em eco|mate® Family

Our **ecomate® Family** of circular, multiway connectors provide an IP65-69K rating range (in mated condition) for indoor/outdoor industrial applications and feature robust, durable, plastic or metal construction with either a circular bayonet, a quick-locking automatic, or a rapid coupling system option. With a max. amperage/voltage range of 45A-300A/600V-900V, depending on the series, our ecomate® Family of products are perfect for a wide range of Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, and Entertainment/Lighting markets.

	ecomate® Aquarius™ Pgs 2-6	ecomate® Aquarius™ Fathom Lock Pgs 7-8	ecomate® RM Pgs 9-10	ecomate® RSSM Pgs 11-12	ecomate® RM High Amp Pgs 13-14	ecomate® Plastic Pg 17	ecomate® C16-3/C16-L Pgs 18-19
IP Rating (in mated condition)	IP67 IP69K	IP67 IP68 IP69K	IP67	IP67 IP69K	IP67	IP65 IP67	IP65
Shell Sizes/ Inserts	6 Shell Sizes/ 28 Inserts	3 Shell Sizes/ 7 Inserts	8 Shell Sizes/ 28 Inserts	8 Shell Sizes/ 28 Inserts	4 Shell Sizes/ 5 Inserts	1 Shell Size/ 4 Inserts	3 Shell Sizes/ 11 Inserts
Max. Current Amperage/Voltage	Up to 45A/600V	Up to 45A/600V	Up to 45A/600V	Up to 45A/600V	Up to 300A/630V	Up to 22A/600V	Up to 50A/900V
Operating Temperature Range	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C
Coupling System	Circular Bayonet	Auto-Locking, Fathom Lock	Circular Bayonet	Circular Bayonet	Circular Bayonet	Rapid Threading	Circular Bayonet
Housing Body	Thermoplastic UL94-VO	Thermoplastic UL94-VO	Body-Zinc Alloy; Coupling-Nickel Alum.	Body-Zinc Alloy; Coupling-Nickel Alum.	Body-Zinc Alloy; Coupling-Nickel Alum.	Thermoplastic UL94-VO	Thermoplastic UL94-VO
Contact Types	**Note:** Contacts are available in Machined or PCB (loose piece/bagged), or Stamped & Formed (reels) options and can be shared with the ecomate® Aquarius™, Aquarius™ Fathom Lock, RM and RSSM series.				RADSOK®	Stamped & Formed, Machined, Solder	Stamped & Formed
	Machined, Stamped & Formed, PCB, RADSOK®	Machined, Stamped & Formed, PCB	Machined, Stamped & Formed, PCB, RADSOK®	Machined, Stamped & Formed, PCB, RADSOK®			
Contact Termination	Crimp, Solder	Crimp, Solder	Crimp, Solder	Crimp, Solder	Crimp, Flat Tail, Screw Tail	Screw (Field Install), Crimp, Solder	Screw (Field Install), Crimp
Sealing Material	Nitrile Buna Rubber/ Silicone Rubber	Nitrile Buna Rubber/ Silicone Rubber	Nitrile Buna Rubber/ Silicone Rubber	Silicone Rubber	Nitrile Buna Rubber	Neoprene	Neoprene
Mating Cycles	>500	>500	>500	>500	>100	>500	>500
Shielding	None	None	EMI/RMI Available	EMI/RMI Available	EMI/RMI Available	None	None
Flammability Rating	UL94-VO	UL94-VO	UL94-VO	UL94-VO	UL94-VO	UL94-VO	UL94-VO
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath	Gas, oil, mineral oil, acid bath, basic bath	Gas, oil, mineral oil, acid bath, basic bath	Gas, oil, mineral oil, acid bath, basic bath	Gas, oil, mineral oil, acid bath, basic bath	Gas, oil, mineral oil, acid bath, basic bath	Gas, oil, mineral oil, acid bath, basic bath
Insulation Resistance	5000 MΩ	5000 MΩ	5000 MΩ	5000 MΩ	5000 MΩ	≥ 10⁸ Ω	≥ 10⁸ Ω
Approvals	UL ECBT2	UL ECBT2 Pending	UL ECBT2 & UL ECBT8	UL ECBT2 & UL ECBT8	UL ECBT2 & UL ECBT8	VDE, SEV, UL, CSA	VDE, UL and CSA
RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)						

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em eco|mate® AQUARIUS™

Circular, Plastic, Waterproof Connectors for Indoor/Outdoor Applications

Available in 6 Shell Sizes and 28 Insert Arrangements *for Power, Mixed Power/Signal, Coax and RJ45 layouts.*

Amphenol Sine Systems' **ecomate® Aquarius™ Series** of waterproof connectors provide an IP67/69K waterproof rating (in mated condition) for industrial applications, and incorporates the latest technology in a high-impact, thermoplastic design, offering advantages of lightweight, lower-cost, sealed connector systems on the market today. **ecomate® Aquarius™** connectors are ideal for Indoor/Outdoor applications and the MIL-DTL-26482 based design provides a quick, reliable, 1/3 turn bayonet coupling.

Contacts are available in Machined or PCB (loose piece/bagged), or Stamped & Formed (reels) options and can be shared with the ecomate® Aquarius™ Fathom Lock, RM, and RSSM series.

Key Features

- IP67/69K rated (in mated condition)
- Circular Bayonet Coupling System
- Power, Mixed Power/Signal, Coax and RJ45 Layouts
- Machined, Stamped & Formed, and PCB Contacts
- Lightweight, High-Strength, Impact Resistant

- MIL-DTL-26482-based Design
- UV/Corrosion Resistant: Salt Spray Test 500 hours
- Colored Rings for Visual Identification Available
- Kits Available

IP67   IP69K

Potential Applications: Solar Energy – Power; Off-Road – Mining, Railway, Marine; Instrumentation – Measurement, Water Metering; Building Automation - HVAC, Lighting, Closed Circuit TV; Telecom – Data Infrastructure, Traffic Control

ecomate® Aquarius™ - Specifications
(See individual datasheets for exact specs)

IP Rating	IP67/69K (in mated condition)	Shielding	None
Max. Current Amperage	Up to 45A	Flammability Rating	UL94-VO
Max. Voltage Rating (AC/DC)	600V	Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Operating Temperature	-40°C to +125°C	Test Voltage Rating	1500V/2000V
Coupling System	Circular Bayonet	Overvoltage Category	III
Housing Body	Thermoplastic UL94-VO	Strain Relief Clamp Range	1.5 - 14.0mm
Contact Types	Machined, Stamped & Formed, PCB	Insulation Resistance	5000 megohms
Contact Termination	Crimp, Solder	Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)	RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Wire Range	30 - 10AWG (0.05 - 6.0 mm²)		
Sealing Material	Nitrile Buna Rubber/Silicone Rubber	Approvals	UL ECBT2
Min. Mating Cycles	>500		

