





# eco mate® rm

**Rugged Metal Shielded Connectors** 





# We Are Amphenol

# Global Interconnect Solution Supplier

For over 80 years Amphenol has enjoyed success as the interconnection technology provider of choice to industry leading companies around the world. Our organization works with leading manufacturers across a wide range of applications - including Energy Generation & Distribution, Transportation, Heavy Equipment, Factory Automation, Wireless Outdoor, Information Technology and Data Communications Equipment, Mobile Devices, Mobile Networks, Broadband Communication, Military and Commercial Aerospace, Industrial, Automotive and Chip Card Readers - enabling smarter, faster and better technologies to connect products to customer solutions.

Our engineers design innovative combinations of industry standard connectors and application specific shielding components to create assembly systems that set the standards for performance, reliability, and cost effectiveness. Our engineering, materials, and manufacturing organizations meet the high standards imposed by ISO 9001:2008 as well as many customer specific quality systems. Our performance has earned us ship to stock and world class performance awards from many major OEMs.

We are one of the largest interconnect solution suppliers in the world and supply a wide range of product solutions globally. The industrial market footprint of Amphenol covers more than 30 countries.





# eco | mate® rm Rugged Metal Shielded Connectors

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# Introduction to eco | mate® rm

### **Quick Reliable Mating**

#### **Bayonet Coupling**

With a quick twist of the bayonet coupling system, these connectors provide positive tactile feedback to insure confident mating. This feature also reduces time and labor during installation.

#### **Economical and Flexible**

#### **Mixed Power & Signal Layouts**

Power and signal contacts can be combined in a variety of inserts providing a highly flexible interconnect solution to reduce system complexity and minimize installation costs.

### Waterproof

#### **IP67**

Ideal for temporary submersion, (acheiving IP67) where water and dust protection are needed.

### **Corrosion Resistant**

#### Salt Spray Standard Nickel 48 Hours, Black or Green Zinc 96 Hours

Designed to withstand climate ingress and exposure to salt spray or a corrosive atmosphere while still maintaining mechanical and electrical functionality.

# Wide Ranging Contact System

#### **Flexible Contact Solutions**

Our contact system offers the flexibility of using a wide variety of contact styles and wire gauges within various connectors, shell sizes and insert layouts, providing customers with a total solution.

# eco|mate® rm

# **Rugged Metal Shielded Connectors**

# Typical Applications



Instrumentation Measurement



Robotics - Machine Tools



**Building Automation & Control** 



Telecom -Data Infrastructure





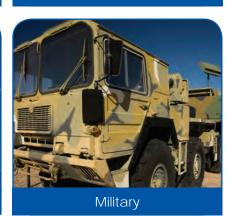
Medical



Aerospace

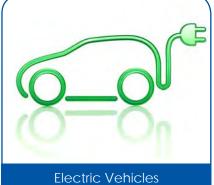
Automotive







Off Road - Mining - Railway



INDUSTRIAL@AMPHENOL

# eco|mate® rm Rugged Metal Shielded Connectors



### **Series Overview**

The eco|mate® rm series is the connector of choice wherever there are demanding interconnect architectures. The multiway connectors are available in 7 shell sizes and 25 insert arrangements with a variety of wire gauge options. It is the high performance, cost effective solution of choice for our customers.

series includes kinds The two Standard Products and connectors: High Amperage. Standard Products are widely used, standardized connectors, while the High Amperage connectors are designed to endure large currents and high voltage. Typically used within hybrid electric vehicles, High Amperage connectors are available in single pole, high power arrangements featuring RADSOK® technology. RADSOK® products are offered exclusively by Amphenol. Custom developed solutions are available in both styles.

Our eco|mate®rm products are designed to be a competitive alternative to other industry standard products while maintaining the best possible mechanical and environmental quality on the market. Our eco|mate®rm products feature IP67 environmental sealing qualities, rugged

nickel plated aluminum outer shells and bayonet locking systems that require only a 1/3 turn. An audible locking "click" indicates proper installation.

The versatility of having three available contact styles allows for a broad variety of insert arrangements.

- Machined
- Stamped & Formed
- Power

The eco | mate® rm Standard Product is our standard rugged metal shielded circular connector series available in 7 shell sizes and multiple insert arrangements.

The high amperage eco|mate® rm with RADSOK® technology is our single pole power connector series ranging from 86A to 300A.

eco|mate®rm industrial grade circular connectors are manufactured to be intermateable with other industry standard connectors. All connectors are RoHS compliant. The eco|mate® rm Series meets the standards of UL1977. The file number is E491265.

# High Performance Cost Effective Rugged Metal Shielded Connectors



eco| mate® rm Standard Products starting on page 21

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
   Operating Temperature: -40°C to +125°C
   (for parts with a silicone seal, ending in 03)
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- High-Density Contact Arrangements Available
- UL ECBT2 Certified



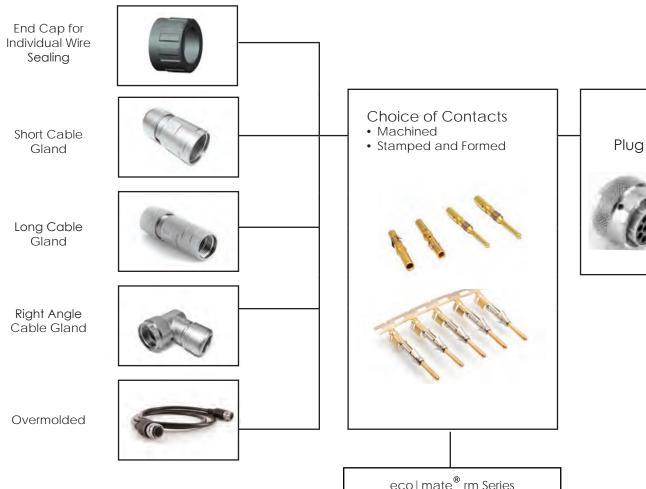
eco | mate® rm High Amperage Products starting on page 179

# High Amperage eco | mate® rm with RADSOK® Technology

- Single Pole High Power Arrangements
- 3.6mm-10mm Contact Sizes
- Operating Temperature: -40°C to +125°C
- RoHS Compliant
- 4 Shell Sizes
- Operating Voltage: 630V
- Current Rating at 25°C: 86A-300A
- Flammability Rating: UL94-V0
- High Reliability
- Low Contact Engagement / Separation Forces
- Low Contact Resistance
- High Mating Cycle Durability

# eco | mate® rm Rugged Metal Shielded Connectors

# **Connector Configurations**



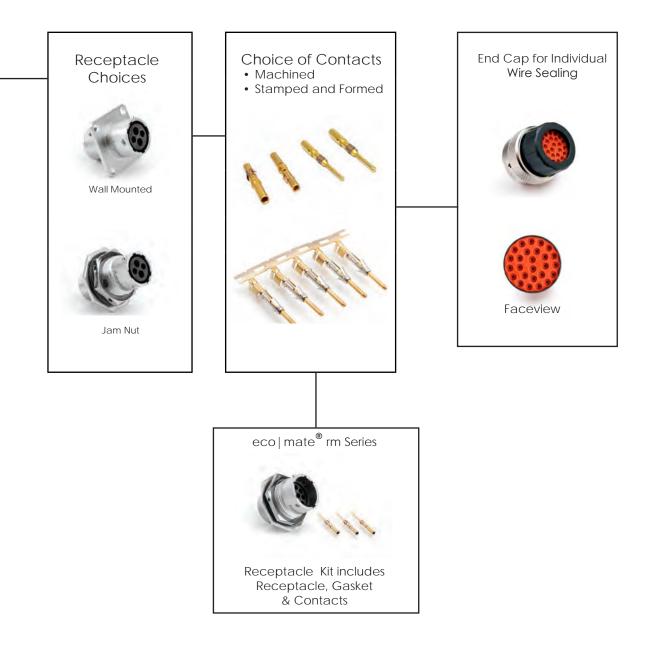
#### **Custom Solutions Available For:**

- Various Applications
- Extreme Environments
- Reducing the Number of Suppliers
- Molded Strain Relief
- Minimize Stress on Conductors
- 360 ° Shielding Available
- Custom Logo
- Enhanced Sealing Properties

#### Contact the Factory to learn more



Connector Solutions: see page 19 for parts grouped by insert arrangement



# eco|mate® rm

# **Rugged Metal Shielded Connectors**

# **Insert Arrangements**

	RTO					RTHP	
Shell Size	Contact #	Contact #16 (Ø 1.6) Mixed Power & Signal Contact 2.5mm Contact #20 (Ø 1.0)		Mixed Power & Signal		Single Pin Power RADSOK®	
10	4 positions Contact #16 (Ø 1.6) 13A 300V see page 29		Contact # & #20 13A & 2 350V A	4 positions Contact #16 (Ø 1.6) & #20 (Ø 1.0) 13A & 20# 5A 350V AC/DC see page 37		6 positions Contact #20 (Ø 1.0) 5A, 7A(machined) 150V see page 71	Consult factory
12	3 positions Contact #16 (Ø 1.6) 13A 300V see page 21	8 positions Contact #16 (Ø 1.6) 13A 300V see page 79	Consult	factory	Consult factory	10 positions Contact #20 (Ø 1.0) 5A, 7.5A(machined) 150V see page 111	1 position Contact 3.6mm 86A 630V AC/DC see page 179
14	8 positions Contact #16 (Ø 1.6) 13A 300V AC/DC page 87	12 positions Contact #16 (Ø 1.6) 13A 300V see page 119	Consult factory  4 positions Contact 2.5mm #16 (Ø 1.6) 23A &13A 350V AC/DC see page 47	Consult factory	4 positions Contact 2.5mm 23A 350V AC/DC see page 55	19 positions Contact #20 (Ø 1.0) 5A, 7.5A(machined) 150V see page 127	1 position Contact 6mm 120A 630V AC/DC see page 183
16	19 po Con # 16 (v 13A see pa	tact Ø 1.6) 300V	4 positions Contact #8 (Ø 3.6) 45A 500V AC/DC see page 63	9 positions Contact 2.5mm & # 16 (Ø 1.6) 23A & 13A 350V AC/DC see page 103	Consult factory	26 positions Contact #20 (Ø 1.0) 5A, 7.5A(machined) 150V see page 151	1 position Contact 8mm 120A - 180A 630V AC/DC see page 187

		RTO			RTHP
Shell Size	Contact #16 (Ø 1.6)	Mixed Power & Signal	Contact 2.5mm	Contact #20 (Ø 1.0) or Contact 3.6mm	Single Pin Power RADSOK®
18	23 positions Contact #16 (Ø 1.6) 13A 300V see page 143	Consult factory	8 positions Contact 2.5mm 23A 375V AC/DC see page 95	32 positions Contact #20 (Ø 1.0) 5A, 7.5A 150V see page 167	Consult factory
20	28 positions Contact #16 (Ø 1.6) 13A 300V see page 159	Consult factory	Consult factory	3 positions Contact 3.6mm 86A 630V see page 197	1 position Contact 10mm 120A - 300A 630V see page 191
24	48 positions Contact #16 (Ø 1.6) 13A 300V see page 177	Consult factory	Consult factory	Consult factory	Consult factory

Insert Arrangements are Pin Faceview

# eco|mate® rm

# **Rugged Metal Shielded Connectors**



#### **Materials**

- Zinc Alloy Shells
- Metal Alloy Backshells and Cable Glands
- Aluminum Alloy, Nickel Plated Coupling Ring
- Stainless Steel Coupling Spring
- Contacts Plating Options

Gold Flash over Tin

Tin

Silver

5μ, 10μ, 15μ, 30μ

Gold Flash

Other platings on request

Insulation Resistance

5000 megohms minimum of 25° C

Insulation Inserts

Thermoplastic, UL94 V-0

### **Environmental**

- IP67
- Operating Temperature

-40° to 105° C - Standard Products with NBR Seal

-40° to 125° C -Standard Products with Silicone Seal

-40° to 125° C -High Amperage Products with RADSOK® technology

- Flammability Rating UL94 V-0
- Salt Spray

Per MIL-STD-202 method 101

- -48 h (standard version)
- -96 h (black anodized coupling ring) Higher salt spray resistance (200/500h) upon request
- Sealing

In mated condition and in combination with sealed backshell

• Fluid Resistance

Gas, oil, mineral oil, acid bath, basic bath





### **Electrical**

In Accordance With

UL 1977: Certificate ECBT2

File number: E491265

· More information

see "Technical Section" starting on page 228

## Mechanical

Durability

RT Series : >500 mating cycles RTHP Series: >100 mating cycles

Vibration

10-2000 Hz, level of 20 G's

Thermal Shock

No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C

Contact Resistance

#16 <6 m $\Omega$ #20 <15 m $\Omega$ 

 $eco \mid mate^{\text{@}} \text{ rm with RADSOK}^{\text{@}} < 1m \Omega$ 

# GuardSafe™ Locking Clips

Amphenol's **GuardSafe™ Locking Clips** are designed to complement the **eco|mate® rm** multi-way connector and **Amphenol PT\26482 Series** cylindrical metal bayonet coupling systems, and are suitable for many rough, harsh environmental applications. Featuring non-corrosive, plastic construction with clamshell functionality, they are resistant to brake and transmission fluid, oils, grease, salt, dirt and other contaminants. Compliant with new FM standards, the GuardSafe™ Locking Clip offers an extra layer of protection from an inadvertent uncoupling of the connector.



#### **Cost Effective Safety Protection**

**GuardSafe™ Locking Clips** render quick disconnections not "normally arching" by eliminating access to the coupling nut and requiring a tool for removal.

#### Easy to Use

User-friendly, easy to install and service.

#### Suitability

GuardSafe<sup>™</sup> Locking Clips are suitable to be used with wiring methods in accordance with Class I, Division 2 wiring practices per the National Electric Code (NEC), ANSI,\NFPA 70, Article 501.4(B).

#### Installation:

Locate the clip over the connector coupling nut with the lanyard towards the plug adapter as shown. Close the safety clip.

#### Removal:

Locate a screwdriver on first latch as shown. Push down the latch then twist the screwdriver. Repeat actions for second latch.





Locking Clips are also Compatible with Amphenol PT\26482 Series Cylindrical Metal Bayonet Coupling Systems!

Go to <u>www.amphenol-sine.com</u> for more information about the PT Series

eco mate® rm				
Part #				
108039110				
108039112				
108039114				
108039116				
108039118				
108039120				
108039122				
108039124				

#### Connector Kits

Q: Why are we offering "kits"?

**A:** Making "kits" available to our customers allows for reducing the number of part numbers necessary for any given project, whether for in-house production or field serviceable applications.

Amphenol's eco|mate® rm Rugged Metal Shielded Connector Kits offer mated multiway connector parts available in 6 shell sizes and 12 insert arrangements, with a variety of wire gauge options. eco|mate® rm industrial circular connectors are designed to be intermateable with other industry standard connectors. All connectors are RoHS compliant.



- Instrumentation Measurement
- Robotics
- Machine Tools
- Building Automation & Control
- Telecom Data Infrastructure
- Welding
- Medical
- Aerospace
- Energy Power
- Military
- Automotive
- Off Road
- Mining
- Railway
- Electric Vehicles



Plug Kit
Including Connector, Backshell & Contacts



Square Flange Receptacle Kit Including Receptacle, Gasket & Contacts



Jam Nut
Receptacle Kit
Including Receptacle
& Contacts

#### eco|mate® rm Kits

- 6 shell sizes/12 insert configurations
- Insert arrangements from 4-32 contacts
- Operating voltage of 150V or 300V
- Current rating: 5A, 7.5A(machined) or 13A (signal contacts)
- Alternate keying positions available
- Plastic inserts with flammability rating of UL94-V0

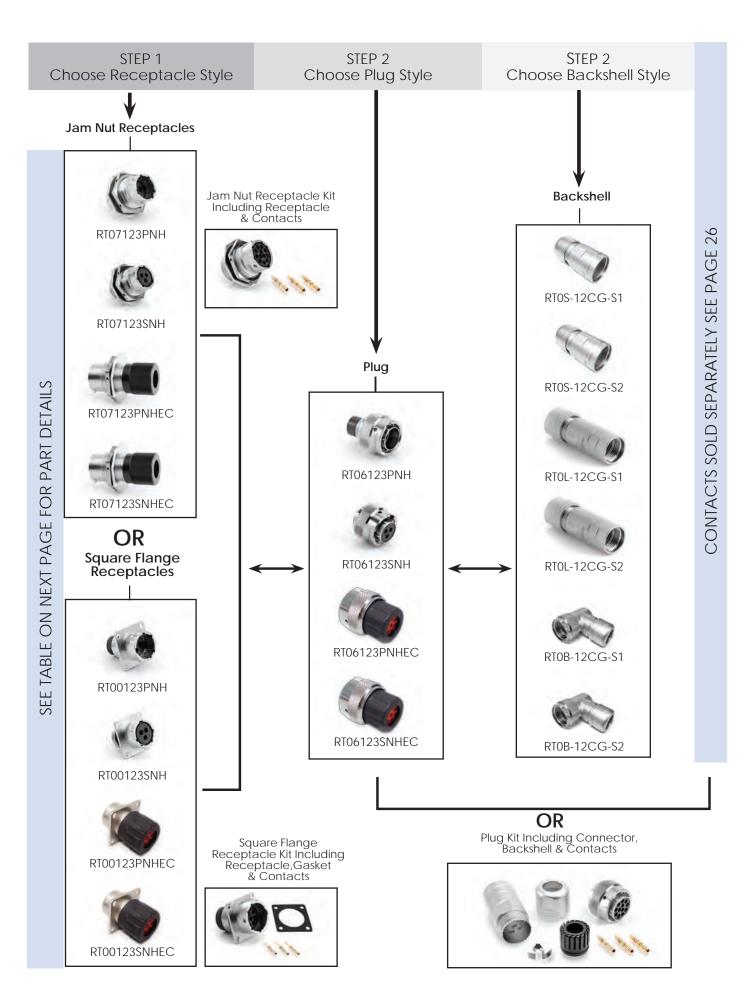




# eco | mate® rm Rugged Metal Shielded Connectors

# **Connector Solutions**

eco mate <sup>®</sup> rm Standard Products	
3 POSITIONS 13A / 300V	21
4 POSITIONS 13A / 300V	29
4 POSITIONS MIX 13A & 5A / 350V	37
4 POSITIONS MIX 23A &13A / 350V	
4 POSITIONS 23A / 350V	
4 POSITIONS 45A / 500V	
6 POSITIONS 5A / 150V	
8 POSITIONS 13A / 250V	79
8 POSITIONS 13A / 300V	87
8 POSITIONS 23A / 375V	95
9 POSITIONS MIX 23A & 13A / 250V	
10 POSITIONS 5A, 7.5A/ 150V	
12 POSITIONS 13A / 300V	119
19 POSITIONS 5A, 7.5A/ 150V	127
19 POSITIONS 13A / 300V	135
23 POSITIONS 13A / 300V	143
26 POSITIONS 5A, 7.5A / 150V	151
28 POSITIONS 13A / 300V	159
32 POSITIONS 5A, 7.5A / 150V	167
48 POSITIONS 13A / 300V	175
High Amperage eco mate® rm with RADSOK® Technology	v
1 POSITION 86A / 630V	
1 POSITION 120A / 630V	
1 POSITION 120A - 180A / 630V	
1 POSITION 120A - 300A / 630V	
3 POSITIONS 86A / 630V	197

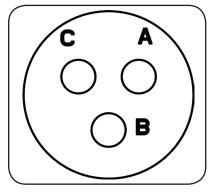


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part Number		Connector Type	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT07123PNH	RT07123SNH	Jam Nut Receptacle	1,5	2,5
RT07123PNHEC	RT07123SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT07123PNH-K	RT07123SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT06123PNH	RT06123SNH	Plug	6	7
RT06123PNHEC	RT06123SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT06123PNH-K	RT06123SNH-K	Plug Kit	6	7
RT00123PNH	RT00123SNH	Square Flange Receptacle	10,14	11,14
RT00123PNHEC	RT00123SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT00123PNH-K	RT00123SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 26 \*\*See page 23 for the real seal wire range

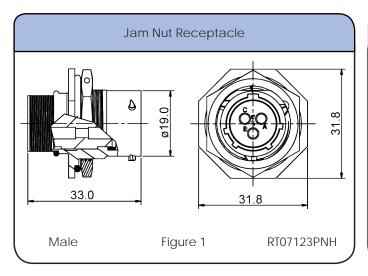
#### Backshells

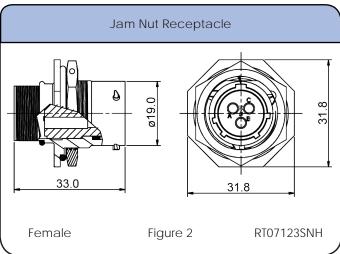
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-12CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RT0S-12CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-12CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-12CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-12CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-12CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

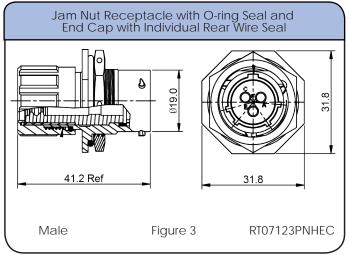
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

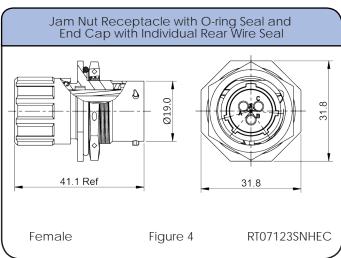
Sealing: IP67 Salt Spray: 48h

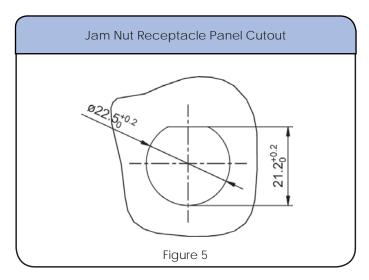
# Dimensions Jam Nut Receptacle





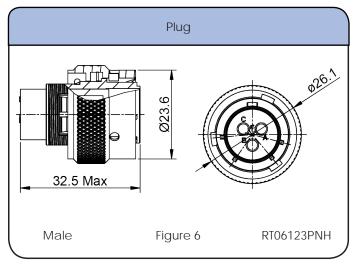


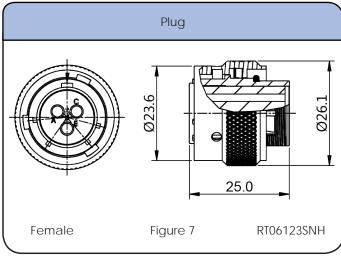


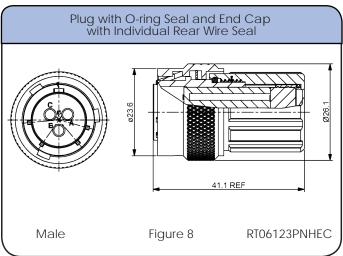


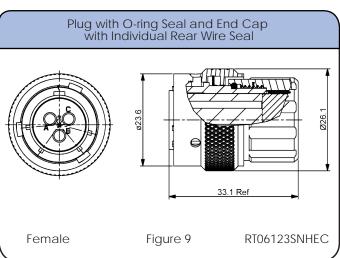
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







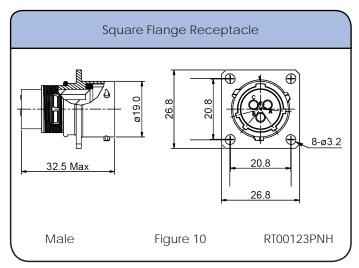


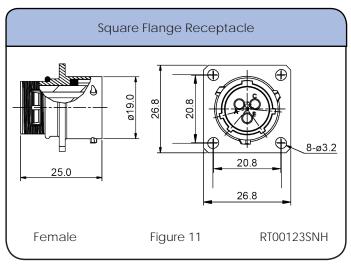
# Individual Sealing Wire Range

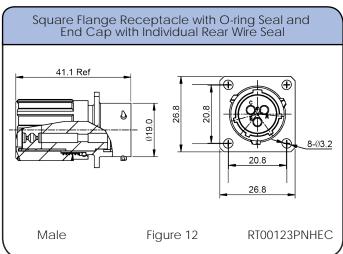
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

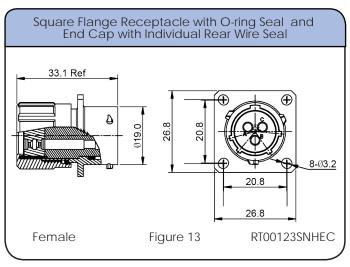
Sealing: IP67 Salt Spray: 48h

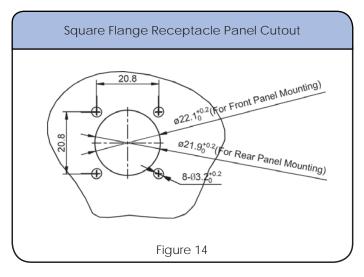
# Dimensions Square Flange Receptacle





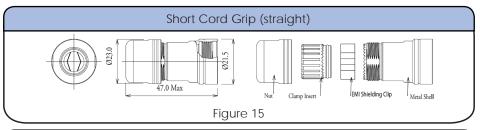


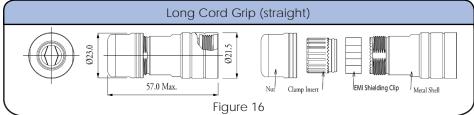


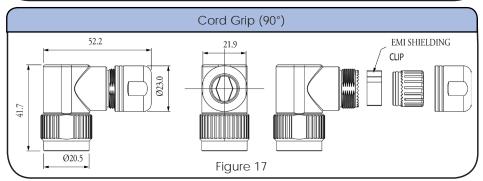


Sealing: IP67 Salt Spray: 48h

### **Dimensions Backshell**







### Accessories

RTFD12B











Sealing: IP67 Salt Spray: 48h

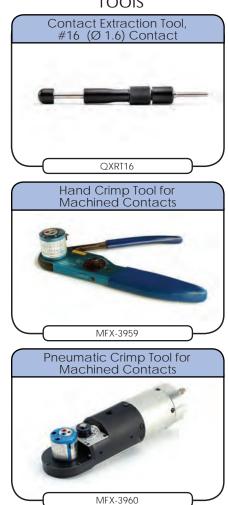
### Contacts



# Crimp Contacts, Machined

Part Number		A14/C	Wire	Diotina	
Male	Female	AWG	Range (mm²)	Plating	
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash	
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"	
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"	
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"	
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"	
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash	
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"	
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"	
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"	
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"	
MP20M23F	MS20M23F	22-20	.3450	Gold Flash	
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"	
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"	
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"	
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"	
MP24M23F	MS24M23F	26-24	.1425	Gold Flash	
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"	
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"	
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"	
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"	

### Tools



Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



# Crimp Contacts, Stamped & Formed

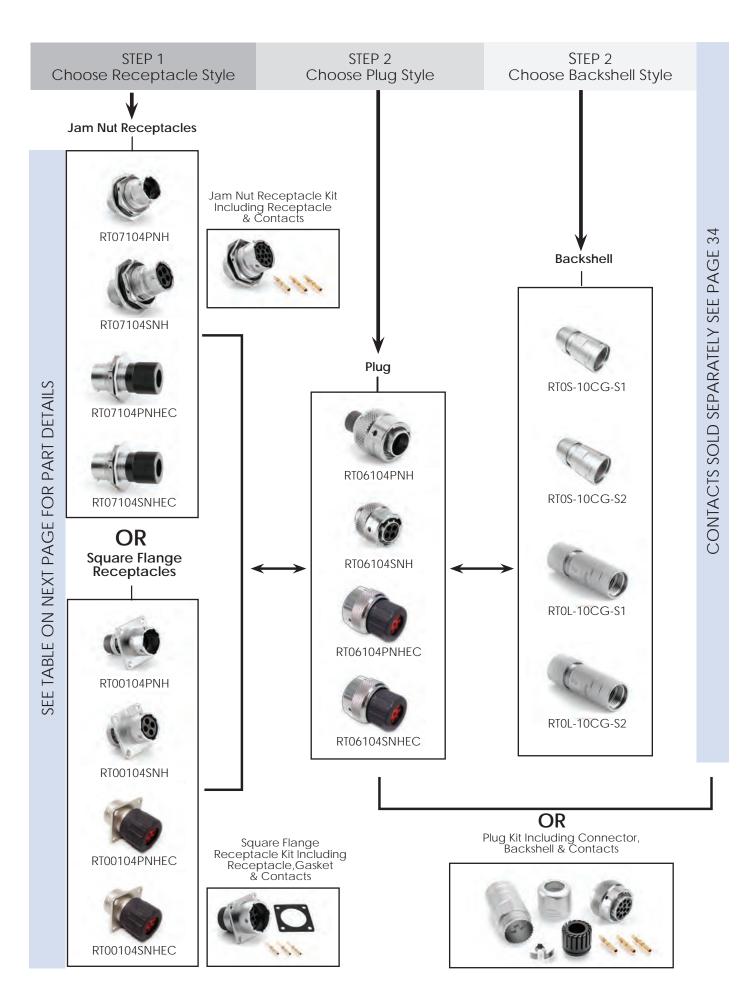
Part Number		014/0	Wire	Distinct	
Male	Female	AWG	Range (mm²)	Plating	
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash	
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"	
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"	
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"	
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"	
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash	
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"	
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"	
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"	
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"	
SP20M2F	SS20M2F	22-20	.3450	Gold Flash	
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"	
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"	
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"	
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"	
SP24M2F	SS24M2F	22-20	.1425	Gold Flash	
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"	
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"	
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"	
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"	

### Tools







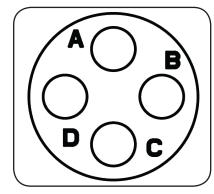


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part Number		Commontor Turno	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT07104PNH	RT07104SNH	Jam Nut Receptacle	1,5	2,5
RT07104PNHEC	RT07104SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT07104PNH-K	RT07104SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT06104PNH	RT06104SNH	Plug	6	7
RT06104PNHEC	RT06104SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT06104PNH-K	RT06104SNH-K	Plug Kit	6	7
RT00104PNH	RT00104SNH	Square Flange Receptacle	10,14	11,14
RT00104PNHEC	RT00104SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT00104PNH-K	RT00104SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 34 \*\*See page 31 for the real seal wire range

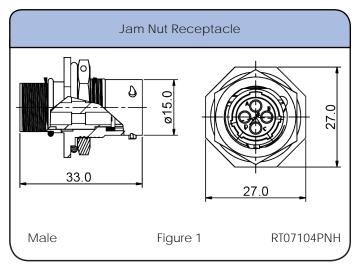
#### Backshells

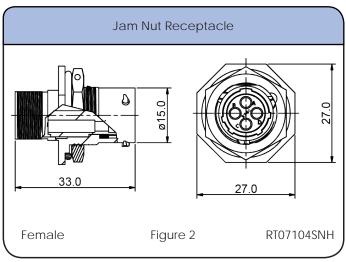
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-10CG-S1	Short Cord Grip (straight)	3-6.5	15	✓
RT0S-10CG-S2	Short Cord Grip (straight)	5-8.5	15	✓
RT0L-10CG-S1	Long Cord Grip (straight)	3-6.5	16	✓
RT0L-10CG-S2	Long Cord Grip (straight)	5-8.5	16	✓

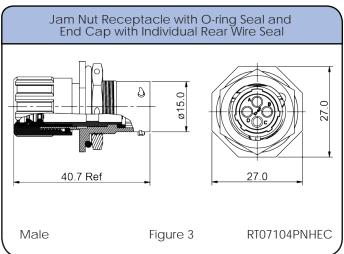
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

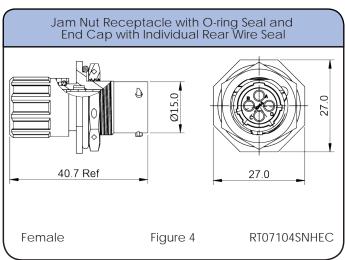
Sealing: IP67 Salt Spray: 48h

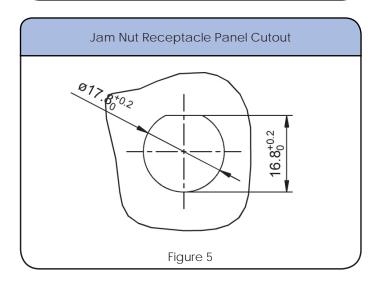
# Dimensions Jam Nut Receptacle





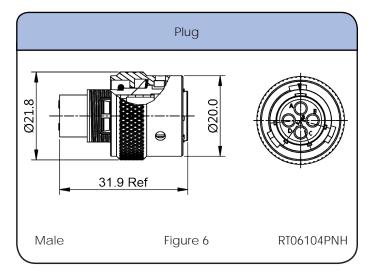


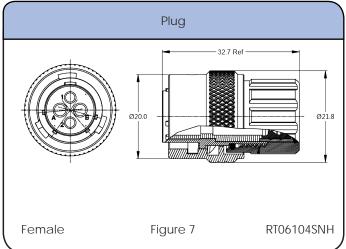


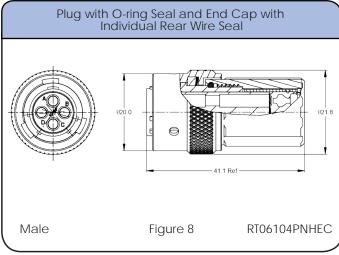


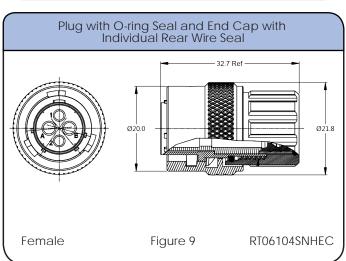
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







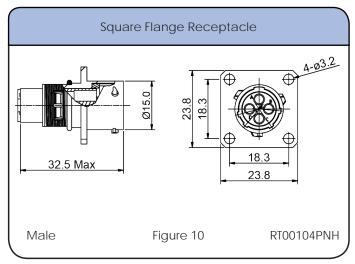


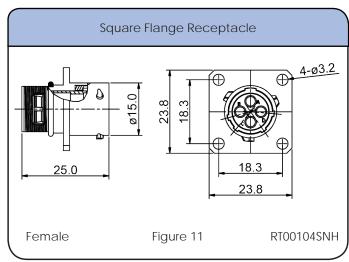
# Individual Sealing Wire Range

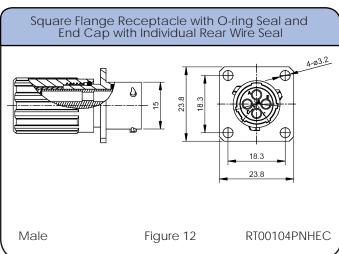
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

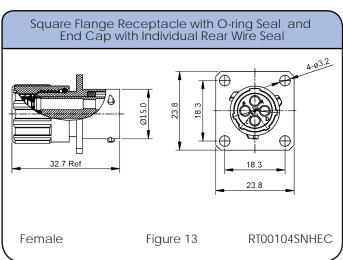
Sealing: IP67 Salt Spray: 48h

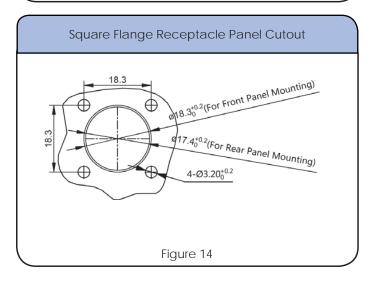
# Dimensions Square Flange Receptacle





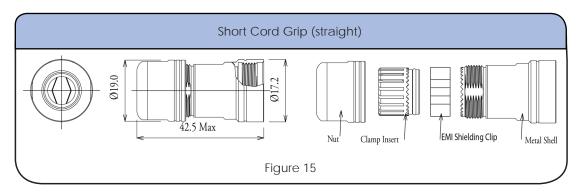


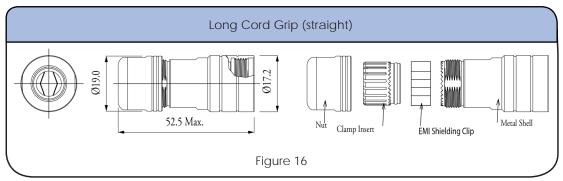




Sealing: IP67 Salt Spray: 48h

### **Dimensions Backshell**





#### **Accessories**



Sealing: IP67 Salt Spray: 48h

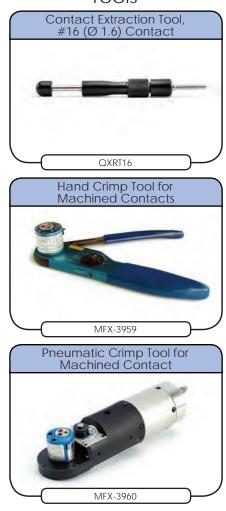
### Contacts



# Crimp Contacts, Machined

Part Number		A14/C	Wire	D:	
Male	Female	AWG	Range (mm²)	Plating	
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash	
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"	
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"	
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"	
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"	
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash	
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"	
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"	
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"	
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"	
MP20M23F	MS20M23F	22-20	.3450	Gold Flash	
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"	
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"	
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"	
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"	
MP24M23F	MS24M23F	26-24	.1425	Gold Flash	
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"	
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"	
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"	
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"	

## Tools



Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



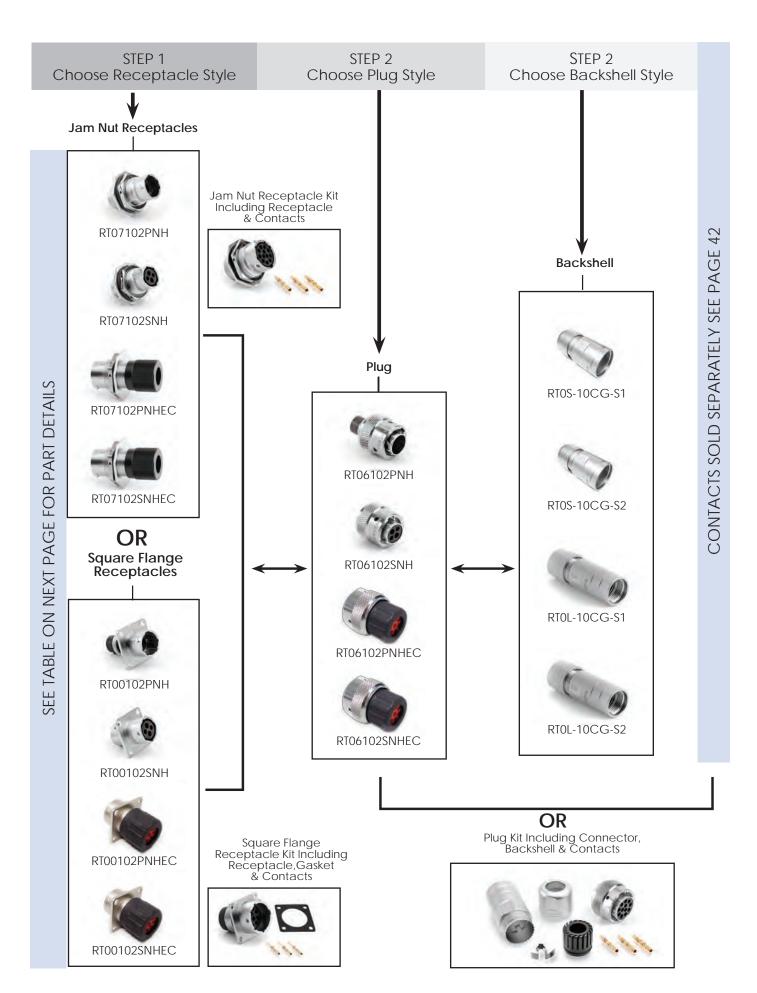
## Crimp Contacts, Stamped & Formed

Part Number			Wire	
Male	Female	AWG	Range (mm²)	Plating
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"

# Tools





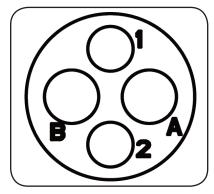


Sealing: IP67 Salt Spray: 48h

#### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Commontor Turns	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT07102PNH	RT07102SNH	Jam Nut Receptacle	1,5	2,5
RT07102PNHEC	RT07102SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT06102PNH	RT06102SNH	Plug	6	7
RT06102PNHEC	RT06102SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT00102PNH	RT00102SNH	Square Flange Receptacle	10,14	11,14
RT00102PNHEC	RT00102SNHEC	Square Flange Receptacle with O-ring Seal	12,14	13,14
RT00102PNHEC	RT00102SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT00102PNH-K	RT00102SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 42 \*\*See page 39 for the real seal wire range

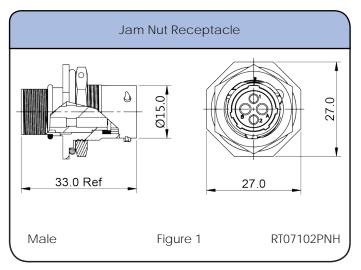
#### Backshells

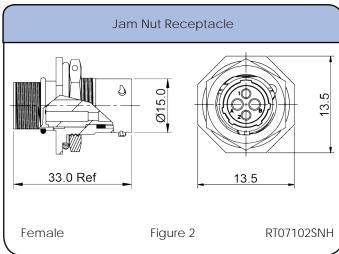
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-10CG-S1	Short Cord Grip (straight)	3-6.5	15	✓
RT0S-10CG-S2	Short Cord Grip (straight)	5-8.5	15	✓
RT0L-10CG-S1	Long Cord Grip (straight)	3-6.5	16	✓
RT0L-10CG-S2	Long Cord Grip (straight)	5-8.5	16	✓

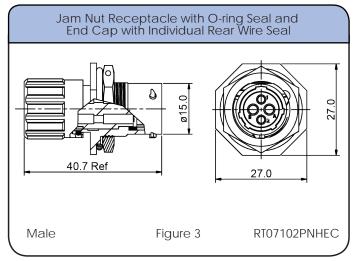
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

