ecomate® Family

Our **ecomate® Family** of circular, multiway connectors provide an IP65 thru IP69K rating range (in mated condition), depending on the series, 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 56A-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™	ecomate® Aquarius™PCB Mounts	ecomate® Aquarius™Fathom Lock	ecomate® RM	ecomate® RSSM	ecomate® RM High Amp	ecomate® Plastic	ecomate® C16-3/C16-L
IP Rating (in mated condition)	IP67 IP69K	IP67 IP69K	IP68 IP69K	IP67	IP67 IP69K	IP67	IP65 IP67	IP65
Shell Sizes/ Inserts	6 Shell Sizes, 30 Inserts	6 Shell Sizes, 18 Inserts	3 Shell Sizes, 17 Inserts	8 Shell Sizes, 28 Inserts	8 Shell Sizes, 28 Inserts	4 Shell Sizes, 5 Inserts	1 Shell Size, 4 Inserts	2 Shell Sizes, 11 Inserts
Unique Feature	Mixed Power and Signal Layouts	PCB Mounted Jam Nut Receptacles	Auto-Locking, Fathom Lock	Rugged Metal	Rugged Metal w Superior Seals (+125°C)	RADSOK® Contacts	Circular Thermoplastic	Circular Thermoplastic
Max. Current Amp/Volt	Up to 56A/600V	Up to 13A/500V	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 Temp 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	-40°C to +125°C
Coupling System	Circular Bayonet	Circular Bayonet	Auto-Locking	Circular Bayonet	Circular Bayonet	Circular Bayonet	Rapid Threading	Circular Bayonet
Housing Body	Thermoplastic UL94-VO	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	Machined, PCB	Machined, Stamped & Formed, PCB	Machined, Stamped & Formed, PCB	Machined, Stamped & Formed, PCB			
Wire AWG Range	30 - 8AWG (0.05 - 10.0 mm²)	20 - 12AWG (0.5 - 2.5 mm²)	30 - 8AWG (0.05 - 10.0 mm²)	30 - 8AWG (0.05 - 10.0 mm²)	30 - 8AWG (0.05 - 10.0 mm²)	8 - 3/0AWG (10 - 95mm²)	26 - 14AWG (0.14 - 2.5mm²)	28 - 10AWG (0.09 - 6.0 mm²)
Contact Termination	Crimp, Solder	Crimp, Solder	Crimp, Solder	Crimp, Solder	Crimp, Solder	Crimp, Flat Tail, Screw Tail	Screw (Field Install), Crimp, Solder	Screw (Field Install), Crimp
Sealing Material	NBR/Silicone Rubber	NBR/Silicone Rubber	Silicone Rubber	NBR/Silicone Rubber	NBR/Silicone Rubber	Silicone Rubber	Neoprene	Neoprene
Mating Cycles	>500	>500	>500	>500	>500	>500	>500	>500
Shielding	None	None	None	EMI/RMI Available	EMI/RMI Available	EMI/RMI Available	None	None
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
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	Gas, oil, mineral oil, acid bath, basic bath
Insulation Resistance	5000 MΩ	5000 MΩ	5000 MΩ	5000 MΩ	5000 MΩ	5000 MΩ	≥ 10^8 Ω	≥ 10^8 Ω
Approvals	UL ECBT2	UL ECBT2	UL ECBT2	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)							

em eco|mate® AQUARIUS™

Circular, Plastic, Waterproof Connectors for Indoor/Outdoor Applications

Available in 6 Shell Sizes and 30 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)
Max. Current Amperage	Up to 56A
Max. Voltage Rating (AC/DC)	600V
Operating Temperature	-40°C to +125°C
Coupling System	Circular Bayonet
Housing Body	Thermoplastic UL94-VO
Contact Types	Machined, Stamped & Formed, PCB
Contact Termination	Crimp, Solder
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)
Wire AWG Range	30 - 8AWG (0.05 - 10.0 mm²)
Sealing Material	NBR/Silicone Rubber
Min. Mating Cycles	>500

Shielding	None
Flammability Rating	UL 94 V-0
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

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

Standard products. Custom solutions
Customer Service +1 800 394 7732

Contact Legend (Size (mm²) Amperage)

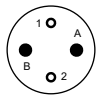
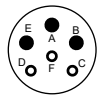
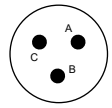
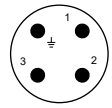
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Coax RG316/U 1.5A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