Connector Configurations

Plug w Cord Grip	Plug w End Cap	Plug w Heavy Duty Couping Nut (Coax or RJ45)	Square Flange Receptacle	Square Flange Receptacle w Cord Grip	Square Flange Receptacle w End Cap	In-Line Receptacle w Cord Grip	In-Line Receptacle w End Cap	Jam Nut Receptacle	Jam Nut Receptacle w End Cap	Jam Nut Receptacle PCB Mounted

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Contact Legend (Size (mm²) Amperage)

Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Coax RG316/U 1.5A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

Recommended Wire Insulation Overall Diameter (OD) for End Caps

Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
20	30-20AWG (0.05-0.50mm²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 in)
16	24-14AWG (0.14-2.5mm²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
12	14-12AWG (2.5-3.5mm²)	3.3mm-4.3mm (0.130-0.169 in)	-
8	12-10AWG (10.0-16.0mm²)	2.8mm-5.8mm (0.110-0.228 in)	-
8*	16-8AWG (1.5-10.0mm²)	2.8mm-4.1mm (0.110-0.161 in)	-

NOTE: * Applies to 14-3 insert arrangement only. See chart below.

ecomate® Aquarius™ - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size 8		Shell Size 10					Shell Size 12	
3 Pos 3 x Size 20 (0.5mm²) 7.5A/250V	4 Pos 4 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size16 (1.5mm²) 13A/500V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4(2+2)Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	6 Pos 6 x Size 20 (0.5mm²) 7.5A/250V	6(3+3) Pos MIX 3 x Size 16 (1.5mm²) 13A 3 x Size 20 (0.5mm²) 7.5A 500V	3 Pos 3 x Size 16 (1.5mm²) 13A/600V	4 Pos 4 x Size 16 (1.5mm²) 13A/500V
-	-	-	N	N	N	-	N	R

Shell Size 12			Shell Size 14					
4(2+2) Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V	10 Pos 10 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size 8* (3.6mm²) 45A/600V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4 Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 16 (1.5mm²) 13A 500V	7 Pos 7 x Size 16 (1.5mm²) 13A/500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V	12 Pos 12 x Size 16 (1.5mm²) 13A/500V
N	R	R	N	N	N	R	N	R

Shell Size 14		Shell Size 16				Shell Size 18		
19 Pos 19 x Size 20 (0.5mm²) 7.5A/250V	4 Pos 4 x Size 8 (3.6mm²) 45A/600V	9 Pos MIX 4 x Size 12 (2.5mm²) 23A 5 x Size 16 (1.5mm²) 13A 500V	19 Pos 19 x Size 16 (1.5mm²) 13A/500V	26 Pos 26 x Size 20 (0.5mm²) 7.5A/250V	8 Pos 8 x Size 12 (2.5mm²) 23A/500V	13 Pos MIX 10 x Size 16 (1.5mm²) 13A 3 x Coax,1.5A, RG316/U 500V	23 Pos 23 x Size 16 (1.5mm²) 13A/500V	32 Pos 32 x Size 20 (0.5mm²) 7.5A/250V
N	N	N	R	N	N	-	N	R	N

Shell Size 18
8 Pos RJ45 Cat5e 1.5A/125V
-

Backshell Cable Diameters

Shell Size 8	1.5 - 6.5mm
Shell Size 10	4.0 - 8.8mm
Shell Size 12	6.0 - 12.0mm
Shell Size 14	6.0 - 14.0mm
Shell Size 16	10 .0– 17.0mm
Shell Size 18	10.0 – 18.0mm

Built-In Stand-Off's

Optional Locking Posts

em eco|mate® AQUARIUS™

PCB Mounted, Jam Nut, Waterproof Receptacles for Indoor/Outdoor Applications

Available in 6 Shell Sizes and 17 Insert Arrangements

Amphenol Sine Systems' **ecomate® Aquarius™ PCB Mounted Jam Nut Waterproof Receptacles are designed specifically for mounting to Printed Circuit Boards (PCB) or Flex Circuits.** As part of the ecomate® Aquarius Waterproof Connector series, they provide an IP67/69K waterproof rating (in mated condition) for industrial applications, and incorporates the latest technology in high-impact thermoplastic design, offering advantages of lightweight, lower-cost, sealed connector systems on the market today. ecomate® Aquarius Waterproof Connectors are ideal for Indoor/Outdoor applications and the MIL-DTL-26482 based design provides a quick, reliable, circular bayonet coupling system.

Key Features

- **Built-In Stand-Off's** for consistent height off PCB for ease of cleaning
- **Optional Locking Posts** for secure mounting for harsh environments
- **Lower Profile** than industry standard Jam Nut receptacles

- IP67/69K rated (in mated condition)
- Circular Bayonet Coupling System
- Colored Rings for Visual Identification Available

IP67 IP69K

Applications: Solar Energy – Power; Off-Road – Mining, Railway, Marine; Instrumentation – Measurement, Water Metering; Building Automation - HVAC, Lighting, Closed Circuit TV; Telecom – Data Infrastructure, Traffic Control

ecomate® Aquarius™ PCB Mounted Jam Nut Receptacles - Specifications
(See individual datasheets for exact specs)

IP Rating	IP67/69K (in mated condition)		Min. Mating Cycles	>500
Max. Current Amperage	Up to 23A		Shielding	None
Max. Voltage Rating (AC/DC)	600V		Flammability Rating	UL94-VO
Operating Temperature	-40°C to +125°C		Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Coupling System	Circular Bayonet		Test Voltage Rating	1500V/2000V
Housing Body	Thermoplastic UL94-VO		Overvoltage Category	III
Contact Types	Machined, PCB		Strain Relief Clamp Range	1.5 - 14.0mm
Jam Nut Material	Aluminum Alloy, Black Annodizing		Insulation Resistance	5000 megohms
Locking Posts	Copper Alloy, Tin-Plated		Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
Contact Termination	Solder		RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Contact Material	Copper Alloy, Gold-Plated (See datasheets)		Approvals	UL ECBT2
Wire Range	20 - 12AWG (0.5 - 2.5 mm²)			
Sealing Material	Silicone Rubber			

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Contact Legend (Size (mm²) Amperage)