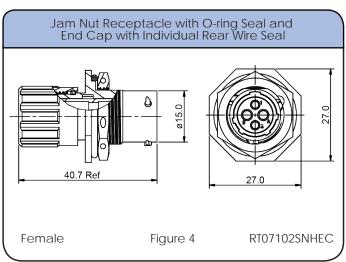
Sealing: IP67 Salt Spray: 48h

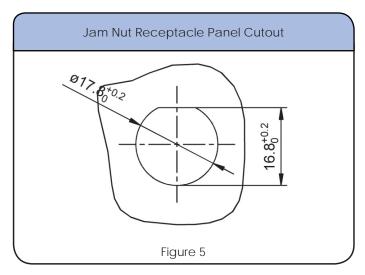
## Dimensions Jam Nut Receptacle





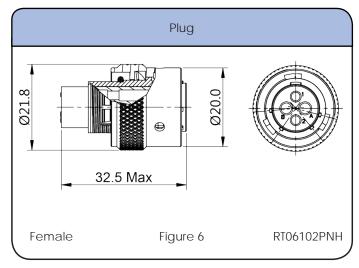


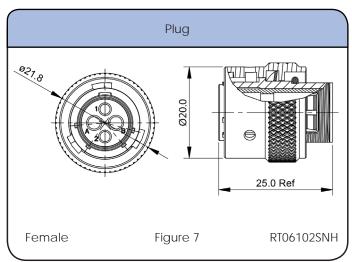


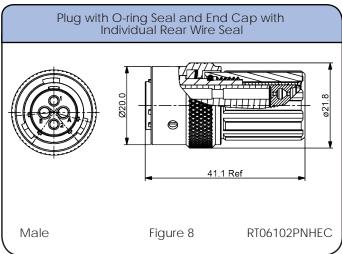


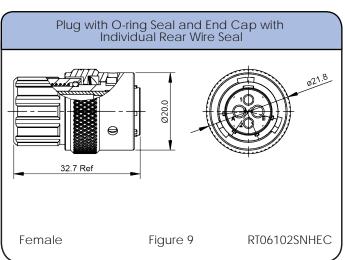
Sealing: IP67 Salt Spray: 48h

## **Dimensions Plug**







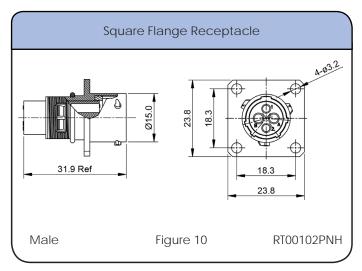


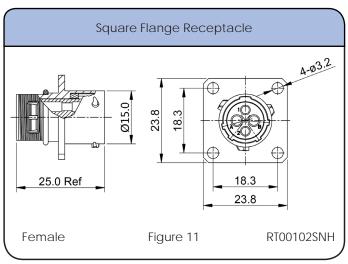
## Individual Sealing Wire Range

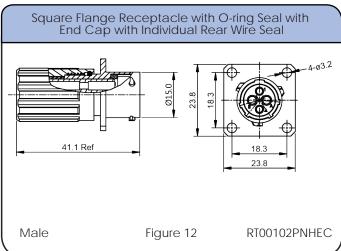
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG
20	Ø1.6mm - Ø2.6mm	20-30 AWG

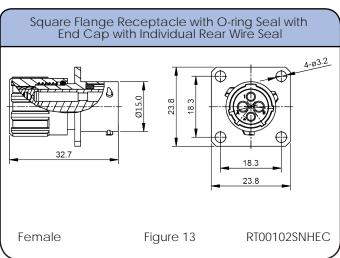
Sealing: IP67 Salt Spray: 48h

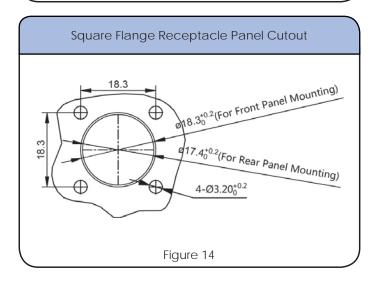
## Dimensions Square Flange Receptacle





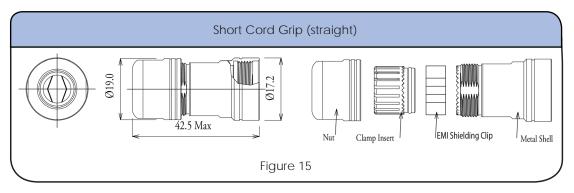


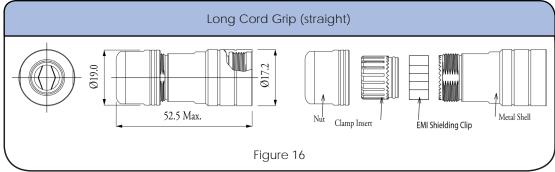




Sealing: IP67 Salt Spray: 48h

#### **Dimensions Backshell**





#### Accessories



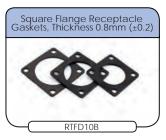




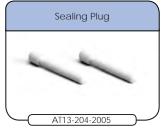














Sealing: IP67 Salt Spray: 48h

# Contacts



# Crimp Contacts, Machined

Part Nu	ımber	Contact	AWG	Wire	Diotina
Male	Female	Size	AWG	Range (mm²)	Plating
MP14M23F	MS14M23F	16	14	2.0-2.5	Gold Flash
MP14M23G5	MS14M23G5	16	14	2.0-2.5	Gold 5µ"
MP14M23G10	MS14M23G10	16	14	2.0-2.5	Gold 10µ"
MP14M23G15	MS14M23G15	16	14	2.0-2.5	Gold 15µ"
MP14M23G30	MS14M23G30	16	14	2.0-2.5	Gold 30µ"
MP16M23F	MS16M23F	16	18-16	.75-1.5	Gold Flash
MP16M23G5	MS16M23G5	16	18-16	.75-1.5	Gold 5µ"
MP16M23G10	MS16M23G10	16	18-16	.75-1.5	Gold 10µ"
MP16M23G15	MS16M23G15	16	18-16	.75-1.5	Gold 15µ"
MP16M23G30	MS16M23G30	16	18-16	.75-1.5	Gold 30µ"
MP20M23F	MS20M23F	16	22-20	.3450	Gold Flash
MP20M23G5	MS20M23G5	16	22-20	.3450	Gold 5µ"
MP20M23G10	MS20M23G10	16	22-20	.3450	Gold 10µ"
MP20M23G15	MS20M23G15	16	22-20	.3450	Gold 15µ"
MP20M23G30	MS20M23G30	16	22-20	.3450	Gold 30µ"
MP24M23F	MS24M23F	16	26-24	.1425	Gold Flash
MP24M23G5	MS24M23G5	16	26-24	.1425	Gold 5µ"
MP24M23G10	MS24M23G10	16	26-24	.1425	Gold 10µ"
MP24M23G15	MS24M23G15	16	26-24	.1425	Gold 15µ"
MP24M23G30	MS24M23G30	16	26-24	.1425	Gold 30µ"

Sealing: IP67 Salt Spray: 48h

# Crimp Contacts Machined (con't)



Part Nu	ımber	Contact	ANNO	Wire	Dia Paga
Male	Female	Size	AWG	Range (mm²)	Plating
MP20W23F	MS20W23F	20	22-20	.3450	Gold Flash
MP20W23G5	MS20W23G5	20	22-20	.3450	Gold 5µ"
MP20W23G10	MS20W23G10	20	22-20	.3450	Gold 10µ"
MP20W23G15	MS20W23G15	20	22-20	.3450	Gold 15µ"
MP20W23G30	MS20W23G30	20	22-20	.3450	Gold 30µ"
MP24W23F	MS24W23F	20	.1325	26-24	Gold Flash
MP24W23G5	MS24W23G5	20	.1325	26-24	Gold 5µ"
MP24W23G10	MS24W23G10	20	.1325	26-24	Gold 10µ""
MP24W23G15	MS24W23G15	20	.1325	26-24	Gold 15µ"
MP24W23G30	MS24W23G30	20	.1325	26-24	Gold 30µ"
MP28W23F	MS28W23F	20	30-28	.0508	Gold Flash
MP28W23G5	MS28W23G5	20	30-28	.0508	Gold 5µ"
MP28W23G10	MS28W23G10	20	30-28	.0508	Gold 10µ"
MP28W23G15	MS28W23G15	20	30-28	.0508	Gold 15µ"
MP28W23G30	MS28W23G30	20	30-28	.0508	Gold 30µ"

## Tools









Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



# Crimp Contacts, Stamped & Formed

Part Nu	•	Contact		NA Mina	Diotina
Male	Female	Size	AWG	Max Wire (mm²)	Plating
SP14M2F	SS14M2F	16	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	16	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	16	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	16	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	16	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	16	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	16	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	16	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	16	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	16	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	16	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	16	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	16	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	16	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	16	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	16	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	16	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	16	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	16	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	16	26-24	.1425	Gold 30µ"

Sealing: IP67 Salt Spray: 48h

# Crimp Contacts, Stamped & Formed (con't)

Part Nu	ımber	Contact	AMC	Nav Wire	Diotina
Male	Female	Size	AWG	Max Wire (mm²)	Plating
SP20W2F	SS20W2F	20	22-20	.3450	Gold Flash
SP20W2G10	SS20W2G10	20	22-20	.3450	Gold 10µ"
SP20W2G15	SS20W2G15	20	22-20	.3450	Gold 15µ"
SP20W2G30	SS20W2G30	20	22-20	.3450	Gold 30µ"
SP20W2G5	SS20W2G5	20	22-20	.3450	Gold 5µ"
SP24W2F	SS24W2F	20	26-24	.1425	Gold Flash
SP24W2G5	SS24W2G5	20	26-24	.1425	Gold 5µ"
SP24W2G10	SS24W2G10	20	26-24	.1425	Gold 10µ"
SP24W2G15	SS24W2G15	20	26-24	.1425	Gold 15µ"
SP24W2G30	SS24W2G30	20	26-24	.1425	Gold 30µ"
SP28W2F	SS28W2F	20	30-28	.0508	Gold Flash
SP28W2G5	SS28W2G5	20	30-28	.0508	Gold 5µ"
SP28W2G10	SS28W2G10	20	30-28	.0508	Gold 10µ"
SP28W2G15	SS28W2G15	20	30-28	.0508	Gold 15µ"
SP28W2G30	SS28W2G30	20	30-28	.0508	Gold 30µ"

# Tools

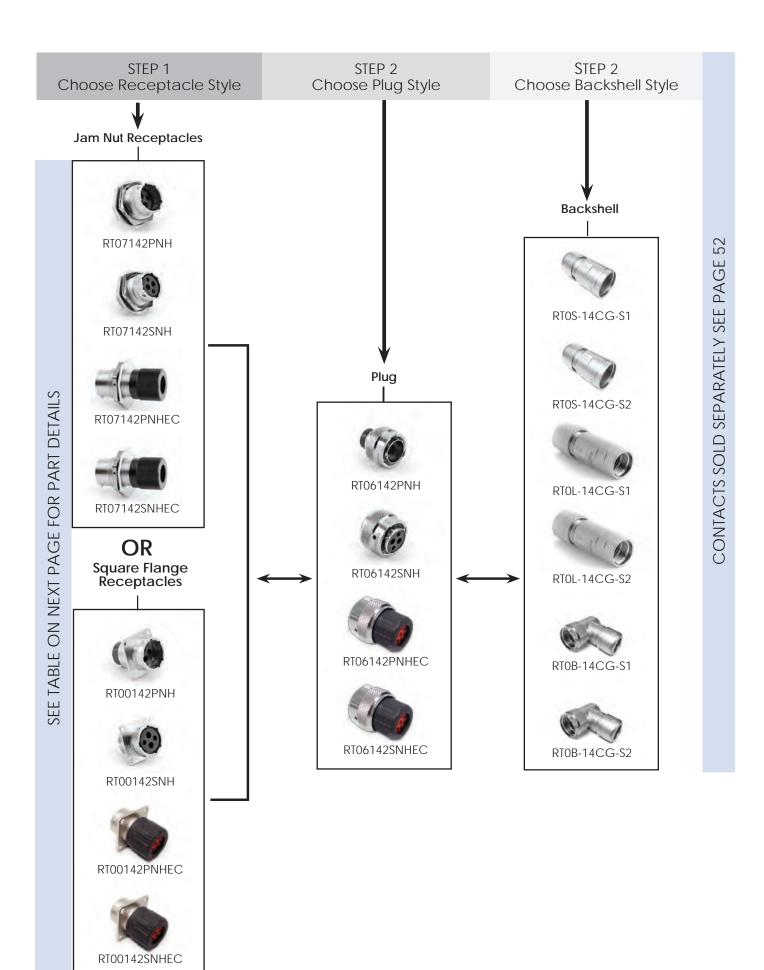










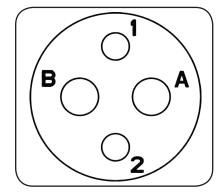


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Connector Type	Figure Dr	awings
Male	Female	Connector Type	Male	Female
RT07142PNH	RT07142SNH	Jam Nut Receptacle with O-ring Seal	1,5	2,5
RT07142PNHEC	RT07142SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT06142PNH	RT06142SNH	Plug with O-ring Seal	6	7
RT06142PNHEC	RT06142SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT00142PNH	RT00142SNH	Square Flange Receptacle	10,14	11,14
RT00142PNHEC	RT00142SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14

Contacts supplied separately see page 52
\*\*See page 49 for the real seal wire range

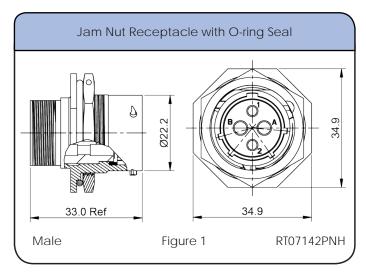
#### Backshells

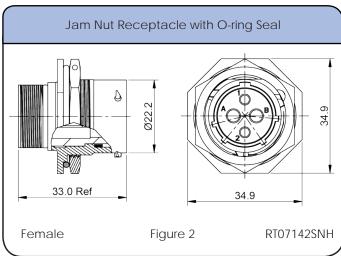
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-14CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RT0S-14CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-14CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-14CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-14CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-14CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

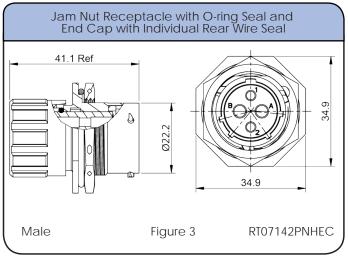
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

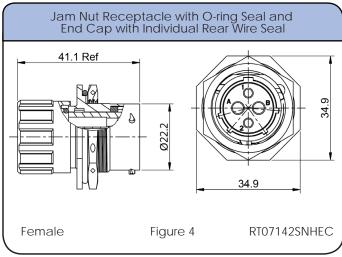
Sealing: IP67 Salt Spray: 48h

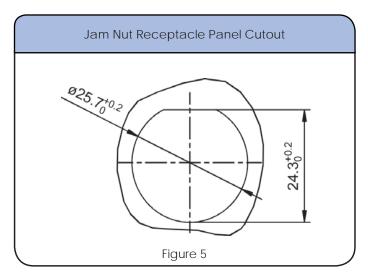
## Dimensions Jam Nut Receptacle





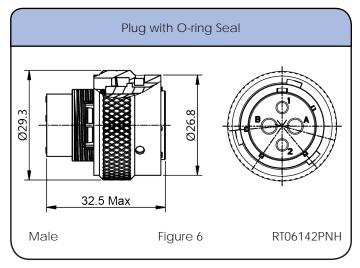


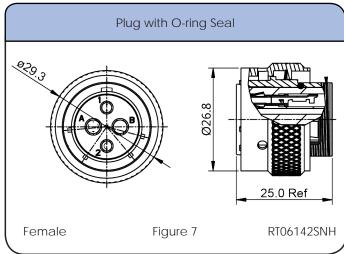


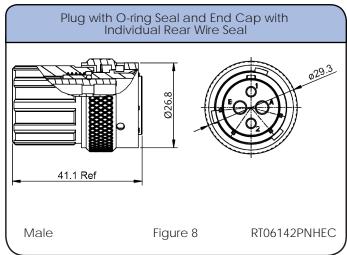


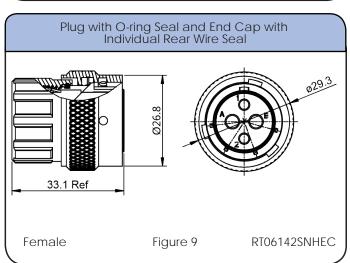
Sealing: IP67 Salt Spray: 48h

## **Dimensions Plug**







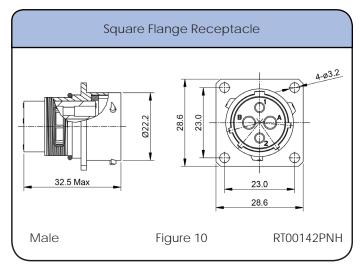


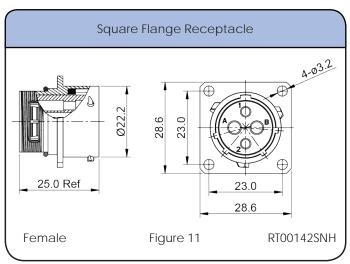
## Individual Sealing Wire Range

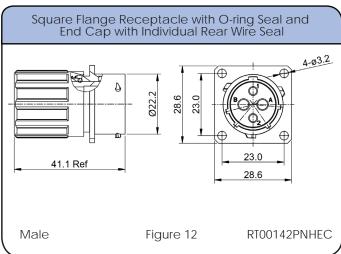
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
2.5mm	Ø3.3mm - Ø4.3mm	14 - 12 AWG
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

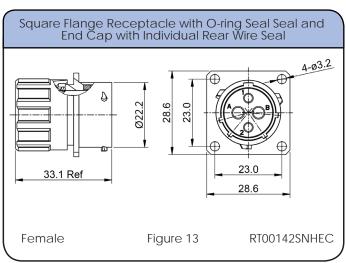
Sealing: IP67 Salt Spray: 48h

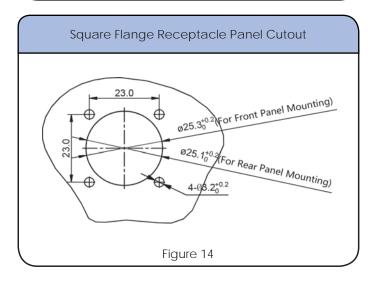
## Dimensions Square Flange Receptacle











**Number of Contacts: 4** Shell Size: 14 Contact Size: Mixed 2.5mm & 16

Salt Spray: 48h Sealing: IP67

#### **Dimensions Backshell**

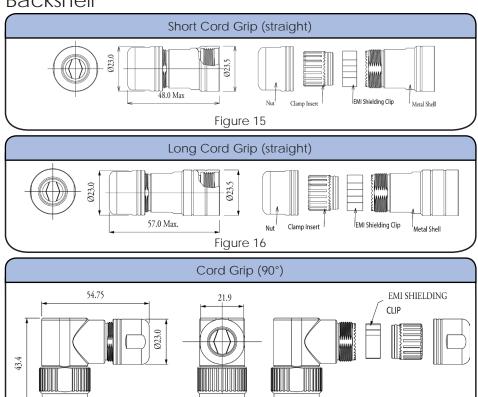
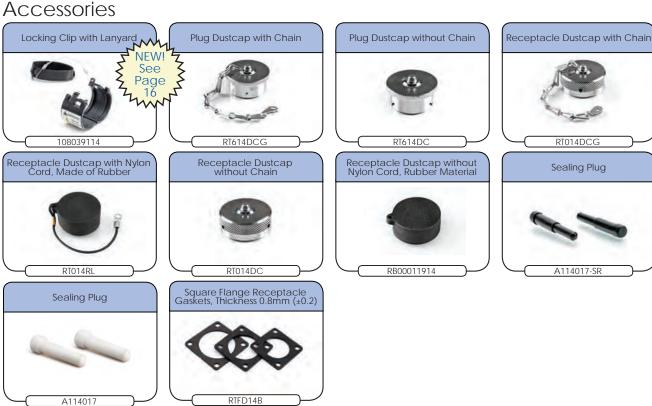


Figure 17

Ø23.0



Sealing: IP67 Salt Spray: 48h

#### Contacts



## Crimp Contacts, Machined

Part Nu	ımber	Contact	AWG	Wire	Dioting
Male	Female	Size	AWG	Range (mm²)	Plating
MP14M23F	MS14M23F	16	14	2.0-2.5	Gold Flash
MP14M23G5	MS14M23G5	16	14	2.0-2.5	Gold 5µ"
MP14M23G10	MS14M23G10	16	14	2.0-2.5	Gold 10µ"
MP14M23G15	MS14M23G15	16	14	2.0-2.5	Gold 15µ"
MP14M23G30	MS14M23G30	16	14	2.0-2.5	Gold 30µ"
MP16M23F	MS16M23F	16	18-16	.75-1.5	Gold Flash
MP16M23G5	MS16M23G5	16	18-16	.75-1.5	Gold 5µ"
MP16M23G10	MS16M23G10	16	18-16	.75-1.5	Gold 10µ"
MP16M23G15	MS16M23G15	16	18-16	.75-1.5	Gold 15µ"
MP16M23G30	MS16M23G30	16	18-16	.75-1.5	Gold 30µ"
MP20M23F	MS20M23F	16	22-20	.3450	Gold Flash
MP20M23G5	MS20M23G5	16	22-20	.3450	Gold 5µ"
MP20M23G10	MS20M23G10	16	22-20	.3450	Gold 10µ"
MP20M23G15	MS20M23G15	16	22-20	.3450	Gold 15µ"
MP20M23G30	MS20M23G30	16	22-20	.3450	Gold 30µ"
MP24M23F	MS24M23F	16	26-24	.1425	Gold Flash
MP24M23G5	MS24M23G5	16	26-24	.1425	Gold 5µ"
MP24M23G10	MS24M23G10	16	26-24	.1425	Gold 10µ"
MP24M23G15	MS24M23G15	16	26-24	.1425	Gold 15µ"
MP24M23G30	MS24M23G30	16	26-24	.1425	Gold 30µ"

## Tools







Sealing: IP67 Salt Spray: 48h

## Contacts (con't)





Crimp Contacts, Stamped & Formed

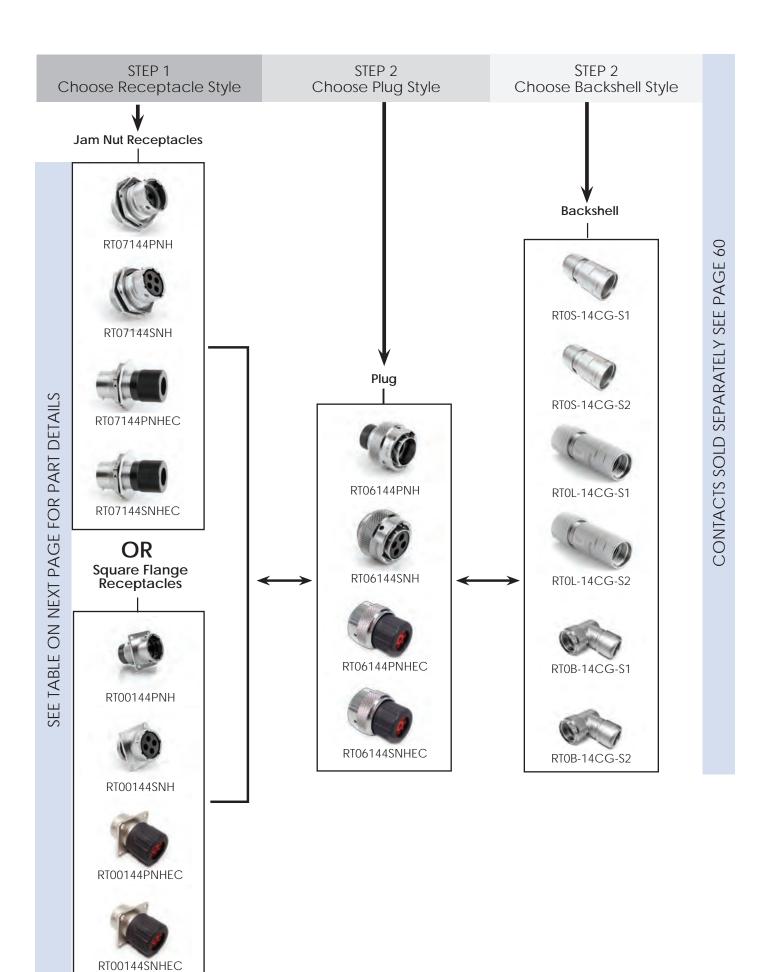
Part Nu	Part Number		AWG	Wire	Diation
Male	Female	Size	AWG	Range (mm²)	Plating
SP12A1T	SS12A1T	2.5mm	14-12	2.5-3.5	Tin
SP14M2F	SS14M2F	16	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	16	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	16	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	16	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	16	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	16	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	16	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	16	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	16	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	16	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	16	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	16	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	16	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	16	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	16	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	16	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	16	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	16	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	16	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	16	26-24	.1425	Gold 30µ"









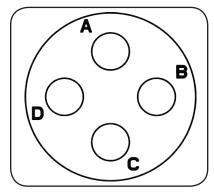


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Compostor Turo	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT07144PNH	RT07144SNH	Jam Nut Receptacle	1,5	2,5
RT07144PNHEC	RT07144SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT06144PNH	RT06144SNH	Plug	6	7
RT06144PNHEC	RT06144SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT00144PNH	RT00144SNH	Square Flange Receptacle	10	11,14
RT00144PNHEC	RT00144SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14

Contacts supplied separately see page 60 \*\*See page 57 for the real seal wire range

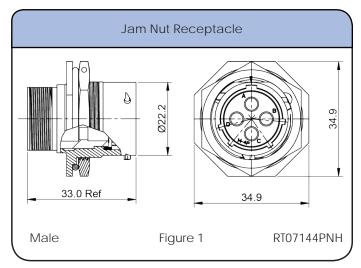
#### Backshells

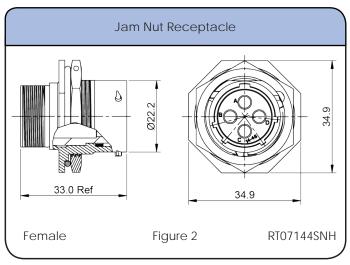
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-14CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RT0S-14CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-14CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-14CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-14CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-14CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

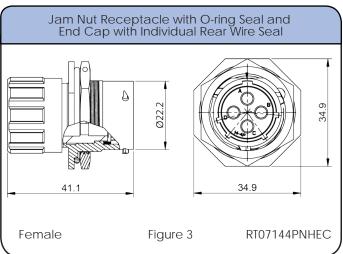
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

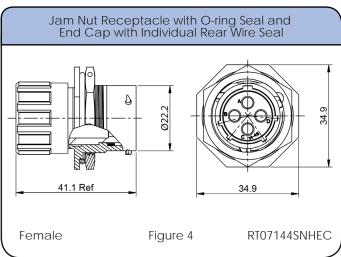
Sealing: IP67 Salt Spray: 48h

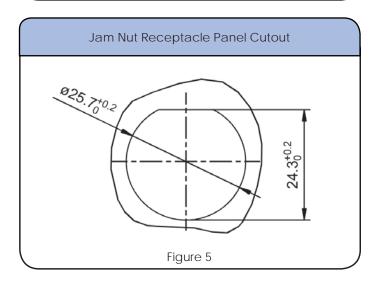
## Dimensions Jam Nut Receptacle





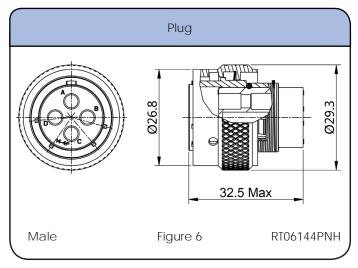


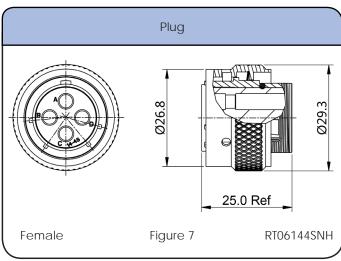


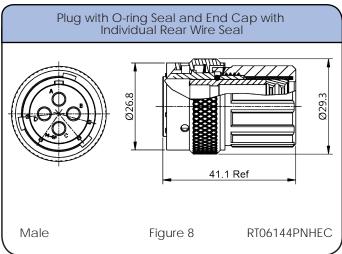


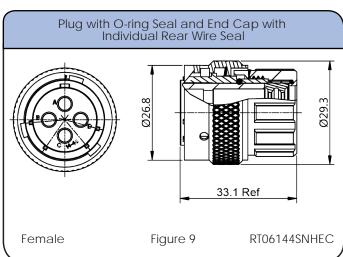
Sealing: IP67 Salt Spray: 48h

## **Dimensions Plug**







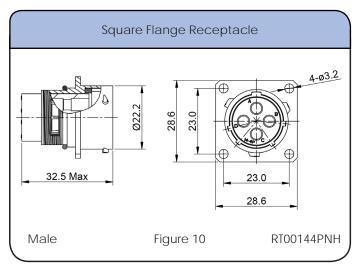


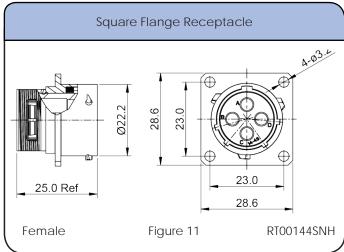
## Individual Sealing Wire Range

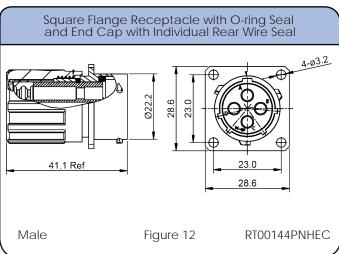
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
2.5mm	Ø3.3mm - Ø4.3mm	14 - 12 AWG

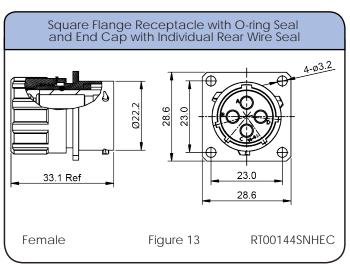
Sealing: IP67 Salt Spray: 48h

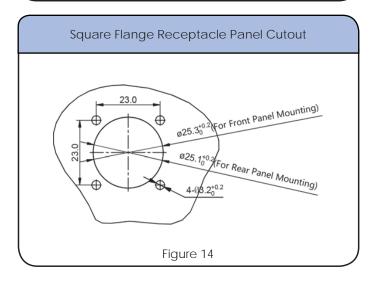
## Dimensions Square Flange Receptacle





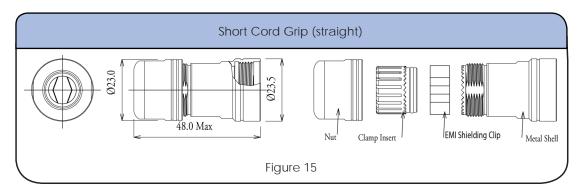


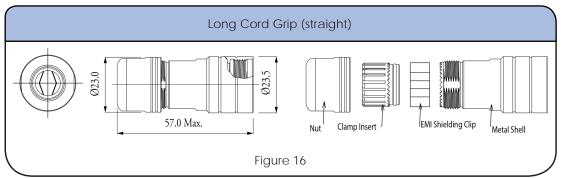


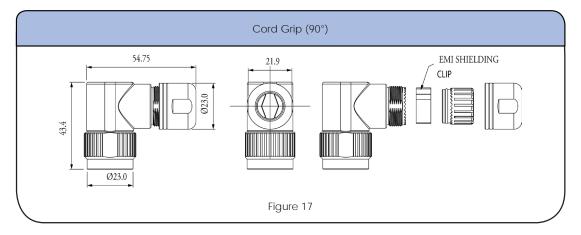


Sealing: IP67 Salt Spray: 48h

#### **Dimensions Backshell**







Sealing: IP67 Salt Spray: 48h

## Contacts

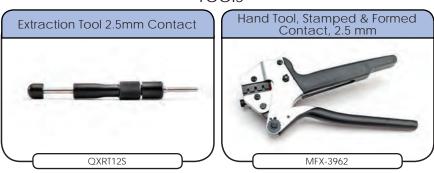


Crimp Contacts, Stamped & Formed

Part Number		A14/C	Awc Wire	Distinct	
Male	Female	AWG Range	Plating		
SP12A1T	SS12A1T	14-12	2.5-3.5	Tin	

No machined contacts are available for this group

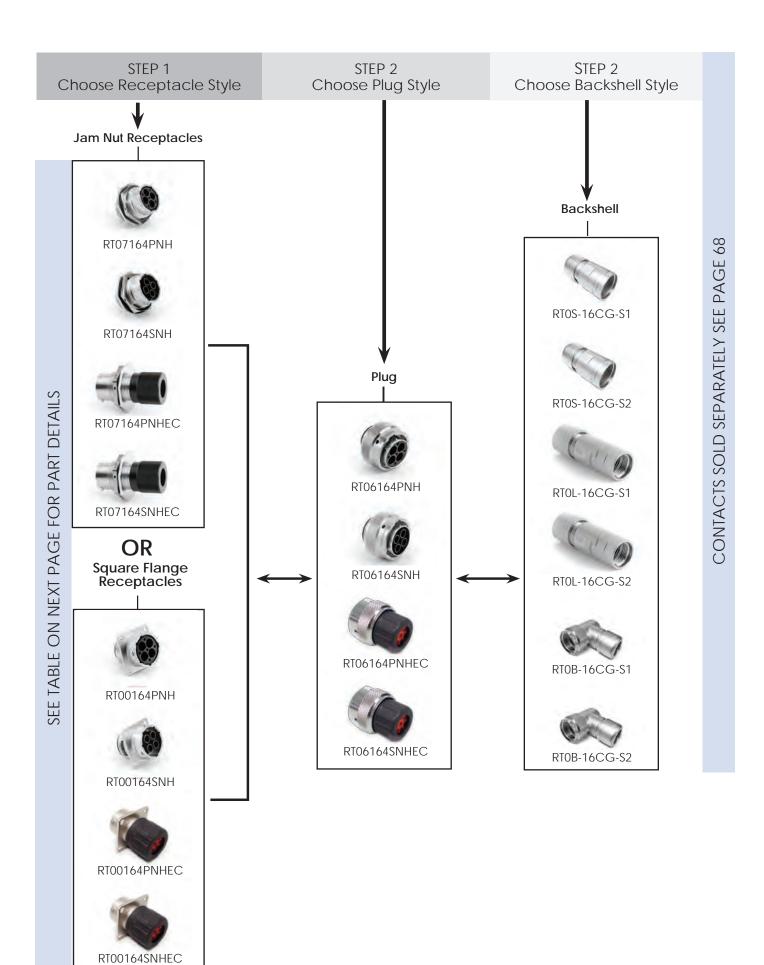
Tools



Sealing: IP67 Salt Spray: 48h

#### **Accessories**



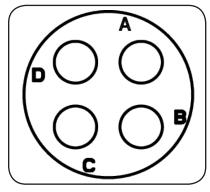


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

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- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Connector Type	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT07164PNH	RT07164SNH	Jam Nut Receptacle	1,5	2,5
RT07164PNHEC	RT07164SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT06164PNH	RT06164SNH	Plug	6	7
RT06164PNHEC	RT06164SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT00164PNH	RT00164SNH	Square Flange Receptacle	10,14	11,14
RT00164PNHEC	RT00164SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14

Contacts supplied separately see page 68 \*\*See page 65 for the real seal wire range

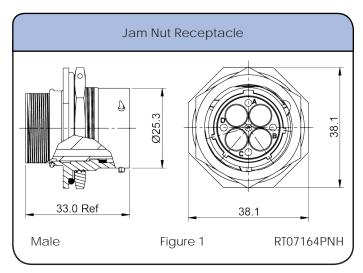
#### Backshells

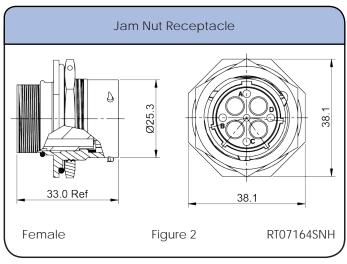
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-16CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RT0S-16CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-16CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-16CG-S2	Long Cord Grip (straight)	13.5-17	16	✓
RT0B-16CG-S1	Cord Grip (90°)	9.5-14.5	17	✓
RT0B-16CG-S2	Cord Grip (90°)	13.5-17.0	17	✓

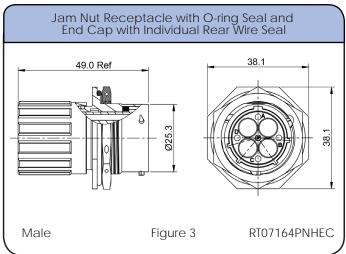
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

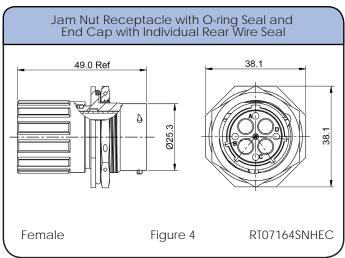
Sealing: IP67 Salt Spray: 48h

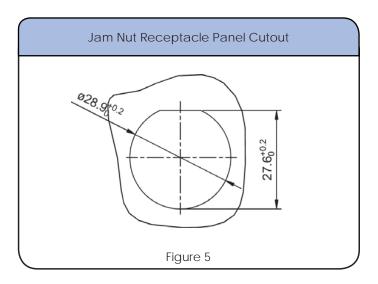
## Dimensions Jam Nut Receptacle





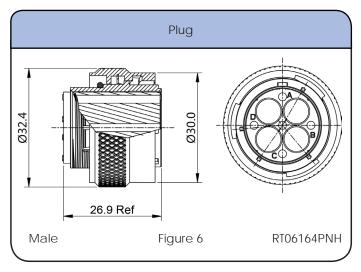


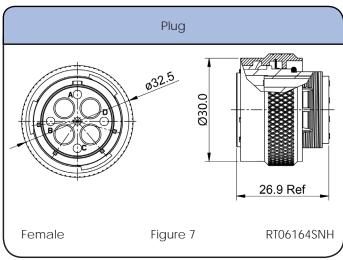


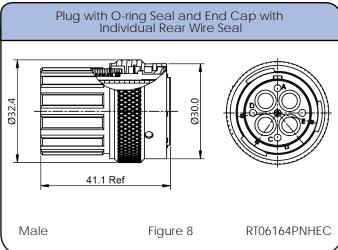


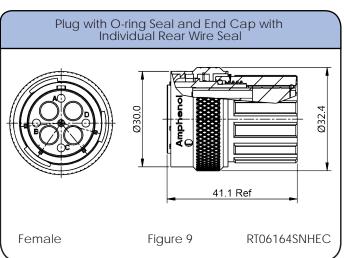
Sealing: IP67 Salt Spray: 48h

## **Dimensions Plug**







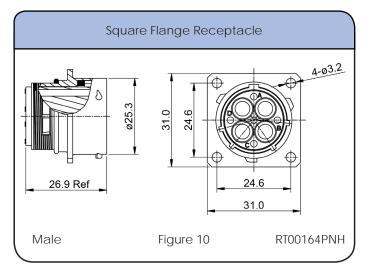


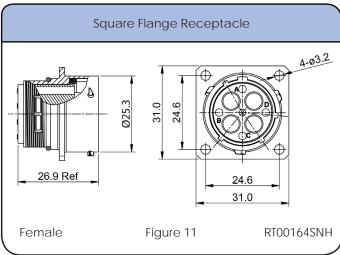
## Individual Sealing Wire Range

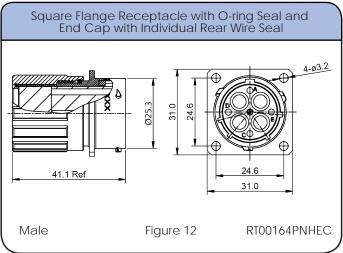
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
3.6mm	Ø2.8mm - Ø5.8mm	12 - 10 AWG

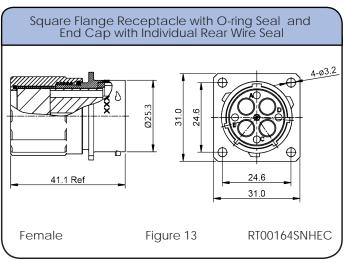
Sealing: IP67 Salt Spray: 48h

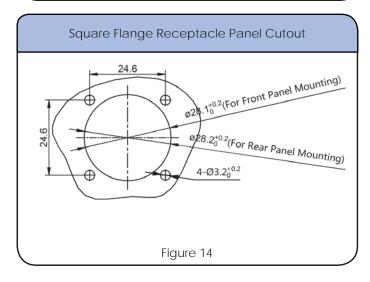
## Dimensions Square Flange Receptacle





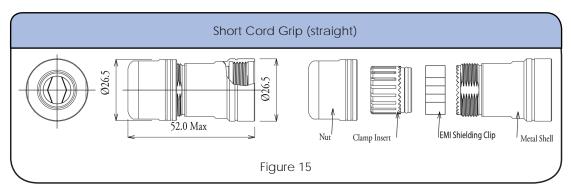


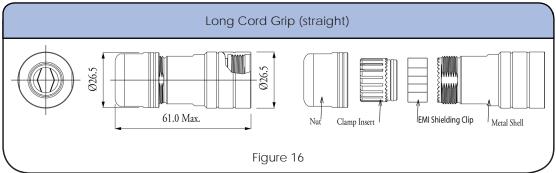


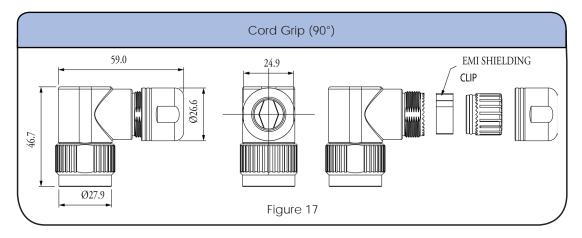


Sealing: IP67 Salt Spray: 48h

#### **Dimensions Backshell**







Sealing: IP67 Salt Spray: 48h

#### Contacts

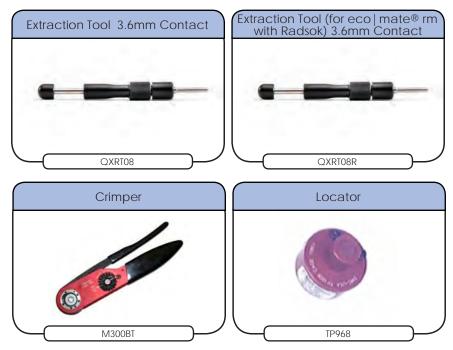


Crimp Contacts, Machined

Part Number		AMC	Wire	Distinct	
Male	Female	AWG	Range (mm²)	Plating	
MP10A23S	MS10A23S	8	3.0-6.0	Silver Plated	

no stamped & formed contacts are available for this groupt

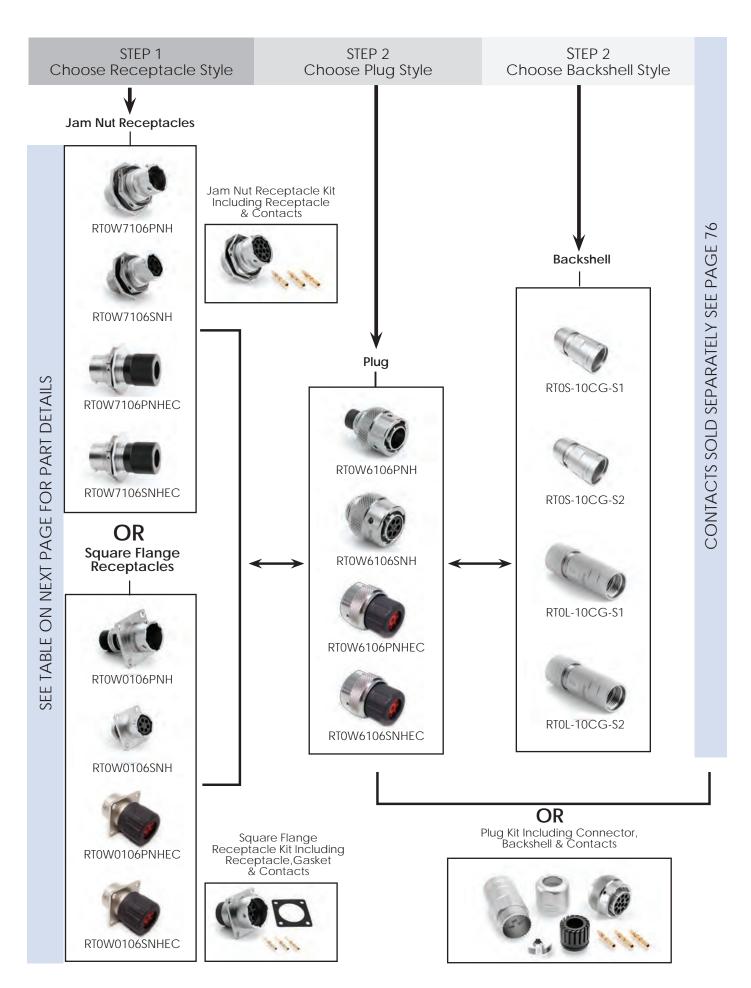
## Tools



Sealing: IP67 Salt Spray: 48h

#### Accessories



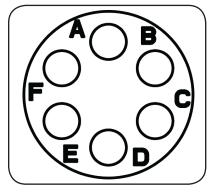


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part Number		Connector Type	Figure Drawings		
Male	Female	Connector Type	Male	Female	
RTOW7106PNH	RTOW7106SNH	Jam Nut Receptacle	1,5	2,5	
RTOW7106PNHEC	RTOW7106SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5	
RTOW7106PNH-K	RTOW7106SNH-K	Jam Nut Receptacle Kit	1,5	2,5	
RTOW6106PNH	RTOW6106SNH	Plug	6	7	
RTOW6106PNHEC	RTOW6106SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9	
RTOW6106PNH-K	RTOW6106SNH-K	Plug Kit	6	7	
RTOW0106PNH	RT0W0106SNH	Square Flange Receptacle	10,14	11,14	
RTOW0106PNHEC	RTOW0106SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14	
RTOW0106PNH-K	RTOW0106SNH-K	Square Flange Receptacle Kit	10,14	11,14	