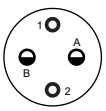
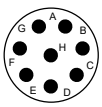
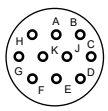
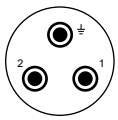
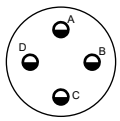
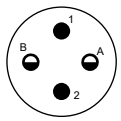
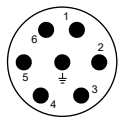
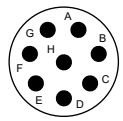
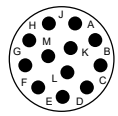
Recommended Wire Insulation Overall Diameter (OD) for End Caps

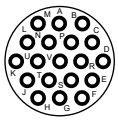
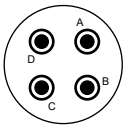
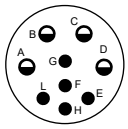
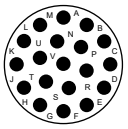
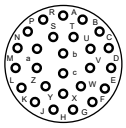
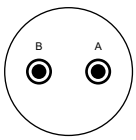
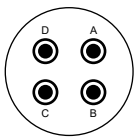
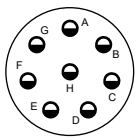
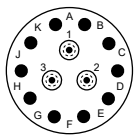
Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
20	30-20AWG (0.05-0.50mm²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 in)
16	24-14AWG (0.14-2.5mm²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
12	14-12AWG (2.5-3.5mm²)	3.3mm-4.3mm (0.130-0.169 in)	-
8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

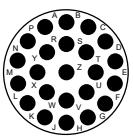
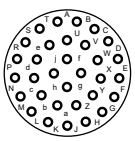
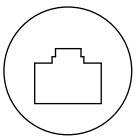
NOTE: * Applies to 14-3, 18-2 and 18-4 insert arrangement only. See chart below.

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 16 (1.5mm²) 13A/500V	4(2+2)Pos MIX 2 x Size 16 (1.5mm²) 13A 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	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	N / R	N / R	N	N	N	N / R	N	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	2 Pos 2 x Size 8* (3.6mm²) 56A/600V	4 Pos 4 x Size 8* (3.6mm²) 56A/600V	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
								
N	N	N / R	N	N	N	N	N	-

Shell Size 18		
23 Pos 23 x Size 16 (1.5mm²) 13A/500V	32 Pos 32 x Size 20 (0.5mm²) 7.5A/250V	8 Pos RJ45 Cat5e 1.5A/125V
		
N / R	N	-

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

ecomate® AQUARIUS™

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

Available in 6 Shell Sizes and 18 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)

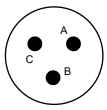
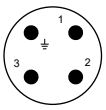
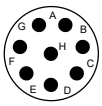
IP Rating	IP67/69K (in mated condition)
Max. Current Amperage	Up to 13A
Max. Voltage Rating (AC/DC)	600V
Operating Temperature	-40°C to +125°C
Coupling System	Circular Bayonet
Housing Body	Thermoplastic UL94-VO
Contact Types	Machined, PCB
Jam Nut Material	Aluminum Alloy, Black Annodizing
Locking Posts	Copper Alloy, Tin-Plated
Contact Termination	Crimp, Solder
Contact Material	Copper Alloy, Gold-Plated (See datasheets)
Wire AWG Range	20 - 12AWG (0.5 - 2.5 mm²)
Sealing Material	NBR/Silicone Rubber

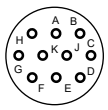
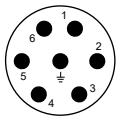
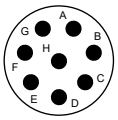
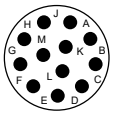
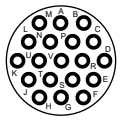
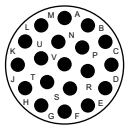
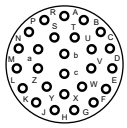
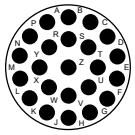
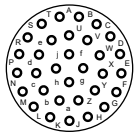
Min. Mating Cycles	>500
Shielding	None
Flammability Rating	UL 94 V-0
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Test Voltage Rating	1500V/2000V
Overvoltage Category	III
Strain Relief Clamp Range	1.5 - 14.0mm
Insulation Resistance	5000 megohms
Thermal Shock	No cracking, chipping or 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

Contact Legend (Size (mm²) Amperage)