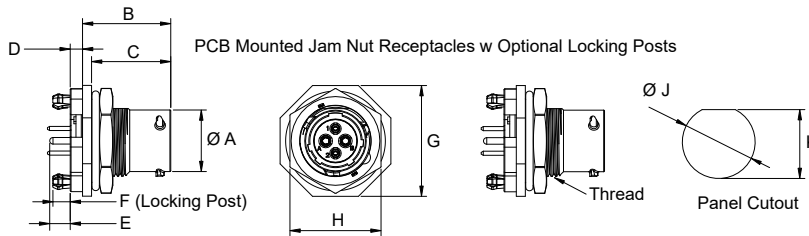| ○	●	⊖
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A

ecomate® Aquarius™ PCB Mounted Jam Nut Receptacles - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size 8		Shell Size 10				Shell Size 12		
3 Pos 3 x Size 20 (0.5mm²) 7.5A/250V	4 Pos 4 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size16 (1.5mm²) 13A/500V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4(2+2)Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	6 Pos 6 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size 16 (1.5mm²) 13A/600V	4 Pos 4 x Size 16 (1.5mm²) 13A/500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V

Shell Size 12	Shell Size 14				Shell Size 16	Shell Size 18	
10 Pos 10 x Size 20 (0.5mm²) 7.5A/250V	7 Pos 7 x Size 16 (1.5mm²) 13A/500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V	12 Pos 12 x Size 16 (1.5mm²) 13A/500V	19 Pos 19 x Size 20 (0.5mm²) 7.5A/250V	26 Pos 26 x Size 20 (0.5mm²) 7.5A/250V	23 Pos 23 x Size 16 (1.5mm²) 13A/500V	32 Pos 32 x Size 20 (0.5mm²) 7.5A/250V

PCB Mounted Jam Nut Receptacles w Locking Posts - Dimensions (in mm)

PCB Mounted Jam Nut Receptacles w Optional Locking Posts

Size	Ø A	B	C	D	E	F	G	H	Thread	Ø J	K
08	11.9	21.7	19.5	2.9	5.0	4.1	24.0	19.1	9/16" - 24 UNEF	14.6	13.8
10	15.0	21.5	19.3	3.0	5.0	4.1	27.0	22.2	11/16" - 24-2A UNEF	17.8	16.8
12	19.0	21.5	19.3	3.0	5.0	4.1	27.0	31.7	7/8" - 20 UNEF	22.5	21.2
14	22.2	21.5	19.3	3.0	5.0	4.1	35.0	30.2	1" - 20 UNEF	25.6	24.2
16	25.3	21.5	19.3	3.0	5.0	4.1	38.1	33.3	1" 1/8 - 18 UNEF	28.9	27.6
18	28.6	21.5	19.3	3.0	5.0	4.1	41.3	36.5	1" 1/4 -18 UNEF	32.1	30.6

ecomate® Aquarius™ - PCB Mounted Jam Nut Receptacles

Part Number	Description	Amperage	Voltage
RTS78ND3S03	3 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 8, ecomate® Aquarius™, Silicone Rubber Seal	7A	250V
RTS78ND4S03	4 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 8, ecomate® Aquarius™, Silicone Rubber Seal	7A	250V
RTS710ND3S03	3 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 10, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS710ND2S03	4 (2+2) Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 10, ecomate® Aquarius™, Silicone Rubber Seal	13A & 7.5A	500V
RTS710ND4S03	4 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 10, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS710ND6S03	6 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 10, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V
RTS712ND3S03	3 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 12, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS712ND4S03	4 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 12, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS712ND8P03	8 Position, Jam Nut Receptacle, PCB Mounted, Pin, Size 12, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS712ND8S03	8 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 12, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS712ND10S03	10 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 12, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V
RTS714ND7S03	7 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 14, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS714ND8S03	8 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 14, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS714ND12S03	12 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 14, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS714ND19P03	19 Position, Jam Nut Receptacle, PCB Mounted, Pin, Size 14, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V
RTS714ND19S03	19 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 14, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V
RTS716ND19S03	19 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 16, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V
RTS716ND26S03	26 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 16, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V
RTS718ND23S03	23 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 18, ecomate® Aquarius™, Silicone Rubber Seal	13A	500V
RTS718ND32S03	32 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 18, ecomate® Aquarius™, Silicone Rubber Seal	7.5A	250V

Example: For optional PCB Mounted Jam Nut Receptacle **w Locking Post** (Must add 32 to end of standard part number) RTS710ND3S0332

Accessories

Image	Part Number	Description	Size
	RTS(XX)CCR(X)	ecomate® Aquarius™, Coding Color Ring - Available in Green (G), Yellow (Y) or Red (R) **Example:** RTS10CCRG = ecomate® Aquarius™, Coding Color Ring, Green	08, 10, 12, 14, 16, 18
	RTS0(XX)DCG	ecomate® Aquarius™, Dust Cap for Receptacle **Example:** RTS010DCG = ecomate® Aquarius™, Dust Cap for Receptacle, Size 10	10, 12, 14, 16, 18

em eco|mate® AQUARIUS™
FATHOM LOCK

Circular, Plastic, Waterproof Connectors for Indoor/Outdoor Applications
featuring **Fathom Lock Coupling System**

Available in 3 Shell Sizes and 17 Insert Arrangements

Amphenol Sine Systems' **ecomate® Aquarius™ Fathom Lock Series** of waterproof connectors provide **an increased IP68 rating (1.8M of water, in mated condition)** over our standard ecomate Aquarius™ series, with the addition of the auto-locking, **Fathom Lock Coupling System.** This system offers significant time savings while ensuring an easy mating/unmating process of the plug to receptacle, verified by the tactile and audible clicking sound of the locking mechanism. To unmate, a simple 20° twist of the coupling ring on the plug will seperate it from the receptacle.

Contacts are available in Machined or PCB (loose piece/bagged), or Stamped & Formed (reels) options and can be shared with the ecomate® Aquarius™, RM, and RSSM series.

Key Features
- IP67/68/69K rated (in mated condition)
- Auto-Locking, Fathom Lock Coupling System
- Machined, Stamped & Formed, and PCB Contacts

- Lightweight, High-Strength, Impact Resistant
- UV/Corrosion Resistant: Salt Spray Test 500 hours
- Colored Rings for Visual Identification Available

IP67 **IP68** **IP69K**

Potential Applications: Solar Energy – Power; Off-Road – Mining, Railway, Marine; Instrumentation – Measurement, Water Metering; Building Automation - HVAC, Lighting, Closed Circuit TV; Telecom – Data Infrastructure, Traffic Control

How Our Auto-Locking, Fathom Lock Coupling System Works

Step 1

To mate the plug and receptacle together, ensure the arrows are aligned to each other.