Contacts supplied separately see page 76 \*\*See page 73 for the real seal wire range

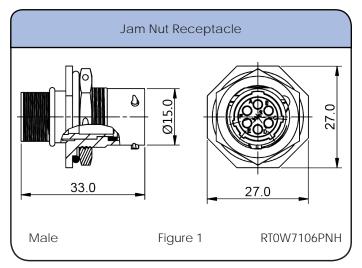
#### Backshells

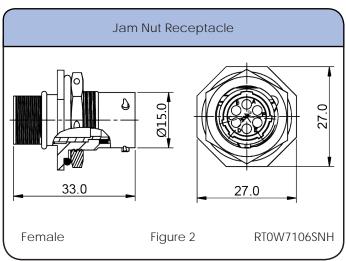
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-10CG-S1	Short Cord Grip (straight)	3-6.5	15	✓
RT0S-10CG-S2	Short Cord Grip (straight)	5-8.5	15	✓
RT0L-10CG-S1	Long Cord Grip (straight)	3-6.5	16	✓
RT0L-10CG-S2	Long Cord Grip (straight)	5-8.5	16	✓

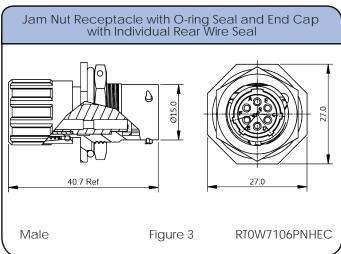
 $<sup>{}^*\</sup>text{Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.}\\$ 

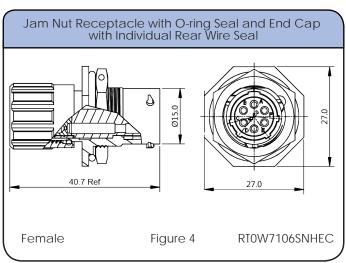
Sealing: IP67 Salt Spray: 48h

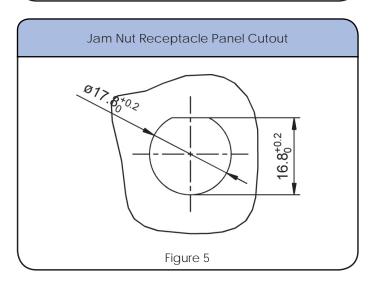
## Dimensions Jam Nut Receptacle





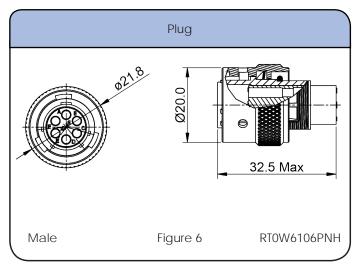


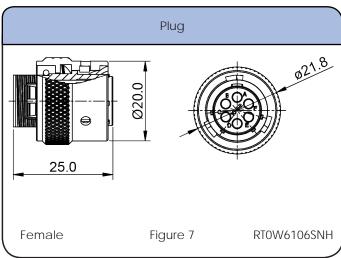


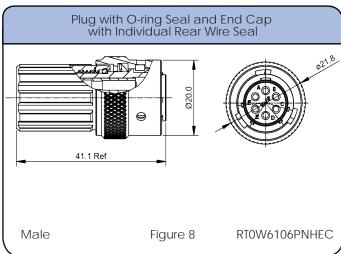


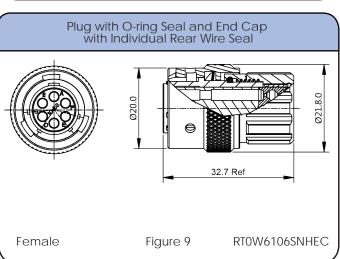
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







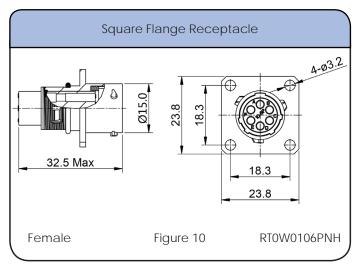


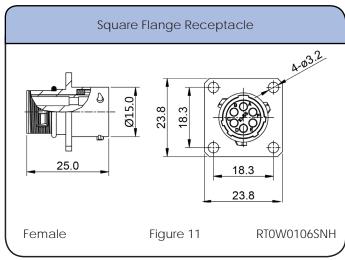
# Individual Sealing Wire Range

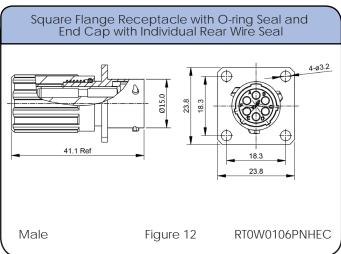
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
20	Ø1.6mm - Ø2.6mm	20 - 30 AWG

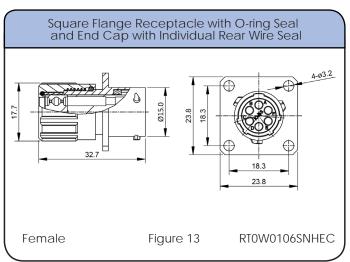
Sealing: IP67 Salt Spray: 48h

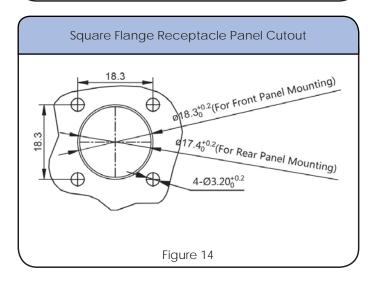
# Dimensions Square Flange Receptacle





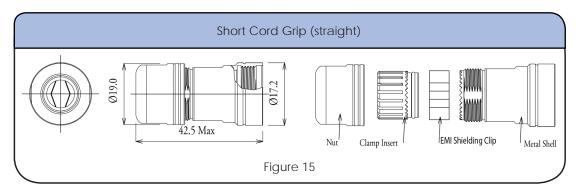


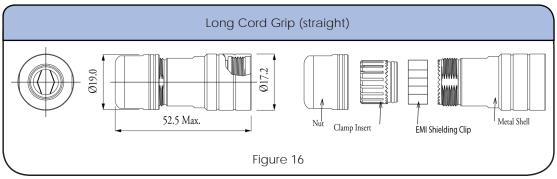




Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**





## **Accessories**





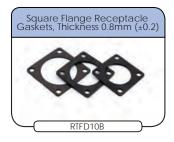












Sealing: IP67 Salt Spray: 48h

## Contacts



## Crimp Contacts, Machined (7.5A)

### **Part Number** Wire AWG **Plating** Range Male **Female** (mm<sup>2</sup>) MS20W23F MP20W23F 22-20 .34-.50 Gold Flash MP20W23G5 MS20W23G5 22-20 .34-.50 Gold 5µ" MP20W23G10 MS20W23G10 .34-.50 Gold 10µ" 22-20 MP20W23G15 MS20W23G15 22-20 .34-.50 Gold 15µ" MP20W23G30 MS20W23G30 22-20 .34-.50 Gold 30µ" MP24W23F MS24W23F 26-24 .13-.25 Gold Flash MP24W23G5 MS24W23G5 26-24 .13-.25 Gold 5µ" MP24W23G10 MS24W23G10 26-24 .13-.25 Gold 10µ" MP24W23G15 MS24W23G15 26-24 .13-.25 Gold 15µ" MS24W23G30 26-24 Gold 30µ" MP24W23G30 .13-.25 MP28W23F MS28W23F 30-28 .05-.08 Gold Flash MP28W23G5 MS28W23G5 30-28 .05-.08 Gold 5µ" MP28W23G10 MS28W23G10 30-28 .05-.08 Gold 10µ" MP28W23G15 MS28W23G15 30-28 .05-.08 Gold 15µ" MP28W23G30 MS28W23G30 30-28 .05-.08 Gold 30µ"

## Tools







Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



# Crimp Contacts, Stamped & Formed (5A)

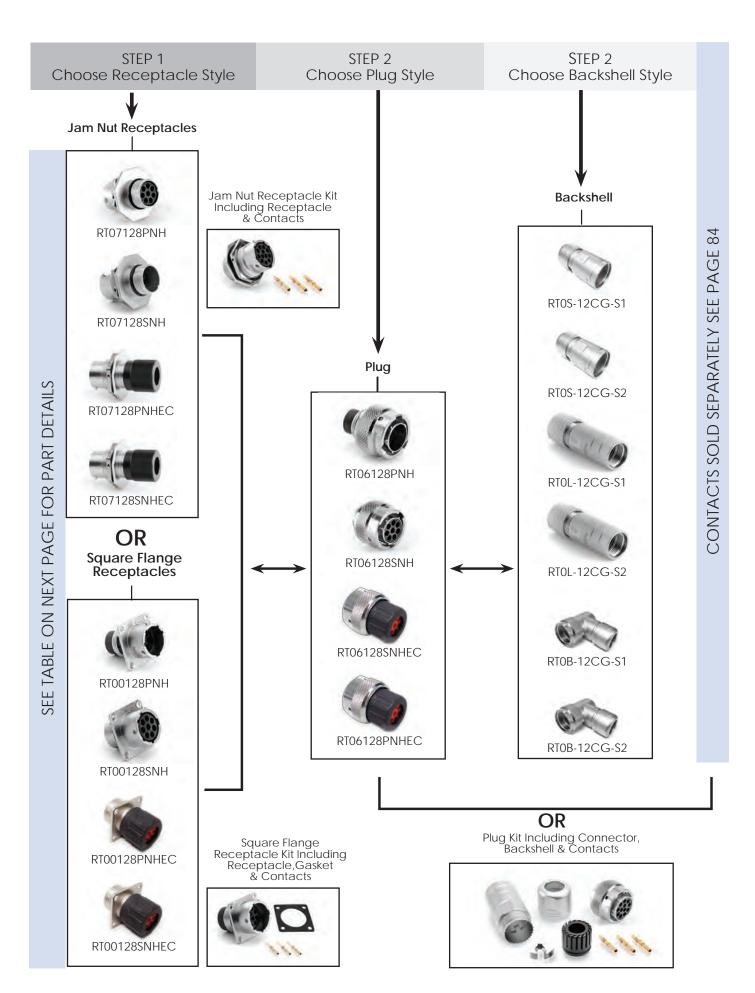
Part Nu			Wire	
Male	Female	AWG	Range (mm²)	Plating
SP20W2F	SS20W2F	22-20	.3450	Gold Flash
SP20W2G5	SS20W2G5	22-20	.3450	Gold 5µ"
SP20W2G10	SS20W2G10	22-20	.3450	Gold 10µ"
SP20W2G15	SS20W2G15	22-20	.3450	Gold 15µ"
SP20W2G30	SS20W2G30	22-20	.3450	Gold 30µ"
SP24W2F	SS24W2F	26-24	.1425	Gold Flash
SP24W2G5	SS24W2G5	26-24	.1425	Gold 5µ"
SP24W2G10	SS24W2G10	26-24	.1425	Gold 10µ"
SP24W2G15	SS24W2G15	26-24	.1425	Gold 15µ"
SP24W2G30	SS24W2G30	26-24	.1425	Gold 30µ"
SP28W2F	SS28W2F	30-28	.0508	Gold Flash
SP28W2G5	SS28W2G5	30-28	.0508	Gold 5µ"
SP28W2G10	SS28W2G10	30-28	.0508	Gold 10µ"
SP28W2G15	SS28W2G15	30-28	.0508	Gold 15µ"
SP28W2G30	SS28W2G30	30-28	.0508	Gold 30µ"

## Tools







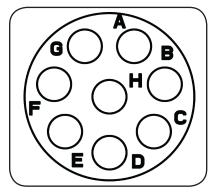


Sealing: IP67 Salt Spray: 48h

## eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part Number  Male Female		Commontor Turns	Figure Drawings		
		Connector Type	Male	Female	
RT07128PNH	RT07128SNH	Jam Nut Receptacle	1,5	2,5	
RT07128PNHEC	RT07128SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5	
RT07128PNH-K	NH-K RT07128SNH-K Jam Nut Receptacle Kit		1,5	2,5	
RT06128PNH	8PNH RT06128SNH Plug		6	7	
RT06128PNHEC	RT06128SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9	
RT06128PNH-K	RT06128SNH-K	Plug Kit	6	7	
RT00128PNH	RT00128SNH	Square Flange Receptacle	10	11,14	
RT00128PNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**		12,14	13,14	
RT00128PNH-K	RT00128SNH-K	Square Flange Receptacle Kit	10,14	11,14	

Contacts supplied separately see page 84 \*\*See page 81 for the real seal wire range

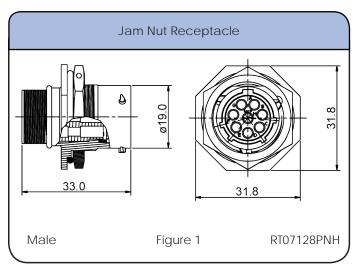
## Backshells

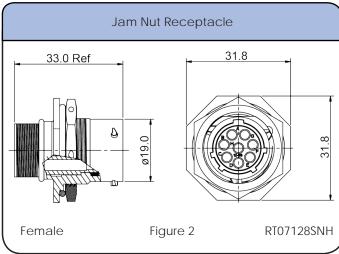
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-12CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RT0S-12CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-12CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-12CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-12CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-12CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

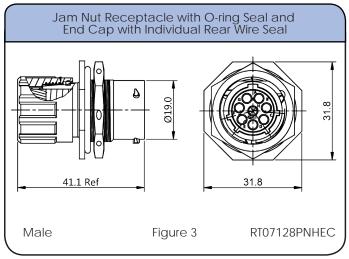
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

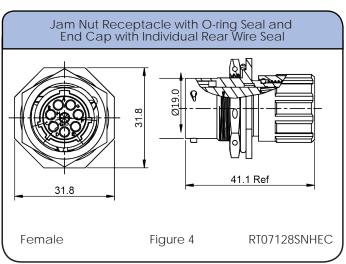
Sealing: IP67 Salt Spray: 48h

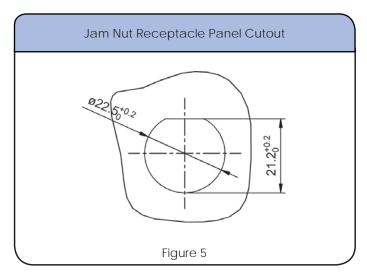
# Dimensions Jam Nut Receptacle





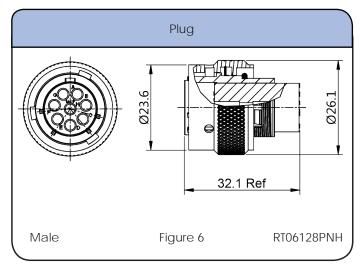


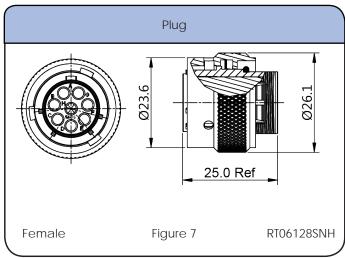


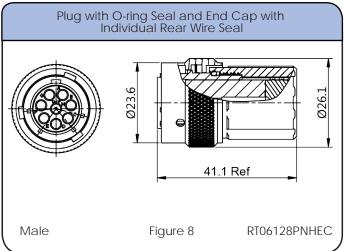


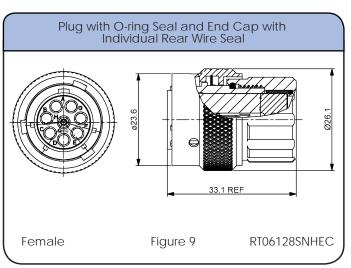
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







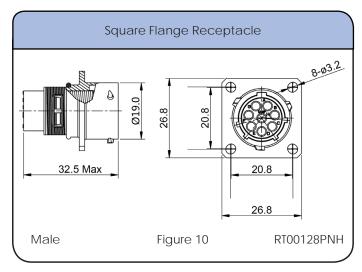


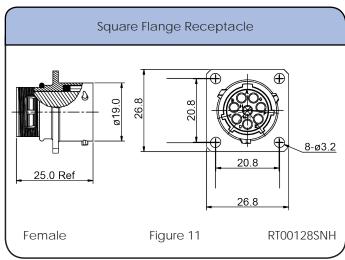
# Individual Sealing Wire Range

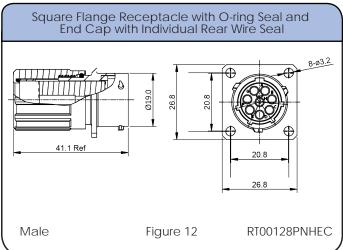
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

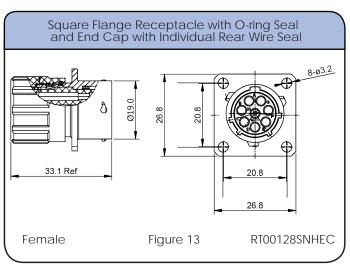
Sealing: IP67 Salt Spray: 48h

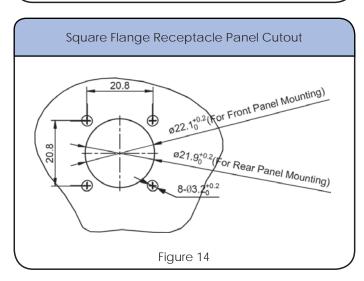
# Dimensions Square Flange Receptacle





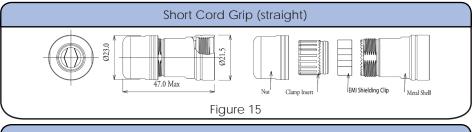


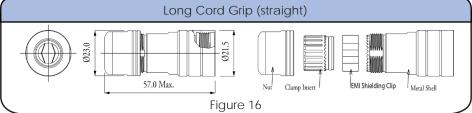


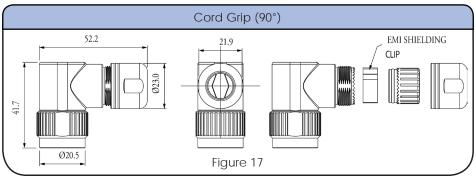


Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**







## **Accessories**

RTFD12B



Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Number		A14/C	Wire	Die Peren	
Male	Female	AWG	Range (mm²)	Plating	
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash	
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"	
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"	
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"	
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"	
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash	
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"	
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"	
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"	
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"	
MP20M23F	MS20M23F	22-20	.3450	Gold Flash	
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"	
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"	
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"	
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"	
MP24M23F	MS24M23F	26-24	.1425	Gold Flash	
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"	
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"	
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"	
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"	

# Tools Contact Extraction Tool, #16 (Ø 1.6) Contact OXRT16 Hand Crimp Tool for Machined Contacts MFX-3959 Pneumatic Crimp Tool for Machined Contacts MFX-3960

Sealing: IP67 Salt Spray: 48h

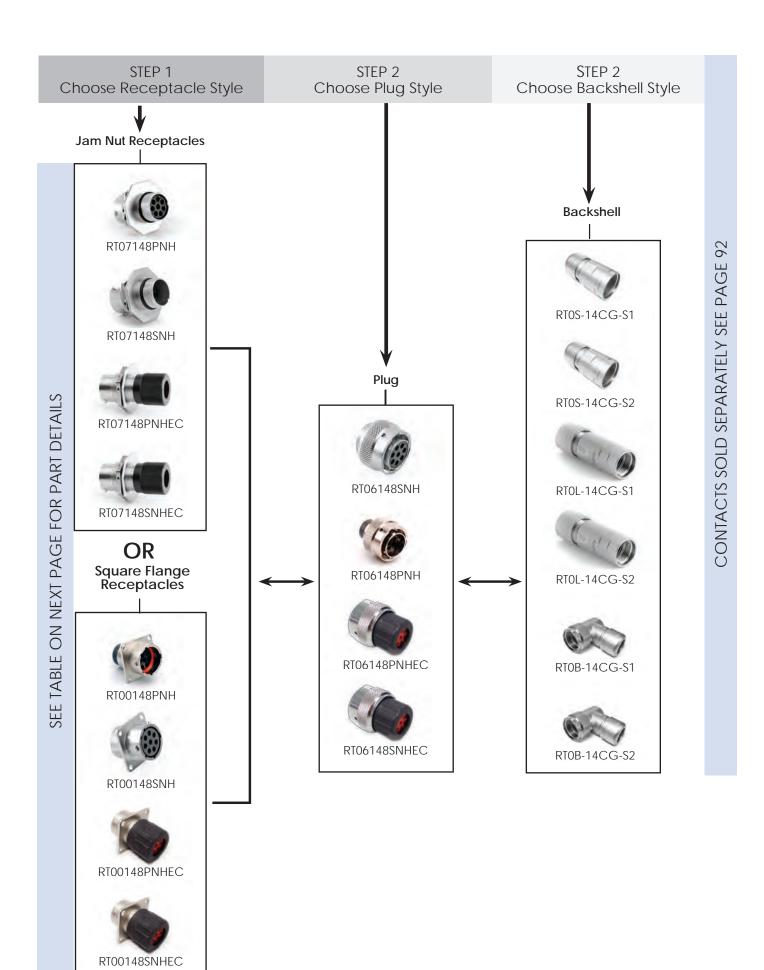
# Contacts (con't)



# Crimp Contacts, Stamped & Formed

Part Number		4440	Wire	D
Male	Female	AWG	Range (mm²)	Plating
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"



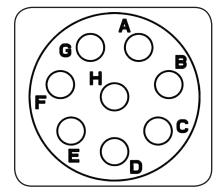


Sealing: IP67 Salt Spray: 48h

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- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part N	umber	Connector Type	Figure Drawings		
Male Female		Connector Type	Male	Female	
RT07148PNH	RT07148SNH	Jam Nut Receptacle with O-ring Seal	1,5	2,5	
RT07148PNHEC	RT07148SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5	
RT06148PNH	RT06148SNH	Plug with O-ring Seal	6	7	
RT06148PNHEC	RT06148SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9	
RT00148PNH	RT00148SNH	Square Flange Receptacle with O-ring Seal**	10,14	11,14	
RT00148PNHEC	RT00148SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14	

Contacts supplied separately see page 92 \*\*See page 89 for the real seal wire range

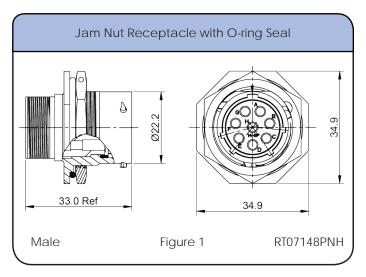
## Backshells

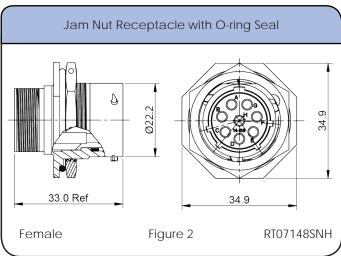
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-14CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RT0S-14CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-14CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-14CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-14CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-14CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

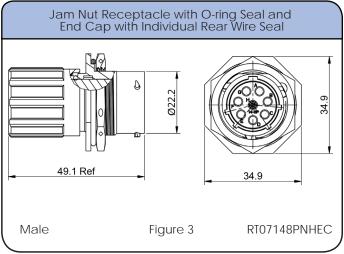
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

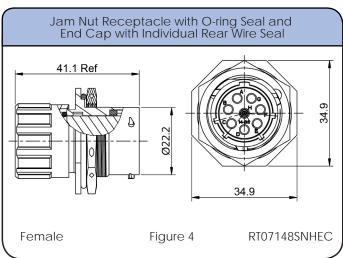
Sealing: IP67 Salt Spray: 48h

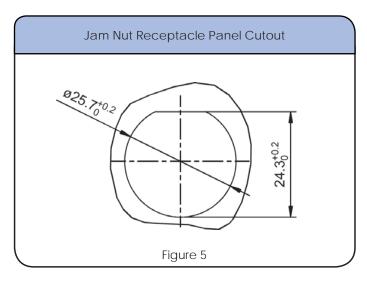
# Dimensions Jam Nut Receptacle





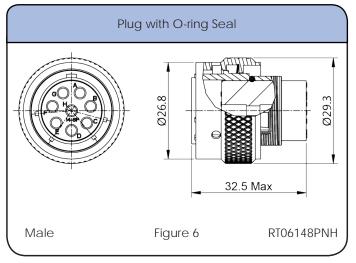


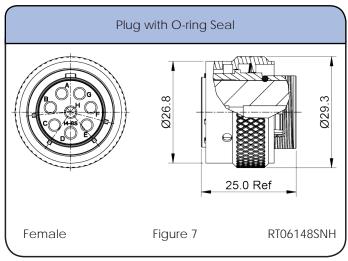


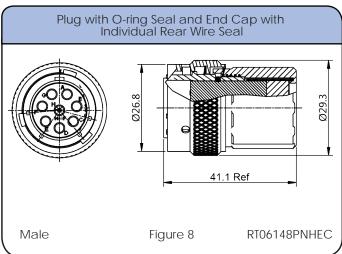


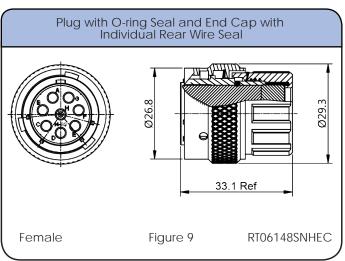
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







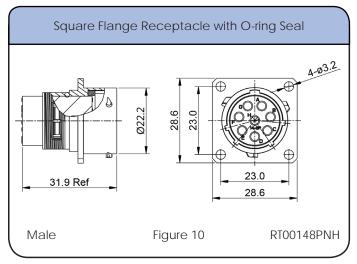


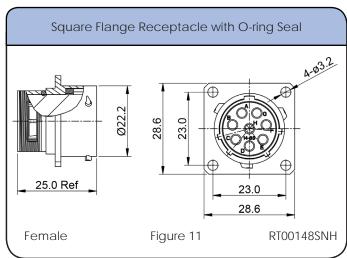
# Individual Sealing Wire Range

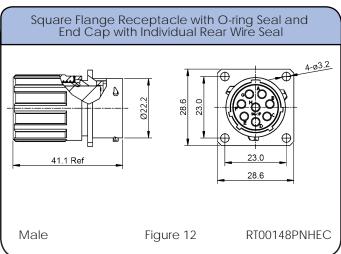
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

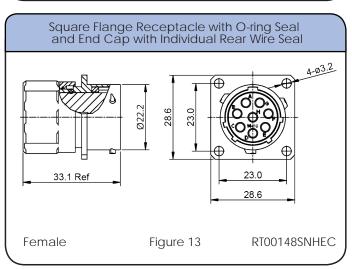
Sealing: IP67 Salt Spray: 48h

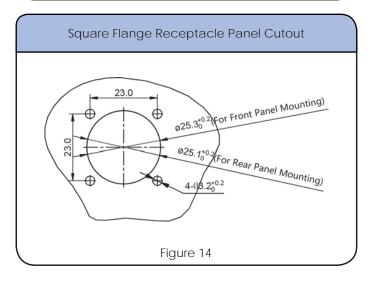
# Dimensions Square Flange Receptacle





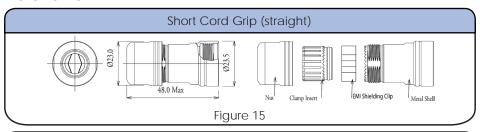


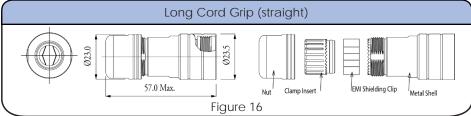


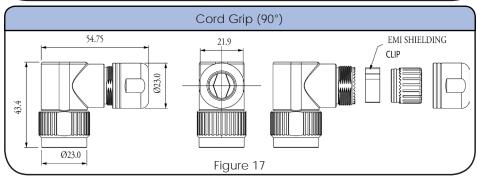


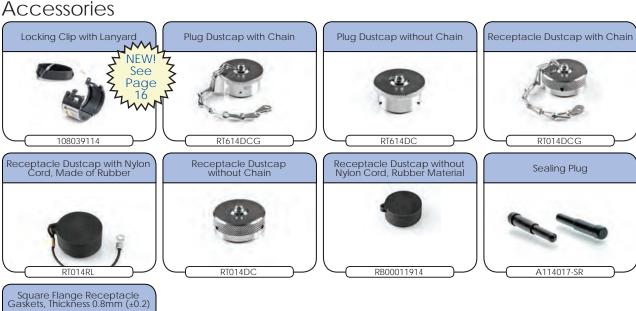
Salt Spray: 48h Sealing: IP67

## **Dimensions Backshell**









Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Nu	ımber	AMC	Wire	Disting
Male	Female	AWG	Range (mm²)	Plating
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"
MP20M23F	MS20M23F	22-20	.3450	Gold Flash
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"
MP24M23F	MS24M23F	26-24	.1425	Gold Flash
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"

## Tools







Sealing: IP67 Salt Spray: 48h

Contacts (con't)



# Crimp Contacts, Stamped & Formed

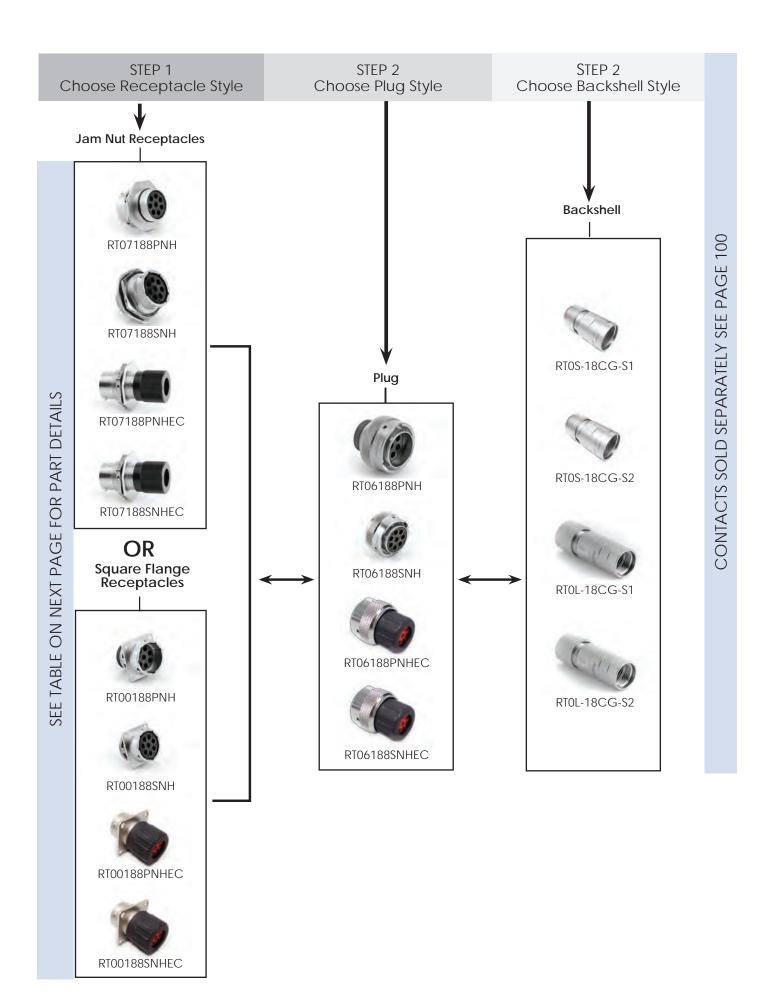
Part Nu	A14/C	Wire	Dist's s	
Male	Female	AWG	Range (mm²)	Plating
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"

## Tools







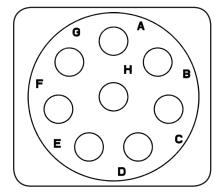


Sealing: IP67 Salt Spray: 48h

## eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part Nu	umber	Connector Type	Figure Drawings		
Male	Female	Connector Type	Male	Female	
RT07188PNH	RT07188SNH	Jam Nut Receptacle	1,5	2,5	
RT07188PNHEC	RT07188SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5	
RT06188PNH	RT06188SNH	Plug	6	7	
RT06188PNHEC	RT06188SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9	
RT00188PNH	RT00188SNH	Square Flange Receptacle	10,14	11,14	
RT00188PNHEC	RT00188SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14	

Contacts supplied separately see page 100 \*\*See page 97 for the real seal wire range

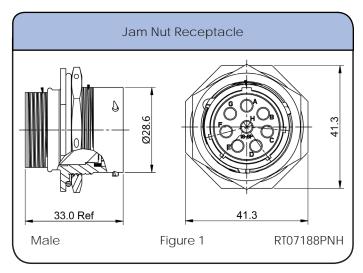
## Backshells

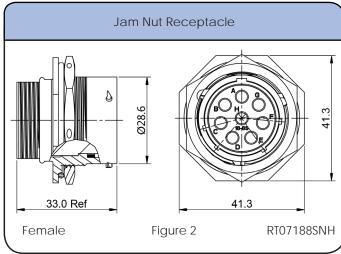
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-18CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RT0S-18CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-18CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-18CG-S2	Long Cord Grip (straight)	13.5-17	16	✓

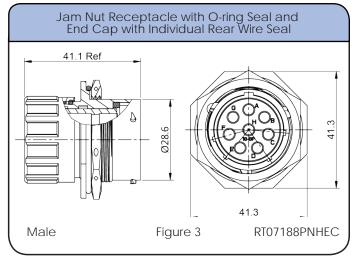
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

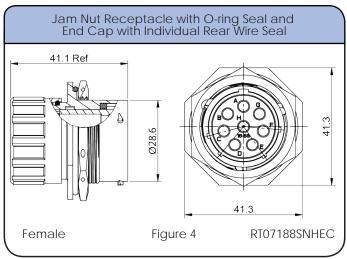
Sealing: IP67 Salt Spray: 48h

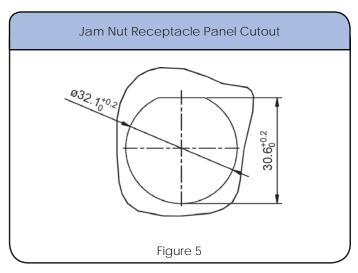
# Dimensions Jam Nut Receptacle





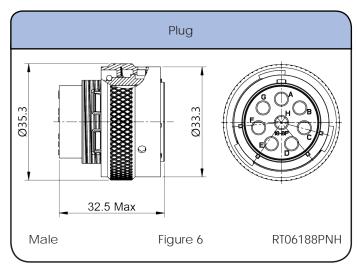


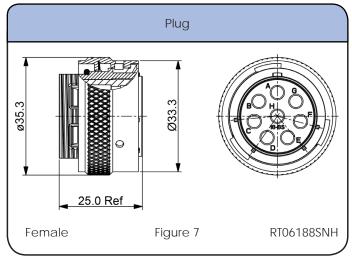


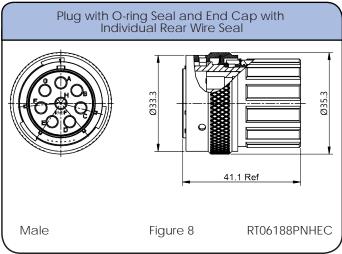


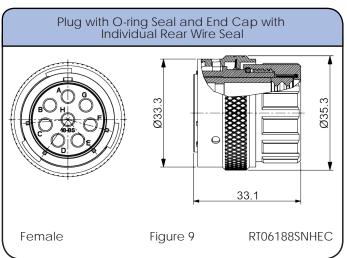
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







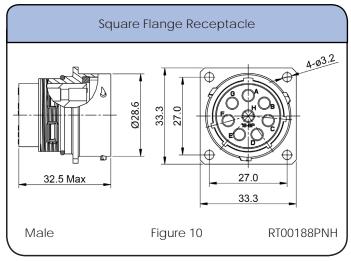


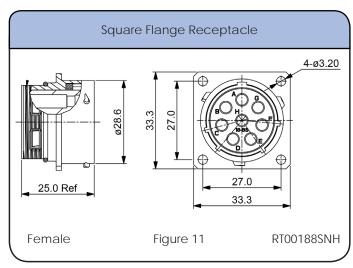
# Individual Sealing Wire Range

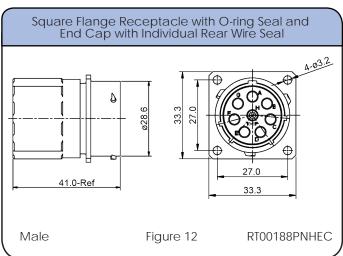
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
2.5mm	Ø3.3mm - Ø4.3mm	14 - 12 AWG

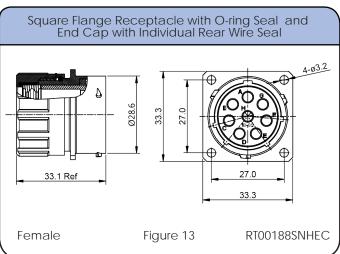
Sealing: IP67 Salt Spray: 48h

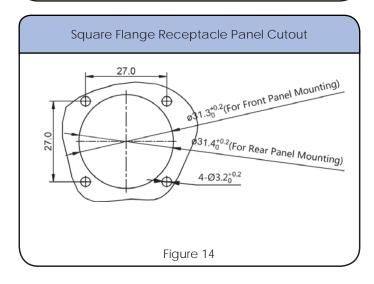
# Dimensions Square Flange Receptacle





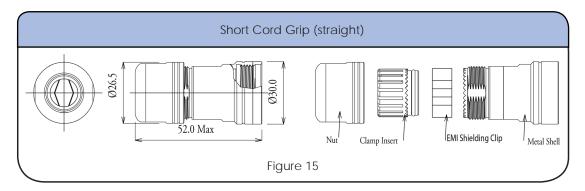


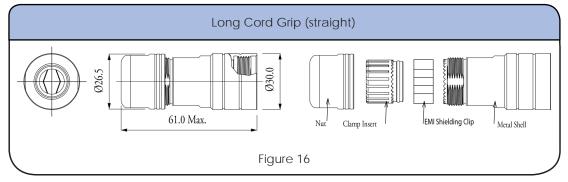




Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**





Sealing: IP67 Salt Spray: 48h

## Contacts

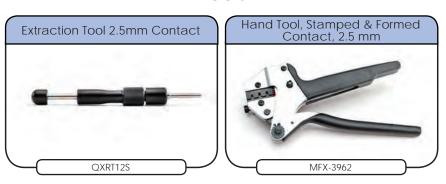


Crimp Contacts, Stamped & Formed

Part Number		014/0	Wire	Diotina		
	Male	Female	AWG	Range (mm²)	Plating	
	SP12A1T	SS12A1T	14-12	2.5-3.5	Tin	

no machined contacts are available for this group

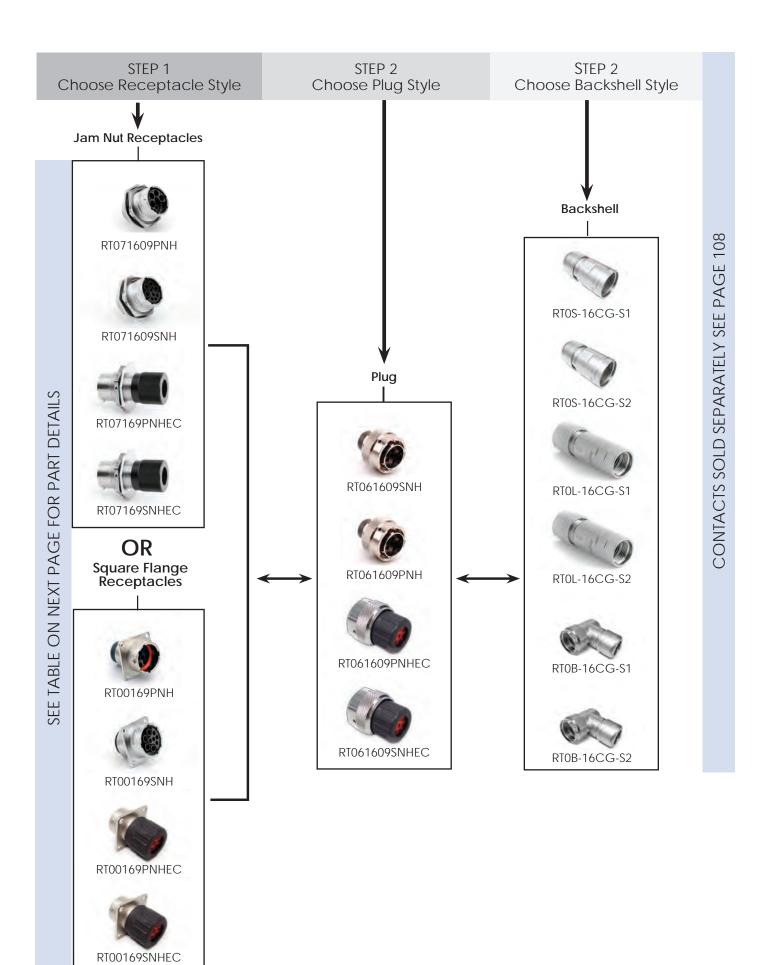
## Tools



Sealing: IP67 Salt Spray: 48h

## Accessories



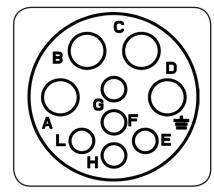


Sealing: IP67 Salt Spray: 48h

## eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part N	umber	Connector Type	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT071609PNH	RT071609SNH	Jam Nut Receptacle with O-ring Seal	1,5	2,5
RT07169PNHEC	RT07169SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT061609PNH	RT061609SNH	Plug with O-ring Seal	6	7
RT061609PNHEC	RT061609SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT00169PNH	RT00169SNH	Square Flange Receptacle with O-ring Seal	10,14	11,14
RT00169PNHEC	RT00169SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14

