean dry area.

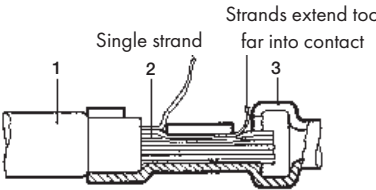
CRIMP INSPECTION

Micro sections: Enlargement of micro section allows for final judgment of crimp quality. This test is recommended whenever new tools or new types of wire are used.

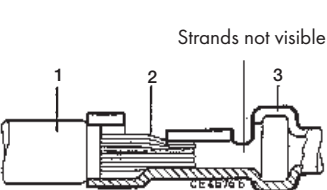
FOR STAMPED CONTACTS



Correct Crimp



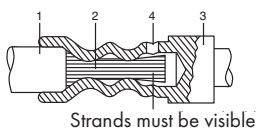
Incorrect Crimp



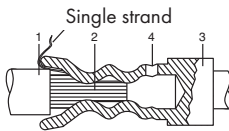
Incorrect Crimp

- 1 - Insulation
- 2 - Strands
- 3 - Contact

FOR MACHINED CONTACTS



Correct Crimp



Incorrect Crimp

- 1 - Insulation
- 2 - Strands
- 3 - Contact
- 4 - Wire inspection hole
- 5 - Shoulder

NOTE: For accurate pull test results when crimping insulation support contacts (030-2196-001 & 031-1267-001), strip wire back .3" so that the insulation support tine does not crimp onto insulation.

SURE-SEAL® CONNECTOR TEST DATA

Typical: Power Sure-Seal®, Standard Sure-Seal®, and Mini Sure-Seal® are essentially the same except for mechanical and amperage capacity differences. Sure-Seal® products are designed to meet specification CS- 155. Items of most general interest to users and designers are listed below. With its current capability and large size, Power Sure-Seal® contacts and currents are covered in CS-169.