Step 2

Push the plug onto the receptacle until the coupling ring automatically locks into place around the receptacle, as confirmed by both an audible "click" and tactile feel.

Step 3

To unmate the connection, the coupling ring on the plug must be rotated counter-clockwise 20°, at which point the plug can be removed.

Plug

Coupling Ring

Align Arrows

Receptacle

Plug

Push Plug Onto Receptacle

Audible "Click" / Tactile Feel

Receptacle

Plug

Rotate Coupling Ring Counter-Clockwise 20°

Receptacle

Plug

Remove Plug From Receptacle

Receptacle

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ecomate® Aquarius™ Fathom Lock - Specifications
(See individual datasheets for exact specs)

IP Rating	IP67/68/69K (in mated condition)	Shielding	None
Max. Current Amperage	Up to 45A	Flammability Rating	UL94-VO
Max. Voltage Rating (AC/DC)	600V	Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Operating Temperature	-40°C to +125°C	Test Voltage Rating	1500V/2000V
Coupling System	Auto-Locking, Fathom Lock	Overvoltage Category	III
Housing Body	Thermoplastic UL94-VO	Strain Relief Clamp Range	4.0 - 14.0mm
Contact Types	Machined, Stamped & Formed, PCB	Insulation Resistance	5000 megohms
Contact Termination	Crimp, Solder	Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)	RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Wire Range	30 - 8AWG (0.05 - 10.0 mm²)		
Sealing Material	Silicone Rubber	Approvals	UL ECBT2 Pending
Min. Mating Cycles	>500		

Contact Legend (Size (mm²) Amperage)

○	●	⊖	◉
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

Recommended Wire Insulation Overall Diameter (OD) for End Caps

Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
20	30-20AWG (0.05-0.50mm²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 in)
16	24-14AWG (0.14-2.5mm²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
12	14-12AWG (2.5-3.5mm²)	3.3mm-4.3mm (0.130-0.169 in)	-
8	12-10AWG (10.0-16.0mm²)	2.8mm-5.8mm (0.110-0.228 in)	-
8*	16-8AWG (1.5-10.0mm²)	2.8mm-4.1mm (0.110-0.161 in)	-

NOTE: * Applies to 14-3 insert arrangement only. See chart below.

Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size 10					Shell Size 12			
3 Pos 3 x Size 16 (1.5mm²) 13A/500V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4(2+2)Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	6 Pos 6 x Size 20 (0.5mm²) 7.5A/250V	6(3+3) Pos MIX 3 x Size 16 (1.5mm²) 13A 3 x Size 20 (0.5mm²) 7.5A 500V	3 Pos 3 x Size 16 (1.5mm²) 13A/600V	4 Pos 4 x Size 16 (1.5mm²) 13A/500V	4(2+2) Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V
-	N	N	N	-	N	R	N	R

Shell Size 12	Shell Size 14						
10 Pos 10 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size 8* (3.6mm²) 45A/600V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4 Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 16 (1.5mm²) 13A 500V	7 Pos 7 x Size 16 (1.5mm²) 13A/500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V	12 Pos 12 x Size 16 (1.5mm²) 13A/500V	19 Pos 19 x Size 20 (0.5mm²) 7.5A/250V
R	N	N	N	R	N	N	R	N

Connector Configurations

Plug w Cord Grip	Plug w End Cap	Square Flange Receptacle	Square Flange Receptacle w End Cap	Jam Nut Receptacle	Jam Nut Receptacle w End Cap	Panelmount Receptacle w Seal

Backshell Cable Diameters

Shell Size 10	4.0 - 8.8mm
Shell Size 12	6.0 - 12.0mm
Shell Size 14	6.0 - 14.0mm

em eco|mate® RM

Circular, Rugged Metal Connectors for Industrial Applications

Available in 8 Shell Sizes and 28 Insert Arrangements

Amphenol Sine Systems' **ecomate® RM (Rugged Metal) Series** of circular, metal connectors provide an IP67 rating (in mated condition) for industrial applications, all in a sealed connector system. With a circular bayonet coupling system and a maximum current rating of 45A/600V, the ecomate® RM (Rugged Metal) Series is perfect for Indoor/Outdoor applications in Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, and Entertainment/Lighting markets. Design is based on MIL-DTL-26482 specifications. All ecomate® RM products are compatible with other industry standard mating connectors.

Contacts are available in Machined or PCB (loose piece/bagged), or Stamped & Formed (reels) options and can be shared with the ecomate® Aquarius™, Aquarius™ Fathom Lock, and RSSM series.

Also available in an **ecomate® RM High Amperage** option with up to 300A/630V featuring **RADSOK®** Contact Technology.

Key Features

- IP67 rated (in mated condition)
- Circular Bayonet Coupling System
- Machined, Stamped & Formed, and PCB Contacts

- MIL-DTL-26482-based Design
- EMI/RMI Shielding Capabilities
- Kits Available

IP67

Potential Applications: Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, and Entertainment/Lighting markets.

ecomate® RM - Specifications
(See individual datasheets for exact specs)

IP Rating	IP67 (in mated condition)
Max. Current Amperage	Up to 45A
Max. Voltage Rating (AC/DC)	600V
Operating Temperature	-40°C to +125°C
Coupling System	Circular Bayonet
Housing Body	Body-Zinc Alloy; Coupling-Nickel Alum.
Contact Types	Machined, Stamped & Formed, PCB
Contact Termination	Crimp, Solder
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)
Wire Range	30 - 8AWG (0.05 - 10.0 mm²)
Sealing Material	Nitrile Buna Rubber/Silicone Rubber
Min. Mating Cycles	>500

Shielding	EMI/RMI Available
Flammability Rating	UL94-VO
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Test Voltage Rating	1500V/2000V
Overvoltage Category	III
Strain Relief Clamp Range	1.5 - 14.0mm
Insulation Resistance	5000 megohms
Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Approvals	UL ECBT2 & ECBT8

Connector Configurations

Plug	Plug w End Cap	Plug w Cord Grip Kit	Square Flange Receptacle	Square Flange Receptacle Kit	Square Flange Receptacle w End Cap	Jam Nut Receptacle	Jam Nut Receptacle w End Cap

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Contact Legend (Size (mm²) Amperage)