Contacts supplied separately see page 108
\*\*See page 105 for the real seal wire range

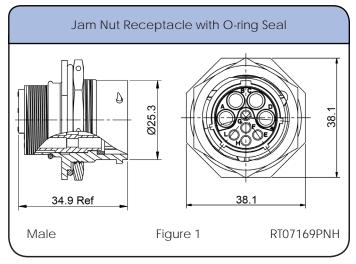
### **Backshells**

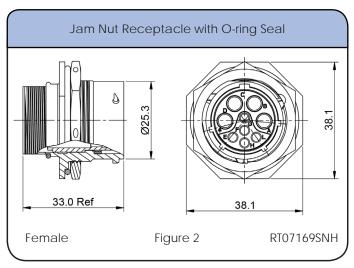
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-16CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RT0S-16CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-16CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-16CG-S2	Long Cord Grip (straight)	13.5-17	16	✓
RT0B-16CG-S1	Cord Grip (90°)	9.5-14.5	17	✓
RT0B-16CG-S2	Cord Grip (90°)	13.5-17.0	17	✓

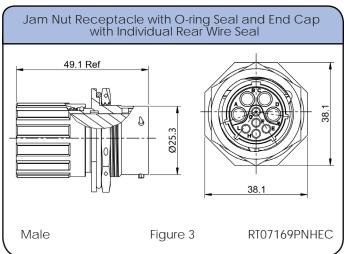
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

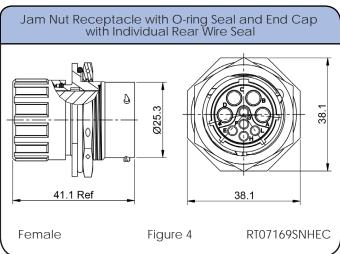
Sealing: IP67 Salt Spray: 48h

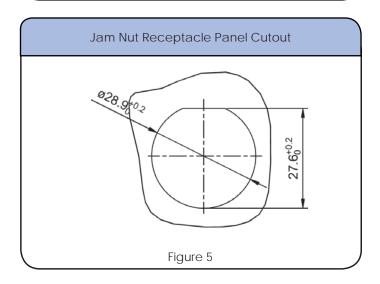
# Dimensions Jam Nut Receptacle





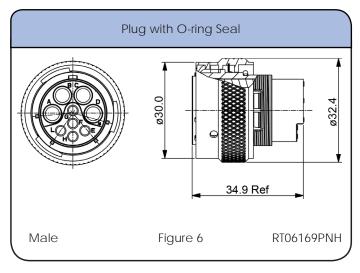


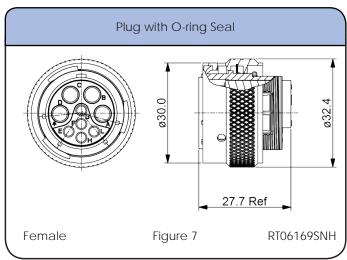


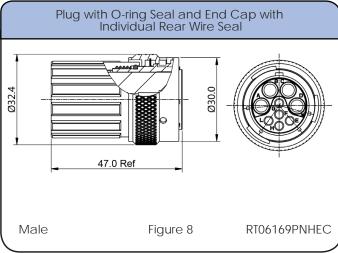


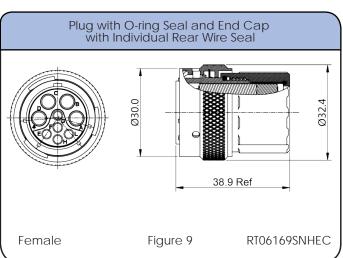
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







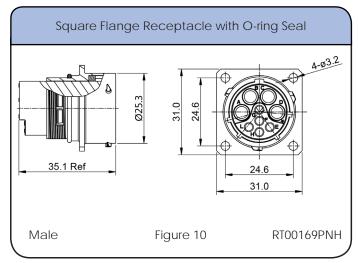


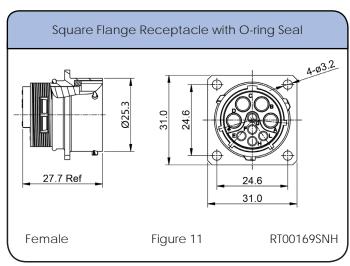
# Individual Sealing Wire Range

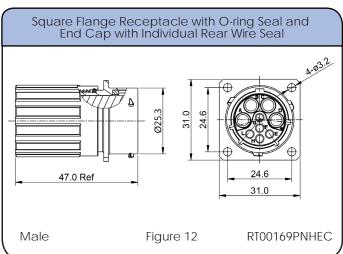
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
2.5mm Ø3.3mm - Ø4.3mm		14 - 12 AWG
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

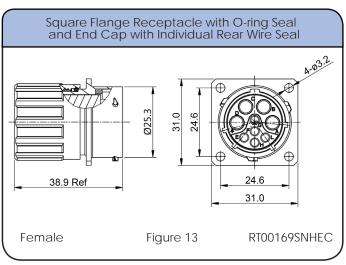
Sealing: IP67 Salt Spray: 48h

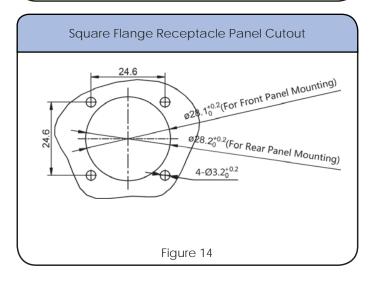
# Dimensions Square Flange Receptacle











**Number of Contacts: 9** Shell Size: 16 Contact Size: Mixed 2.5mm & 16

Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**

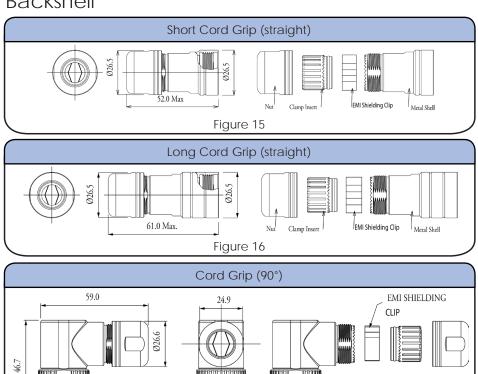


Figure 17

Ø27.9



Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Number		Contact	AVVO	Wire	DI .:
Male	Female	Size	AWG	Range (mm²)	Plating
MP14M23F	MS14M23F	16	14	2.0-2.5	Gold Flash
MP14M23G5	MS14M23G5	16	14	2.0-2.5	Gold 5µ"
MP14M23G10	MS14M23G10	16	14	2.0-2.5	Gold 10µ"
MP14M23G15	MS14M23G15	16	14	2.0-2.5	Gold 15µ"
MP14M23G30	MS14M23G30	16	14	2.0-2.5	Gold 30µ"
MP16M23F	MS16M23F	16	18-16	.75-1.5	Gold Flash
MP16M23G5	MS16M23G5	16	18-16	.75-1.5	Gold 5µ"
MP16M23G10	MS16M23G10	16	18-16	.75-1.5	Gold 10µ"
MP16M23G15	MS16M23G15	16	18-16	.75-1.5	Gold 15µ"
MP16M23G30	MS16M23G30	16	18-16	.75-1.5	Gold 30µ"
MP20M23F	MS20M23F	16	22-20	.3450	Gold Flash
MP20M23G5	MS20M23G5	16	22-20	.3450	Gold 5µ"
MP20M23G10	MS20M23G10	16	22-20	.3450	Gold 10µ"
MP20M23G15	MS20M23G15	16	22-20	.3450	Gold 15µ"
MP20M23G30	MS20M23G30	16	22-20	.3450	Gold 30µ"
MP24M23F	MS24M23F	16	26-24	.1425	Gold Flash
MP24M23G5	MS24M23G5	16	26-24	.1425	Gold 5µ"
MP24M23G10	MS24M23G10	16	26-24	.1425	Gold 10µ"
MP24M23G15	MS24M23G15	16	26-24	.1425	Gold 15µ"
MP24M23G30	MS24M23G30	16	26-24	.1425	Gold 30µ"

## Tools







Shell Size: 16 Number of Contacts: 9 Contact Size: Mixed 2.5mm & 16

Sealing: IP67 Salt Spray: 48h

# Contacts (con't)





Tools

# Crimp Contacts, Stamped & Formed

Part Nu	ımber	Contact		Wire	Diotina
Male	Female	Size	AWG	Range (mm²)	Plating
SP12A1T	SS12A1T	2.5mm	14-12	2.0-2.5	Tin
SP14M2F	SS14M2F	16	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	16	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	16	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	16	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	16	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	16	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	16	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	16	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	16	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	16	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	16	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	16	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	16	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	16	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	16	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	16	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	16	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	16	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	16	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	16	26-24	.1425	Gold 30µ"

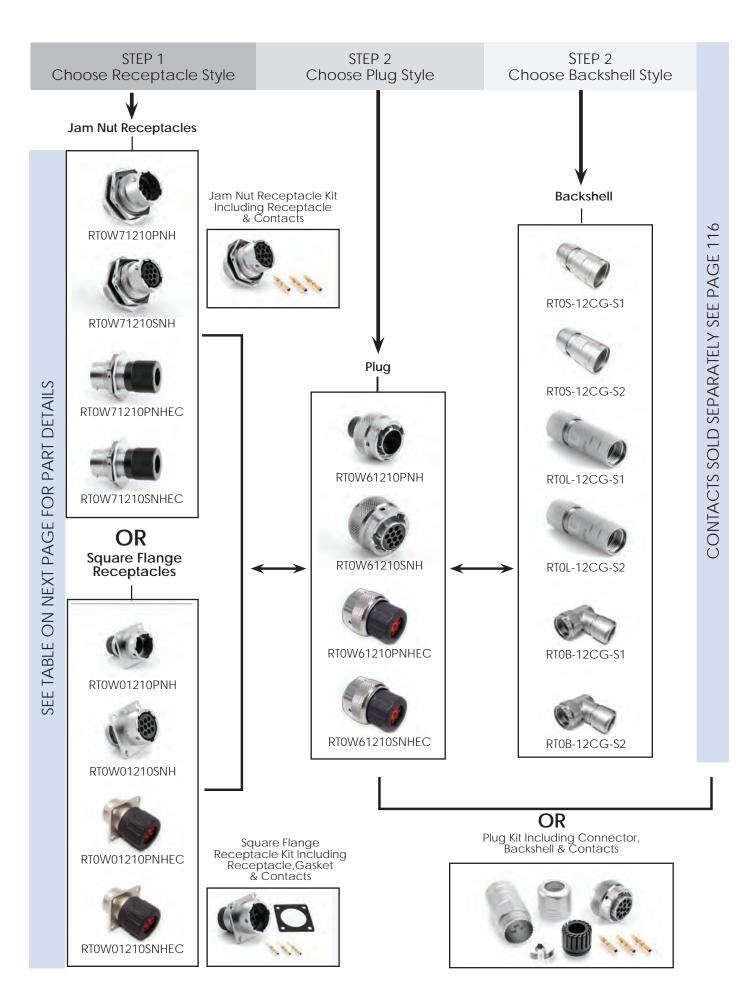










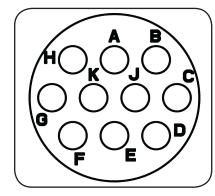


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part No	umber	Connector Type	Figure D	rawings
Male	Female	Connector Type	Male	Female
RTOW71210PNH	RT0W71210SNH	Jam Nut Receptacle	1,5	2,5
RT0W71210PNHEC	RTOW71210SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RTOW71210PNH-K	RTOW71210SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RTOW61210PNH	RTOW61210SNH	Plug	6	7
RTOW61210PNHEC	RT0W61210SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RTOW61210PNH-K	RTOW61210SNH-K	Plug Kit	6	7
RTOW01210PNH	RT0W01210SNH	Square Flange Receptacle	10,14	11,14
RTOW01210PNHEC	RTOW01210SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RTOW01210PNH-K	RTOW01210SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 116
\*\*See page 113 for the real seal wire range

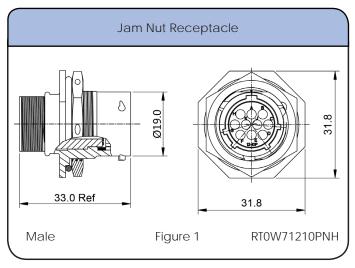
### Backshells

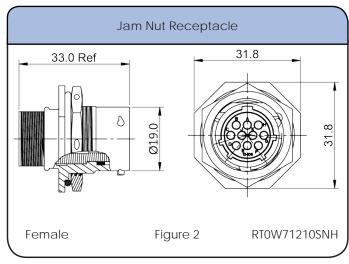
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-12CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RT0S-12CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-12CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-12CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-12CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-12CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

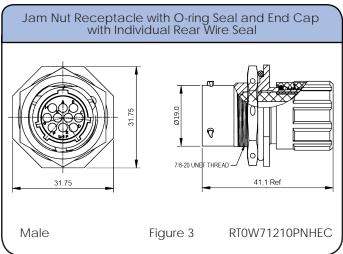
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

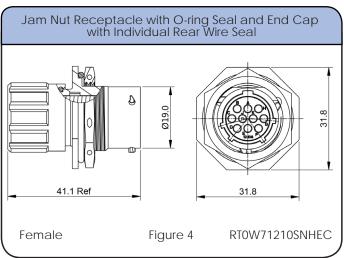
Sealing: IP67 Salt Spray: 48h

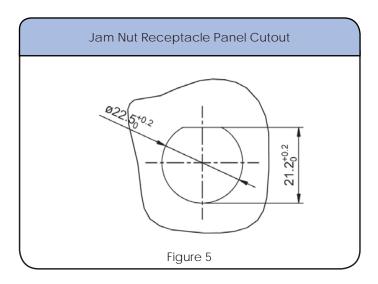
# Dimensions Jam Nut Receptacle





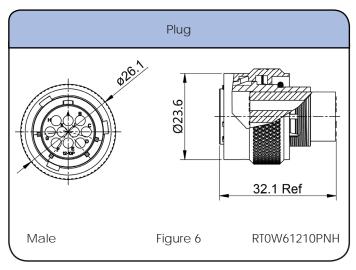


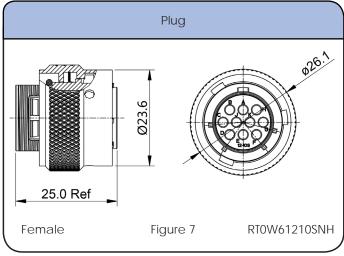


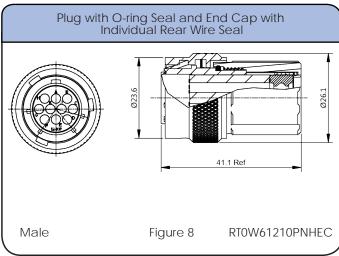


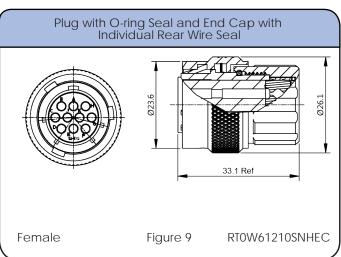
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







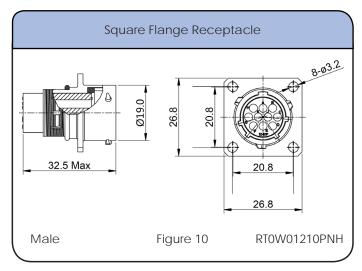


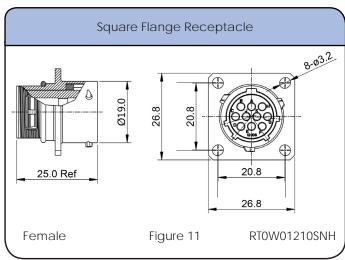
## Individual Sealing Wire Range

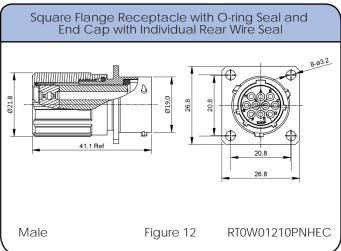
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
20	Ø1.6mm - Ø2.6mm	20 - 30 AWG

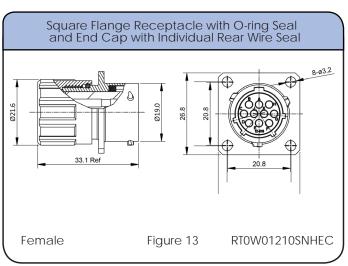
Sealing: IP67 Salt Spray: 48h

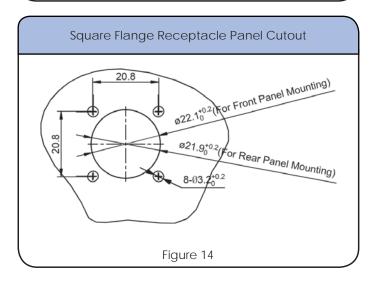
# Dimensions Square Flange Receptacle





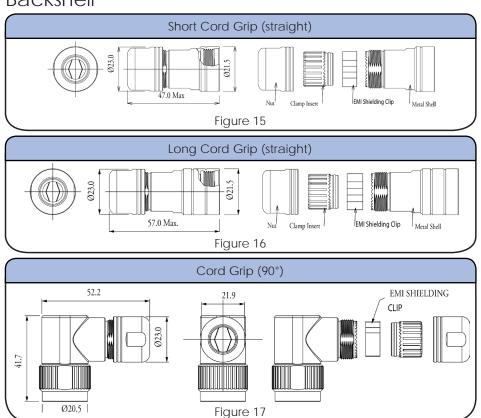




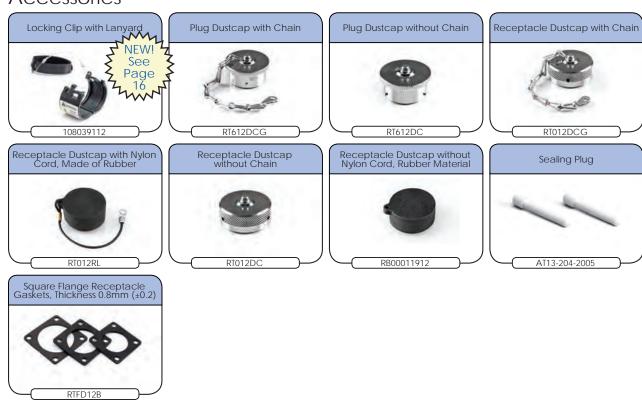


Sealing: IP67 Salt Spray: 48h

#### **Dimensions Backshell**



#### **Accessories**



Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Nu	ımber	AMC	Wire	Die Peren
Male	Female	AWG	Ranget (mm²)	Plating
MP20W23F	MS20W23F	22-20	.3450	Gold Flash
MP20W23G5	MS20W23G5	22-20	.3450	Gold 5µ"
MP20W23G10	MS20W23G10	22-20	.3450	Gold 10µ"
MP20W23G15	MS20W23G15	22-20	.3450	Gold 15µ"
MP20W23G30	MS20W23G30	22-20	.3450	Gold 30µ"
MP24W23F	MS24W23F	26-24	.1325	Gold Flash
MP24W23G5	MS24W23G5	26-24	.1325	Gold 5µ"
MP24W23G10	MS24W23G10	26-24	.1325	Gold 10µ"
MP24W23G15	MS24W23G15	26-24	.1325	Gold 15µ"
MP24W23G30	MS24W23G30	26-24	.1325	Gold 30µ"
MP28W23F	MS28W23F	30-28	.0508	Gold Flash
MP28W23G5	MS28W23G5	30-28	.0508	Gold 5µ"
MP28W23G10	MS28W23G10	30-28	.0508	Gold 10µ"
MP28W23G15	MS28W23G15	30-28	.0508	Gold 15µ"
MP28W23G30	MS28W23G30	30-28	.0508	Gold 30µ"

### Tools







Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



# Crimp Contacts, Stamped & Formed

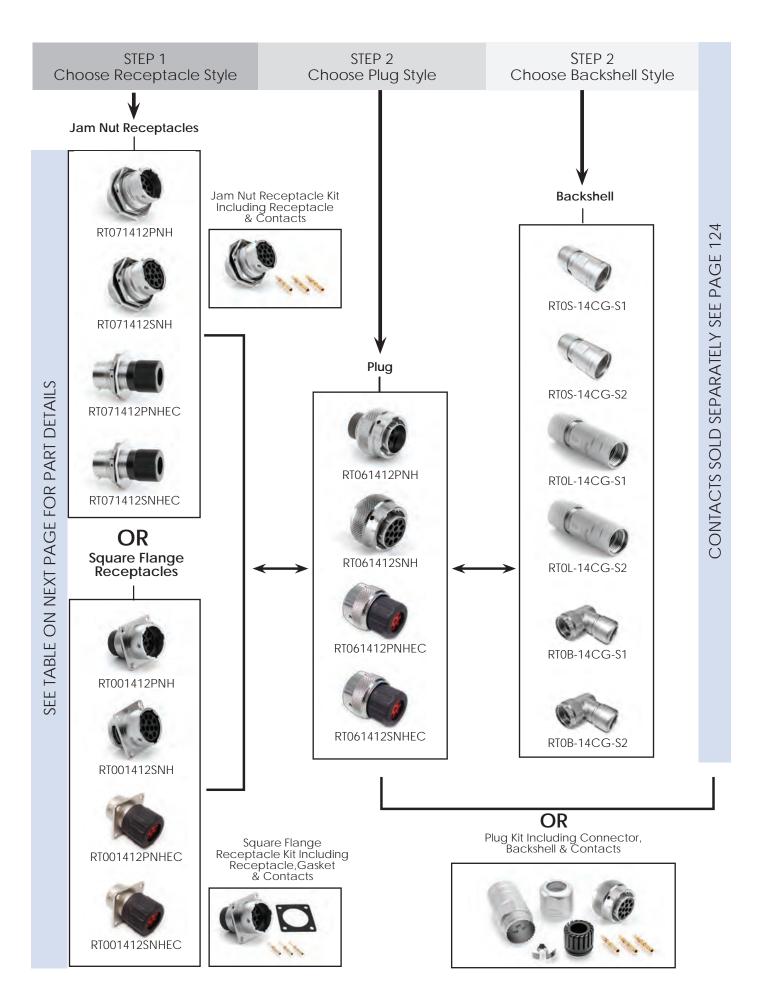
Part Number		AMC	Wire	Diation
Male	Female	AWG	Range (mm²)	Plating
SP20W2F	SS20W2F	22-20	.3450	Gold Flash
SP20W2G5	SS20W2G5	22-20	.3450	Gold 5µ"
SP20W2G10	SS20W2G10	22-20	.3450	Gold 10µ"
SP20W2G15	SS20W2G15	22-20	.3450	Gold 15µ"
SP20W2G30	SS20W2G30	22-20	.3450	Gold 30µ"
SP24W2F	SS24W2F	26-24	.1425	Gold Flash
SP24W2G5	SS24W2G5	26-24	.1425	Gold 5µ"
SP24W2G10	SS24W2G10	26-24	.1425	Gold 10µ"
SP24W2G15	SS24W2G15	26-24	.1425	Gold 15µ"
SP24W2G30	SS24W2G30	26-24	.1425	Gold 30µ"
SP28W2F	SS28W2F	30-28	.0508	Gold Flash
SP28W2G5	SS28W2G5	30-28	.0508	Gold 5µ"
SP28W2G10	SS28W2G10	30-28	.0508	Gold 10µ"
SP28W2G15	SS28W2G15	30-28	.0508	Gold 15µ"
SP28W2G30	SS28W2G30	30-28	.0508	Gold 30µ"

### **Tools**







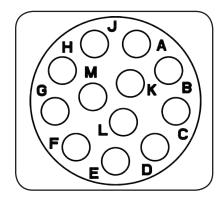


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Connector Tune	Figure Di	rawings
Male	Female	Connector Type	Male	Female
RT071412PNH	RT071412SNH	Jam Nut Receptacle	1,5	2,5
RT071412PNHEC	RT071412SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT071412PNH-K	RT071412SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT061412PNH	RT061412SNH	Plug	6	7
RT061412PNHEC	RT061412SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT061412PNH-K	RT061412SNH-K	Plug Kit	6	7
RT001412PNH	RT001412SNH	Square Flange Receptacle	10,14	11,14
RT001412PNHEC	RT001412SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT001412PNH-K	RT001412SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 124 \*\*See page 121 for the real seal wire range

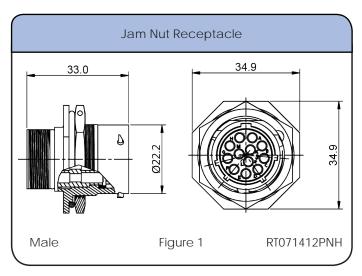
#### Backshells

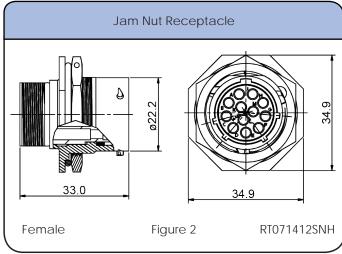
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RTOS-14CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RTOS-14CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-14CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-14CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RTOB-14CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-14CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

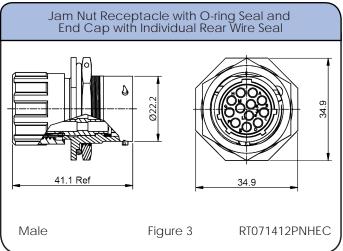
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

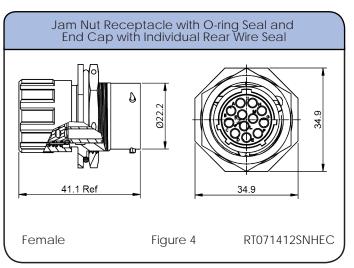
Sealing: IP67 Salt Spray: 48h

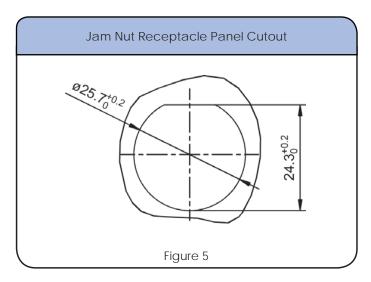
# Dimensions Jam Nut Receptacle





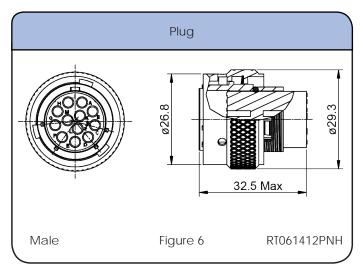


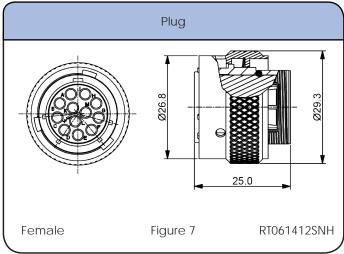


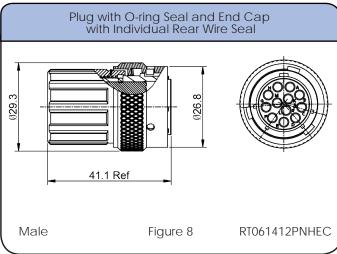


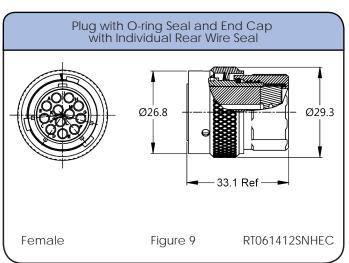
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







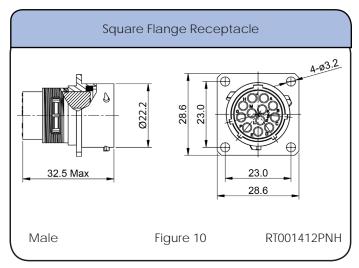


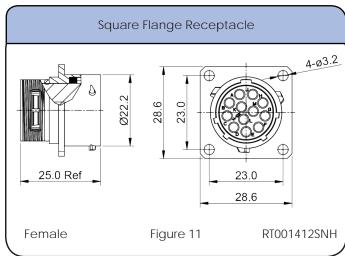
# Individual Sealing Wire Range

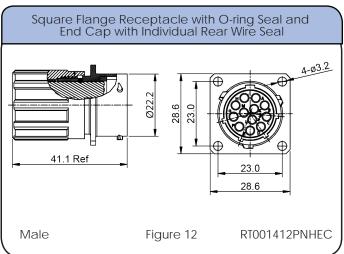
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

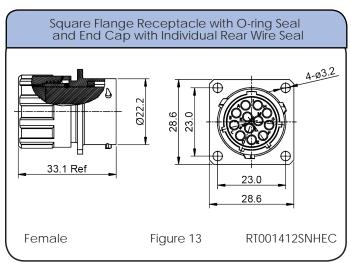
Sealing: IP67 Salt Spray: 48h

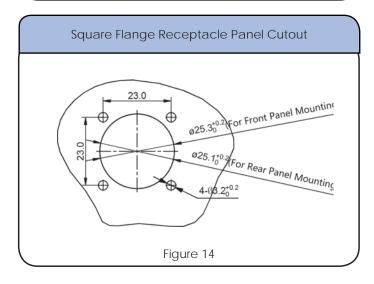
# Dimensions Square Flange Receptacle





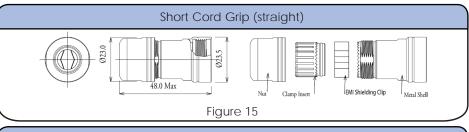


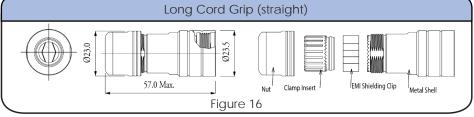


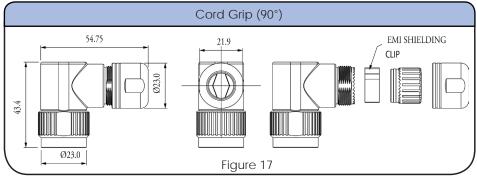


Salt Spray: 48h Sealing: IP67

### **Dimensions Backshell**

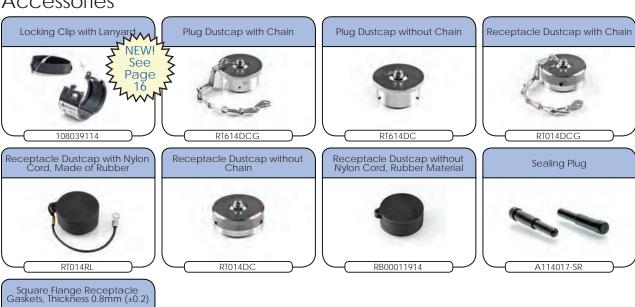






#### **Accessories**

RTFD14B



Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Number		AWC	Wire	DI 11	
Male	Female	AWG	Range (mm²)	Plating	
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash	
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"	
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"	
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"	
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"	
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash	
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"	
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"	
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"	
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"	
MP20M23F	MS20M23F	22-20	.3450	Gold Flash	
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"	
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"	
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"	
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"	
MP24M23F	MS24M23F	26-24	.1425	Gold Flash	
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"	
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"	
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"	
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"	

## Tools



Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



## Crimp Contacts, Stamped & Formed

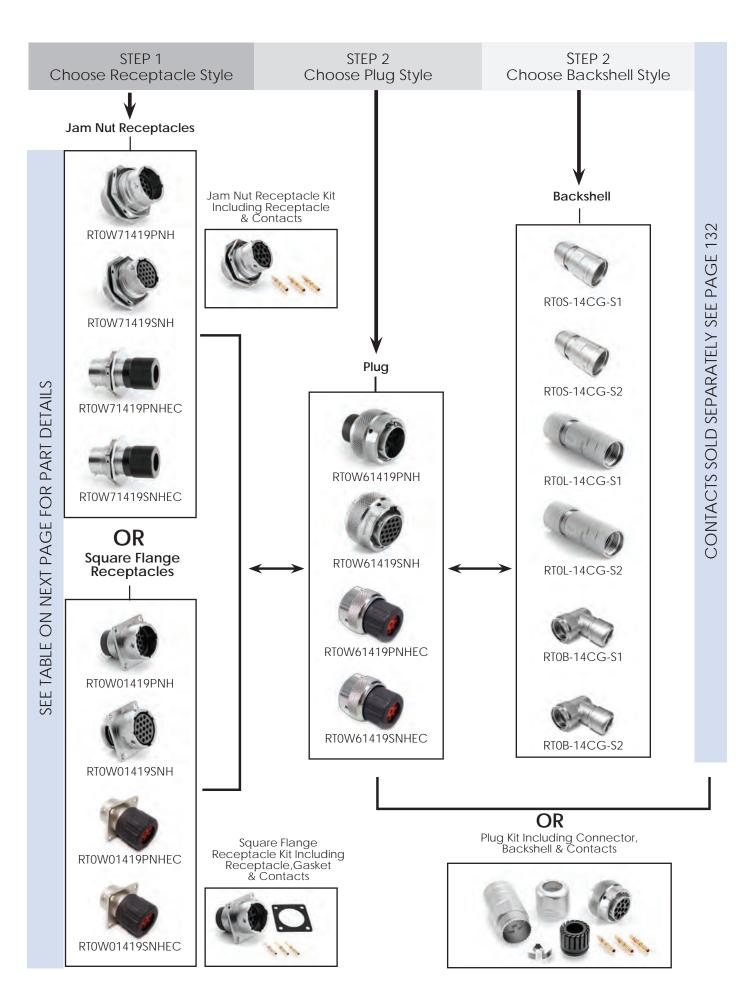
Part Number		41110	Wire	DI 11
Male	Female	AWG	Range (mm²)	Plating
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"

## Tools







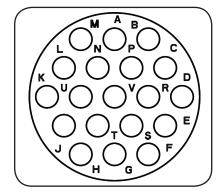


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
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- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Connector Type	Figure D	rawings
Male	Female	Connector Type	Male	Female
RTOW71419PNH	RTOW71419SNH	Jam Nut Receptacle	1,5	2,5
RTOW71419PNHEC	RT0W71419SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT0W71419PNH-K	RTOW71419SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT0W61419PNH	RTOW61419SNH	Plug	6	7
RTOW61419PNHEC	RTOW61419SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RTOW61419PNH-K	RT0W61419SNH-K	Plug Kit	1,5	2,5
RT0W01419PNH	RTOW01419SNH	Square Flange Receptacle	10,14	11,14
RTOW01419PNHEC	RT0W01419SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RTOW01419PNH-K	RTOW01419SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 132 \*\*See page 129 for the real seal wire range

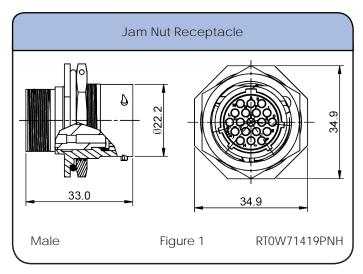
#### **Backshells**

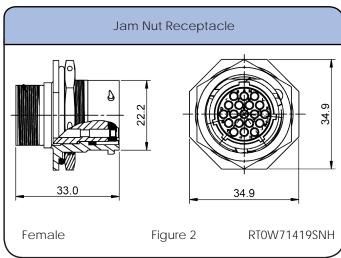
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RTOS-14CG-S1	Short Cord Grip (straight)	6-10.5	15	✓
RTOS-14CG-S2	Short Cord Grip (straight)	8.5-12.5	15	✓
RT0L-14CG-S1	Long Cord Grip (straight)	6-10.5	16	✓
RT0L-14CG-S2	Long Cord Grip (straight)	8.5-12.5	16	✓
RT0B-14CG-S1	Cord Grip (90°)	6-10.5	17	✓
RT0B-14CG-S2	Cord Grip (90°)	8.0-12.5	17	✓

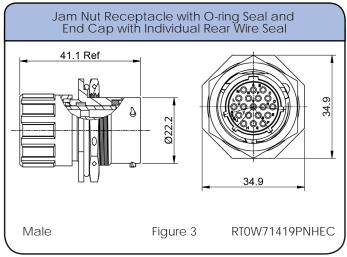
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

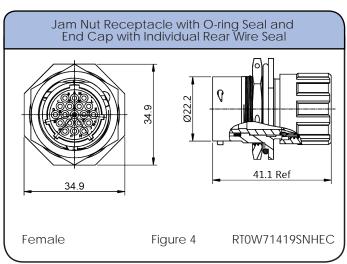
Sealing: IP67 Salt Spray: 48h

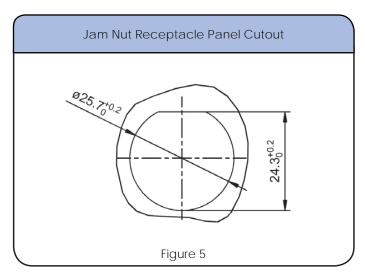
# Dimensions Jam Nut Receptacle





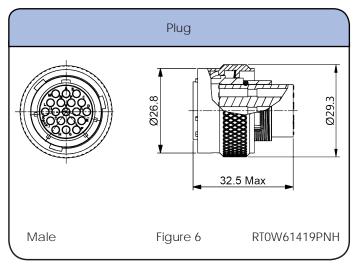


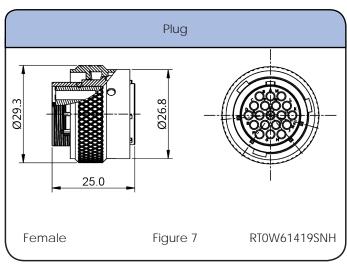


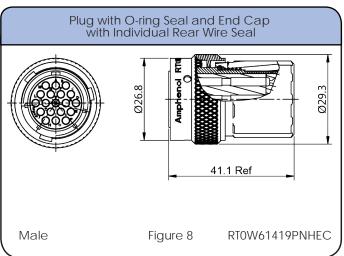


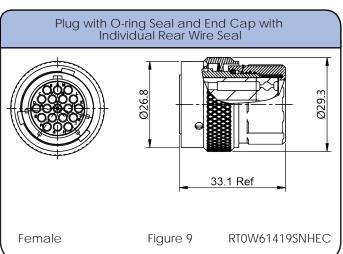
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







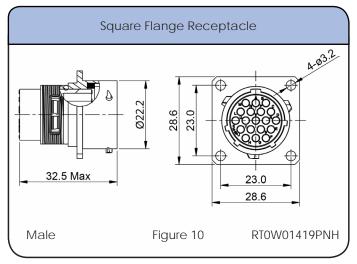


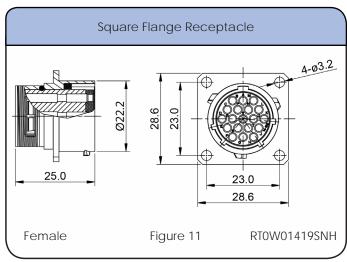
## Individual Sealing Wire Range

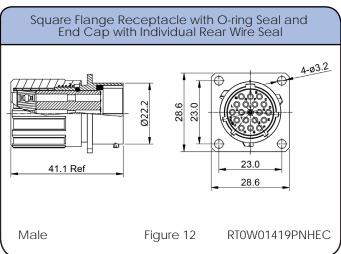
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
20	Ø1.6mm - Ø2.6mm	20 - 30 AWG

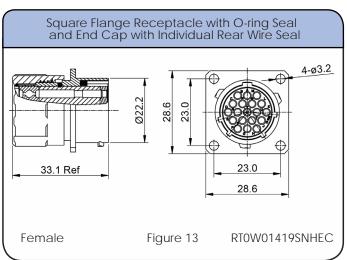
Sealing: IP67 Salt Spray: 48h

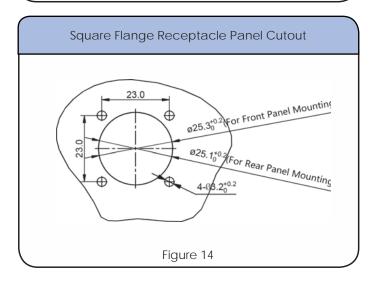
# Dimensions Square Flange Receptacle











**Number of Contacts: 19** Shell Size: 14 Contact Size: 20

Sealing: IP67 Salt Spray: 48h

#### **Dimensions Backshell**

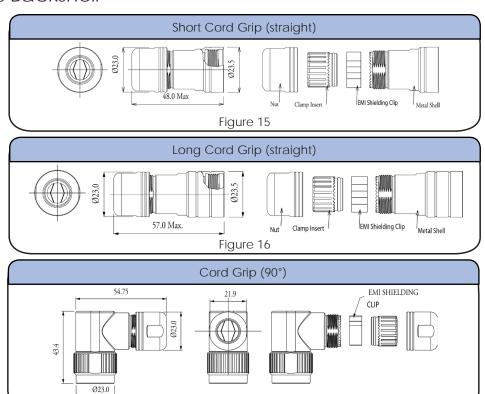
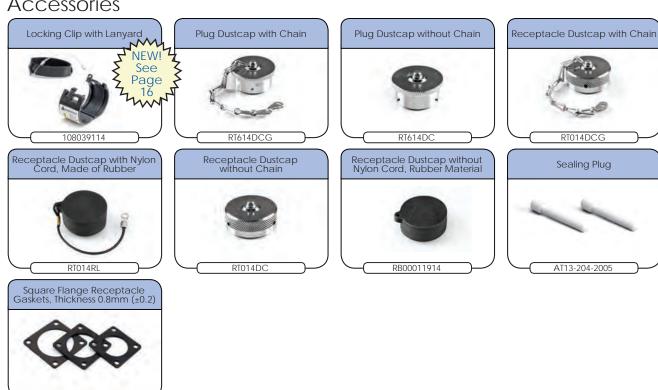


Figure 17

#### **Accessories**

RTFD14B



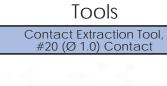
Sealing: IP67 Salt Spray: 48h

## Contacts



Crimp Contacts, Machined (7.5A Max)