TEST	REFERENCE	REQUIREMENTS																	
DESCRIPTION	PARAGRAPH																		
Environmental Sealing	3.5.1	Sure-Seal® connectors when mated shall form an environmental seal against water, moisture, aqueous solutions, oils and certain chemicals as well as dust and dirt Tests include immersion in 3 feet depth in water solution containing 5% salt.																	
Contact Tensile Strength – Crimp	3.6.12	The minimum tensile load required to separate the wire from the contact, either by pulling the wire out of the crimp joint or breaking the wire within the crimp joint, shall not be less than the applicable limits as specified. Wire breakage, or contact damage not due to crimping, at less than tensile loads shall not constitute failure.																	
		CRIMP TENSILE STRENGTH, POUNDS MINIMUM																	
		WIRE SIZE AWG	WITHOUT INSULATION SUPPORT CONTACTS	WITH INSULATION SUPPORT CONTACTS	WIRE SIZE AWG	WITHOUT INSULATION SUPPORT CONTACTS	WITH INSULATION SUPPORT CONTACTS	WIRE SIZE AWG	WITHOUT INSULATION SUPPORT CONTACTS	WITH INSULATION SUPPORT CONTACTS									
		4	140	-	10	80	-	18	25	25									
		6	100	-	14	35	35	20	-	20									
		8	90	-	16	35	35	-	-	-									
Insulation Resistance	4.4.1	Properly assembled and mated connectors shall be tested in accordance with MIL-STD-202, Method 302, except a potential of 500 ± 15 volt DC shall be used. The resistance shall be measured between adjacent parts of contacts (or contacts to ground for SS-1) and shall not be less than 100 M. If the specimen has been immersed in fluid in the preceding test, it shall be placed wet on a conducting surface and insulation resistance measured within 5 minutes between each contact and also between each contact and the conducting surface (except for SS-1 to be measured contact to ground while immersed).																	
Dielectric Withstanding Voltage	4.4.2	Assembled and mated connectors shall show no evidence of breakdown between adjacent contacts (or contact to ground for SS-1) when tested in accordance with MIL-STD-202, Method 301, and a test voltage of 1200 ± 15 volts AC.																	
Contact Resistance	4.4.3	The contact resistance of mated contacts shall be such that the resistance measured across the contacts and 5/8” behind the crimp junction shall not exceed 10 mΩ. Test current to be 1 amp, and MIL-STD-202, Method 307.																	
Shock	4.4.4	Mated connectors properly mounted shall be subjected to the shock test in accordance with MIL-STD- 202, Method 213B, CONDITION B. The shock test shall be repeated three (3) times in each of X, Y & Z axis. Suitable means shall be employed to monitor the current flow. Current discontinuity of 1 microsecond or more, disengagement of the mated connectors, evidence of cracking, breaking or loosening of parts shall be cause for rejection.																	
Vibration	4.4.5	Properly assembled and mated connectors shall be mounted to the vibration table, with the wire leads strapped to a vibrating member approximately 3 inches from each end of the connector body and vibrated with a peak-to-peak amplitude of .25 inch across a frequency range of 5 to 39Hz, and a ±20g acceleration across 39 to 55 Hz, swept up in one minute and down in another minute. The vibration shall be swept up and down for a total of 36 hours under the following conditions: Six (6) hours at 180°F (82°C) along the longitudinal axis Six (6) hours at 180°F (82°C) along a perpendicular axis Six (6) hours at room temperature along the longitudinal axis Six (6) hours at room temperature along a perpendicular axis Six (6) hours at -40°F (-40°C) along the longitudinal axis Six (6) hours at -40°F (-40°C) along a perpendicular axis The connectors shall be connected in a series circuit with a minimum of 0.1 ampere flowing through the contacts. Electrical continuity shall be continually monitored. Breaks in continuity longer than one microsecond shall be cause for rejection.																	
Durability	4.4.6	The connectors shall be subjected to 25 cycles of mating and unmating at -10°C and another 25 cycles at 50°C. There shall be no evidence of damage to the contacts, the contact plating, the insulators or sealing rings, which would be detrimental to connector function.																	
Contact Retention	4.4.7	With the connector plug or receptacle held firmly, an axial dead weight of 7.5 lbs. shall be imposed on each wire for one minute without the contacts being dislodged from the connector. Plugs and receptacles to be tested separately.																	
Maintenance Aging	4.4.8	Each wired receptacle and plug shall be subjected to 5 cycles of contact insertion and extraction in the same cavity using the approved tools. Plug and receptacle are to be tested separately. After the 5 cycles of insertion and extraction, each plug and receptacle in turn will be subjected to the contact retention test of 7.5 lbs. per paragraph 4.4.7.																	
Connector Separating Force	4.4.11	Using an assembled and mated connector with the receptacle held firmly by the wires, a load shall be applied to the wires of the plug until the connector is completely separated. The rate of loading shall be one inch per minute. The sample shall fall within the limits specified as follows:																	
		CONNECTOR SIZE			UNMATING FORCE (LBS.)			CONNECTOR SIZE			UNMATING FORCE (LBS.)								
					MAX.			MIN.			MAX.			MIN.					
		SS-1			12			6			SS-4			20			9		
		SS-2			15			6			SS-5/7			30			10		
		SS-3			18			8			SS-8/10			55			10		
Solvent Resistance	4.4.13	Wired and mated connectors shall be subjected to the applicable fluids for the length of time specified. Following the test the connectors shall be immersed to a depth of 3 feet in salt water for 24 hours at room temperature. At the completion of the salt water immersion test and while still immersed insulation resistance shall be measured. Failure to meet the insulation resistance requirements shall be cause for rejection.																	
	4.4.14																		
	4.4.15																		
	4.4.16																		
	4.4.17																		
	4.4.18																		
	4.4.19																		
		Gasoline Splash	1second dip - 3 minute air dry for 80 cycles at room ambient temperature.																
		Diesel Fuel Splash	1second dip - 3 minute air dry for 80 cycles at room ambient temperature.																
		Automotive Lubricating Oil	Immersed in S.A.E. 30 weight lubricating oil for 1 hour.																
		Antifreeze	Immersed at 120°F (49°C) for 48 hours.																
		Brake Fluid	Immersed at room ambient temperature for 24 hours.																
		Automatic Transmission Fluid	Immersed at 120°F (49°C) for 48 hours.																
		Gasoline Vapor	Immersed in a gasoline vapor atmosphere at room temperature for 48 hours.																
Weather and Ozone Resistance	4.4.20	Wired and properly mated connectors shall be subjected to ozone test per ASTM-D-1149 except that 100 ppm of ozones shall be used. The duration of the test shall be 7 days. Outdoor exposure to be conducted per ASTM D-1171. The connector shall show no cracking or other degradation which would result in loss of sealing integrity.																	
High Temperature Long-Term	4.4.23	Wired mated connectors shall be tested in accordance with MIL-STD-202 Method 108A, Test Condition D at 105°C for 1000 hours. Following the test, they shall be subjected to 3 feet salt water immersion for 24 hours. While immersed, insulation resistance shall be determined. Failure to meet the insulation resistance requirements shall be cause for rejection.																	
UV	-	Sure-Seal Connections has recently completed testing of the Sure-Seal® PVC Nitrile material (SM 3400-06) for UV resistance. The material was tested in accordance with ASTM G-26 (Xenon Arc), 720 hours exposure with no loss in tensile strength and greater than 75% retention of elongation.																	

Caution: "Sure-Seal® connectors are rated for use between temperatures of -40 to + 105 degrees Celsius. However, if a Sure-Seal® connector is exposed for long periods of time to temperatures exceeding 85 degrees Celsius and is unmated, it may lose its environmental sealing integrity upon remating. Thus, we recommend that both the plug and receptacle be replaced if environmental sealing is required after remating."



Water and Oil Resistant Connectors for Industrial Demands

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SSC_PSG_01
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