○	●	⊖	◉
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

Recommended Wire Insulation Overall Diameter (OD) for End Caps

Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
20	30-20AWG (0.05-0.50mm²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 in)
16	24-14AWG (0.14-2.5mm²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
12	14-12AWG (2.5-3.5mm²)	3.3mm-4.3mm (0.130-0.169 in)	-
8	12-10AWG (10.0-16.0mm²)	2.8mm-5.8mm (0.110-0.228 in)	-
8*	16-8AWG (1.5-10.0mm²)	2.8mm-4.1mm (0.110-0.161 in)	-

NOTE: * Applies to 14-3 insert arrangement only. See chart below.

ecomate® RM - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size 10					Shell Size 12			
3 Pos 3 x Size 16 (1.5mm²) 13A/500V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4(2+2)Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	6 Pos 6 x Size 20 (0.5mm²) 7.5A/250V	6(3+3) Pos MIX 3 x Size 16 (1.5mm²) 13A 3 x Size 20 (0.5mm²) 7.5A 500V	3 Pos 3 x Size 16 (1.5mm²) 13A/600V	4 Pos 4 x Size 16 (1.5mm²) 13A/500V	4(2+2) Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V
-	N	N	N	-	N	R	N	R

Shell Size 12	Shell Size 14							Shell Size 16
10 Pos 10 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size 8* (3.6mm²) 45A/600V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4 Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 16 (1.5mm²) 13A 500V	7 Pos 7 x Size 16 (1.5mm²) 13A/500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V	12 Pos 12 x Size 16 (1.5mm²) 13A/500V	19 Pos 19 x Size 20 (0.5mm²) 7.5A/250V	4 Pos 4 x Size 8 (3.6mm²) 45A/600V
R	N	N	N	R	N	N	R	N

Shell Size 16			Shell Size 18			Shell Size 20	Shell Size 22	
9 Pos MIX 4 x Size 12 (2.5mm²) 23A 5 x Size 16 (1.5mm²) 13A 500V	19 Pos 19 x Size 16 (1.5mm²) 13A/500V	26 Pos 26 x Size 20 (0.5mm²) 7.5A/250V	8 Pos 8 x Size 12 (2.5mm²) 23A/500V	23 Pos 23 x Size 16 (1.5mm²) 13A/500V	32 Pos 32 x Size 20 (0.5mm²) 7.5A/250V	28 Pos * 28 x Size 16 (1.5mm²) 13A/500V	35 Pos 35 x Size 16 (1.5mm²) 13A/500V	38 Pos 38 x Size 16 (1.5mm²) 13A/500V
N	R	N	N	N	N	R	N	R	-	-

Shell Size 24
48 Pos 48 x Size 16 (1.5mm²) 13A/500V
-

Backshell Cable Diameters

Shell Size 10	3.0 - 8.5mm
Shell Size 12	6.5 - 12.5mm
Shell Size 14	6.5 - 12.5mm
Shell Size 16	10 .0– 17.0mm
Shell Size 18	10.0 – 17.0mm
Shell Size 20	11.0 – 22.5mm
Shell Size 22	13.5 – 24.0mm
Shell Size 24	20.5 – 22.5mm

em eco|mate® RSSM

Circular, Rugged, Superior Seal, Metal Connectors for Industrial Applications

Available in 8 Shell Sizes and 28 Insert Arrangements

Amphenol Sine Systems' **ecomate® RSSM** (Rugged **Superior Seal** Metal) **Series** of circular metal connectors matches all the specifications of the ecomate® RM (Rugged Metal) series with the addition of **Superior Seals** (+125°C) which increase the IP ratings to IP67/69K (in mated condition). ecomate® RSSM Plugs are only to be mated with ecomate® RSSM Receptacles to ensure an IP69K rating.

Contacts are available in Machined or PCB (loose piece/bagged), or Stamped & Formed (reels) options and can be shared with the ecomate® Aquarius™, Aquarius™ Fathom Lock, and RM series.

Key Features

- IP67/69K rated (in mated condition)
- Circular Bayonet Coupling System
- Machined, Stamped & Formed, RADSOK® and PCB Contacts

- MIL-DTL-26482-based Design
- EMI/RMI Shielding Capabilities
- Kits Available

IP67 **IP69K**

Potential Applications: Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, Entertainment/Lighting markets, On-Machine, Robotics, Rail Transit, EV Bus/Truck, I/O Module, Servo Motor, Servo Drive, PLC Programmable Logic Controller, HMI/CNC.

ecomate® RSSM - Specifications
(See individual datasheets for exact specs)

IP Rating	IP67/69K (in mated condition)		Shielding	EMI/RMI Available
Max. Current Amperage	Up to 45A		Flammability Rating	UL94-VO
Max. Voltage Rating (AC/DC)	600V		Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Operating Temperature	-40°C to +125°C		Test Voltage Rating	1500V/2000V
Coupling System	Circular Bayonet		Overvoltage Category	III
Housing Body	Body-Zinc Alloy; Coupling-Nickel Alum.		Strain Relief Clamp Range	1.5 - 14.0mm
Contact Types	Machined, Stamped & Formed, RADSOK®, PCB		Insulation Resistance	5000 megohms
Contact Termination	Crimp, Solder		Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)		RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Wire Range	30 - 8AWG (0.05 - 10.0 mm²)			
Sealing Material	Silicone Rubber		Approvals	UL ECBT2 & ECBT8
Min. Mating Cycles	>500			

Connector Configurations

Plug	Plug w End Cap	Plug w Cord Grip Kit	Square Flange Receptacle	Square Flange Receptacle Kit	Square Flange Receptacle w End Cap	Jam Nut Receptacle	Jam Nut Receptacle w End Cap

Contact Legend (Size (mm²) Amperage)

○	●	⊖	◉
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

Recommended Wire Insulation Overall Diameter (OD) for End Caps

Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
20	30-20AWG (0.05-0.50mm²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 in)
16	24-14AWG (0.14-2.5mm²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
12	14-12AWG (2.5-3.5mm²)	3.3mm-4.3mm (0.130-0.169 in)	-
8	12-10AWG (10.0-16.0mm²)	2.8mm-5.8mm (0.110-0.228 in)	-
8*	16-8AWG (1.5-10.0mm²)	2.8mm-4.1mm (0.110-0.161 in)	-

NOTE: * Applies to 14-3 insert arrangement only. See chart below.