Part Nu	Part Number		Wire	Diether
Male	Female	AWG	Range (mm²)	Plating
MP20W23F	MS20W23F	22-20	.3450	Gold Flash
MP20W23G5	MS20W23G5	22-20	.3450	Gold 5µ"
MP20W23G10	MS20W23G10	22-20	.3450	Gold 10µ"
MP20W23G15	MS20W23G15	22-20	.3450	Gold 15µ"
MP20W23G30	MS20W23G30	22-20	.3450	Gold 30µ"
MP24W23F	MS24W23F	26-24	.1325	Gold Flash
MP24W23G5	MS24W23G5	26-24	.1325	Gold 5µ"
MP24W23G10	MS24W23G10	26-24	.1325	Gold 10µ"
MP24W23G15	MS24W23G15	26-24	.1325	Gold 15µ"
MP24W23G30	MS24W23G30	26-24	.1325	Gold 30µ"
MP28W23F	MS28W23F	30-28	.0508	Gold Flash
MP28W23G5	MS28W23G5	30-28	.0508	Gold 5µ"
MP28W23G10	MS28W23G10	30-28	.0508	Gold 10µ"
MP28W23G15	MS28W23G15	30-28	.0508	Gold 15µ"
MP28W23G30	MS28W23G30	30-28	.0508	Gold 30µ"









Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



## Crimp Contacts, Stamped & Formed (5A Max)

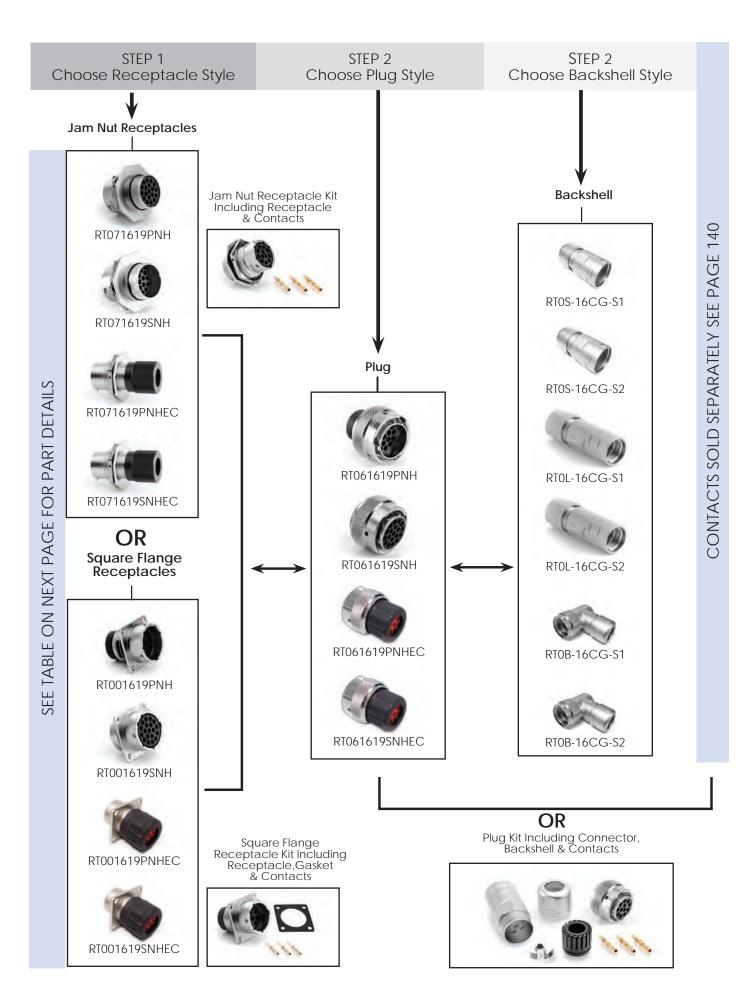
Chirip Contacts, Starri		peu a	ronnea	(JA Max)	
	Part Nu	ımber	AWG	Wire	Plating
	Male	Female		Range (mm²)	
	SP20W2F	SS20W2F	22-20	.3450	Gold Flash
	SP20W2G5	SS20W2G5	22-20	.3450	Gold 5µ"
	SP20W2G10	SS20W2G10	22-20	.3450	Gold 10µ"
	SP20W2G15	SS20W2G15	22-20	.3450	Gold 15µ"
	SP20W2G30	SS20W2G30	22-20	.3450	Gold 30µ"
	SP24W2F	SS24W2F	26-24	.1425	Gold Flash
	SP24W2G5	SS24W2G5	26-24	.1425	Gold 5µ"
	SP24W2G10	SS24W2G10	26-24	.1425	Gold 10µ"
	SP24W2G15	SS24W2G15	26-24	.1425	Gold 15µ"
	SP24W2G30	SS24W2G30	26-24	.1425	Gold 30µ"
	SP28W2F	SS28W2F	30-28	.0508	Gold Flash
	SP28W2G5	SS28W2G5	30-28	.0508	Gold 5µ"
	SP28W2G10	SS28W2G10	30-28	.0508	Gold 10µ"
	SP28W2G15	SS28W2G15	30-28	.0508	Gold 15µ"
	SP28W2G30	SS28W2G30	30-28	.0508	Gold 30µ"

### Tools







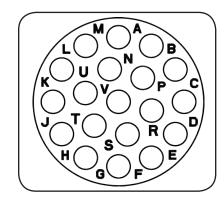


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

### **Connector Part Numbers**

Part N	umber	Connector Type	Figure Di	rawings
Male	Female	Connector Type	Male	Female
RT071619PNH	RT071619SNH	Jam Nut Receptacle	1,5	2,5
RT071619PNHEC	RT071619SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT071619PNH-K	RT071619SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT061619PNH	RT061619SNH	Plug	6	7
RT061619PNHEC	RT061619SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT061619PNH-K	RT061619SNH-K	Plug Kit	6	7
RT001619PNH	RT001619SNH	Square Flange Receptacle	10,14	11,14
RT001619PNHEC	RT001619SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT001619PNH-K	RT001619SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 140 \*\*See page 137 for the real seal wire range

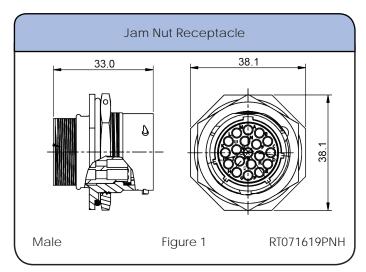
#### Backshells

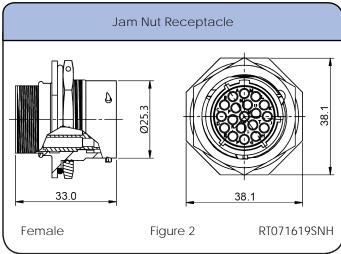
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RTOS-16CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RTOS-16CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-16CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-16CG-S2	Long Cord Grip (straight)	13.5-17	16	✓
RT0B-16CG-S1	Cord Grip (90°)	9.5-14.5	17	✓
RT0B-16CG-S2	Cord Grip (90°)	13.5-17.0	17	✓

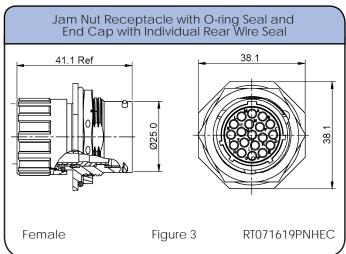
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

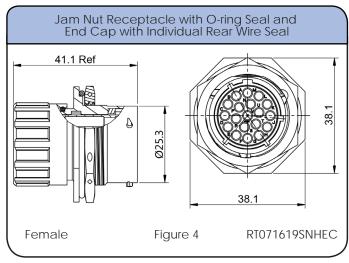
Sealing: IP67 Salt Spray: 48h

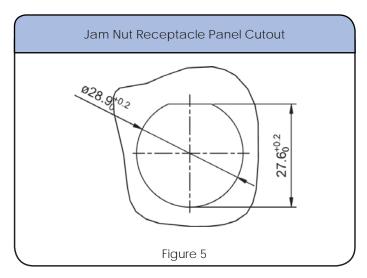
# Dimensions Jam Nut Receptacle





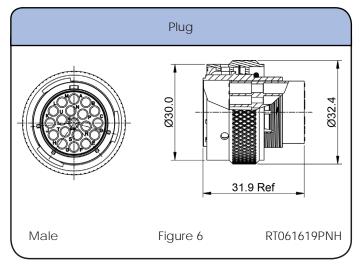


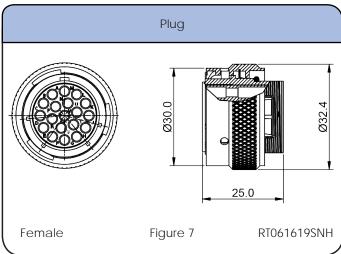


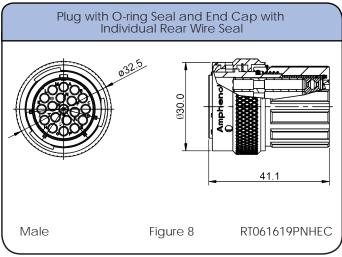


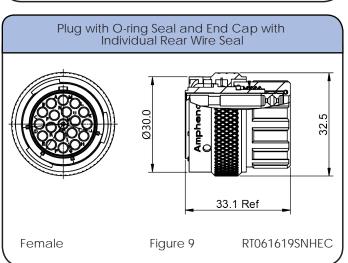
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







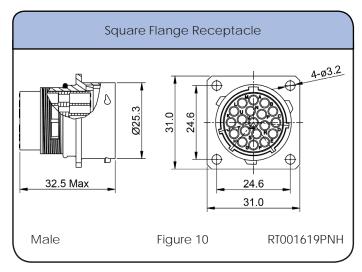


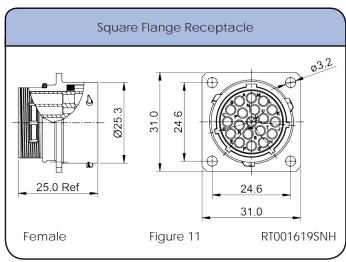
# Individual Sealing Wire Range

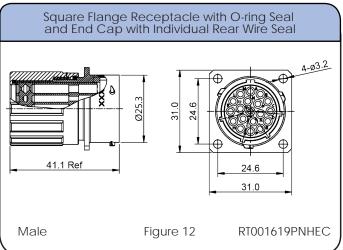
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

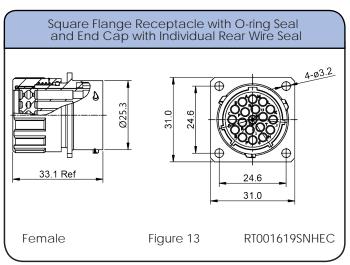
Sealing: IP67 Salt Spray: 48h

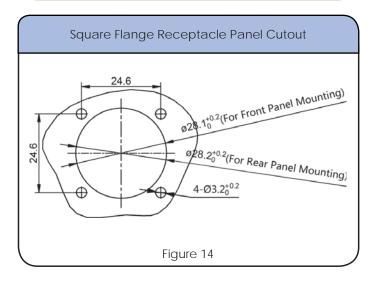
# Dimensions Square Flange Receptacle





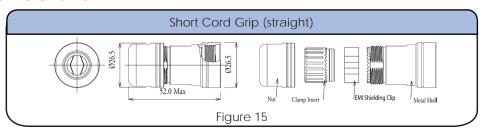


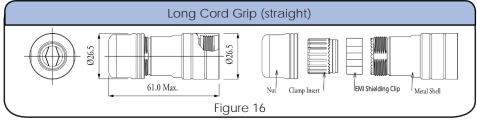


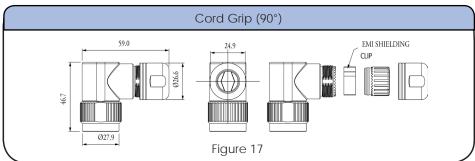


Sealing: IP67 Salt Spray: 48h

#### **Dimensions Backshell**







#### **Accessories**

















Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Number		A14/C	Wire	DI - L'
Male	Female	AWG	Range (mm²)	Plating
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"
MP20M23F	MS20M23F	22-20	.3450	Gold Flash
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"
MP24M23F	MS24M23F	26-24	.1425	Gold Flash
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"



Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



# Crimp Contacts, Stamped & Formed

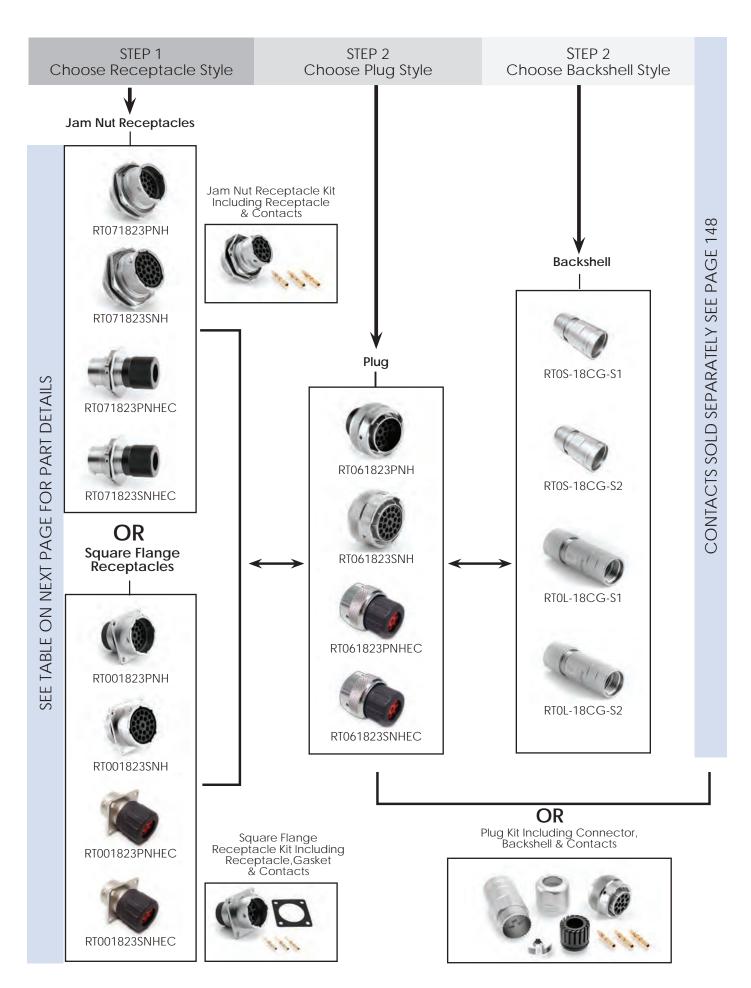
Part Nu	Part Number		Wire	DI .:
Male	Female	AWG	Range (mm²)	Plating
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"

### **Tools**







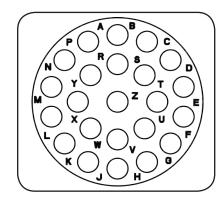


Sealing: IP67 Salt Spray: 48h

### eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

Part N	umber	Commontor Tumo	Figure Di	rawings
Male	Female	Connector Type	Male	Female
RT071823PNH	RT071823SNH	Jam Nut Receptacle	1,5	2,5
RT071823PNHEC	RT071823SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT071823PNH-K	RT071823SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT061823PNH	RT061823SNH	Plug	6	7
RT061823PNHEC	RT061823SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT061823PNH-K	RT061823SNH-K	Plug Kit	1,5	2,5
RT001823PNH	RT001823SNH	Square Flange Receptacle	10,14	11,14
RT001823PNHEC	RT001823SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT001823PNH-K	RT001823SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 148
\*\*See page 145 for the real seal wire range

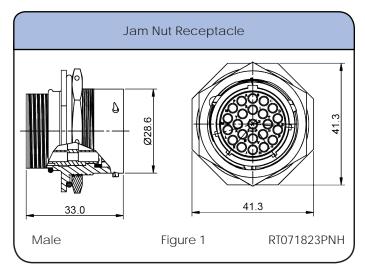
### Backshells

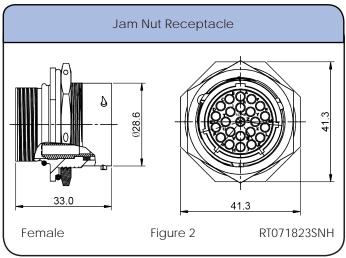
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-18CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RT0S-18CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-18CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-18CG-S2	Long Cord Grip (straight)	13.5-17	16	✓

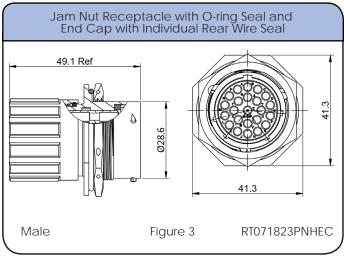
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

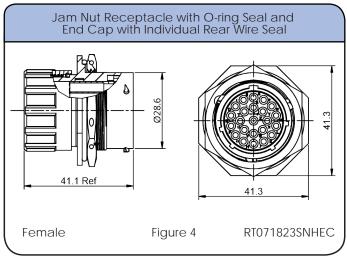
Sealing: IP67 Salt Spray: 48h

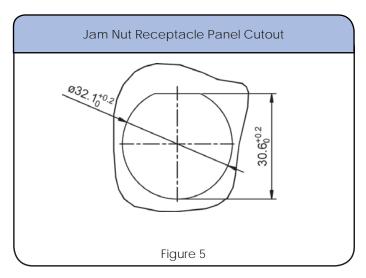
# Dimensions Jam Nut Receptacle





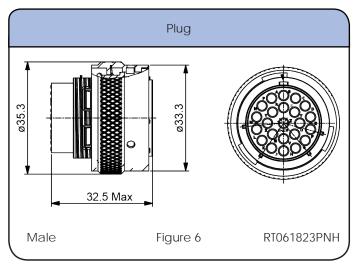


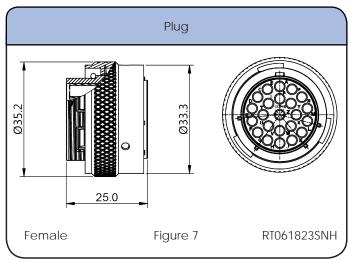


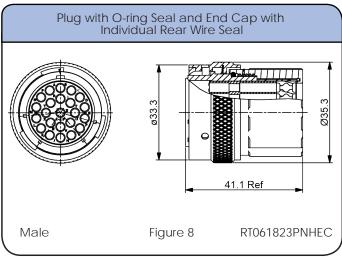


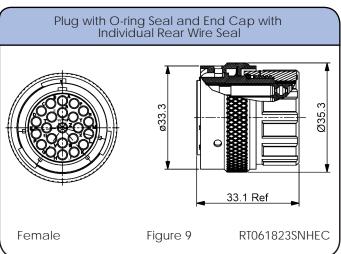
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







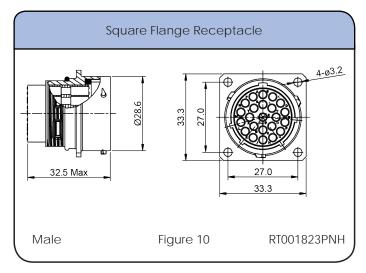


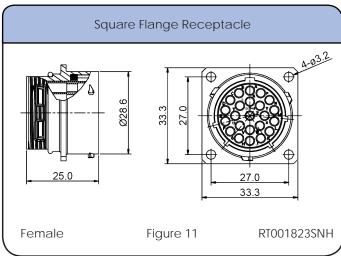
# Individual Sealing Wire Range

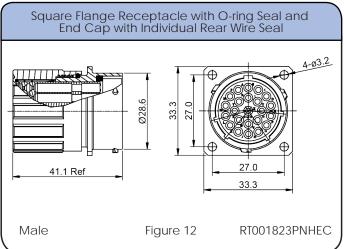
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

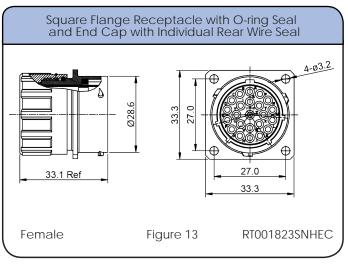
Sealing: IP67 Salt Spray: 48h

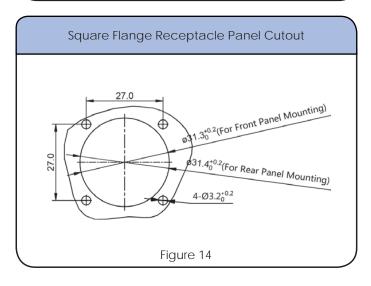
# Dimensions Square Flange Receptacle





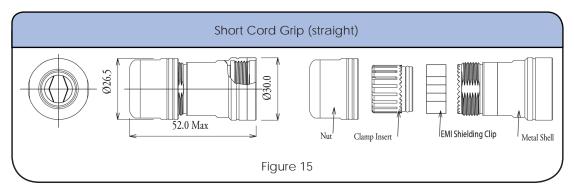


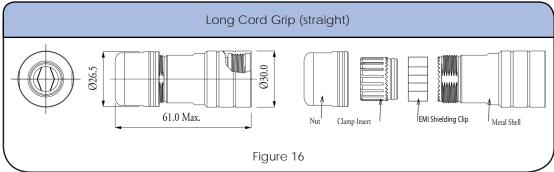




Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**





## Accessories



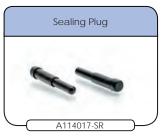


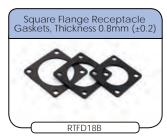












Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Number		AVVO	Wire	Die Peren
Male	Female	AWG	Range (mm²)	Plating
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash
MP14M23FG5	MS14M23G5	14	2.0-2.5	Gold 5µ"
MP14M23FG10	MS14M23G10	14	2.0-2.5	Gold 10µ"
MP14M23FG15	MS14M23G15	14	2.0-2.5	Gold 15µ"
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"
MP20M23F	MS20M23F	22-20	.3450	Gold Flash
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"
MP24M23F	MS24M23F	26-24	.1425	Gold Flash
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"







Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



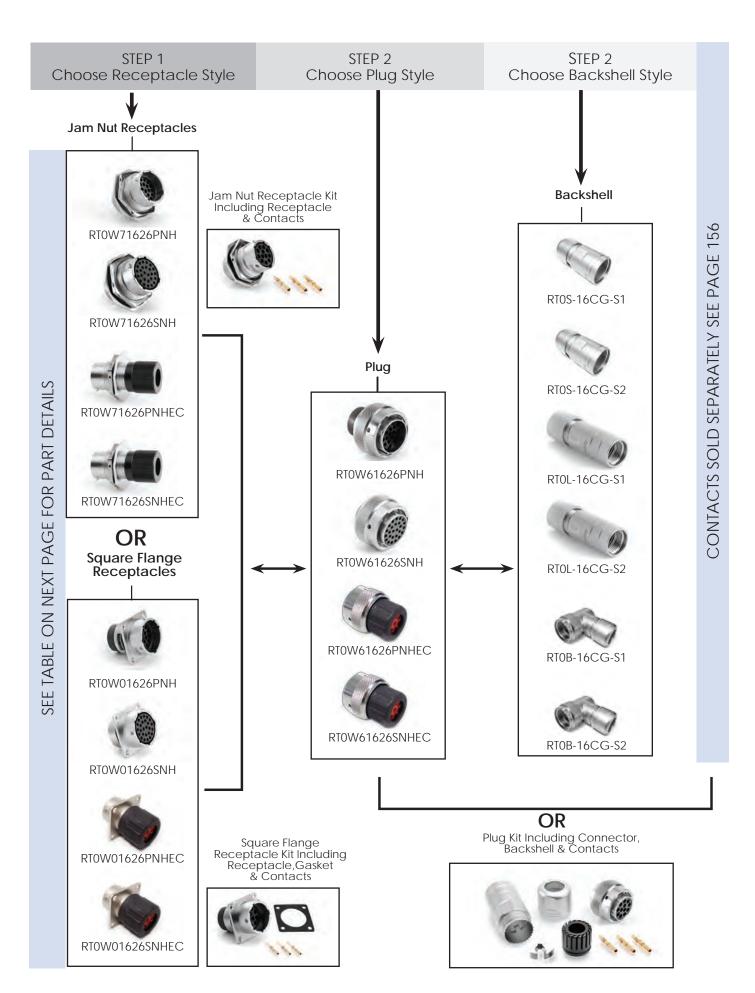
# Crimp Contacts, Stamped & Formed

Part Number		1110	Wire	DI .:
Male	Female	AWG	Range (mm²)	Plating
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"
SP20M2F	SS20M2F	22-20	.3450	Gold Flash
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"
SP24M2F	SS24M2F	22-20	.1425	Gold Flash
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"







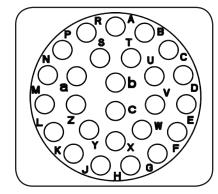


Sealing: IP67 Salt Spray: 48h

## eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part N	umber	Compostor Type	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT0W71626PNH	RTOW71626SNH	Jam Nut Receptacle	1,5	2,5
RT0W71626PNHEC	RTOW71626SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RTOW71626PNH-K	RTOW71626SNH-K	626SNH-K Jam Nut Receptacle Kit		2,5
RTOW61626PNH	RTOW61626SNH	626SNH Plug		7
RTOW61626PNHEC	RT0W61626SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT0W61626PNH-K	RTOW61626SNH-K	Plug Kit	6	7
RTOW01626PNH	RTOW01626SNH	Square Flange Receptacle	10,14	11,14
RT0W01626PNHEC	RTOW01626SNHEC	Square Flange Receptacle with Unshielded Backshell and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT0W01626PNH-K	RT0W01626SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 156
\*\*See page 153 for the real seal wire range

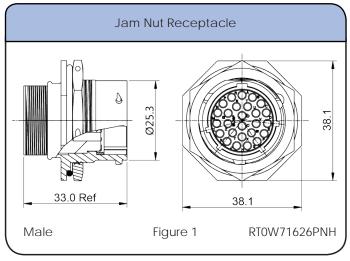
## Backshells

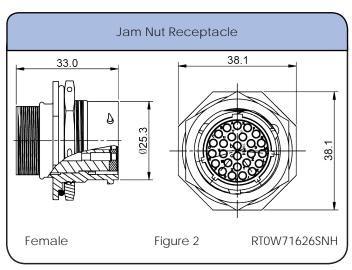
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RTOS-16CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RTOS-16CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-16CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-16CG-S2	Long Cord Grip (straight)	13.5-17	16	✓
RTOB-16CG-S1	Cord Grip (90°)	9.5-14.5	17	✓
RTOB-16CG-S2	Cord Grip (90°)	13.5-17.0	17	✓

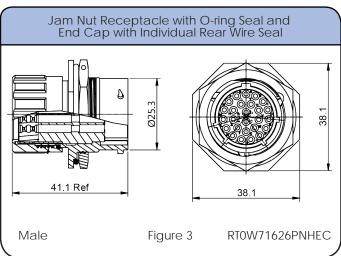
<sup>\*</sup>Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

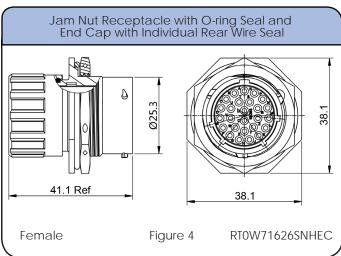
Sealing: IP67 Salt Spray: 48h

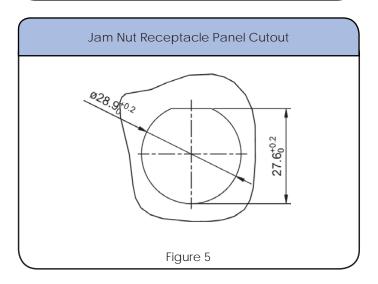
# Dimensions Jam Nut Receptacle





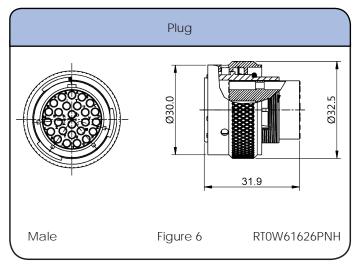


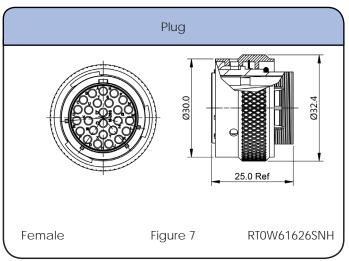


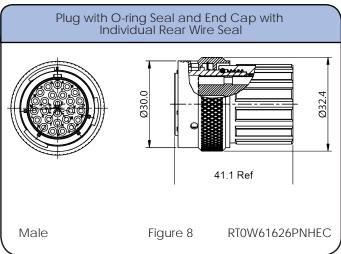


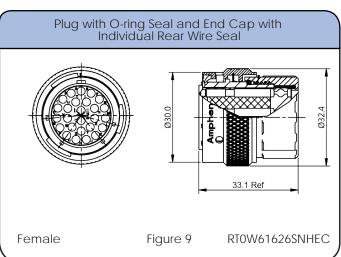
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







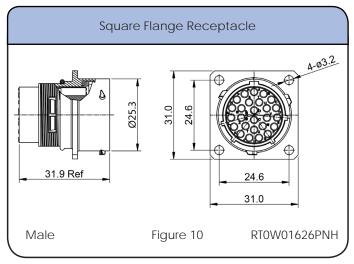


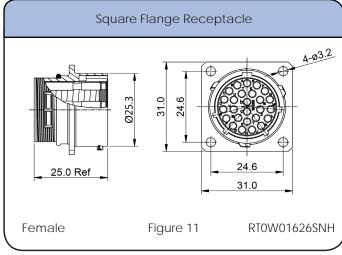
# Individual Sealing Wire Range

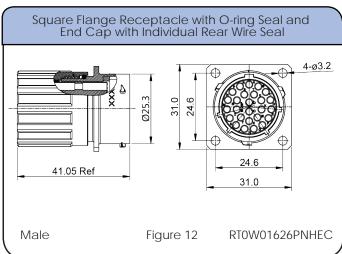
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
20	Ø1.6mm - Ø2.6mm	20 - 30 AWG

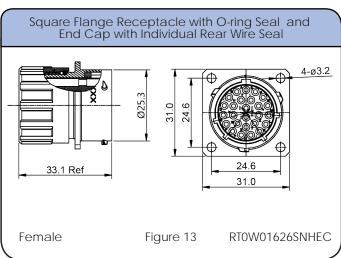
Sealing: IP67 Salt Spray: 48h

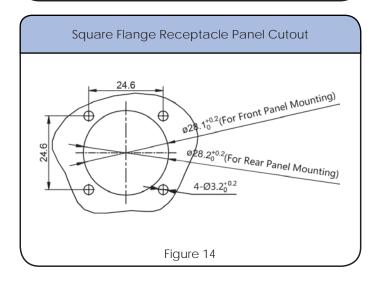
# Dimensions Square Flange Receptacle





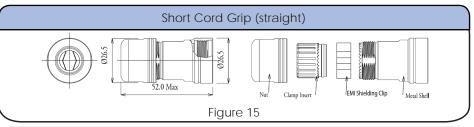


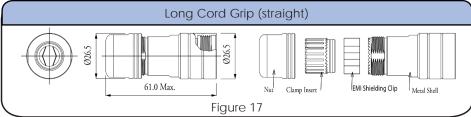


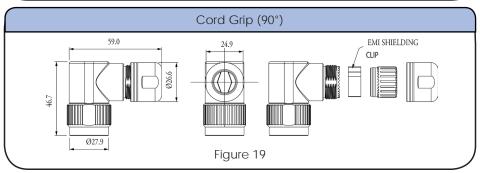


Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**







## **Accessories**



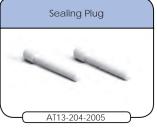


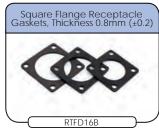












Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined (7.5A Max)

Part Nu	Part Number		Wire	Diotina
Male	Female	AWG	Range (mm²)	Plating
MP20W23F	MS20W23F	22-20	.3450	Gold Flash
MP20W23G5	MS20W23G5	22-20	.3450	Gold 5µ"
MP20W23G10	MS20W23G10	22-20	.3450	Gold 10µ"
MP20W23G15	MS20W23G15	22-20	.3450	Gold 15µ"
MP20W23G30	MS20W23G30	22-20	.3450	Gold 30µ"
MP24W23F	MS24W23F	26-24	.1325	Gold Flash
MP24W23G5	MS24W23G5	26-24	.1325	Gold 5µ"
MP24W23G10	MS24W23G10	26-24	.1325	Gold 10µ"
MP24W23G15	MS24W23G15	26-24	.1325	Gold 15µ"
MP24W23G30	MS24W23G30	26-24	.1325	Gold 30µ"
MP28W23F	MS28W23F	30-28	.0508	Gold Flash
MP28W23G5	MS28W23G5	30-28	.0508	Gold 5µ"
MP28W23G10	MS28W23G10	30-28	.0508	Gold 10µ"
MP28W23G15	MS28W23G15	30-28	.0508	Gold 15µ"
MP28W23G30	MS28W23G30	30-28	.0508	Gold 30µ"



MFX-3960

Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



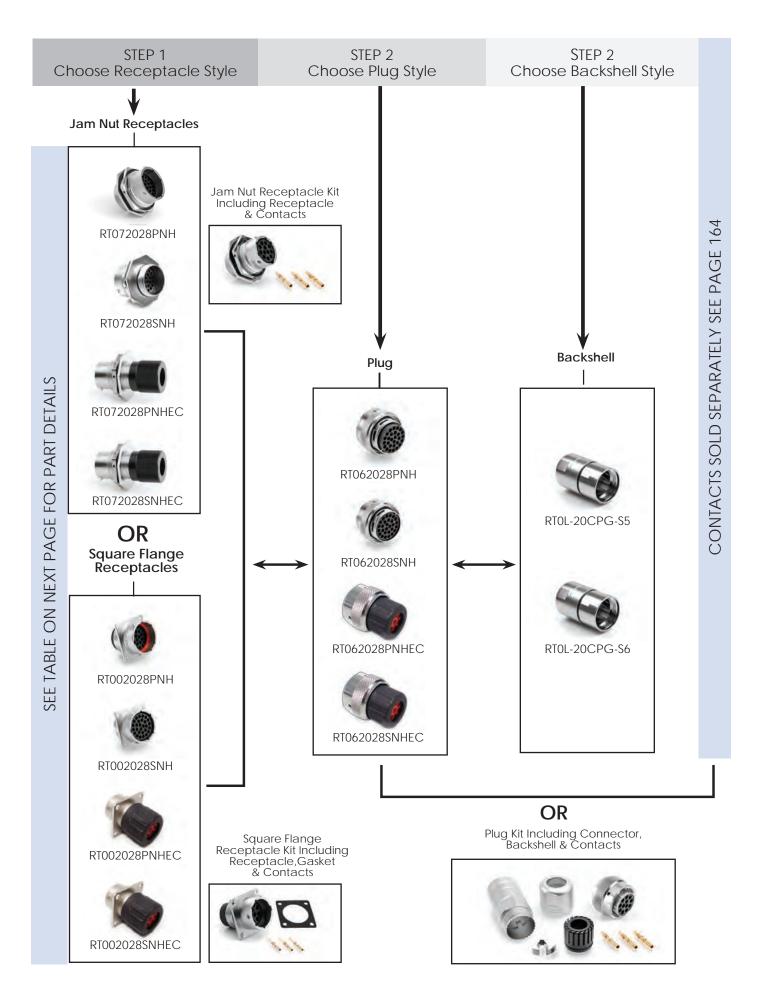
# Crimp Contacts, Stamped & Formed (5A Max)

Part Number		AWG	Wire	Dioting
Male	Female	AWG	Range (mm²)	Plating
SP20W2F	SS20W2F	22-20	.3450	Gold Flash
SP20W2G5	SS20W2G5	22-20	.3450	Gold 5µ"
SP20W2G10	SS20W2G10	22-20	.3450	Gold 10µ"
SP20W2G15	SS20W2G15	22-20	.3450	Gold 15µ"
SP20W2G30	SS20W2G30	22-20	.3450	Gold 30µ"
SP24W2F	SS24W2F	26-24	.1425	Gold Flash
SP24W2G5	SS24W2G5	26-24	.1425	Gold 5µ"
SP24W2G10	SS24W2G10	26-24	.1425	Gold 10µ"
SP24W2G15	SS24W2G15	26-24	.1425	Gold 15µ"
SP24W2G30	SS24W2G30	26-24	.1425	Gold 30µ"
SP28W2F	SS28W2F	30-28	.0508	Gold Flash
SP28W2G5	SS28W2G5	30-28	.0508	Gold 5µ"
SP28W2G10	SS28W2G10	30-28	.0508	Gold 10µ"
SP28W2G15	SS28W2G15	30-28	.0508	Gold 15µ"
SP28W2G30	SS28W2G30	30-28	.0508	Gold 30µ"







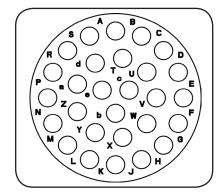


Sealing: IP67 Salt Spray: 48h

## eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part N	umber	Compostor Type	Figure Drawings	
Male	Female	Connector Type	Male	Female
RT072028PNH	RT072028SNH	Jam Nut Receptacle	1,5	2,5
RT072028PNHEC	Jam Nut Receptacle with O-ring Seal PNHEC RT072028SNHEC and End Cap with Individual Rear Wire Seal**		3,5	4,5
RT072028PNH-K	RT072028SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT062028PNH	RT062028SNH	52028SNH Plug		7
RT062028PNHEC	RT062028SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT062028PNH-K	RT062028SNH-K	Plug Kit	6	7
RT002028PNH	RT002028SNH	Square Flange Receptacle	10,14	11,14
RT002028PNHEC	RT002028SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RT002028PNH-K	RT002028SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 164
\*\*See page 153 for the real seal wire range

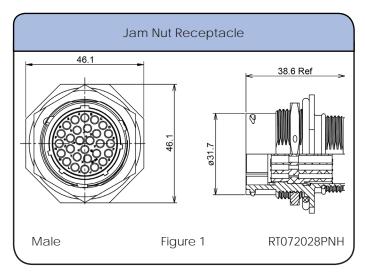
## **Backshells**

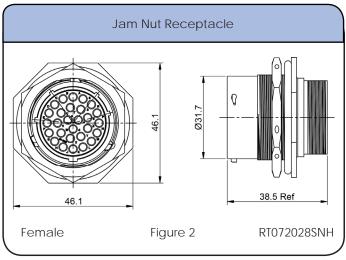
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RTOL-20CPG-S5	Long Cord Grip (straight)	12.5-13.3	15	✓
RTOL-20CPG-S6	Long Cord Grip (straight)	15.5-19.5	15	✓

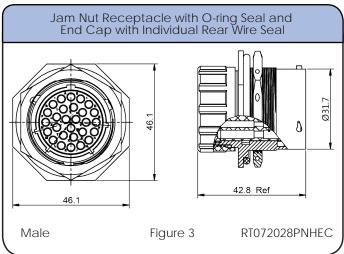
 $<sup>{}^*\</sup>text{Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.}$ 

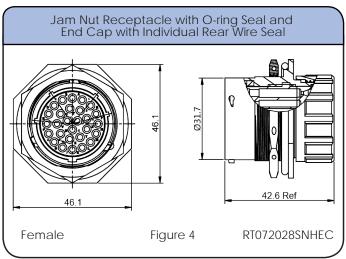
Sealing: IP67 Salt Spray: 48h

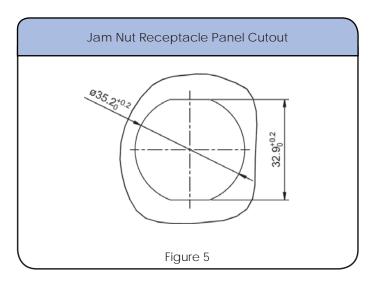
# Dimensions Jam Nut Receptacle





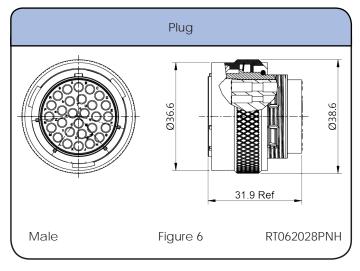


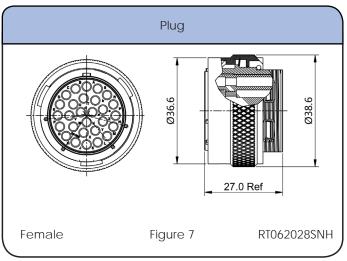


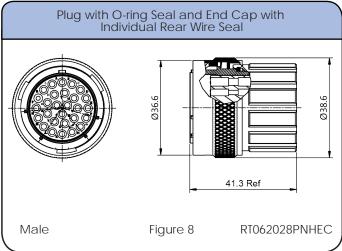


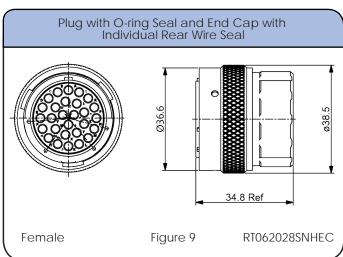
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







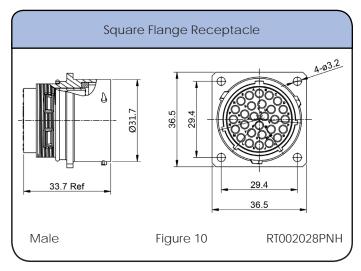


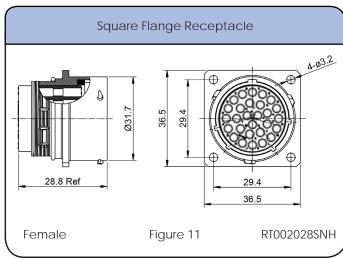
# Individual Sealing Wire Range

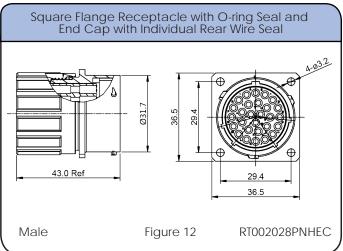
Contact Size Insulati		Insulation Overall Diameter (min-max)	Wire Range
	16	Ø2.0mm - Ø3.2mm	14 - 24 AWG

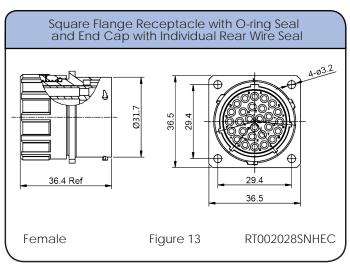
Sealing: IP67 Salt Spray: 48h

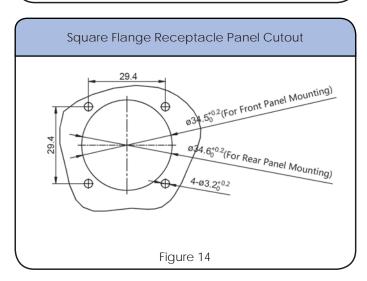
# Dimensions Square Flange Receptacle





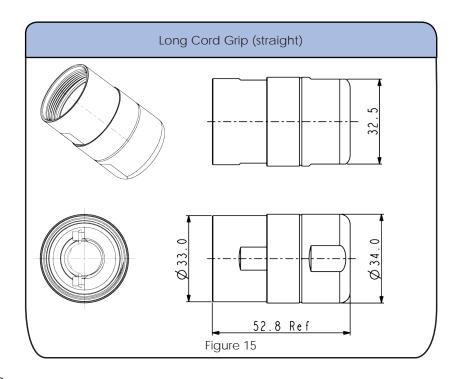




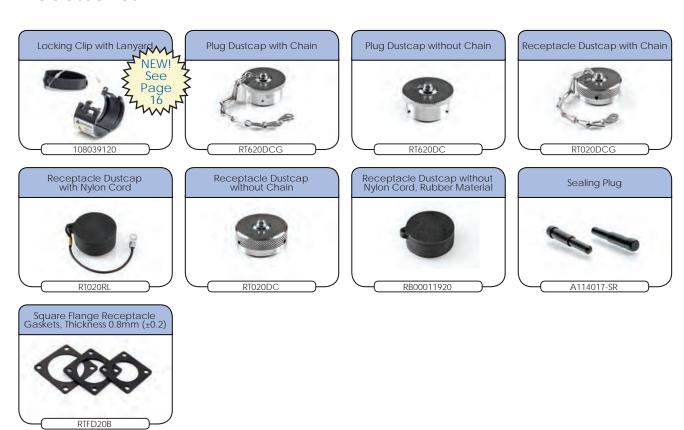


Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**



## **Accessories**



Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Number		014/0	Mino	Diotina	
Male	Female	AWG	Wire Range	Plating	
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash	
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"	
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"	
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"	
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"	
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash	
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"	
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"	
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"	
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"	
MP20M23F	MS20M23F	22-20	.3450	Gold Flash	
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"	
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"	
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"	
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"	
MP24M23F	MS24M23F	26-24	.1425	Gold Flash	
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"	
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"	
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"	
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"	

# Tools Contact Extraction Tool, #16 (Ø 1.6) Contact OXRT16 Hand Crimp Tool for Machined Contacts MFX-3959 Pneumatic Crimp Tool for Machined Contacts MEX-3960

Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



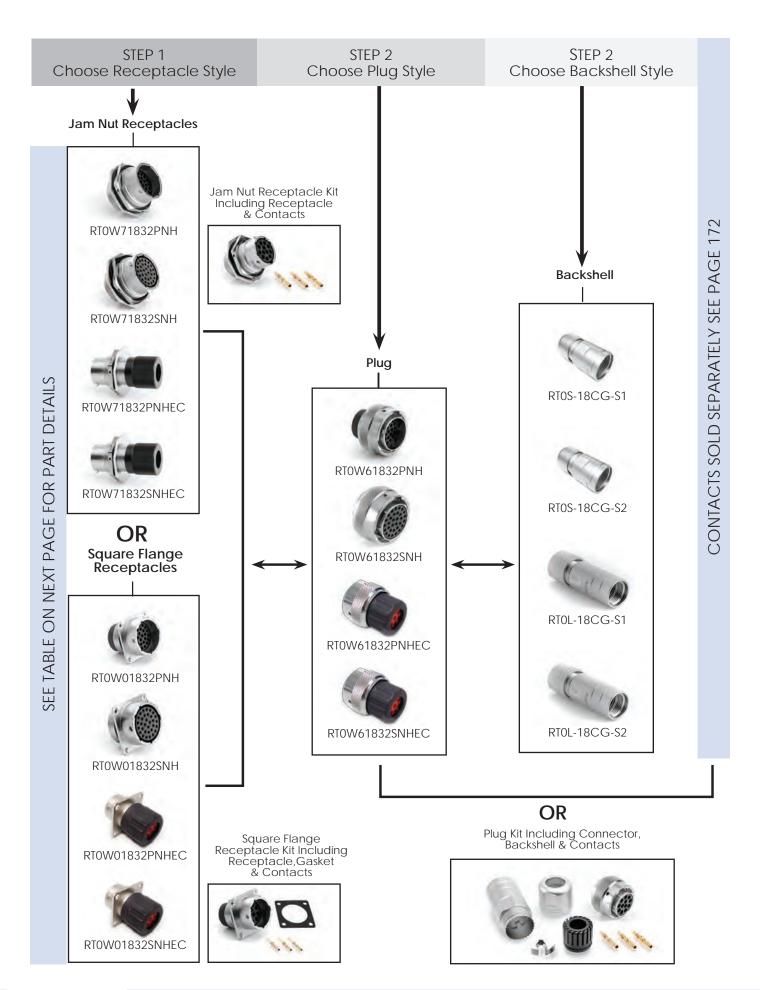
# Crimp Contacts, Stamped & Formed

Part Number		AVACO	Wire	Diation or	
Male	Female	AWG	Range (mm²)	Plating	
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash	
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"	
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"	
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"	
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"	
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash	
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"	
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"	
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"	
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"	
SP20M2F	SS20M2F	22-20	.3450	Gold Flash	
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"	
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"	
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"	
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"	
SP24M2F	SS24M2F	22-20	.1425	Gold Flash	
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"	
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"	
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"	
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"	







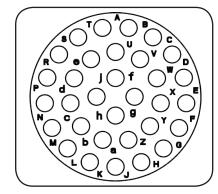


Sealing: IP67 Salt Spray: 48h

## eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

Part N	umber	Connector Type	Figure Dr	awings
Male	Female	Connector Type	Male	Female
RT0W71832PNH	RTOW71832SNH	Jam Nut Receptacle	1,5	2,5
RT0W71832PNHEC	RT0W71832SNHEC	Jam Nut Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	3,5	4,5
RT0W71832PNH-K	RT0W71832SNH-K	Jam Nut Receptacle Kit	1,5	2,5
RT0W61832PNH	RT0W61832SNH	Plug	6	7
RTOW61832PNHEC	RT0W61832SNHEC	Plug with O-ring Seal and End Cap with Individual Rear Wire Seal**	8	9
RT0W61832PNH-K	RT0W61832SNH-K	Plug Kit	6	7
RT0W01832PNH	RT0W01832SNH	Square Flange Receptacle	10,14	11,14
RTOW01832PNHEC	RT0W01832SNHEC	Square Flange Receptacle with O-ring Seal and End Cap with Individual Rear Wire Seal**	12,14	13,14
RTOW01832PNH-K	RTOW01832SNH-K	Square Flange Receptacle Kit	10,14	11,14

Contacts supplied separately see page 172
\*\*See page 169 for the real seal wire range

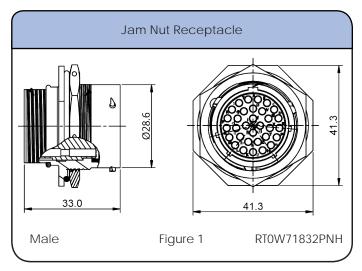
## Backshells

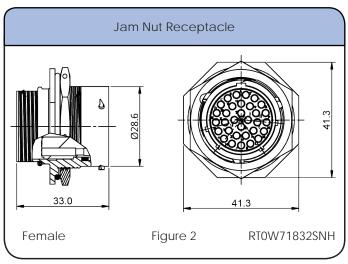
Part Number	Backshell Type	Cable Range (mm)	Figure Drawings	Shielding
RT0S-18CG-S1	Short Cord Grip (straight)	9.0-14.5	15	✓
RT0S-18CG-S2	Short Cord Grip (straight)	13.5-17	15	✓
RT0L-18CG-S1	Long Cord Grip (straight)	9.0-14.5	16	✓
RT0L-18CG-S2	Long Cord Grip (straight)	13.5-17	16	✓

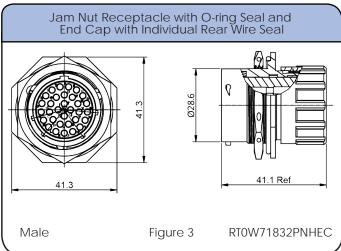
 $<sup>^*</sup>$ Connector parts with part numbers ending in EC (with an end cap) were not available for submittal at the time of UL certification.

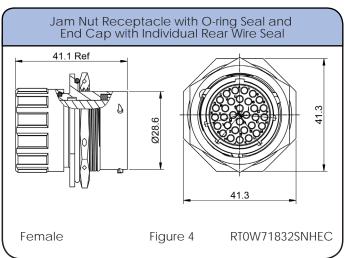
Sealing: IP67 Salt Spray: 48h

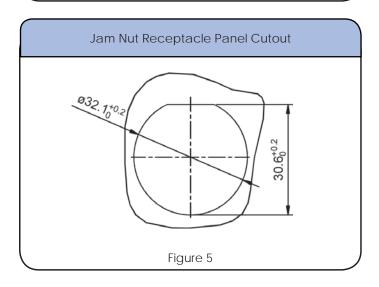
# Dimensions Jam Nut Receptacle





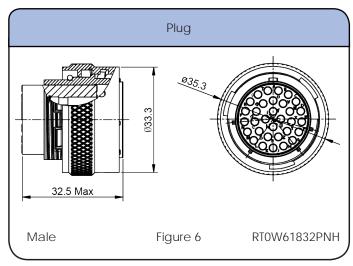


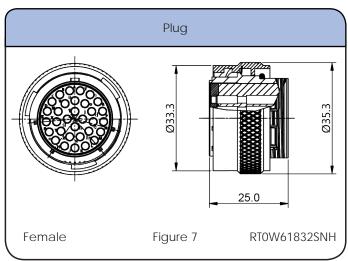


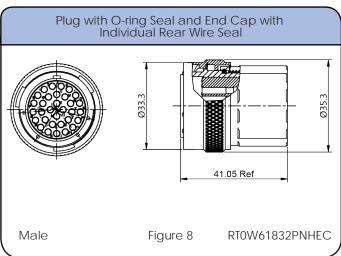


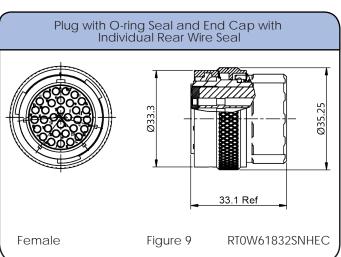
Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**







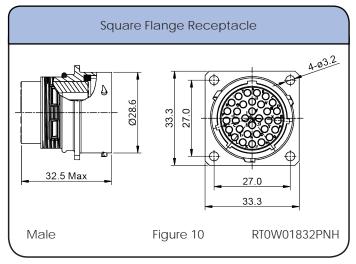


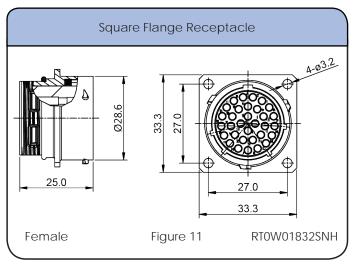
# Individual Sealing Wire Range

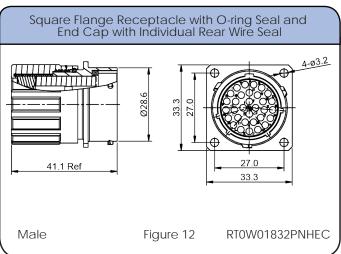
Contact Size	Insulation Overall Diameter (min-max)	Wire Range
20	Ø1.6mm - Ø2.6mm	20 - 30 AWG

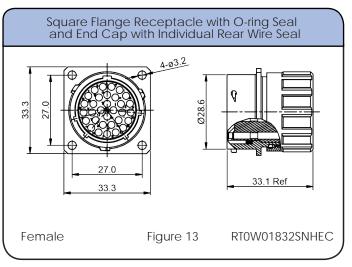
Sealing: IP67 Salt Spray: 48h

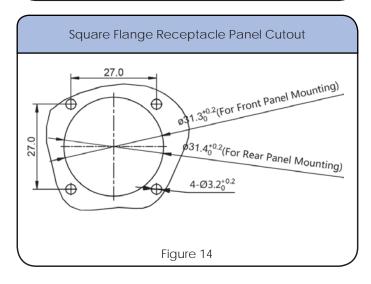
# Dimensions Square Flange Receptacle





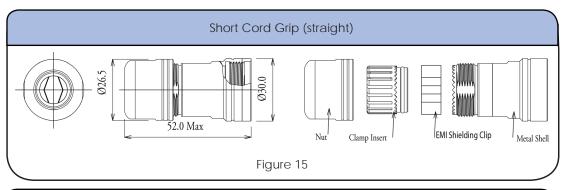


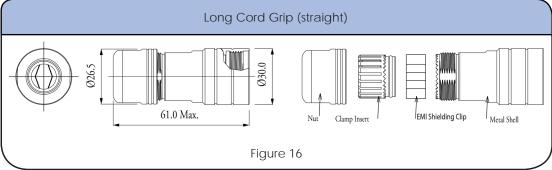




Sealing: IP67 Salt Spray: 48h

## **Dimensions Backshell**





## **Accessories**





















Sealing: IP67 Salt Spray: 48h

## Contacts



Crimp Contacts, Machined (7.5A Max)

PART N	PART NUMBER		Wire	Dia tina n	
MALE	FEMALE	AWG	Range (mm²)	Plating	
MP20W23F	MS20W23F	22-20	.3450	Gold Flash	
MP20W23G5	MS20W23G5	22-20	.3450	Gold 5µ"	
MP20W23G10	MS20W23G10	22-20	.3450	Gold 10µ"	
MP20W23G15	MS20W23G15	22-20	.3450	Gold 15µ"	
MP20W23G30	MS20W23G30	22-20	.3450	Gold 30µ"	
MP24W23F	MS24W23F	26-24	.1325	Gold Flash	
MP24W23G5	MS24W23G5	26-24	.1325	Gold 5µ"	
MP24W23G10	MS24W23G10	26-24	.1325	Gold 10µ"	
MP24W23G15	MS24W23G15	26-24	.1325	Gold 15µ"	
MP24W23G30	MS24W23G30	26-24	.1325	Gold 30µ"	
MP28W23F	MS28W23F	30-28	.0508	Gold Flash	
MP28W23G5	MS28W23G5	30-28	.0508	Gold 5µ"	
MP28W23G10	MS28W23G10	30-28	.0508	Gold 10µ"	
MP28W23G15	MS28W23G15	30-28	.0508	Gold 15µ"	
MP28W23G30	MS28W23G30	30-28	.0508	Gold 30µ"	



MFX-3960

Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



# Crimp Contacts, Stamped & Formed (5A Max)

PART NI	PART NUMBER		Wire	Distinct
MALE	FEMALE	AWG	Range (mm²)	Plating
SP20W2F	SS20W2F	22-20	.3450	Gold Flash
SP20W2G5	SS20W2G5	22-20	.3450	Gold 5µ"
SP20W2G10	SS20W2G10	22-20	.3450	Gold 10µ"
SP20W2G15	SS20W2G15	22-20	.3450	Gold 15µ"
SP20W2G30	SS20W2G30	22-20	.3450	Gold 30µ"
SP24W2F	SS24W2F	26-24	.1425	Gold Flash
SP24W2G5	SS24W2G5	26-24	.1425	Gold 5µ"
SP24W2G10	SS24W2G10	26-24	.1425	Gold 10µ"
SP24W2G15	SS24W2G15	26-24	.1425	Gold 15µ"
SP24W2G30	SS24W2G30	26-24	.1425	Gold 30µ"
SP28W2F	SS28W2F	30-28	.0508	Gold Flash
SP28W2G5	SS28W2G5	30-28	.0508	Gold 5µ"
SP28W2G10	SS28W2G10	30-28	.0508	Gold 10µ"
SP28W2G15	SS28W2G15	30-28	.0508	Gold 15µ"
SP28W2G30	SS28W2G30	30-28	.0508	Gold 30µ"





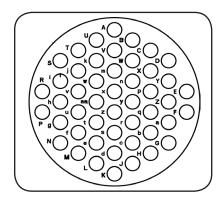


Sealing: IP67 Salt Spray: 48h

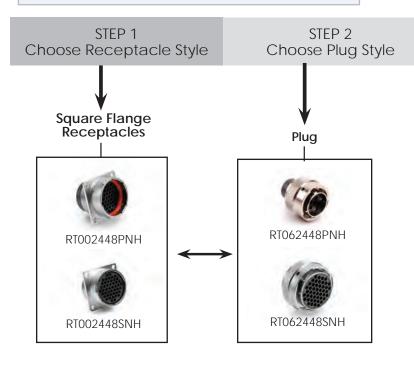
# eco|mate® rm Standard Products

- Suitable For Indoor and Outdoor Applications
- EMI/RMI Shielding Capability with Appropriate Backshell
- Operating Temperature: -40°C to +105°C
- 500 Mating Cycles
- Contacts and Cord Grips Ordered Separately
- UL ECBT2 Certified\*

An upgraded silicone seal is available for all connector parts. Please add "03" to the end of the part number when ordering. Operating Temperature: -40°C to +125°C. Not available in kits.



Insert Arrangement Pin (Male) Faceview



## **Connector Part Numbers**

Part Number		Connector	Figure Drawings		
Male	Female	Туре	Male	Female	
RT062448PNH	RT062448SNH	Plug	1	2	
RT002448PNH	RT002448SNH	Square Flange Receptacle	3,5	4,5	

Contacts supplied separately see page 176



**Accessories** 

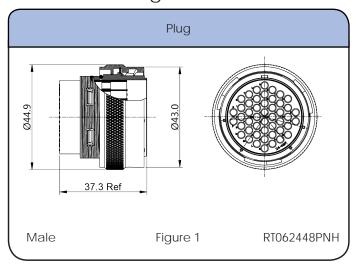


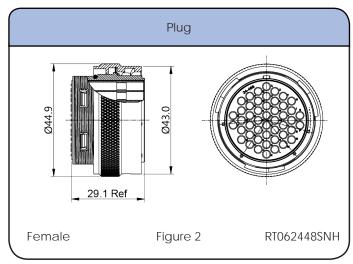
CONTACTS SOLD SEPARATELY SEE PAGE 176



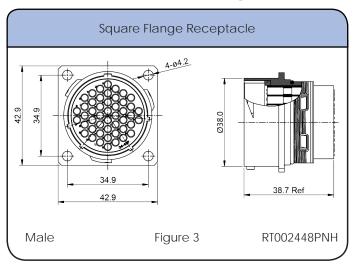
Sealing: IP67 Salt Spray: 48h

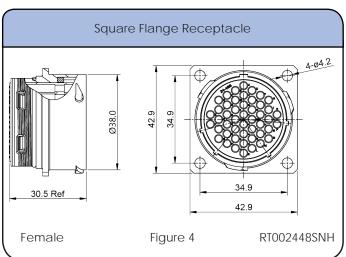
## **Dimensions Plug**

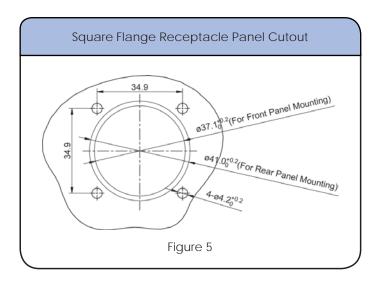




# Dimensions Square Flange Receptacle







Sealing: IP67 Salt Spray: 48h

## Contacts



# Crimp Contacts, Machined

Part Nu	Part Number		Wire	51	
Male	Female	AWG	Range (mm²)	Plating	
MP14M23F	MS14M23F	14	2.0-2.5	Gold Flash	
MP14M23G5	MS14M23G5	14	2.0-2.5	Gold 5µ"	
MP14M23G10	MS14M23G10	14	2.0-2.5	Gold 10µ"	
MP14M23G15	MS14M23G15	14	2.0-2.5	Gold 15µ"	
MP14M23G30	MS14M23G30	14	2.0-2.5	Gold 30µ"	
MP16M23F	MS16M23F	18-16	.75-1.5	Gold Flash	
MP16M23G5	MS16M23G5	18-16	.75-1.5	Gold 5µ"	
MP16M23G10	MS16M23G10	18-16	.75-1.5	Gold 10µ"	
MP16M23G15	MS16M23G15	18-16	.75-1.5	Gold 15µ"	
MP16M23G30	MS16M23G30	18-16	.75-1.5	Gold 30µ"	
MP20M23F	MS20M23F	22-20	.3450	Gold Flash	
MP20M23G5	MS20M23G5	22-20	.3450	Gold 5µ"	
MP20M23G10	MS20M23G10	22-20	.3450	Gold 10µ"	
MP20M23G15	MS20M23G15	22-20	.3450	Gold 15µ"	
MP20M23G30	MS20M23G30	22-20	.3450	Gold 30µ"	
MP24M23F	MS24M23F	26-24	.1425	Gold Flash	
MP24M23G5	MS24M23G5	26-24	.1425	Gold 5µ"	
MP24M23G10	MS24M23G10	26-24	.1425	Gold 10µ"	
MP24M23G15	MS24M23G15	26-24	.1425	Gold 15µ"	
MP24M23G30	MS24M23G30	26-24	.1425	Gold 30µ"	



Sealing: IP67 Salt Spray: 48h

# Contacts (con't)



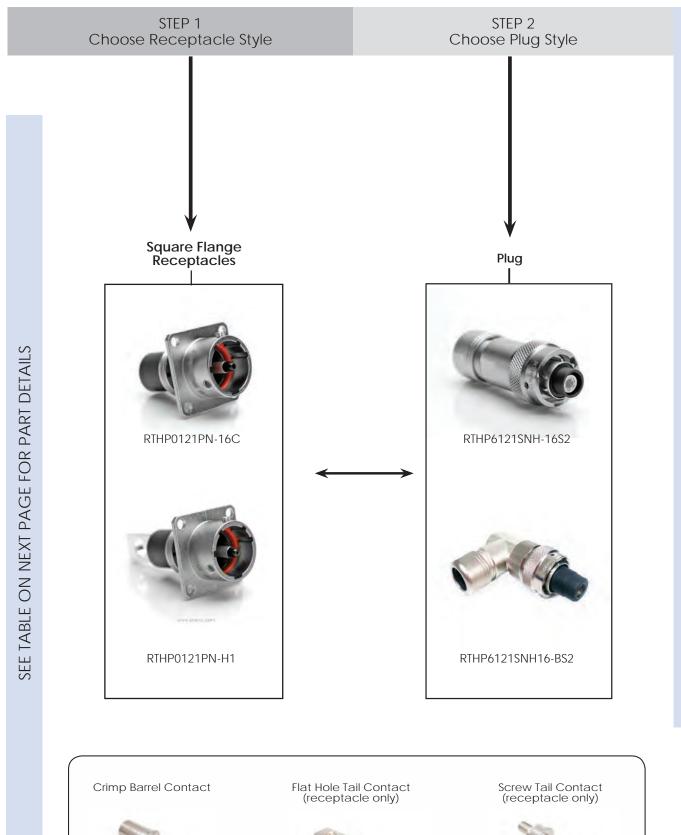
# Crimp Contacts, Stamped & Formed

Part Number		A14/C	Wire	Diation	
Male	Female	AWG	Range (mm²)	Plating	
SP14M2F	SS14M2F	14	2.0-2.5	Gold Flash	
SP14M2G5	SS14M2G5	14	2.0-2.5	Gold 5µ"	
SP14M2G10	SS14M2G10	14	2.0-2.5	Gold 10µ"	
SP14M2G15	SS14M2G15	14	2.0-2.5	Gold 15µ"	
SP14M2G30	SS14M2G30	14	2.0-2.5	Gold 30µ"	
SP16M2F	SS16M2F	18-16	.75-1.5	Gold Flash	
SP16M2G5	SS16M2G5	18-16	.75-1.5	Gold 5µ"	
SP16M2G10	SS16M2G10	18-16	.75-1.5	Gold 10µ"	
SP16M2G10	SS16M2G15	18-16	.75-1.5	Gold 15µ"	
SP16M2G30	SS16M2G30	18-16	.75-1.5	Gold 30µ"	
SP20M2F	SS20M2F	22-20	.3450	Gold Flash	
SP20M2G5	SS20M2G5	22-20	.3450	Gold 5µ"	
SP20M2G10	SS20M2G10	22-20	.3450	Gold 10µ"	
SP20M2G15	SS20M2G15	22-20	.3450	Gold 15µ"	
SP20M2G30	SS20M2G30	22-20	.3450	Gold 30µ"	
SP24M2F	SS24M2F	22-20	.1425	Gold Flash	
SP24M2G5	SS24M2G5	26-24	.1425	Gold 5µ"	
SP24M2G10	SS24M2G10	26-24	.1425	Gold 10µ"	
SP24M2G15	SS24M2G15	26-24	.1425	Gold 15µ"	
SP24M2G30	SS24M2G30	26-24	.1425	Gold 30µ"	







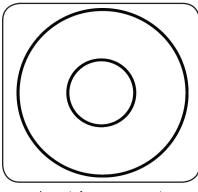


Shell Size: 12 Number of Contacts: 1 Contact Size: 3.6mm

Sealing: IP67 Salt Spray: 48h

# High Amperage eco | mate<sup>®</sup> rm with RADSOK<sup>®</sup> Technology

- Single Pole High Power Arrangements
- 3.6mm Contact Size
- Operating Temperature: -40°C to +125°C
- RoHS Compliant
- Operating Voltage: 630V
- Current Rating at 25°C: 86A
- Flammability Rating: UL94-V0
- High Reliability
- Low Contact Engagement / Separation Forces
- Low Contact Resistance
- High Mating Cycle Durability



Insert Arrangement Pin (Male) Faceview

## **Connector Part Numbers**

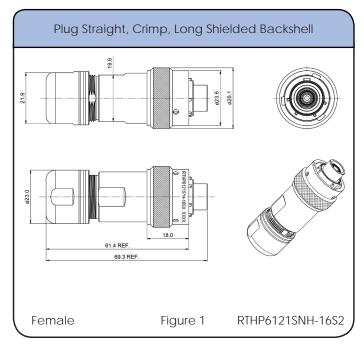
Connector	Connector Type	Wire Range	Amps		Conta	ct		Figure
Part Number	Connector type	(mm²)	$(mm^2)$	Part Number	Туре	AWG	Plating	Drawings
RTHP6121SNH-16S2	Female Plug Straight, Crimp, with Long Shielded Backshell	10-16	86	MS6ARS8S	Crimp Barrel, Female	8	Silver	1
RTHP6121SNH16-BS2	Female Plug with 90° Shielded Backshell	10-16	86	MS6ARS8S	Crimp Barrel, Female	8	Silver	2
RTHP0121PN-16C	Male Square Flange Receptacle Crimp	10-16	86	MP6ARS8S	Crimp Barrel, Male	8	Silver	3,5
RTHP0121PN-H1	Male Square Flange Receptacle Flat Tail	N/A	86	HPAHS	Flathole Tail, Male	8	Silver	3,5

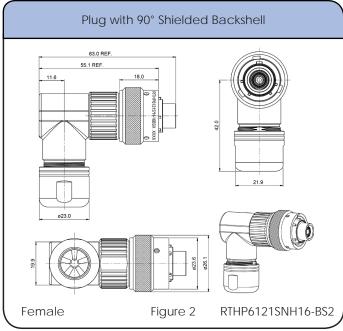
Contacts included. See chart for specific requirements

Shell Size: 12 Number of Contacts: 1 Contact Size: 3.6mm

Sealing: IP67 Salt Spray: 48h

# **Dimensions Plug**

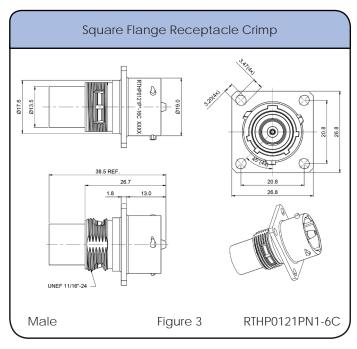


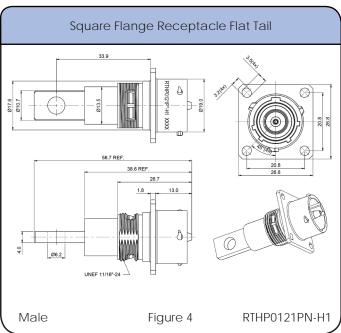


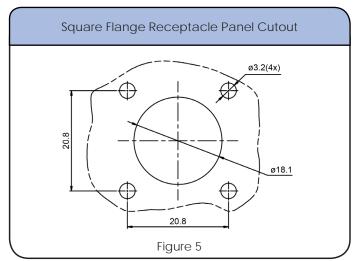


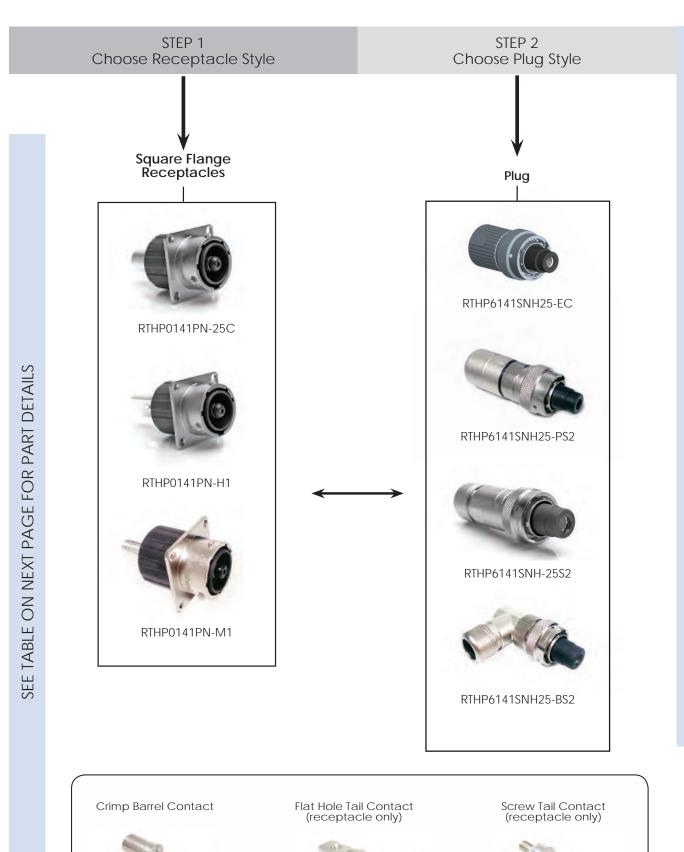
Sealing: IP67 Salt Spray: 48h

#### Dimensions Square Flange Receptacle







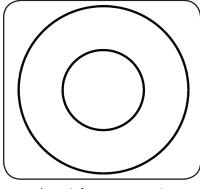




Sealing: IP67 Salt Spray: 48h

# High Amperage eco | mate<sup>®</sup> rm with RADSOK<sup>®</sup> Technology

- Single Pole High Power Arrangements
- 6mm Contact Size
- Operating Temperature: -40°C to +125°C
- RoHS Compliant
- Operating Voltage: 630V
- Current Rating at 25°C: 120A
- Flammability Rating: UL94-V0
- High Reliability
- Low Contact Engagement / Separation Forces
- Low Contact Resistance
- High Mating Cycle Durability



Insert Arrangement Pin (Male) Faceview

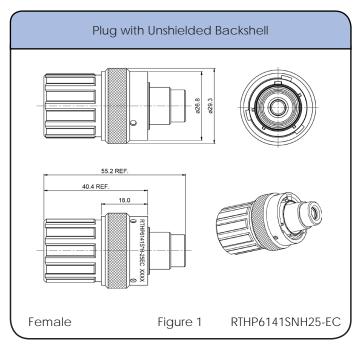
#### **Connector Part Numbers**

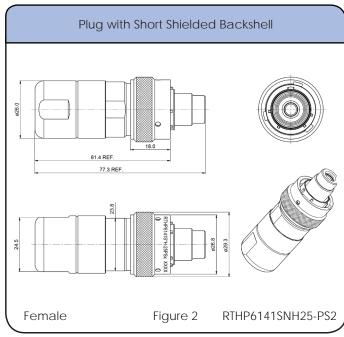
Connector	Connector Type Range Amps		Contac	:t		Figure		
Part Number	Connector type	(mm²)	Amps	Part Number	Туре	AWG	Plating	Drawings
RTHP6141SNH25-EC	Female Plug with Unshielded Short Backshell and End Cap with Individual Rear Wire Seal	20-25	120	HS25BCS	Crimp Barrel, Female	4	Silver	1
RTHP6141SNH25-PS2	Female Plug with Short Shielded Backshell	20-25	120	HS25BCS	Crimp Barrel, Female	4	Silver	2
RTHP6141SNH-25S2	Female Plug Straight, Crimp, Long Shielded Backshell	20-25	120	HS25BCS	Crimp Barrel, Female	4	Silver	3
RTHP6141SNH25-BS2	Female Plug with 90° Shielded Backshell	20-25	120	HS25BCS	Crimp Barrel, Female	4	Silver	4
RTHP0141PN-25C	Male Square Flange Receptacle Crimp	20-25	120	HP25BCS	Crimp Barrel, Male	4	Silver	5,8
RTHP0141PN-H1	Male Square Flange Receptacle Flat Tail	N/A	120	HPBHS	Flathole Tail, Male	4	Silver	6,8
RTHP0141PN-M1	Male Square Flange Receptacle with Screw Tail	N/A	120	HPBSS	Screw Tail, Male	4	Silver	7,8

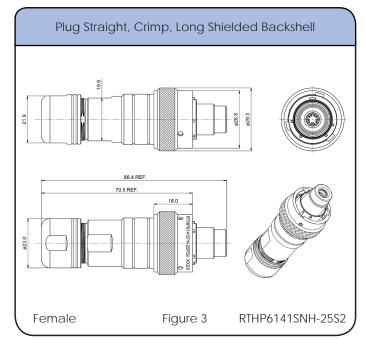
Contacts included. See chart for specific requirements

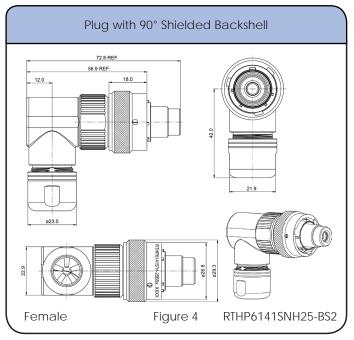
Sealing: IP67 Salt Spray: 48h

#### **Dimensions Plug**



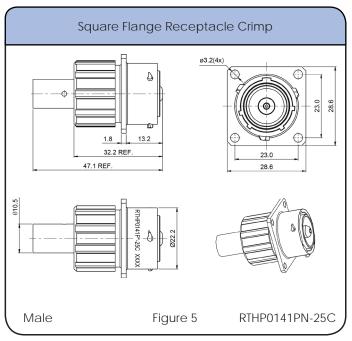


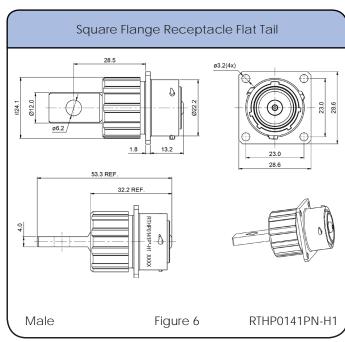


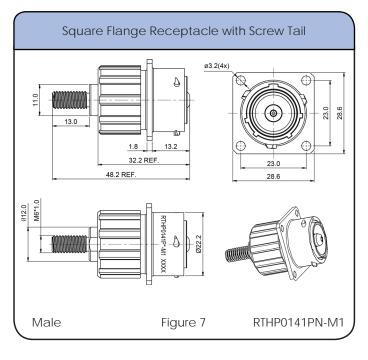


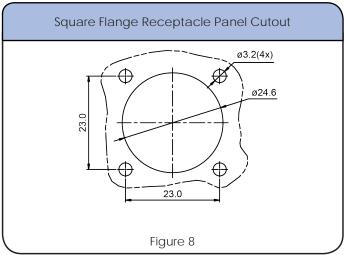
Sealing: IP67 Salt Spray: 48h

#### Dimensions Square Flange Receptacle





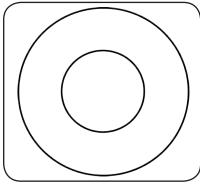




Sealing: IP67 Salt Spray: 48h

# High Amperage eco | mate<sup>®</sup> rm with RADSOK<sup>®</sup> Technology

- Single Pole High Power Arrangements
- 8mm Contact Size
- Operating Temperature: -40°C to +125°C
- RoHS Compliant
- Operating Voltage: 630V
- Current Rating at 25°C: 180A
- Flammability Rating: UL94-V0
- High Reliability
- Low Contact Engagement / Separation Forces
- Low Contact Resistance
- High Mating Cycle Durability



Insert Arrangement Pin (Male) Faceview

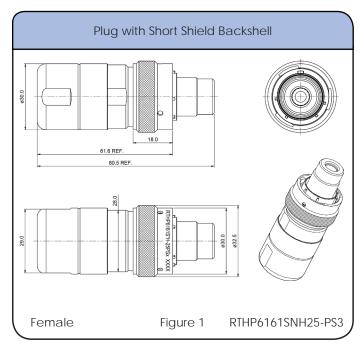
#### **Connector Part Numbers**

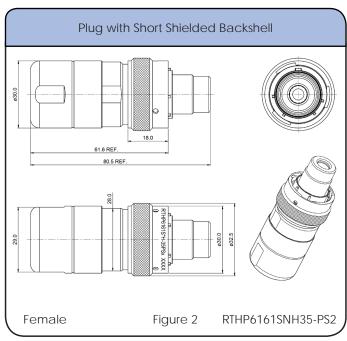
Connector	Connector Type	Wire Range	Amps		Conta	ct		Figure
Part Number	Connector type	(mm²)	Amps	Part Number	Туре	AWG	Plating	Drawings
RTHP6161SNH25-PS3	Female Plug with Short Shielded Backshell	20-25	120	HS25CCS	Crimp Barrel, Female	4	Silver	1
RTHP6161SNH35-PS2	Female Plug with Short Shielded Backshell	30-35	130	HS35CCS	Crimp Barrel, Female	2	Silver	2
RTHP6161SNH50-PS2	Female Plug with Short Shielded Backshell	45-50	180	HS50CCS	Crimp Barrel, Female	2	Silver	3
RTHP6161SNH-35S2	Female Plug Straight, Crimp, Long Shielded Backshell	30-35	130	HS35CCS	Crimp Barrel, Female	2	Silver	4
RTHP0161PN-35C	Male Square Flange Receptacle Crimp	30-35	130	HP35CCS	Crimp Barrel, Male	2	Silver	5,9
RTHP0161PN-50C	Male Square Flange Receptacle with Crimp	40-50	130	HP50CCS	Crimp Barrel, Male	2	Silver	6,9
RTHP0161PN-H1	Male Square Flange Receptacle Flat Tail	N/A	180	HPCHS	Flathole Tail, Male	N/A	Silver	7,9
RTHP0161PN-M1	Male Square Flange Receptacle with Screw Tail	N/A	180	HPCSS	Screw Tail, Male	N/A	Silver	8,9

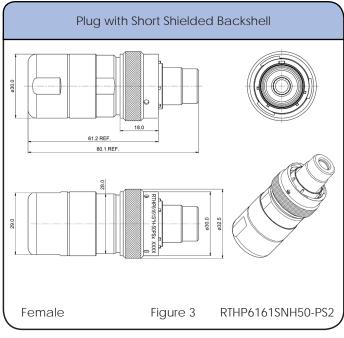
Contacts included. See chart for specific requirements

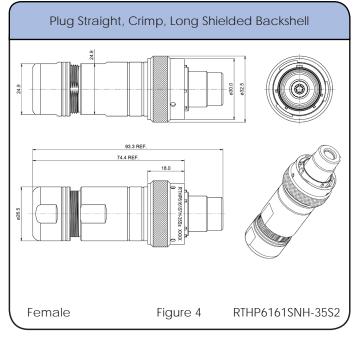
Sealing: IP67 Salt Spray: 48h

#### **Dimensions Plug**



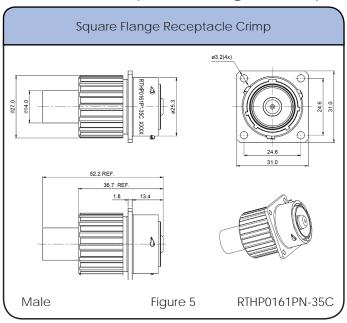


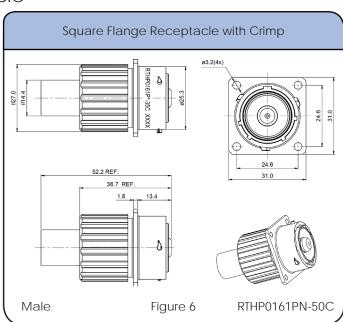


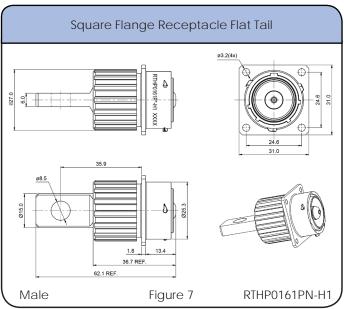


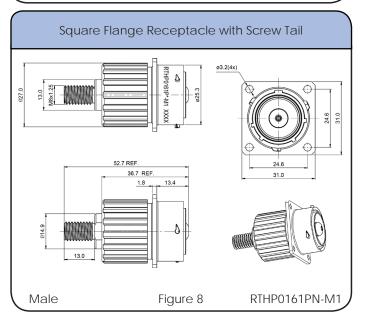
Sealing: IP67 Salt Spray: 48h

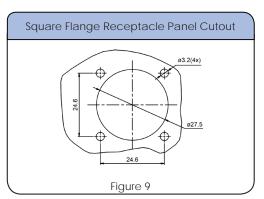
#### Dimensions Square Flange Receptacle









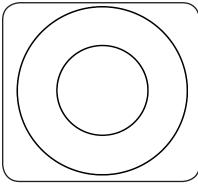


SEE TABLE ON NEXT PAGE FOR PART DETAILS

Sealing: IP67 Salt Spray: 48h

# High Amperage eco|mate® rm with RADSOK® Technology

- Single Pole High Power Arrangements
- 10mm Contact Size
- Operating Temperature: -40°C to +125°C
- RoHS Compliant
- Operating Voltage: 630V
- Current Rating at 25°C: 300A
- Flammability Rating: UL94-V0
- High Reliability
- Low Contact Engagement / Separation Forces
- Low Contact Resistance
- High Mating Cycle Durability