ecomate® RSSM - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size 10					Shell Size 12			
3 Pos 3 x Size 16 (1.5mm²) 13A/500V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4(2+2)Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	6 Pos 6 x Size 20 (0.5mm²) 7.5A/250V	6(3+3) Pos MIX 3 x Size 16 (1.5mm²) 13A 3 x Size 20 (0.5mm²) 7.5A 500V	3 Pos 3 x Size 16 (1.5mm²) 13A/600V	4 Pos 4 x Size 16 (1.5mm²) 13A/500V	4(2+2) Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 20 (0.5mm²) 7.5A 500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V
-	N	N	N	-	N	R	N	R

Shell Size 12	Shell Size 14							Shell Size 16
10 Pos 10 x Size 20 (0.5mm²) 7.5A/250V	3 Pos 3 x Size 8* (3.6mm²) 45A/600V	4 Pos 4 x Size 12 (2.5mm²) 23A/500V	4 Pos MIX 2 x Size 12 (2.5mm²) 23A 2 x Size 16 (1.5mm²) 13A 500V	7 Pos 7 x Size 16 (1.5mm²) 13A/500V	8 Pos 8 x Size 16 (1.5mm²) 13A/500V	12 Pos 12 x Size 16 (1.5mm²) 13A/500V	19 Pos 19 x Size 20 (0.5mm²) 7.5A/250V	4 Pos 4 x Size 8 (3.6mm²) 45A/600V
R	N	N	N	R	N	N	N	N

Shell Size 16			Shell Size 18			Shell Size 20	Shell Size 22	
9 Pos MIX 4 x Size 12 (2.5mm²) 23A 5 x Size 16 (1.5mm²) 13A 500V	19 Pos 19 x Size 16 (1.5mm²) 13A/500V	26 Pos 26 x Size 20 (0.5mm²) 7.5A/250V	8 Pos 8 x Size 12 (2.5mm²) 23A/500V	23 Pos 23 x Size 16 (1.5mm²) 13A/500V	32 Pos 32 x Size 20 (0.5mm²) 7.5A/250V	28 Pos * 28 x Size 16 (1.5mm²) 13A/500V	35 Pos 35 x Size 16 (1.5mm²) 13A/500V	38 Pos 38 x Size 16 (1.5mm²) 13A/500V
N	R	N	N	N	R	N	R	-	-

Shell Size 24
48 Pos 48 x Size 16 (1.5mm²) 13A/500V
-

Backshell Cable Diameters

Shell Size 10	3.0 - 8.5mm
Shell Size 12	6.5 - 12.5mm
Shell Size 14	6.5 - 12.5mm
Shell Size 16	10 .0– 17.0mm
Shell Size 18	10.0 – 17.0mm
Shell Size 20	11.0 – 22.5mm
Shell Size 22	13.5 – 24.0mm
Shell Size 24	20.5 – 22.5mm

em eco|mate® RM High Amp

Circular, Rugged Metal, High Amperage Connectors for Industrial Applications

Available in 4 Shell Sizes and 5 Insert Arrangements

Amphenol Sine Systems' **ecomate® RM High Amperage Series** of connectors matches all the specifications of the ecomate® RM (Rugged Metal) Series with the addition of high amperage connector options in 1 and 3 pole, high power arrangements featuring **RADSOK® Contact Technology**, up to 300A and 630V.

Key Features
- IP67 rated (in mated condition)
- Circular Bayonet Coupling System
- 3.6mm - 10mm Contact Sizes
- MIL-DTL-26482-based Design
- EMI/RMI Shielding Capabilities

IP67

R **RADSOK®**

Potential Applications: Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, and Entertainment/Lighting markets.

ecomate® RM High Amp - Specifications
(See individual datasheets for exact specs)

IP Rating	IP67 (in mated condition)	Shielding	EMI/RMI Available
Max. Current Amperage	Up to 300A	Flammability Rating	UL94-VO
Max. Voltage Rating (AC/DC)	630V	Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Operating Temperature	-40°C to +125°C	Test Voltage Rating	5000V
Coupling System	Circular Bayonet	Overvoltage Category	III
Housing Body	Body-Zinc Alloy; Coupling-Nickel Alum.	Strain Relief Clamp Range	1.5 - 14.0mm
Contact Types	RADSOK® 3.6mm-10mm	Insulation Resistance	5000 megohms
Contact Termination	Crimp, Flat Tail, Screw Tail	Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
Contact Material	RADSOK®		
Wire Range	8 - 4/0AWG (10.0 - 95.0 mm²)	RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Sealing Material	Nitrile Buna Rubber		
Min. Mating Cycles	>500	Approvals	UL ECBT2 & ECBT8

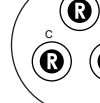### Connector Configurations

12-1, 14-1, 16-1 and 20-1				
Straight Plug Female w RADSOK® Socket	90 Right Angle Plug Female w RADSOK® Socket	Square Flange Receptacle Male w RADSOK® Crimp Pin	Square Flange Receptacle Male w RADSOK® Flat Tail Pin	Square Flange Receptacle Male w RADSOK® Screw Tail Pin

20-3			
Straight Plug Male w RADSOK® Pin	Straight Plug Female w RADSOK® Socket	Square Flange Receptacle Male w RADSOK® Pin	Square Flange Receptacle Female w RADSOK® Socket

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ecomate® RM High Amp - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size 12	Shell Size 14	Shell Size 16	Shell Size 20	
1 Pos 1 x 3.6mm² 86A/630V	1 Pos 1 x 6.0mm² 120A/630V	1 Pos 1 x 8.0mm² 120A-180A/630V	1 Pos 1 x 10.0mm² 120A-300A/630V	3 Pos 3 x 3.6mm² 86A/630V

Contact Legend (Size mm² / Amperage)

3.6mm² 86A	6.0mm² 120A	8.0mm² 120-180A	10.0mm² 120-300A

Backshell Cable Diameters

Shell Size 12	9.0 - 12.5mm
Shell Size 14	9.0 - 14.0mm
Shell Size 16	9.0 - 17.0mm
Shell Size 20	13.5 - 22.5mm

em eco|mate® Contacts

Machined, Stamped & Formed and RADSOK® Precision Connector Contacts

Amphenol Sine Systems is your trusted component source for precision connector contacts designed for increased reliability and reduced cost. Our ecomate® contacts are readily available in a wide variety of materials and plating combinations and can be supplied with a variety of contact types.

Amphenol Sine Systems' **ecomate® Aquarius™**, **ecomate® Aquarius™ Fathom Lock**, **ecomate® RM**, **ecomate® RSSM** and **ecomate® RM High Amp** circular, multiway connectors provide an IP67-69k rating range (in mated condition) for indoor/outdoor industrial applications and feature robust, durable plastic or metal designs with either bayonet or rapid coupling systems. With a max. amperage/voltage range up to 45A-300A/600V-900V, depending on the series, our ecomate® Family of products are perfect for a wide range of Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, and Entertainment/Lighting markets.