Insert Arrangement Pin (Male) Faceview

#### **Connector Part Numbers**

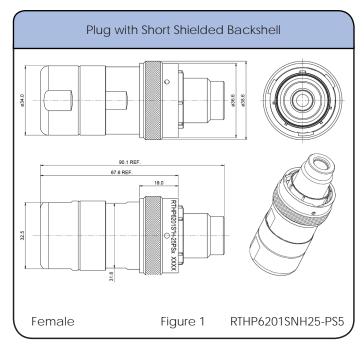
Connector	Common adam Trum	Wire	<b>A</b>		Contac	ct		Figure
Part Number	Connector Type	Range (mm²)	Amps	Part Number	Туре	AWG	Plating	Drawings
RTHP6201SNH25-PS5	Female Plug with Short Shielded Backshell	20-25	120	HS25DCS	Crimp Barrel, Female	4	Silver	1
RTHP6201SNH35-PS2	Female Plug with Short Shielded Backshell	30-35	130	HS35DCS	Crimp Barrel, Female	4	Silver	2
RTHP6201SNH50-PS2	Female Plug with Short Shielded Backshell	40-50	180	HS50DCS	Crimp Barrel, Female	1/0-0	Silver	3
RTHP6201SNH70-PS1	Female Plug with Short Shielded Backshell	60-70	250	HS70DCS	Crimp Barrel, Female	2/0-0	Silver	4
RTHP6201SNH70-PS2	Female Plug with Short Shielded Backshell	60-70	250	HS70DCS	Crimp Barrel, Female	2/0-0	Silver	5
RTHP6201SNH95-PS2	Female Plug with Short Shielded Backshell	85-95	300	HS95DCS	Crimp Barrel, Female	3/0-0	Silver	6
RTHP0201PNH-50C	Male Square Flange Receptacle Crimp	40-50	180	HP50DCS	Crimp Barrel, Male	1/0-0	Silver	7,12
RTHP0201PNH-70C	Male Square Flange Receptacle with Crimp	60-70	250	HP70DCS	Crimp Barrel, Male	2/0-0	Silver	8,12
RTHP0201PNH-95C	Male Square Flange Receptacle with Crimp	85-95	300	HP95DCS	Crimp Barrel, Male	3/0-0	Silver	9,12
RTHP0201PNH-H1	Male Square Flange Receptacle with Flat Tail	N/A	300	HPDHS	Flathole Tail, Male	N/A	Silver	10,12
RTHP0201PNH-M1	Male Square Flange Receptacle with Screw Tail	N/A	300	HPDSS	Screw Tail, Male	N/A	Silver	11,12

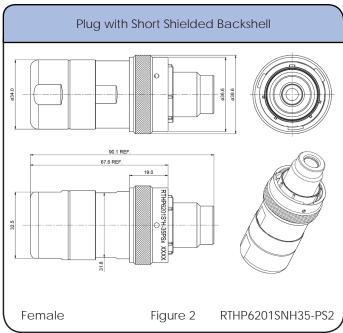
Contacts included. See chart for specific requirements

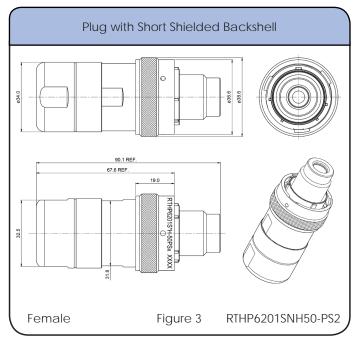


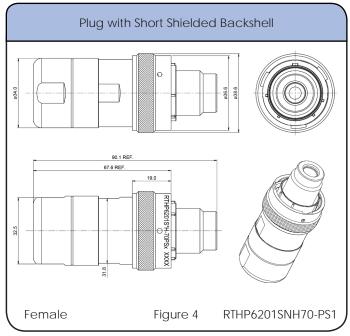
Sealing: IP67 Salt Spray: 48h

#### **Dimensions Plug**



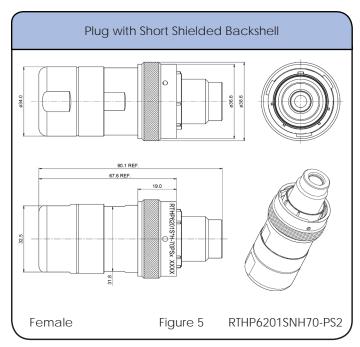


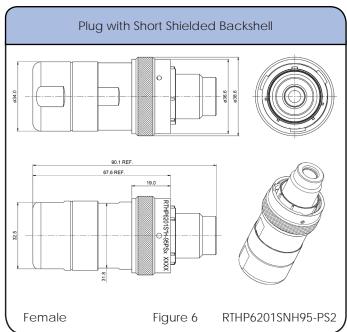




Sealing: IP67 Salt Spray: 48h

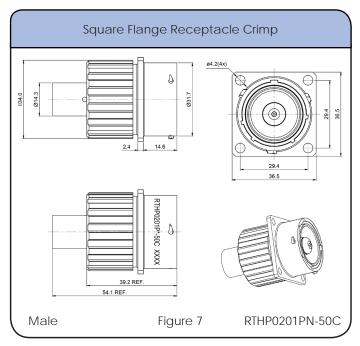
#### Dimensions Plug (con't)

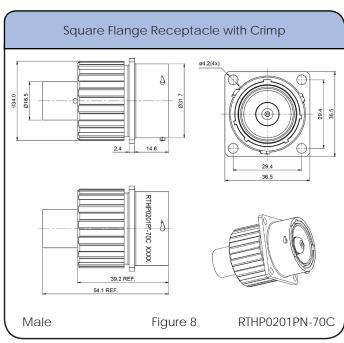


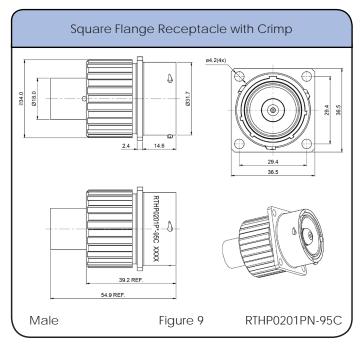


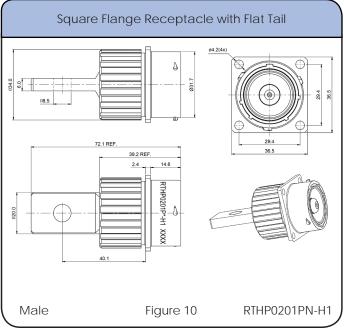
Sealing: IP67 Salt Spray: 48h

#### Dimensions Square Flange Receptacle



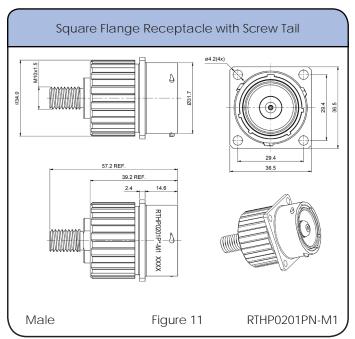


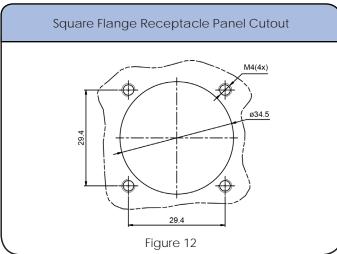




Sealing: IP67 Salt Spray: 48h

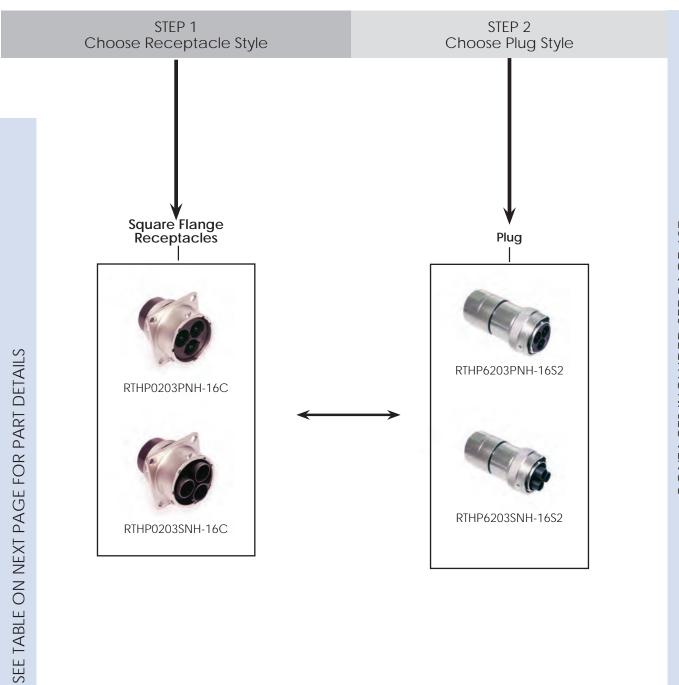
Dimensions Square Flange Receptacle (con't)





#### Contacts



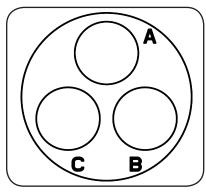




Sealing: IP67 Salt Spray: 48h

# High Amperage eco|mate® rm with RADSOK® Technology

- Single Pole High Power Arrangements
- 3.6mm Contact Size
- Operating Temperature: -40°C to +125°C
- RoHS Compliant
- Operating Voltage: 630V
- Current Rating at 25°C: 86A
- Flammability Rating: UL94-V0
- High Reliability
- Low Contact Engagement / Separation Forces
- Low Contact Resistance
- High Mating Cycle Durability



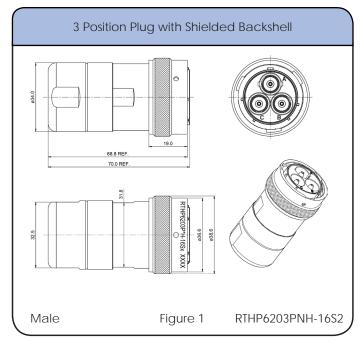
Insert Arrangement Pin (Male) Faceview

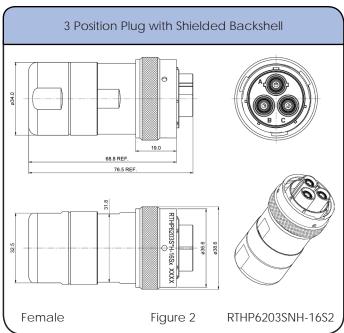
Connector	Connector Type	Wire Range	Amps		Contac	:t		Figure	
Part Number	Connector type	(mm²)	Amps	Part Number	Туре	AWG	Plating	Drawings	
RTHP6203PNH-16S2	Male 3 Position Plug with Shielded Backshell	10-16	86	MP6ARS8S	Crimp Barrel, Male	8	Silver	1	
RTHP6203SNH-16S2	Female 3 Position Plug with Shielded Backshell	10-16	86	MS6ARS8S	Crimp Barrel, Female	8	Silver	2	
RTHP0203PNH-16C	Male Square Flange Receptacle with Crimp	10-16	86	MP6ARS8S	Crimp Barrel, Male		Silver	3,5	
RTHP0203SNH-16C	Female Square Flange Receptacle with Crimp	10-16	86	MS6ARS8S	Crimp Barrel, Female		Silver	4,5	

Contacts included. See chart for specific requirements

Sealing: IP67 Salt Spray: 48h

#### **Dimensions Plug**



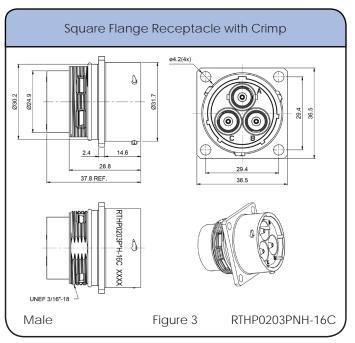


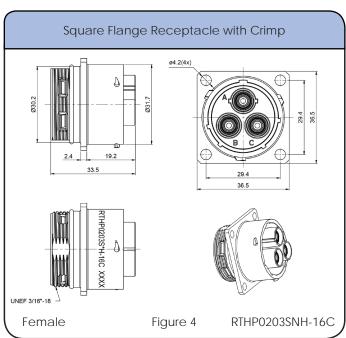
Tools

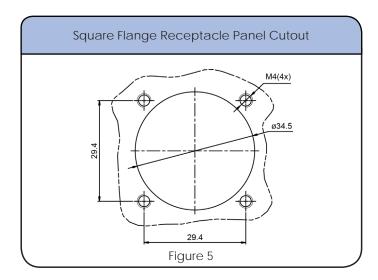


Sealing: IP67 Salt Spray: 48h

#### Dimensions Square Flange Receptacle







#### **Contact Overview**

eco | mate® rm rugged metal shielded connectors and contacts are sold separately.

The contacts are offered in 2 types: machined and stamped & formed. The machined contacts are available in 3 styles: Standard, RADSOK®, and PCB.

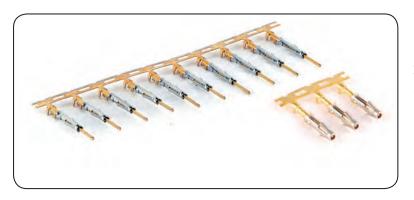
eco | mate® rm contacts are offered in multiple sizes and are designed to be used in any connector with the same active part size regardless of shell size. See our **Connector Guide** starting at page 6 for matching parts and contacts.

Our customers can then choose to buy only one type of contact to equip all of their connectors, even if the shell sizes vary. Our standardized connector solutions makes it easy for our customers to reduce their costs and simplify assembly.

The eco | mate<sup>®</sup> rm rugged metal shielded connectors and contacts are easy to install and remove.



Machined contacts are generally chosen as a better solution for power applications or when lower quantities are needed.



Stamped & Formed contacts are available automatically crimped, making them ideal for high volume production applications.

Technical information about crimped contacts on page 233

#### Plating and Bulk Order Options

#### **Plating Options**

Symbol	Plating
T	Tin Plated (For Stamped and Formed Contacts)
S	Silver Plated 5 Um (For Machined Contacts)
F	Gold Plated
G5	Gold Plated (Thickness 5µ")
G10	Gold Plated (Thickness 10µ")
G15	Gold Plated (Thickness 15µ")
G30	Gold Plated (Thickness 30µ")

Contacts supplied separately

#### **Standard Quantity Order Options**



Machined

## Stamped & Formed Crimped Contact Part Numbers



0 1 10	41410	Wire	Current	Electrical	Insulation	DI	PART N	IUMBER
Contact Size	AWG	range mm²	(A)	Resistance	Diameter (mm)	Plating	Male	Female
2.5mm	14-12	2.5-3.5	23		4.3	Tin	SP12A1T	SS12A1T
16 (Ø1.6mm)	14	2.0-2.5	13	<6mΩ	3.2	Gold Flash	SP14M2F	SS14M2F
16 (Ø1.6mm)	14	2.0-2.5	13	<6mΩ	3.2	Gold 5µ"	SP14M2G5	SS14M2G5
16 (Ø1.6mm)	14	2.0-2.5	13	<6mΩ	3.2	Gold 10µ"	SP14M2G10	SS14M2G10
16 (Ø1.6mm)	14	2.0-2.5	13	<6mΩ	3.2	Gold 15µ"	SP14M2G15	SS14M2G15
16 (Ø1.6mm)	14	2.0-2.5	13	<6mΩ	3.2	Gold 30µ"	SP14M2G30	SS14M2G30
16 (Ø1.6mm)	18-16	.75-1.5	13	<6mΩ	3.2	Gold Flash	SP16M2F	SS16M2F
16 (Ø1.6mm)	18-16	.75-1.5	13	<6mΩ	3.2	Gold 5µ"	SP16M2G5	SS16M2G5
16 (Ø1.6mm)	18-16	.75-1.5	13	<6mΩ	3.2	Gold 10µ"	SP16M2G10	SS16M2G10
16 (Ø1.6mm)	18-16	.75-1.5	13	<6mΩ	3.2	Gold 15µ"	SP16M2G10	SS16M2G15
16 (Ø1.6mm)	18-16	.75-1.5	13	<6mΩ	3.2	Gold 30µ"	SP16M2G30	SS16M2G30
16 (Ø1.6mm)	22-20	.3450	13	<6mΩ	3.2	Gold Flash	SP20M2F	SS20M2F
16 (Ø1.6mm)	22-20	.3450	13	<6mΩ	3.2	Gold 5µ"	SP20M2G5	SS20M2G5
16 (Ø1.6mm)	22-20	.3450	13	<6mΩ	3.2	Gold 10µ"	SP20M2G10	SS20M2G10
16 (Ø1.6mm)	22-20	.3450	13	<6mΩ	3.2	Gold 15µ"	SP20M2G15	SS20M2G15
16 (Ø1.6mm)	22-20	.3450	13	<6mΩ	3.2	Gold 30µ"	SP20M2G30	SS20M2G30
16 (Ø1.6mm)	26-24	.1425	13	<6mΩ	3.2	Gold Flash	SP24M2F	SS24M2F
16 (Ø1.6mm)	26-24	.1425	13	<6mΩ	3.2	Gold 5µ"	SP24M2G5	SS24M2G5

Available in Packages of 25 pieces or the Standard Reel Size of 3,000 pieces

Stamped & Formed Contact Part Numbers (con't)



0 1 10	A1440	Wire	Current	Electrical	Insulation	DI .:	PART N	NUMBER
Contact Size	AWG	range mm ²	(A)	Resistance	Diameter (mm)	Plating	Male	Female
16 (Ø1.6mm)	26-24	.1425	13	<6mΩ	3.2	Gold 10µ"	SP24M2G10	SS24M2G10
16 (Ø1.6mm)	26-24	.1425	13	<6mΩ	3.2	Gold 15µ"	SP24M2G15	SS24M2G15
16 (Ø1.6mm)	26-24	.1425	13	<6mΩ	3.2	Gold 30µ"	SP24M2G30	SS24M2G30
20 (Ø1.mm)	22-20	.3450	5	<15mΩ	2.6	Gold Flash	SP20W2F	SS20W2F
20 (Ø1.mm)	22-20	.3450	5	<15mΩ	2.6	Gold 5µ"	SP20W2G5	SS20W2G5
20 (Ø1.mm)	22-20	.3450	5	<15mΩ	2.6	Gold 10µ"	SP20W2G10	SS20W2G10
20 (Ø1.mm)	22-20	.3450	5	<15mΩ	2.6	Gold 15µ"	SP20W2G15	SS20W2G15
20 (Ø1.mm)	22-20	.3450	5	<15mΩ	2.6	Gold 30µ"	SP20W2G30	SS20W2G30
20 (Ø1.mm)	26-24	.1425	5	<15mΩ	2.6	Gold Flash	SP24W2F	SS24W2F
20 (Ø1.mm)	26-24	.1425	5	<15mΩ	2.6	Gold 5µ"	SP24W2G5	SS24W2G5
20 (Ø1.mm)	26-24	.1425	5	<15mΩ	2.6	Gold 10µ"	SP24W2G10	SS24W2G10
20 (Ø1.mm)	26-24	.1425	5	<15mΩ	2.6	Gold 15µ"	SP24W2G15	SS24W2G15
20 (Ø1.mm)	26-24	.1425	5	<15mΩ	2.6	Gold 30µ"	SP24W2G30	SS24W2G30
20 (Ø1.mm)	30-28	.0508	5	<15mΩ	2.6	Gold Flash	SP28W2F	SS28W2F
20 (Ø1.mm)	30-28	.0508	5	<15mΩ	2.6	Gold 5µ"	SP28W2G5	SS28W2G5
20 (Ø1.mm)	30-28	.0508	5	<15mΩ	2.6	Gold 10µ"	SP28W2G10	SS28W2G10
20 (Ø1.mm)	30-28	.0508	5	<15mΩ	2.6	Gold 15µ"	SP28W2G15	SS28W2G15
20 (Ø1.mm)	30-28	.0508	5	<15mΩ	2.6	Gold 30µ"	SP28W2G30	SS28W2G30

Available in Packages of 25 pieces or the Standard Reel Size of 3,000 pieces

#### **PCB** Contacts





#### **PCB Machined Contact Part Numbers**

		··	PART N	UMBER
Contact Size	Description	Plating	Male	Female
20	Short Version	Gold Flash	MP20W12E06F	MS20W12E06F
20	Short Version	Gold 5µ"	MP20W12E06G5	MS20W12E06G5
20	Short Version	Gold 10µ"	MP20W12E06G10	MS20W12E06G10
20	Short Version	Gold 15µ"	MP20W12E06G15	MS20W12E06G15
20	Short Version	Gold 30µ"	MP20W12E06G30	MS20W12E06G30
20	Long Version	Gold Flash	MP20W12E09F	MS20W12E09F
20	Long Version	Gold 5µ"	MP20W12E09G5	MS20W12E09G5
20	Long Version	Gold 10µ"	MP20W12E09G10	MS20W12E09G10
20	Long Version	Gold 15µ"	MP20W12E09G15	MS20W12E09G15
20	Long Version	Gold 30µ"	MP20W12E09G30	MS20W12E09G30
16	Short Version	Gold Flash	MP16M12E06F	MS16M12E06F
16	Short Version	Gold 5µ"	MP16M12E06G5	MS16M12E06G5
16	Short Version	Gold 10µ"	MP16M12E06G10	MS16M12E06G10
16	Short Version	Gold 15µ"	MP16M12E06G15	MS16M12E06G15
16	Short Version	Gold 30µ"	MP16M12E06G30	MS16M12E06G30
16	Long Version	Gold Flash	MP16M12E09F	MS16M12E09F

## PCB Machined Contact Part Numbers (con't)





		a	PART N	UMBER
Contact Size	Description	Plating	Male	Female
16	Long Version	Gold 5µ"	MP16M12E09G5	MS16M12E09G5
16	Long Version	Gold 10µ"	MP16M12E09G10	MS16M12E09G10
16	Long Version	Gold 15µ"	MP16M12E09G15	MS16M12E09G15
16	Long Version	Gold 30µ"	MP16M12E09G30	MS16M12E09G30
2.5 mm	Short Version	Gold Flash	MP10B12E05F	MS10B12E05F
2.5 mm	Short Version	Gold 5µ"	MP10B12E05G5	MS10B12E05G5
2.5 mm	Short Version	Gold 10µ"	MP10B12E05G10	MS10B12E05G10
2.5 mm	Short Version	Gold 15µ"	MP10B12E05G15	MS10B12E05G15
2.5 mm	Short Version	Gold 30µ"	MP10B12E05G30	MS10B12E05G30
2.5 mm	Long Version	Gold Flash	MP10B12E08F	MS10B12E08F
2.5 mm	Long Version	Gold 5µ"	MP10B12E08G5	MS10B12E08G5
2.5 mm	Long Version	Gold 10µ"	MP10B12E08G10	MS10B12E08G10
2.5 mm	Long Version	Gold 15µ"	MP10B12E08G15	MS10B12E08G15
2.5 mm	Long Version	Gold 30µ"	MP10B12E08G30	MS10B12E08G30

Available in Standard Package Sizes: 25 or 1,000 pieces

#### **PCB Soldering**

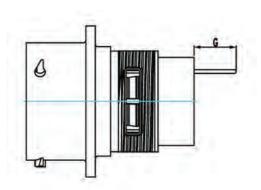
The PNPCF series can be used in a wave soldering process, but not in a reflow soldering process. All high temperature processes are prohibited.

**PCB Contacts Dimensions** 

Nominal Length G (mm)

Dimensions of dipsolder contacts out of connector (contacts to be ordered separately)

All dimensions are in mm xx=plating options



Shell	Pin Contact								
Size	MP20W12E06xx	MP20W12E09xx	MP16M12E04xx	MP16M12E06xx	MP10B12E05xx	MP10B12E08xx			
10	4.0	9.5	4.0	8.0					
12	4.0	9.5	4.0	8.0	5.0				
14	4.0	9.5	4.0	8.0	5.2				
16	4.0	9.5	4.0	8.0					
18		9.5	4.0	8.0					
20		9.5	4.0	8.0					
24				3.9					

Shell						
Size	MS20W12E06xx	MS20W12E09xx	MS16M12E04xx	MS16M12E06xx	MS10B12E05xx	MS10B12E08xx
10	3.3	8.5	2.4	3.0		
12	3.3	8.5	2.4	3.0		
14	3.3	8.5	2.4	3.0		
16	3.3	8.5	2.4	3.0		
18		8.5	2.4			
20		8.5	2.4			
24						

## Machined Standard Crimp Contact Part Numbers



				Electrical	Part Nu	mber
Contact Size	AWG	Wire Range mm <sup>2</sup>	Plating	Resistance	Male	Female
8 (Ø3.6mm)	12-10	3.0-6.0	Silver	<5mΩ	MP10A23S	MS10A23S
16 (Ø1.6mm)	14	2.0-2.5	Gold Flash	<6mΩ	MP14M23F	MS14M23F
16 (Ø1.6mm)	14	2.0-2.5	Gold 5µ"	<6mΩ	MP14M23G5	MS14M23G5
16 (Ø1.6mm)	14	2.0-2.5	Gold 10µ"	<6mΩ	MP14M23G10	MS14M23G10
16 (Ø1.6mm)	14	2.0-2.5	Gold 15µ"	<6mΩ	MP14M23G15	MS14M23G15
16 (Ø1.6mm)	14	2.0-2.5	Gold 30µ"	<6mΩ	MP14M23G30	MS14M23G30
16 (Ø1.6mm)	18-16	.75-1.5	Gold Flash	<6mΩ	MP16M23F	MS16M23F
16 (Ø1.6mm)	18-16	.75-1.5	Gold 5µ"	<6mΩ	MP16M23G5	MS16M23G5
16 (Ø1.6mm)	18-16	.75-1.5	Gold 10µ"	<6mΩ	MP16M23G10	MS16M23G10
16 (Ø1.6mm)	18-16	.75-1.5	Gold 15µ"	<6mΩ	MP16M23G15	MS16M23G15
16 (Ø1.6mm)	18-16	.75-1.5	Gold 30µ"	<6mΩ	MP16M23G30	MS16M23G30
16 (Ø1.6mm)	22-20	.3450	Gold Flash	<6mΩ	MP20M23F	MS20M23F
16 (Ø1.6mm)	22-20	.3450	Gold 5µ"	<6mΩ	MP20M23G5	MS20M23G5
16 (Ø1.6mm)	22-20	.3450	Gold 10µ"	<6mΩ	MP20M23G10	MS20M23G10
16 (Ø1.6mm)	22-20	.3450	Gold 15µ"	<6mΩ	MP20M23G15	MS20M23G15
16 (Ø1.6mm)	22-20	.3450	Gold 30µ"	<6mΩ	MP20M23G30	MS20M23G30

continued on next page

## Machined Standard Crimp Contact Part Numbers(con't)



				Electrical Resistance	Part Number	
Contact Size	AWG	Wire Range mm <sup>2</sup>	Plating		Male	Female
16 (Ø1.6mm)	26-24	.1425	Gold Flash	<6mΩ	MP24M23F	MS24M23F
16 (Ø1.6mm)	26-24	.1425	Gold 5µ"	<6mΩ	MP24M23G5	MS24M23G5
16 (Ø1.6mm)	26-24	.1425	Gold 10µ"	<6mΩ	MP24M23G10	MS24M23G10
16 (Ø1.6mm)	26-24	.1425	Gold15µ"	<6mΩ	MP24M23G15	MS24M23G15
16 (Ø1.6mm)	26-24	.1425	Gold 30µ"	<6mΩ	MP24M23G30	MS24M23G30
20 (Ø1.mm)	22-20	.3450	Gold Flash	<15mΩ	MP20W23F	MS20W23F
20 (Ø1.mm)	22-20	.3450	Gold 5µ"	<15mΩ	MP20W23G5	MS20W23G5
20 (Ø1.mm)	22-20	.3450	Gold 10µ"	<15mΩ	MP20W23G10	MS20W23G10
20 (Ø1.mm)	22-20	.3450	Gold 15µ"	<15mΩ	MP20W23G15	MS20W23G15
20 (Ø1.mm)	22-20	.3450	Gold 30µ"	<15mΩ	MP20W23G30	MS20W23G30
20 (Ø1.mm)	26-24	.1325	Gold Flash	<15mΩ	MP24W23F	MS24W23F
20 (Ø1.mm)	26-24	.1325	Gold 5µ"	<15mΩ	MP24W23G5	MS24W23G5
20 (Ø1.mm)	26-24	.1325	Gold 10µ""	<15mΩ	MP24W23G10	MS24W23G10
20 (Ø1.mm)	26-24	.1325	Gold 15µ"	<15mΩ	MP24W23G15	MS24W23G15
20 (Ø1.mm)	26-24	.1325	Gold 30µ"	<15mΩ	MP24W23G30	MS24W23G30
20 (Ø1.mm)	30-28	.0508	Gold Flash	<15mΩ	MP28W23F	MS28W23F
20 (Ø1.mm)	30-28	.0508	Gold 5µ"	<15mΩ	MP28W23G5	MS28W23G5
20 (Ø1.mm)	30-28	.0508	Gold 10µ"	<15mΩ	MP28W23G10	MS28W23G10
20 (Ø1.mm)	30-28	.0508	Gold 15µ"	<15mΩ	MP28W23G15	MS28W23G15
20 (Ø1.mm)	30-28	.0508	Gold 30µ"	<15mΩ	MP28W23G30	MS28W23G30

Available in Standard Package Sizes: 25 or 1,000 pieces

#### RADSOK® Contacts

#### RADSOK® Benefits at a Glance



- Cost effective production using stamp & form technology
- Fully automated production for full press capability
- Low insertion and extraction forces

- · High number of mating cycles
- Reduced assembly effort
- Contact coverage up to 65%
- Long lasting contact normal forces guaranteed through optimal grid technology
- Self cleaning effect during the mating process
- No torque resistance required of electrical housing - allowing for easier designs
- Absorption of vibrations

#### RADSOK® Technical Data

#### **High Reliability**

Unique RADSOK® design and construction technology creates an electrical contact interface that exceeds typical interconnect requirements. Applications in Aerospace, Medical, Industrial, Automotive, Mining, Offshore and other harsh environments depend on the high reliability of Amphenol RADSOK® technology.

#### Low Contact Engagement/Separation Forces

The hyperbolic lamella socket contact construction distributes normal forces over a high percentage of the mating surface. This creates a smooth, even engagement effort. This force distribution also contributes to excellent performance in vibration applications with resistance to typical fretting corrosion.

#### **Low Contact Resistance**

The large interface between the socket lamella and pin surface result in very low contact resistance, enabling the RADSOK® contacts high current ratings compared to traditional power contact designs.

#### **High Mating Cycle Durability**

RADSOK $^{\circledR}$  contacts with typical silver plating finishes have demonstrated survival of 10,000 mating cycles. Even with continuous exposure to harsh environmental abuse (salt, sand and high humidity), RADSOK $^{\circledR}$  contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.

For more technical information about RADSOK® see page 226



#### RADSOK® Machined Contact Part Numbers

0446:		Wire	Wire range	Dia dia a	Electrical	PART NUMBER	
Contact Size	Description	Range AWG	mm ²	Plating	Resistance	Male	Female
3.6mm	Crimp Barrel	8	10-16	Silver	<1.0mΩ	MP6ARS8S	MS6ARS8S
3.6mm	Crimp Barrel	8	8-10	Silver	<1.0mΩ	HP10ACS	HS10ACS
3.6mm	Screw Tail	N/A	N/A	Silver	<1.0mΩ	HPASS	HSASS
3.6mm	Flathole Tail	N/A	N/A	Silver	<1.0mΩ	HPAHS	HSAHS
6mm	Crimp Barrel	4	20-25	Silver	<1.0mΩ	HP25BCS	HS25BCS
6mm	Screw Tail	N/A	N/A	Silver	<1.0mΩ	HPBSS	HSBSS
6mm	Flathole Tail	N/A	N/A	Silver	<1.0mΩ	HPBHS	HSBHS
8mm	Crimp Barrel	4	20-25	Silver	<1.0mΩ		HS25CCS
8mm	Crimp Barrel	2	30-35	Silver	<1.0mΩ	HP35CCS	HS35CCS
8mm	Crimp Barrel	2	30-35	Silver	<1.0mΩ	HP50CCS	HS50CCS
8mm	Screw Tail	N/A	N/A	Silver	<1.0mΩ	HPCSS	HSCSS
8mm	Flathole Tail	N/A	N/A	Silver	<1.0mΩ	HPCHS	HSCHS
10mm	Crimp Barrel	4	20-25	Silver	<1.0mΩ		HS25DCS
10mm	Crimp Barrel	2	30-35	Silver	<1.0mΩ		HS35DCS
10mm	Crimp Barrel	1/0-1	40-50	Silver	<1.0mΩ	HP50DCS	HS50DCS
10mm	Crimp Barrel	2/0-1	60-70	Silver	<1.0mΩ	HP70DCS	HS70DCS
10mm	Crimp Barrel	3/0-1	85-95	Silver	<1.0mΩ	HP95DCS	HS95DCS
10mm	Screw Tail	N/A	N/A	Silver	<1.0mΩ	HPDSS	HSDSS
10mm	Flathole Tail	N/A	N/A	Silver	<1.0mΩ	HPDHS	HSDHS

Available in Standard Package Size: 25 or 1,000 pieces

#### Field of Application Amperage for RADSOK® Machined Contacts



RTHP / RADSOK® Connectors starting at page 181

	Contact Size	25° C
Amperage	3.6mm	86 A
	6mm	120A
	8mm	180 A
	10mm	300 A

All technical data has been measured in a laboratory environment and can be different during practical usage of the product. Any product information is for descriptive usage only and not legally binding. In particular, the information does not constitute or provide any legal guarantees.

# eco | mate® rm Rugged Metal Shielded Connectors

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# **Tooling**

#### Machined





## Stamped & Formed









#### **Contact Extraction Tool**



Part Number	Description
QRT08R	3.6 mm contacts
QXRT08	3.6 mm contacts
	(eco mate®rm High Amperage)
QXRT12S	2.5 mm contacts
QXRT16	#16 contacts
QXRT20	#20 contacts

# **Tooling**

## Contact Extraction Tool Table

Contact	Contact Pa	Extraction		
Size	Male	Female	Tool	
2.5 mm	SP12A1T	SS12A1T	QXRT12S	
	HP10ACS	HS10ACS		
3.6mm	HP10AHS	HS10AHS	QRT0BR	
	HP10ASS	HS10ASS		
	HP25BCS	HS25BCS	N/A	
6 mm	HP25BHS	HS25BHS		
	HP25BSS	HS25BSS		
	HP35CSS	HS35CSS		
8 mm	HP35CCS	HS35CCS	N/A	
	HP35CHS	HS35CHS		
	HP50DCS	HS50DCS		
10 mm	HP50DHS	HS50DHS	N/A	
	HP50DSS	HS50DSS		
8	MP10A23S	MS10A23S	N/A	

Contact Size 16		
Extraction Tool QXRT16		
Contact Pa	art Number	
Male	Female	
MP14M23F	MS14M23F	
SP14M2F	SS14M2F	
MP14M23FG5	MS14M23G5	
SP14M2G5	SS14M2G5	
SP14M2G10	SS14M2G10	
MP14M23FG10	MS14M23G10	
SP14M2G15	SS14M2G15	
MP14M23FG15	MS14M23G15	
MP14M23G30	MS14M23G30	
SP14M2G30	SS14M2G30	
MP16M23F	MS16M23F	
SP16M2F	SS16M2F	
MP16M23G5	MS16M23G5	
SP16M2G5	SS16M2G5	
SP16M2G10	SS16M2G10	
MP16M23G10	MS16M23G10	
SP16M2G10	SS16M2G15	
MP16M23G15	MS16M23G15	
SP16M2G30	SS16M2G30	
MP16M23G30	MS16M23G30	

Contact Size 16 (con't)					
Extraction Tool QXRT16					
Contact Pa	Contact Part Number				
Male	Female				
SP20M2F	SS20M2F				
MP20M23F	MS20M23F				
SP20M2G5	SS20M2G5				
MP20M23G5	MS20M23G5				
SP20M2G10	SS20M2G10				
MP20M23G10	MS20M23G10				
SP20M2G15	SS20M2G15				
MP20M23G15	MS20M23G15				
SP20M2G30	SS20M2G30				
MP20M23G30	MS20M23G30				
SP24M2F	SS24M2F				
MP24M23F	MS24M23F				
SP24M2G5	SS24M2G5				
MP24M23G5	MS24M23G5				
MP24M23G10	MS24M23G10				
SP24M2G10	SS24M2G10				
MP24M23G15	MS24M23G15				
SP24M2G15	SS24M2G15				
MP24M23G30	MS24M23G30				
SP24M2G30	SS24M2G30				

Contact Size 20				
Extraction Tool QXRT20				
Contact Part Number				
Male	Female			
MP20W23F	MS20W23F			
SP20W2F	SS20W2F			
SP20W2G5	SS20W2G5			
MP20W23G5	MS20W23G5			
SP20W2G10	SS20W2G10			
MP20W23G10	MS20W23G10			
MP20W23G15	MS20W23G15			
SP20W2G15	SS20W2G15			
MP20W23G30	MS20W23G30			
SP20W2G30	SS20W2G30			
MP24W23F	MS24W23F			
SP24W2F	SS24W2F			
SP24W2G5	SS24W2G5			
MP24W23G5	MS24W23G5			
SP24W2G10	SS24W2G10			
MP24W23G10	MS24W23G10			
MP24W23G15	MS24W23G15			
SP24W2G15	SS24W2G15			
SP24W2G30	SS24W2G30			
MP24W23G30	MS24W23G30			
MP28W23F	MS28W23F			
SP28W2F	SS28W2F			
SP28W2G5	SS28W2G5			
MP28W23G5	MS28W23G5			
SP28W2G10	SS28W2G10			
MP28W23G10	MS28W23G10			
MP28W23G15	MS28W23G15			
SP28W2G15	SS28W2G15			
SP28W2G30	SS28W2G30			
MP28W23G30	MS28W23G30			

# **Tooling**

#### **Contact Extraction Tool Instruction**



Step 1 Put extraction tool into insert



Step 3



Step 2 Push the handle to take out the contacts



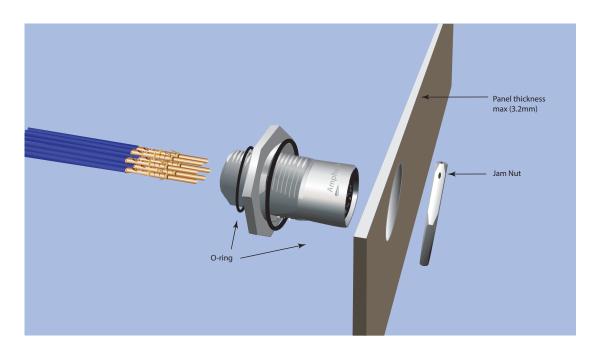
Step 4



# **Assembly Instructions**

#### Jam Nut Assembly and Installation Instructions

- 1. Remove insulation from wires and terminate contacts
- 2. Push contacts into connector insert
- 3. Seat o-ring, install and fasten receptacle in the panel cut-out
- 4. Tighten jam nut

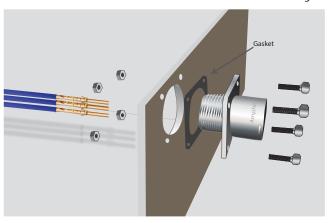


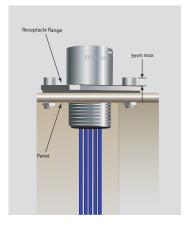
Shell Size	Jam Nut torque (Nm)	Exterior jam nut dim. (min)	Ø Wire max (mm)	Panel thickness max (mm)
10	3.4-4.1	22.2	3.2	3.2
12	5.2-5.6	27.0	3.2	3.2
14	6.2-6.8	32.0	3.2	3.2
16	7.9-8.5	33.3	3.2	3.2
18	9.0-9.6	36.5	3.2	3.2
20	10.2-10.7	39.7	3.2	3.2
22	11.3-12.4	42.9	3.2	3.2
24	12.4-13.6	46.0	3.2	3.2

# **Assembly Instructions**

#### Flange Assembly and Installation Instructions

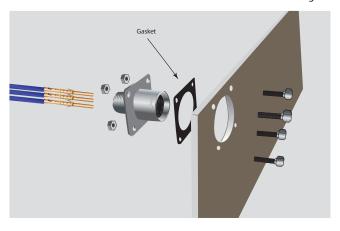
Front Assembly

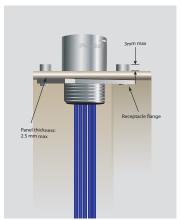




Shell Size	Screw tightening torque (Nm)
10	0.30/0.40
12	0.30/0.40
14	0.30/0.40
16	0.30/0.40
18	0.35/0.45
20	0.50/0.60
22	0.55/0.65
24	0.55/0.65

Rear Assembly





- 1. Remove insulation from wires and terminate contacts
- 2. Push contacts into connector insert
- 3. Install and fasten receptacle in the panel cutout
- 4. For increased sealing of the system, use optional gasket

eco | mate® rm Straight Plug and Receptacle Cable Assembly



Step 1: Slide parts onto cable



Step 3: Attach tie-wrap



Step 5: Trim braided shield flush to edge of tie-wrap



Shell L1 L1 (long back shell) (short back shell) 10 25~30 mm 20~25 mm 12 30~35 mm 25~30 mm 14 30~35 mm 25~30 mm 16 35~40 mm 30~35 mm 18 35~40 mm 30~35 mm

Dimensions are for reference only

Table 2				
Contact Size	L2 (stamped)	L2 (machined)		
8#	NA	7.5~8.5 mm		
12#	8.2~9.2 mm	8.5~9.5 mm		
16#	5.0~5.5 mm	7.5~8.5 mm		
20#	5.5~6.0 mm	7.0~8.0 mm		

Step 2: Strip jacket



\* Make sure exposed shielding is not nickedor cut

Step 4: Trim tie-wrap



Step 6: Strip to conductor



Step 7: Attach contacts to wire leads



Step 8: Crimp contacts



eco | mate® rm Straight Plug and Receptacle Cable Assembly (con't)

Step 9: Insert contacts into connector cavities



Step 11: Push shielding clip into backshell



Step 12: Push cable grommet into backshell





Step 13: Tighten metal nut





Step 14 Mate receptacle & plug (align the master key)



Step 10: Assemble back shell

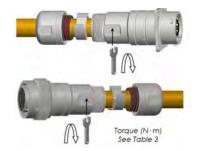


Table 3		
Size Torque=T1 (N.m)		
10	1.5~2.5 N.m	
12	2.5~4.0 N.m	
14	2.5~4.0 N.m	
16	3.0~4.5 N.m	
18	3.0~4.5N.m	

Table 4			
Size Torque=T2 (N.m.)			
10	2.0~3.0 N.m		
12	3.0~5.0 N.m		
14	3.5~5.5 N.m		
16	4.0~6.0 N.m		
18	5.0~8.0 N.m		

#### **Assembled Dimensions**

Shell Size	Plug with socket match with long cord grip	Plug with socket match with short cord grip	Plug with pin match with long cord grip	Plug with pin match and short cord grip
10	43.0mm	33.0mm	38.0mm	28.0mm
12	45.0mm	35.0mm	35.0mm	25.0mm
14	45.0mm	35.0mm	35.0mm	25.0mm
16	45.0mm	35.0mm	40.0mm	30.0mm
18	48.0mm	39.0mm	40.0mm	32.0mm

eco | mate® rm Straight Plug and Receptacle with End Cap



Step 1: Strip insulator



Table 2				
Contact Size	L2 (stamped)	L2 (machined)		
8#	NA	7.5~8.5 mm		
12#	8.2~9.2 mm	8.5~9.5 mm		
16#	5.0~5.5 mm	7.5~8.5 mm		
20#	5.5~6.0 mm	7.0~8.0 mm		

Step 2: Attach contacts to wire leads



Step 3: Crimp contacts





Step 4: Insert contacts into connector cavities





Step 5: Mate plug and receptacle (align the master key)





eco | mate® rm Right Angle Plug and Receptacle Cable Assembly



Step 1: Slide parts onto cable

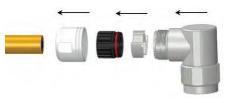


	Table 5			
Size	L5 (90° cord grip)			
10 NA				
12 60~65 mm				
14	60~65 mm			
16	65~70 mm			
18 NA				

\* Make sure exposed shielding is not nicked or cut

See Table 5

Dimensions are for reference only

Step 3: Attach tie-wrap

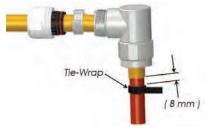


Table 2			
Contact Size	L2 (stamped)	L2 (machined)	
8#	NA	7.5~8.5 mm	
12#	8.2~9.2 mm	8.5~9.5 mm	
16#	5.0~5.5 mm	7.5~8.5 mm	
20#	5.5~6.0 mm	7.0~8.0 mm	

Step 4: Trim tie-wrap



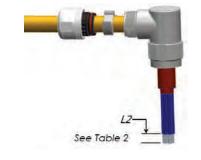
Step 5: Trim braided shield flush to edge of tie-wrap



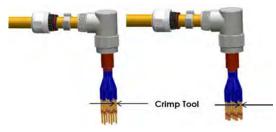
Step 7: Attach contacts to wire leads



Step 6: Strip to conductor

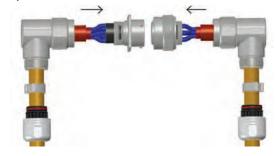


Step 8: Crimp contacts



eco | mate® rm Right Angle Plug and Receptacle Cable Assembly (cont.)