We can custom design, engineer and manufacture cable assemblies to your exact customer specifications and produce large or small quantities, all to the highest standards, delivered on-time and in-specification, all with a significant cost-savings over the competition.

Machined Contacts
Designed for heavy duty applications, these solid contacts will accommodate greater wire sizes

- Wire Size Range: 30AWG to 8AWG (0.05 - 10mm²)
- Available in Size 20, 16, 12 and 8 in both Pin and Socket
- Current Rating Range: 7.5A to 45A
- Copper Alloy
- Gold, Gold Flash, Tin, and Silver plating options available

Stamped & Formed Contacts
Precision engineered stamped & formed design provides cost-effective wire processing, while ensuring high reliability conductor termination and performance

- Wire Size Range: 20AWG to 12AWG (0.5 - 3.5mm²)
- Available in Size 20, 16 and 12 in both Pin and Socket
- Current Rating Range: 5A to 23A
- Copper Alloy and Stainless Steel
- Gold, Gold Flash, and Tin plating options available
- Insulation Support Included

RADSOK® Machined Contacts
RADSOK® technology is based on a stamped and formed flat grid, uniquely twisted into a hyperbolic geometry to provide robust, high density contact to the mating pin contact.

- Wire Size Range: 10 - 95mm²
- Available in Size 8, 4, 2, 1/0-0, 2/0-0, 3/0-0 in Pin, Socket, Flat Tail and Screw Tail
- Current Rating Range: 86A to 300A
- Copper Alloy, Silver-Plated

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ecomate® Contacts - Machined, Crimp
(Plating Options - Replace "x" in part number with appropriate Symbol from chart below.)

Size 20 (1.0mm), 7.5A		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
MP20W23x	MS20W23x	22 - 20AWG	0.34 - 0.50 mm²	Yes
MP24W23x	MS24W23x	26 - 24AWG	0.13 - 0.25 mm²	Yes
MP28W23x	MS28W23x	30 - 28AWG	0.05 - 0.08 mm²	Yes

Size 16 (1.6mm), 13A		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
MP14M23x	MS14M23x	16 - 14AWG	1.5 - 2.5 mm²	Yes
MP16M23x	MS16M23x	18 - 16AWG	0.75 - 1.50 mm²	Yes
MP20M23x	MS20M23x	22 - 20AWG	0.34 - 0.50 mm²	Yes
MP24M23x	MS24M23x	26 - 24AWG	0.14 - 0.25 mm²	Yes

Size 12 (2.5mm), 35A		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
MP10B23x	MS10B23x	12-10AWG	4.0 - 6.0 mm²	Yes

Size 8 (3.6mm), 45A - For use with 1403 Layout Only		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
MP10A23x-10	MS10A23x-10	8AWG	10mm²	No
MP10A23x-63	MS10A23x-63	12 - 10AWG	4.0 - 6.0 mm²	No
-	MS10A23x-63W	12 - 10AWG	4.0 - 6.0 mm²	Yes
MP10A23xL	-	12 - 10AWG	3.0 - 6.0 mm²	Yes
MP10A23x-25	MS10A23x-25	16 - 14AWG	1.5 - 2.5 mm²	No
-	MS10A23x-25W	16 - 14AWG	1.5 - 2.5 mm²	Yes

Size 8 (3.6mm), 45A - For use with 1604 Layout Only		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
MP10A23x	MS10S23x	12 - 10AWG	3.0 - 6.0 mm²	Yes

ecomate® Contacts - Stamped & Formed, Crimped
(Plating Options - Replace "x" in part number with appropriate Symbol from chart below.)

Size 20 (1.0mm), 5A		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
SP20W2x	SS20W2x	22 - 20AWG	0.34 - 0.50 mm²	Yes
SP24W2x	SS24W2x	26 - 24AWG	0.13 - 0.25 mm²	Yes
SP28W2x	SS28W2x	30 - 28AWG	0.05 - 0.08 mm²	Yes

Size 16 (1.6mm), 13A		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
SP14M2x	SS14M2x	16 - 14AWG	1.5 - 2.5 mm²	Yes
SP16M2x	SS16M2x	18 - 16AWG	0.75 - 1.50 mm²	Yes
SP20W2x	SS20M2x	22 - 20AWG	0.34 - 0.50 mm²	Yes
SP24W2x	SS24W2x	26 - 24AWG	0.14 - 0.25 mm²	Yes

Size 12 (2.5mm), 23A		Contact Size (AWG)	Wire Range (mm²)	Use with Endcap
Part Number				
Pin	Socket			
SP12A1T	SS12A1T	14 - 12AWG	2.5 - 3.5 mm²	Yes

Plating Options - Replace "x" in part number with appropriate Symbol			
Symbol	Plating	Symbol	Plating
T	Tin Plating Over Nickel	G5	Gold Plating (Thickness 5µ")
S	Silver Plating Over Nickel	G10	Gold Plating (Thickness 10µ")
F	Gold Flash Plating	G15	Gold Plating (Thickness 15µ")
		G30	Gold Plating (Thickness 30µ")

ecomate® Contacts - RADSOK® Crimp, Flat Tail or Screw Tail

Part Number	Part Number	Contact Size (AWG)	Contact Size (mm)	Wire Range (AWG)	Wire Range (mm²)	Insert Arrangement	Type	Amperage
Pin	Socket							
MP6ARS8S	MS6ARS8S	8AWG	3.6 mm	8AWG	10 - 16 mm²	12-1 and 20-3	Crimp	86A
HP25BCS	HS25BCS	4AWG	6 mm	4AWG	20 - 25 mm²	14-1	Crimp	120A
HPBHS	N/A	4AWG	6 mm	N/A	N/A	14-1	Flat Tail	120A
HPBSS	N/A	4AWG	6 mm	N/A	N/A	14-1	Screw Tail	120A
HP25CCS	HS25CCS	1/0 AWG	8 mm	4AWG	20 - 25 mm²	16-1	Crimp	120A
HP35CCS	HS35CCS	1/0 AWG	8 mm	2AWG	30 - 35 mm²	16-1	Crimp	130A
HP50SSC	HS50CCS	1/0 AWG	8 mm	4AWG	20 - 25 mm²	16-1	Crimp	180A
HPCHS	N/A	1/0 AWG	8 mm	N/A	N/A	16-1	Flat Tail	180A
HPCSS	N/A	1/0 AWG	8 mm	N/A	N/A	16-1	Screw Tail	180A
HP25DCS	HS25DCS	3/0 AWG	10 mm	4AWG	20 - 25 mm²	20-1	Crimp	120A
HP35DCS	HS35DCS	3/0 AWG	10 mm	4AWG	30 - 35 mm²	20-1	Crimp	130A
HP50DCS	HS50DCS	3/0 AWG	10 mm	2AWG	40 - 50 mm²	20-1	Crimp	180A
HP70DCS	HS70DCS	3/0 AWG	10 mm	2/0 AWG	60 - 70 mm²	20-1	Crimp	250A
HP95DCS	HS95DCS	3/0 AWG	10 mm	3/0 AWG	85 - 95 mm²	20-1	Crimp	300A

em eco|mate® Plastic

Circular, Plastic Connectors Ideal for Industrial Applications

Available in 1 Shell Size and 4 Insert Arrangements

Amphenol Tuchel Industrial's **ecomate® Plastic Series** of connectors provide an IP65/67 rating (in mated condition) for industrial applications, and incorporates the latest technology in a sealed, high-impact, lightweight, thermoplastic design. **ecomate® Plastic** connectors feature a rapid threading coupling system for easy, reliable mating/unmating. Also available as **ecomate® Overmolded Cable Assemblies** with integrated uni-directional strain reliefs, highly-flexible cables Resistant to a wide range of chemical fluids, all while being UV and corrosion Resistant.

Key Features
- IP65/67 rated (in mated condition)
- Rapid Threading Coupling System
- Contact Types: Screw (Field Install), Crimp, and Solder
- UL94-VO Flammability Rating

IP65   IP67

Potential Applications: Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, Entertainment/Lighting, Welding, Special Machinery, Surveillance, Traffic Systems, HVAC, I/O Module

ecomate® Plastic - Specifications (See individual datasheets for exact specs)

IP Rating	IP65/67 (in mated condition)
Max. Current Amperage	Up to 22A @ 40°C
Max. Voltage Rating (AC/DC)	600V
Operating Temperature	-40°C to +125°C
Coupling System	Rapid Threading
Housing Body	Thermoplastic UL94-VO
Contact Types	Stamped & Formed, Machined, Solder
Contact Termination	Screw (Field Install), Crimp, Solder
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)
Wire Range	26 - 14AWG (0.14 - 2.5mm²)
Sealing Material	Neoprene
Min. Mating Cycles	>500

Shielding	None
Flammability Rating	UL94-VO
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Overvoltage Category	III
Strain Relief Clamp Range	6.0 - 12.5mm
Insulation Resistance	$\geq 10^8 \ \Omega$
Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Approvals	VDE, SEV, UL, CSA

Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size (30mmØ)	Shell Size (30mmØ)	Shell Size (30mmØ)	Shell Size (30mmØ)
3+PE Pos 4 x 16A 400V	6+PE Pos 7 x 12/13A 250V	3+PE Pos 4 x 14A 600V	6+PE Pos 7 x 14A 600V

Connector Configurations

Straight Plug Male

Straight Plug Female

90 Right Angle Plug Male

90 Right Angle Plug Female

Receptacle Male

Receptacle Female

Backshell Cable Diameters

Shell Size 30.0mmØ	6.0 - 12.05mm

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em eco|mate® C16

Circular, Plastic Connectors Ideal for Rough, Environmental Applications

Available in 3 Shell Sizes and 11 Insert Arrangements

Amphenol Tuchel Industrial's **ecomate® C16 Series** of connectors provide an IP65 rating (in mated condition) for rough environmental conditions, and incorporates the latest technology in a sealed, robust, lightweight, thermoplastic design. **ecomate® C16** connectors feature a circular bayonet coupling system for easy, reliable mating/unmating. Two types of connectors are available: Field- installable, screw termination, and a cost-effective, crimp version for machine processing.

Key Features
- IP65 rated (in mated condition)
- Circular Bayonet Coupling System
- Contact Types: Screw (Field Install), and Crimp
- UL94-VO Flammability Rating

IP65

Potential Applications: Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, Entertainment/Lighting, Drives, Cooling and Heating Systems, Adhesive Coatings and Laminating Systems, Industrial Fans

ecomate® C16 - Specifications
(See individual datasheets for exact specs)

IP Rating	IP65 (in mated condition)		Shielding	None
Max. Current Amperage	Up to 50A @ 40°C		Flammability Rating	UL94-VO
Max. Voltage Rating (AC/DC)	900V		Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Operating Temperature	-40°C to +125°C		Overvoltage Category	III
Coupling System	Circular Bayonet		Strain Relief Clamp Range	8.0 - 21.0mm
Housing Body	Thermoplastic UL94-VO		Insulation Resistance	≥ 10^8 Ω
Contact Types	Stamped & Formed		Thermal Shock	No cracking, chipping or leaking after 20 test cycles from -55°C to 125°C
Contact Termination	Screw (Field Install), Crimp			
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)		RoHS Compliant	**RoHS** ALL materials meet the requirements of the European Directive. (See website for documentation)
Wire Range	28 - 10AWG (0.09 - 6.0 mm²)			
Sealing Material	Neoprene		Approvals	VDE, UL and CSA
Min. Mating Cycles	>500			

ecomate® C-16 - Connector Configurations

C-16-3							C-16-L	
Straight Plug Male	Straight Plug Female	90 Right Angle Plug Male	90 Right Angle Plug Female	Flange Receptacle w Mounted Gasket Male	Flange Receptacle w Mounted Gasket Female	Panel Mount Receptacle w Ring Nut Female	Straight Plug Female	Receptacle Male

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ecomate® C16-3 - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Backshell Cable Diameters

Shell Size 1	8.0 - 14.0mm
Shell Size 2	10.0 - 21.0mm

Shell Size 1					
2+PE Pos 3 x 36A 750V	3+PE Pos 4 x 23A 900V	8+PE Pos 9 x 12A 400V	12+3+PE Pos MIX 4 x 12A, 12 x 6A 4 x 320V, 12 x 24V	14+PE (11+4) Pos MIX 4 x 16A, 11 x 6A 100V	17+PE Pos 18 x 6A 100V

Shell Size 2			
5+PE Pos 6 x 21A 400V	12+PE Pos MIX 9 x 11A, 4 x 21A 9 x 300V, 4 x 500V	14+PE Pos MIX 4 x 6A, 11 x 12A 400V	19+PE Pos MIX 20 x 6A 250V

ecomate® C16-L - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

Shell Size L
4+PE Pos 5 x 50A 600V