Step 9: Insert contacts into connector cavities

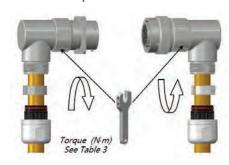


Step 11: Push shielding clip into backshell



	Table 4		
Size	Torque= T2 (N.m)		
10	2.0-3.0 N.m		
12 3.0-5.0 N.m			
14	3.5-5.5 N.m		
16	4.0-6.0 N.m		
18	5.0-8.0 N.m		

Step 10: Assemble back shell



Step 12 Push cable grommet into backshell



Step 14: Male receptacle & plug (align the master key)



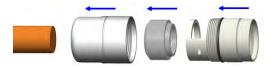


Step 13: Tighen metal nut

eco | mate® rm High Amperage Straight Plug Cable Assembly



Step 1: Slide components onto cable



Step 2: Strip jacket

\* Make sure exposed shielding is not nicked or cut

"A"

Step 3: Fold braided shielding over jacket

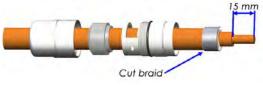


Step 4: Wrap foil over braided shielding

10 mm

Aluminum foil: W\*L=10\*120mm

Step 5: Strip to conductor



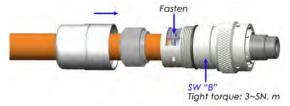
Step 6: Slide onto conductor and crimp



Step 7: Slide plug onto barrel



Step 8: Attach and tighten plug as shown



Step 9: Attach and tighten backshell as shown



Data Chart				
Instruction	Shell 14	Shell 16	Shell 20	
Dimension "A"	25 mm	25 mm	30 mm	
SW "B"	24 mm	28 mm	32 mm	
SW "C"	24.5 mm	29 mm	32.5 mm	

RTHP SERIES™ Straight Plug - Shell Size 12 Cable Assembly



Step1: Slide parts onto cable



Step 3: Cut tie wrap to remove excessive material.

Trim shielding flush to edge of tie wrap



Step 5: Crimp terminal to conductor



Step 7: Tighten plug to backhell. Perform pull test to assure correct contact assembly



Step 2: Strip jacket to braided shielding and attach tie wrap



Step 4: Strip to conductor



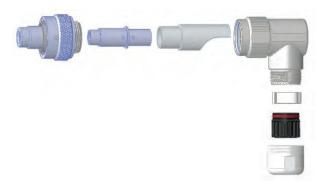
Step 6: Slide plug onto crimped terminal assembly



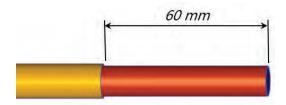
Step 8: Insert shielding clip and cable grommet. Attach and tighten back-nut to backshelll



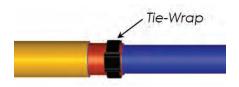
eco | mate® rm High Amperage 90° Plug Cable Assembly



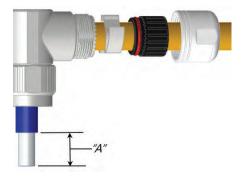
Step 1: Strip jacket to metal braiding



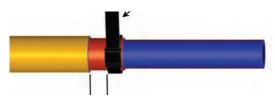
Step 3: Trim tie-wrap



Step 5: Trim jacket to conductor



Step 2: Attach tie wrap and trim braiding flush to edge of tie-wrap



Step 4: Push cable into backshell. Slide components onto cable



Step 6: Slide heat shrink tubing onto cable

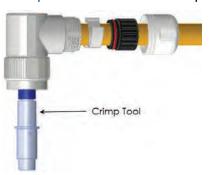


eco | mate® rm High Amperage 90° Plug Cable Assembly (cont.)

Step 7: Crimp barrel to conductor



Step 8: Heat shrink tube over crimp



Step 9:



Step 10: Attach plug to backshell



Step 11: Insert shielding clip and cable grommet.

Tighten connector to backshell as shown



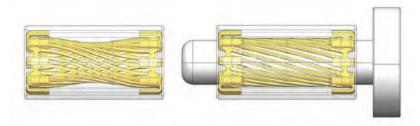
Step 12: Attach cable-nut to backshell and tighten as shown



#### **Data Chart**

Instruction	Shell 12	Shell 14	Shell 16
Dimension "A"	10 mm	15 mm	15 mm
SW "B"	22 mm	25 mm	28 mm
SW "C"	22 mm	22 mm	25 mm

#### RADSOK® Product Overview



### The RADSOK® Design

- Socket cylinder within female contact has several equally spaced longitudinal beams twisted into a hyperbolic shape
- As a male pin is inserted, axial members in the female half deflect, imparting high current flow across the connection with minimal voltage loss
- The hyperbolic, stamped grid configuration ensures a large, coaxial, face-to-face surface area engagement
- Ideal for crimp termination applications requiring repeated mating cycles and high current with a low multi-volt drop



RADSOK® technology is based upon a stamped and formed flat grid, uniquely twisted into a hyperbolic geometry to provide robust, high density contact to the mating pin contact. Most pin and socket technologies rely on spring (beam element) properties of the contact elements, which tend to weaken over time. Unlike most other pin and socket solutions, the RADSOK® contact also utilizes the tensile strength properties of the flat, high conductivity alloy grid. This provides the high normal forces required for conductivity while also providing a large conductive surface area. Correspondingly low voltage drop and low temperature rise are also achieved while maintaining low insertion forces.

#### RADSOK® Contact (Max. current carrying capacity meet DIN EN 60512 specification.)

Shell size	Applicable Cable	Contact Plating	current (AC)	
		Contact ricting	temperature	
12 (3.6mm)	10mm², 16mm²	Silver Plated	65A (10mm²), 86A (16mm²)	
14 (6.0mm)	25mm²	Silver Plated	120A (25mm²)	
16 (8.0mm)	35mm², 50mm²	Silver Plated	130A (35mm²), 180A (50mm²)	
20 (10.0mm)	50mm², 70mm², 95mm²	Silver Plated	180A (50mm²), 250A (70mm²), 300A (95mm²)	

Note: The given electrical values correspond to a single contact. With the addition of a housing, an increased number of poles or other modifications, the values must be adjusted downwards accordingly.

### RADSOK® Advantages and Custom Developed Solutions

### **RADSOK®** Technology Advantages

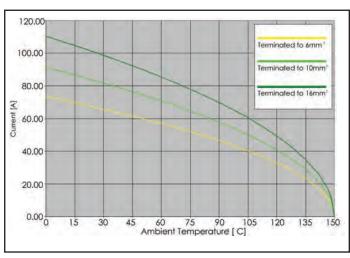
- **High Reliability** Unique design and construction technology create an electrical contact interface that exceeds typical interconnect requirements.
- Low Contact Engagement/Separation Forces The hyperbolic lamella socket contact construction distributes normal forces over a high percentage of the mating pin surface. This creates a smooth, even engagement effort. This force distribution also contributes to excellent performance in vibration applications with resistance to typical fretting corrosion.
- Low Contact Resistance The large interface area between the socket lamella and pin surface result in very low contact resistance, enabling the RADSOK® contacts high current ratings compared to traditional power contact designs.
- High Mating Cycle Durability RADSOK<sup>®</sup> contacts with typical silver plating finishes have demonstrated survival of 20,000 mating cycles. Specialized plating and contact lubricants can extend cycle life to 200,000 matings or higher. Even with continuous exposure to harsh environmental abuse, RADSOK<sup>®</sup> contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.

#### **Standard and Custom-Developed Solutions**

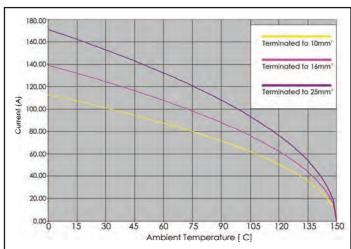
- In addition to the various standard sizes of RADSOK® components, custom-developed solutions are also available. Amphenol has the global design, engineering and manufacturing resources to provide RADSOK® sockets pressed into basbars, crimped to cables, assembled into connectors, assembled into customer or Amphenol designed specialized electrical devices, or as stand-alone components. Amphenol also manufactures a full compliment of mating pin contacts for any application.
- Steady-state current capacities for RADSOK® products range from 50 amps to over 1000 amps.
- Amphenol connectors with RADSOK® contacts are offered with a variety of positive locking features (HiLok® and SurLok®) that insure and maintain fully mated connections.
- Sealing (Sealtac<sup>™</sup>) and high voltage hot break options are available within the RADSOK<sup>®</sup> itself or within a very wide range of IP rated connector housings to provide environmental protection to the contact area.

# RADSOK® Series Rated Current and Working Voltage Contact Current Carrying Capacity

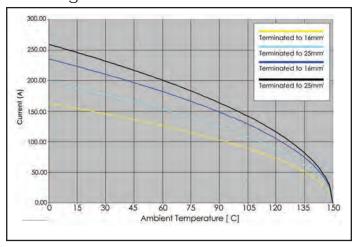
### Derating 3.6mm



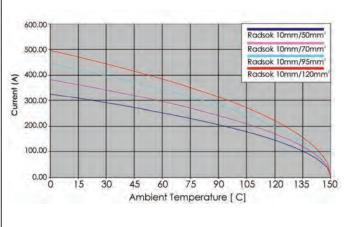
### Derating 6mm



#### **Derating 8mm**

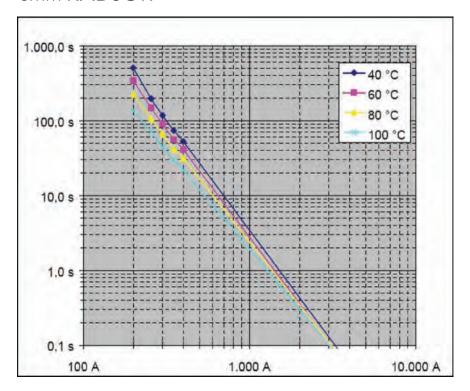


### **Derating 10mm**

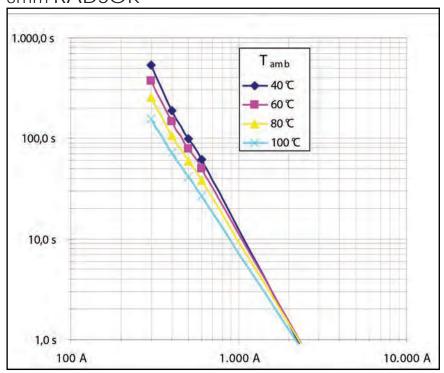


RADSOK® Series Dynamic Overload Tests at Different Temperatures

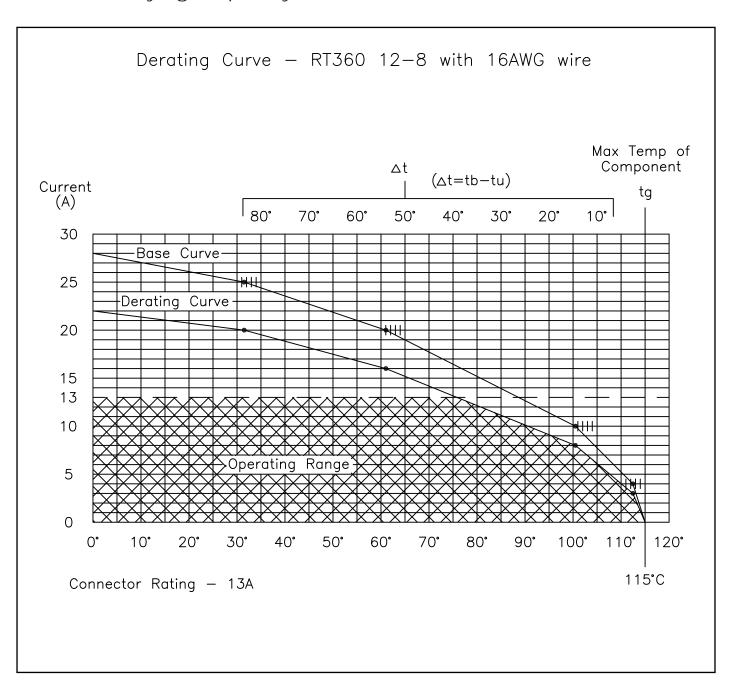
6mm RADSOK®







eco | mate® rm Rated Current and Working Voltage Current Carrying Capacity



### UL94 + UL1977 Industry Standards

There are two main standards for electrical conductors: UL94 and UL1977.

**UL94** - The standard for safety of flammability of plastic material for parts in devices and appliance testing.

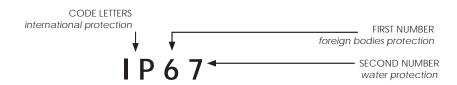
#### The eco|mate® rm series has been rated at V-0

The Test Program: Specimen is orientated in a vertical position and is subjected to a flame for ten seconds, then removed. Once the specimen has stopped burning, the flame is then reapplied for another ten seconds and then removed.

### V-0 Vertical Burning

- Specimen self extinguishes within 10 seconds after each test flame application
- Specimen must not drip flaming particles that ignite the cotton indicator
- **UL1977** The standard for connectors used in data, signal, control and power applications-component.
- ECBT2 A standard of UL1977 covering single and multi-pole connectors. Intended for factory assembly, includes devices that are incomplete in certain constructional features or are restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL.

### IP Codes



1st digit	Brief description	Definition	2nd digit	Brief Description	Definition
0	Non-protected		0	Non-protected	
1	Protected against access to hazardous parts with the back of a hand. Protected against solid foreign objects of ≥50mm Ø.	The probe, sphere of 50mm Ø, shall not fully penetrate and shall have adequate clearance from hazardous parts.	1	Protected against vertically falling water drops	Vertically falling drops shall have no harmful effects.
2	Protected against access to hazardous parts with a finger. Protected against solid foreign objects of ≥12,5mm Ø.	The jointed test finger of 12mm Ø, 80mm length, shall have adequate clearance from hazardous parts. The probe, sphere of 12,5mm Ø, shall not fully penetrate.	2	Protected against vertically falling water drops when enclosure tilted up to 15°	Vertically falling drops shall have no harmful effects when the enclosure is tilted at any angel up to 15°.
3	Protected against access to hazardous parts with a tool. Protected against solid foreign objects of ≥2,5mm Ø.	The probe of 2,5mm Ø shall not penetrate at all.	3	Protected against spraying water	Water sprayed at any angle up to 60° shall have no harmful effects.
4	Protected against access to hazardous parts with a wire.	The probe of 1mm Ø shall not penetrate at all.	4	Protected against splashing water	Water splashed against the enclosure from any direction shall have no harmful effects.
5	Protected against access to hazardous parts with a wire. Dust-protected.	The probe of 1mm Ø shall not penetrate. Intrusion of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the device or to impair safety.	5	Protected against water jets	Water projected in jets against the enclosure from any direction shall have no harmful effects.
6	Protected against access to hazardous parts with a wire Dust-tight.	The probe of 1mm Ø shall not penetrate. No intrusion of dust.	6	Protected against powerful water jets	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects.
Electrical connector devices have to be protected for safety reasons from outside influences like dust, foreign objects, direct		7	Protected against the effects of temporary immersion in water	Intrusion of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water for 30 min. in 1m depth.	
contact, moisture and water. This protection is provided on industrial connectors by the housing latching devices and sealed cable entries. The degree of protection depends on the type of intended use. The standard IEC 60529 and/or DIN EN 60529 has specified the		8	Protected against the effects of continuous immersion in water	Intrusion of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water under conditions which shall be agreed between manufacturer and user but which are more severe than for numeral 7.	
5	degree of protection and divided them into several classes. The attached charts gives an overview of all of the protection degrees.		9K <sup>1)</sup>	Protected against water during high pressure/steam jet cleaning	Water projected in powerful jets with high pressure and heat against the enclosure from any direction shall have no harmful effects.

### **Crimp Connection**

Crimp connection	Chart 2: Tensile strength for crimp connections						
A crimp connection is a non-detachable electrical	Wire	size	Tensile strength				
connection between a wire and a crimp contact produced with the crimp technology. Precise	mm <sup>2</sup>	AWG 1)	N				
crimping dies are matched to the crimp barrel and	0.05	30	6				
the wire size and a defined deformation results in	0.08	28	11				
a reliable electrical connection. There are open	0.12	26	15				
barrels (stamped contacts) and closed crimp barrels (turned contacts).	0.14		18				
	0.22	24	28				
The main advantages of crimp connections are:	0.25		32				
Efficient termination of contacts.     Reproducible electrical and mechanical figures	0.32	22	40				
y a constant crimp quality.	0.5	20	60				
The requirements for crimp connections are defined	0.75		85				
in DIN EN 60352-2.	0.82	18	90				
	1.0		108				
An important point for the quality of a crimp connection is the achieved tensile strength of	1.3	16	135				
the termination. Measuring the tensile strength is	1.5		150				
a practical means for quality control purposes.	2.1	14	200				
Chart 2 below shows the required minimum tensile strength for open and closed barrels according to	2.5		230				
the wire size.	3.3	12	275				
	4.0		310				
	5.3	10	355				
	6.0		360				
	8.4	8	370				
	10.0		380				

#### Cross reference AWG - mm2

The chart below allows a cross reference between American Wire Gauge (AWG) and metric wire sizes (mm2).

Chart	3							
AWG	Wire composition	Leiter-Ø	Wire size	AWG	Wire composition	Leiter-Ø	Wire size	
30	1 x 0.25	0.25 mm	0.05 mm2	20	1 x 0.81	0.81 mm	0.52 mm2	
	7 x 0.10	0.36 mm	0.06 mm2		7 x 0.32	0.97 mm	0.56 mm2	
28	1 x 0.32	0.32 mm	0.08 mm2		19 x 0.20	1.02 mm	0.62 mm2	
	7 x 0.13	0.38 mm	0.09 mm2	18	1 x 1.02	1.02 mm	0.79 mm2	
26	1 x 0.40	0.40 mm	0.13 mm2		19 x 0.25	1.27 mm	0.96 mm2	
	7 x 0.16	0.48 mm	0.14 mm2	16	19 x 0.29	1.44 mm	1.23 mm2	
	19 x 0.10	0.51 mm	0.15 mm2	14	19 x 0.36	1.80 mm	1.95 mm2	
24	1 x 0.51	0.51 mm	0.21 mm2	12	19 x 0.46	2.29 mm	3.09 mm2	
	7 x 0.20	0.61 mm	0.23 mm2	10	37 x 0.40	3.10 mm	4.60 mm2	
	19 x 0.13	0.64 mm	0.24 mm2	8	133 x 0.29	4.0 mm	8.80 mm2	
22	1 x 0.64	0.64 mm	0.33 mm2	6	133 x 0.36	5.5 mm		
	7 x 0.25	0.76 mm	0.36 mm2					
	19 x 0.16	0.81 mm	0.38 mm2					
It has to be noted that wires of the same AWG number but with different composition have slightly different mm2.								

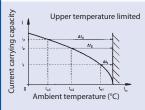
### Composition and Dimensions of Copper Wires

Chart 4: Composition and Dimension	ns of Copper Wires	
Wire Size	Wire Composition	Wire diameter
0.09 mm <sup>2</sup>	12 x 0.10	0.48 mm
0.14 mm <sup>2</sup>	18 x 0.10	0.50 mm
0.25 mm <sup>2</sup>	14 x 0.15	0.70 mm
0.34 mm <sup>2</sup>	7 x 0.25	0.78 mm
0.5 mm <sup>2</sup>	16 x 0.20	1.0 mm
0.75 mm <sup>2</sup>	24 x 0.20	1.2 mm
1.0 mm <sup>2</sup>	32 x 0.20	1.4 mm
1.5 mm <sup>2</sup>	30 x 0.25	1.6 mm
2.5 mm <sup>2</sup>	35 x 0.30	2.2 mm
4.0 mm <sup>2</sup>	56 x 0.30	2.8 mm
6.0 mm <sup>2</sup>	19 x 0.64	3.4 mm
10 mm <sup>2</sup>	19 x 0.80	4.3 mm

#### **Current carrying capacity**

The current carrying capacity of a connector is shown by a derating curve. The curve shows the currents that the connector can carry continuously and simultaneously through all its contacts. The curve is determined by testing following the standard DIN EN 60512. The upper temperature is limited by the contact and insulation material used . The sum of the ambient temperature and the temperature created by the current flow may not exceed the upper temperature. This means that the current carrying capacity has no fixed value but decreases with increasing ambient temperatures.

As a general example it can be said that a given connector which can carry 16A through all its contacts at 40°C ambient temperature can carry less, e.g. 12A, at an ambient temperature of 80°C. On the other hand it is often the case that not all contacts carry the whole rated current, which means that some single contacts may carry a higher current than that according to the derating curve. These currents have to be defined by testing.



n (A)									
0.25	0.34	0.5	0.75	1	1.5	2.5	4	6	10
-	-	-	7.6	10.4	13.5	18.3	25	32	44
-	-	+	-	9.6	12	16.5	23	29	40
4.0	5.0	7.1	9.1	11.7	15.2	21	28	36	50
4.0	5.0	7.1	9.1	11.5	16.1	22	30	37	52
	- 4.0	0.25 0.34 	0.25	0.25     0.34     0.5     0.75       -     -     -     7.6       -     -     -     -       4.0     5.0     7.1     9.1	0.25     0.34     0.5     0.75     1       -     -     -     7.6     10.4       -     -     -     9.6       4.0     5.0     7.1     9.1     11.7	0.25       0.34       0.5       0.75       1       1.5         -       -       -       7.6       10.4       13.5         -       -       -       -       9.6       12         4.0       5.0       7.1       9.1       11.7       15.2	0.25       0.34       0.5       0.75       1       1.5       2.5         -       -       -       7.6       10.4       13.5       18.3         -       -       -       -       9.6       12       16.5         4.0       5.0       7.1       9.1       11.7       15.2       21	0.25       0.34       0.5       0.75       1       1.5       2.5       4         -       -       -       7.6       10.4       13.5       18.3       25         -       -       -       -       9.6       12       16.5       23         4.0       5.0       7.1       9.1       11.7       15.2       21       28	0.25       0.34       0.5       0.75       1       1.5       2.5       4       6         -       -       -       7.6       10.4       13.5       18.3       25       32         -       -       -       -       9.6       12       16.5       23       29         4.0       5.0       7.1       9.1       11.7       15.2       21       28       36

Description according to DIN EN 60204 for PVC insulated copper wires with a working temperature of +40C. For other requirements,  $\,$ 

such as for other temperatures, mountings, or wires corresponding correction factors are used (see next page).

#### **Reduction Values**

Reduction values	Chart 6	
The values in chart 5 are based on an ambient temperature of 40	Ambient temperature (°C)	Correction value
°C. For other ambient temperatures the values have to be adjusted using the correction values of chart 6 below.	30	1.15
	35	1.03
For installations with many cables and conductors under load	40	1.00
the current carrying capacity is reduced according to the two following charts 7 and 8.	45	0.91
Tollowing Grians / Cind o.	50	0.82
	55	0.71
	60	0.58

#### Chart 7: Reduction values for accumulated conductors

Installation type	Number of cables and conductors / pairs under load						
	2	4	6	9			
Three phase cable and conductor							
B1 and B2	0.80	0.85	0.87	0.86			
С	0.65	0.75	0.78	0.76			
E-one row	0.57	0.72	0.75	0.72			
E-multi row	0.50	0.70	0.73	0.88			
DC conductor (pair), independent of installation type	1.0	0.76	0.64	0.43			

#### Chart 8: Reduction values for multicore cable and conductors up to 10mm<sup>2</sup>

Number of conductors (pairs) under load	AC (conductor > 1 mm2)	DC (Pairs 0,2 to 0,75 mm2)
5	0.75	0.52
7	0.65	0.45
10	0.55	0.39
24	0.40	0.27

Conductors of control circuits generally do not need a reduction.

#### Impulse current carrying capacity

A surge can happen to a connector and its contacts by an impulse current, e.g. through a short circuit in the system or by switching operations. The short-timed high current heat cannot be transferred outside fast enough so the contacts

are stressed by the high temperature which in the worst case can lead to a local weld. The robust design of our connectors prevents most damage by impulse currents.

#### Voltage grading of connectors

#### General

Clearances and creepage distances are the base for voltage grading of connectors. Valuation and dimensioning of clearances and creepage distances have changed since the introduction of insulation coordination.

Insulation coordination comprises the selection of the electrical insulation performances of the equipment, taking into account the expected use and its environment.

The following standards apply for this:

IEC 60664-1/10.92

Insulation coordination for equipment within low-voltage systems

DIN VDE 0110-1/4.97

Isolationskoordination für elektrische Betriebsmittel in Niederspannungsanlagen

### Voltage Grading of Connectors

#### Clearances

The clearance is the shortest distance in air between two conductive parts. An important point for the dimensioning of clearances is the determination of the overvoltage category. The above standard specifies the possible overvoltages into the four following categories:

#### Overvoltage category I

Equipment intended for the use in appliances or parts of installations in which no overvoltage can occur. Examples are low-voltage equipment.

#### Overvoltage category II

Equipment intended for the use in installations or parts of it in which lightning overvoltages do not need to be considered, but switching overvoltages generated by the equipment do need to be considered. Examples are household appliances.

Once the overvoltage category has been defined the rated impulse withstand voltage can be selected for the equipment based on the nominal voltage of the supply system and the overvoltage category using chart 9 below:

#### Overvoltage category III

Equipment intended for the use in installations or parts of it in which lightning overvoltages do not need to be considered, however switching overvoltages generated by the equipment, and for cases where the reliability and the availability of the equipment or its dependent circuits are subject to special requirements.

Examples are protecting means, switches and sockets.

#### Overvoltage category IV

Equipment intended for the use in installations or parts of it in which lightning overvoltage has to be considered. Examples are electricity meters, overcurrent protection switches.

#### Chart 9

Nominal voltage of the supply system in V (based on IEC 60038)	Rated impulse voltage in kV for overvoltage category							
Three phase systems	IV	III	II	I				
230/400 277/480	6	4	2,5	1,5				
400/690	8	6	4	2,5				
1000	12	8	6	4				

After the rated impulse withstand voltage has been selected the pollution degree must be defined taking the expected pollution around the equipment into account. The following four degrees of pollution are established: After the rated impulse withstand voltage has been selected the pollution degree must be defined taking the expected pollution around the equipment into account. The following four degrees of pollution are established:

#### Pollution degree 1

No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.

#### Pollution degree 2

Only non-conductive pollution occurs except occasionally a temporary conductivity caused by condensation is to be expected.

#### Pollution degree 3

Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.

#### Pollution degree 4

The pollution generates persistent conductivity caused by conductive dust or by rain or snow.

It has to be noted that for a connector or plug and socket devise with a degree of protection of min. IP 54 the parts inside the enclosure may be

dimensioned for a lower pollution degree. This also applies to mated connectors which enclosure is ensured through the connector housing and which may only be disengaged for test and maintenance purposes. When impulse withstand voltage and the pollution degree are defined the minimum clearances can be selected from chart 10.

### Voltage Grading of Connectors (cont.)

Chart 10									
Impulse	Minimum c	learances in	air in mm up	to 2000 m	above sea le	evel			
withstand voltage	Case A (no	n homogen	eous field)		Case B (homogeneous field)				
in kV	Pollution de	egree			Pollution degree				
	1	2	3	4	1	2	3	4	
0.33	0.01	0.2	0.8	1.6	0.01	0.2	0.8	1.6	
0.40	0.02				0.02				
0.50	0.04				0.04				
0.60	0.06				0.06				
0.80	0.10				0.1				
1.0	0.15				0.15				
1.2	0.25	0.25			0.2				
1.5	0.5	0.5			0.3	0.3			
2.0	1.0	1.0	1.0		0.45	0.45			
2.5	1.5	1.5	1.5		0.6	0.6			
3.0	2	2	2	2	0.8	0.8			
4.0	3	3	3	3	1.2	1,2	1.2		
5.0	4	4	4	4	1.5	1.5	1.5		
6.0	5.5	5.5	5.5	5.5	2	2	2	2	
8.0	8	8	8	8	3	3	3	3	
10	11	11	11	11	3.5	3.5	3.5	3.5	
12	14	14	14	14	4.5	4.5	4.5	4.5	
15	18	18	18	18	5.5	5.5	5.5	5.5	
20	25	25	25	25	8	8	8	8	
25	33	33	33	33	10	10	10	10	
30	40	40	40	40	12.5	12.5	12.5	12,5	
40	60	60	60	60	17	17	17	17	
50	75	75	75	75	22	22	22	22	
60	90	90	90	90	27	27	27	27	
80	130	130	130	130	35	35	35	35	
100	170	170	170	170	45	45	45	45	

When defining the minimum clearances for connectors generally the values of the inhomogeneous field can be chosen or the required clearance has to be defined by a voltage test.

#### Creepage distances

The creepage distance is the shortest distance along the surface of the insulating material between two conductive parts.

For the dimensioning of the creepage distance the following factors are taken into account: the rated voltage, the pollution degree and the tracking formation of the insulating material.

The materials are separated into four groups according to their CTI values (Comparative Tracking Index):

Material group I $600 \le CTI$ Material group II $400 \le CTI < 600$ Material group IIIa $175 \le CTI < 400$ Material group IIIb $100 \le CTI < 175$ 

The minimum creepage distances can be selected from chart 11.

## Creepage Distance

Chart 11 U-eff	Min. cı	reepan	e distan	ce in mm										
Rated	Printed		Other c											
voltage U in V	circuits													
	Pollution degree		Pollutio	n degree	<b>:</b>		Pollution	on degi	ree		Polluti	on degi	ree	
	1	2	1		2			;	3			4	4	
	1	2		Materia	al group			Materia	al group		Material group			
	2)	3)	2)	I II	Illa	IIIb	- 1	II	Illa	IIIb	1	II	Illa	IIIb
10	0.025	0.04	0.08	0.4	0.4	0.4	1	1	1		1.6	1.6	1.6	
12.5	0.025	0.04	0.09	0.42	0.42	0.42	1.05	1.05	1.05		1.6	1.6	1.6	
16	0.025	0.04	0.1	0.45	0.45	0.45	1.1	1.1	1,1		1.6	1.6	1.6	
20	0,025	0.04	0.11	0.48	0.48	0.48	1.2	1.2	1.2		1.6	1.6	1,6	
25	0,025	0.04	0.125	0.5	0.5	0.5	1.25	1.25	1.25		1.7	1.7	1.7	
32	0.025	0.04	0.14	0.53	0.53	0.53	1.3	1.3	1.3		1.8	1.8	1.8	
40	0.025	0.04	0.16	0.56	0.8	1.1	1.4	1.6	1.8		1.9	2.4	3	
50	0.025	0.04	0.18	0.6	0.85	1.2	1.5	1.7	1.9		2	2.5	3.2	
63	0.04	0.063	0.2	0.63	0.9	1.25	1,6	1.8	2		2.1	2.6	3.4	
80	0.063	0.1	0.22	0.67	0.95	1.3	1.7	1.9	2.1		2.2	2.8	3.6	
100	0.1	0.16	0.25	0.71	1	1.4	1.8	2	2.2		2.4	3.0	3.8	
125	0.16	0.25	0.28	0.75	1.05	1.5	1.9	2.1	2.4		2.5	3.2	4	
160	0.25	0.4	0.32	0.8	1.1	1.6	2	2.2	2.5		3.2	4	5	
200	0.4	0.63	0.42	1	1.4	2	2.5	2.8	3.2		4	5	6.3	
250	0.56	1	0.56	1.25	1.8	2.5	3.2	3.6	4		5	6.3	8	
320	0.75	1.6	0.75	1.6	2.2	3.2	4	4.5	5		6.3	8	10	
400	1	2	1	2	2.8	4	5	5.6	6.3		8	10	12.5	
500	1.3	2.5	1.3	2.5	3.6	5	6.3	7.1	8.0		10	12.5	16	
630	1.8	3.2	1.8	3.2	4.5	6.3	8	9	10		12.5	16	20	
800	2.4	4	2.4	4	5.6	8	10	11	12.5		16	20	25	
1000	3.2	5	3.2	5	7.1	10	12.5	14	16		20	25	32	
1250			4.2	6.3	9	12.5	16	18	20		25	32	40	
1600			5.6	8	11	16	20	22	25		32	40	50	
2000			7.5	10	14	20	25	28	32		40	50	63	
2500			10	12.5	18	25	32	36	40		50	63	80	
3200			12.5	16	22	32	40	45	50		63	80	100	
4000			16	20	28	40	50	56	63		80	100	125	
5000			20	25	36	50	63	71	80		100	125	160	
6300			25	32	45	63	80	90	100		125	160	200	
8000			32	40	56	80	100	110	125		160	200	250	
10000			40	50	71	100	125	140	160		200	250	320	

Connectors in this catalogue are allocated to fixed rated voltages which apply to the machine building industry. In case of other applications the above chart can be used to determine other rated voltages.

### Glossary of Terms

#### American Wire Gauge (AWG)

System of numerical designations for wire sizes, based on specified ranges of cross-sectional areas.

Starts with 4/0 (000) at the largest size, going to 3/0, 2/0, 1/0, 1, 2, and up to 40 and beyond for the smallest size. A step of one AWG number corresponds to a reduction of cross-sectional area of appr. 20 %.

#### Attenuation

A reduction of power. Occurs naturally when waves travel through lines, wave guides, or media such as air or water. Is produced additionally by imperfections in electrical or optical connections (attenuation in fibre optics), e. g. contact resistance, mismatch, etc.

#### **Bulkhead** connector

Connector designed to be inserted into a panel cutout from the rear of the panel, thus forming part of the barrier between two spaces. Back-mounted.

#### Clearance

The shortest distance in air between two conductive parts, see IEC 60664.

#### Climatic stability

General term describing the behavior of components under various climatic conditions, e. g. high and low temperatures, tropical climate, high humidity, moist heat, fungus, atmospheric conditions (industial atmosphere), reduced air pressure, etc. Climatic conditions for test purposes are explained in IEC 60068, DIN 46 040.

#### Connector

A component which terminates conductors for the purpose of providing connection and disconnection to a suitable mating component which shall not be engaged or disengaged when live. Depending on the fastening to a cabinet, panel, rack etc. or a cable, they are classified as fixed or free connectors. A connector comprises one or more contacts and a housing which may have a separate connector insert and a separate outer housing or shell.

#### Connector housing

The part of a connector into which the insert and the contacts are assembled. It may function as part of the locking mechanism.

#### Connector insert

An insulating element designed to support and position contacts in a connector housing.

In connectors electromagnetic interference is prevented by shielding. Shielded connectors normally provide means to connect the screens of attached cables.

#### Connector life

The number of mating cycles prior to abrasion of the conductive contact surface and which does not result in a significant rise of the contact resistance. Tests according to test 9a of ICE 60512-5 / DIN EN 60512 Part 5.

#### Contact

The conductive element in a connector which mates with a corresponding element to provide an electrical path.

#### Contact resistance

The electrical resistance of a mated set of contacts under specified conditions. Tested according to tests 2a, 2b, 2c, of IEC 60 512 -2/ DIN EN 60 512-2.

#### Contact size

The designation used to differentiate one contact from another. It may be denoted by one of the following numbering systems:

#### Creepage distance

The shortest distance along the surface of the insulating material between two conductive parts. The longer the distance, the less the risk of arc damage or tracking. Minimum creepage distances are specified according to the rated voltage and the applicable pollution degree and Comperative Tracking Index.

#### Crimped connection

A solderless connection made by crimping. IEC 60352-2 / DIN IEC 60352 Part 2.

#### Derating curve

The method for determining derating is specified in IEC 60 512-3. Here the combination of ambient temperature (Tu) and the current (J) leading to the same maximum allowable temperature (Tb) at the hottest point of the connector are plotted.

#### DIN

Deutsches Institut für Normung. A German standards organization.

#### Electromagnetic interference (EMI)

General term describing the undesirable effects of the immission or emission of radio frequency fields.

#### Funnel entry (restricted entry C146 D series)

Flared or widened entrance to a conductor barrel permitting easier insertion of the conductor.

#### Insertion or withdrawal force

The force required to fully insert or withdraw a set of mated connectors without the effect of coupling, locking or similar devices. The insertion force is usually greater than the withdrawal force.

### **Connector Glossary**

#### Insulation grip

The area of a crimp contact that has been reshaped around the insulation of the conductor by compression during the crimping operation.

#### Insulation resistance

The resistance of the insulation between two conductive elements, in particular, the resistance between two contacts or between a contact and a metallic housing or shield. Tested according to test 3a of IEC 60512-2 / DIN IEC 60512 Part 2.

#### Intermateable

Two connectors are intermateable when they are capable of being connected electrically and mechanically but without regard to their performance and intermountability.

#### Locator

In a crimping tool the device used for positioning a crimp contact or terminal end.

#### Locking lever

A mechanical locking device operated by actuating a lever, designed to hold two mated connectors together. Typically the lever can only be fully locked if the two connectors are correctly mated.

#### Mating cycle

One mating cycle comprises one insertion and one withdrawal operation. Term used in the definition of connector life.

#### Material group

Classification of insulation materials according to their CTI values (CTI = Comperative Tracking Index)

#### Overvoltage category

A numeral defining a transient overvoltage condition. Overvoltage categories I, II, III and IV are used.

#### Connector with braking capacity (CBC

A component which may be engaged or disengaged in normal use, when live or under load. Note: In the sense of this document the term - live- is used if contacts are under voltage not necessarily with a current flowing across the contacts. The term - load - is used if a current is flowing across the contacts.

#### Rated current

A current value assigned by the manufacturer which the connector or PSD can carry continuously (without interruption) and simultaneously through all its contacts wired with the largest conductor preferrably at an ambient temperature of 40 °C without the upper temperature being exceeded.

#### Shield, shielding

Shielding of internal or external electric fields by means of a plane with a uniform electric potential, formed by metal shells or metallic layers on the inside or outside of plastic shells. The shield is normally connected to the shielding braid of the cable and/or chassis ground.

#### Terminal block

An assembly of terminals in a housing or body of insulating material to facilitate interconnection between multiple conductors. Also called terminal strip or barrier blocks if the terminals are separated by an insulation barrier.

#### Wire range

The range of wire cross sections which is compatible with the dimensions the terminals of the contact (wire barrel). The wire range is expressed in mm2 or in AWG numbers.

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MP10B12E05G30       205         MP10B12E08F       205         MP10B12E08G5       205	I
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148,164,176,207 MP16M23G1526,34,42, 52,84,92, 108,124,140,
148,164,176,207 MP16M23G3026,34,42, 52,84,92, 108,124,140,
148,164,176,207 MP24M23F26,34,42,52, 84,92,108,124,
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164,176,208 MP24M23G10 <u>2</u> 6,34,42,52, 84,92,108, 124,140,148,
164,176,208 MP24M23G1526,34,42,52, 84,92,108, 124,140,148,
164,176,208 MP24M23G30 <u>2</u> 6,34,42,52, 84,92,108, 124,140,148,
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132,	156,172,208
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MS10B12E05G1	15 205
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MS10B12E05G3	30205
MS10B12E08F	20.5
A C 1 O D 1 O E O O C /	
MS10B12E08G5 MS10B12E08G1	D205
MS10B12F08G1	10 205
MC10P10E00C1	205
MS10B12E08G1	15205
MS10B12E08G3	30 205
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10	08,124,140,
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MS14M23G15.	26,34,42,
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10	08,124,140,
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MS16M23G1526,34,42,	124,140,140,	RTOB-12CG-\$121,79,111	RTOW01419PNH-K127
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	MS24M23G1026,34,42,	RTOB-14CG-\$147,55,	RTOW01419SNHEC127
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M\$16M23G3026,34,42,		RTOB-14CG-S247,55,	RTOW01626PNH151
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52,84,92,	164,176,208	RTOL-12CG-S221,79,111	RTOW01832SNH167
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52,84,92,	132,156,172,208	119,127	RTOW6106PNHEC71
108,124,140,		RTOL-16CG-S163,103,	RTOW6106PNH-K71
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MS20M23G1526,34,42,	MS24W23G1543,76,116,	RTOL-16CG-S263,103,	RTOW6106SNHEC71
52,84,92,	132,156,172,208	135,151	RTOW6106SNH-K71
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MS20W12E06G5 204	132,156,172,208	RTOS-12CG-S2 21,79,111	RTOW61210PNHEC 111
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MS20W12E09F204	132,156,172,208		RTOW61210SNH-K111
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M\$20W12E09G15204	OXRT12S52,53,60,	R105-16CG-5263,103,	RTOW61419PNH-K127
MS20W12E09G30204	100,109	135,151	RTOW61419SNH127
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MS20W23G1043,76,116,	165,176,177	RTOW0106PNH-K71	RTOW61626PNH-K151
	QXRT2043,45,76,77,	RTOW0106SNH71	RTOW61626SNH151
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133,157,173,203	177,202
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133,157,173,203	85,93,109,125,
SP28W2G3045,77,117,	141,149,165,
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109,202	85,93,109,125,
SS14M2F27,35,44,53,	141,149,165,
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177,202	85,93,109,125,
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SS14M2G3027,35,44,53,	SS24M2F27,35,44,53,
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SS16M2F27,35,44,53,	SS24M2G527,35,44,53,
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