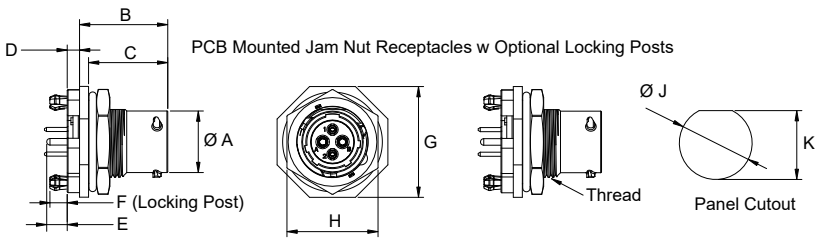
○	●	◒
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A

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 16 (1.5mm²) 13A/500V	4(2+2)Pos MIX 2 x Size 16 (1.5mm²) 13A 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/500V	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	19 Pos 19 x Size 16 (1.5mm²) 13A/500V	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)



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	7.5A, 13A	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	13A	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

feat **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 for 1 Hour, 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

- IP68/69K 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

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.

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

IP Rating	IP68/69K (in mated condition)
Max. Current Amperage	Up to 45A
Max. Voltage Rating (AC/DC)	600V
Operating Temperature	-40°C to +125°C
Coupling System	Auto-Locking, Fathom Lock
Housing Body	Thermoplastic UL94-VO
Contact Types	Machined, Stamped & Formed, PCB
Contact Termination	Crimp, Solder
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)
Wire AWG Range	30 - 8AWG (0.05 - 10.0 mm²)
Sealing Material	Silicone Rubber
Min. Mating Cycles	>500

Shielding	None
Flammability Rating	UL 94 V-0
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Test Voltage Rating	1500V/2000V
Overvoltage Category	III
Strain Relief Clamp Range	4.0 - 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

Contact Legend (Size (mm²) Amperage)

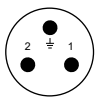
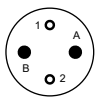
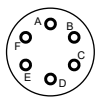
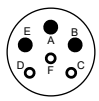
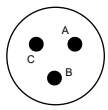
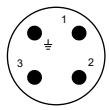
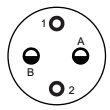
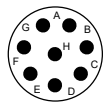
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

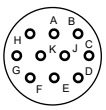
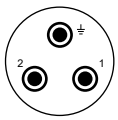
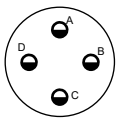
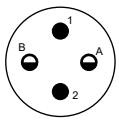
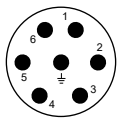
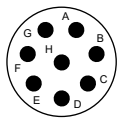
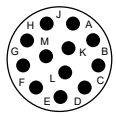
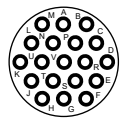
Recommended Wire Insulation Overall Diameter (OD) for End Caps

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 16 (1.5mm²) 13A/500V	4(2+2)Pos MIX 2 x Size 16 (1.5mm²) 13A 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
								
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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 feat **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 AWG Range	30 - 8AWG (0.05 - 10.0 mm²)
Sealing Material	NBR/Silicone Rubber
Min. Mating Cycles	>500

Shielding	EMI/RMI Available
Flammability Rating	UL 94 V-0
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)

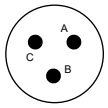
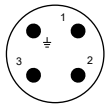
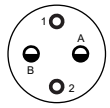
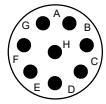
○	●	◒	◉
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

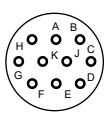
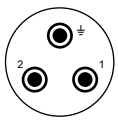
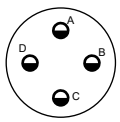
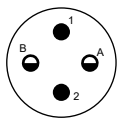
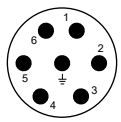
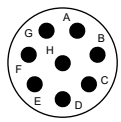
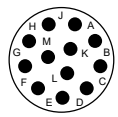
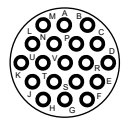
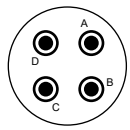
Recommended Wire Insulation Overall Diameter (OD) for End Caps

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 16 (1.5mm²) 13A/500V	4(2+2)Pos MIX 2 x Size 16 (1.5mm²) 13A 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
								
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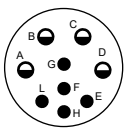
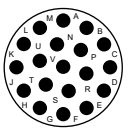
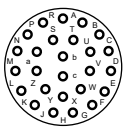
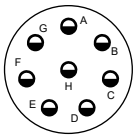
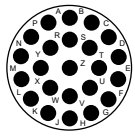
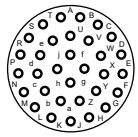
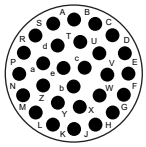
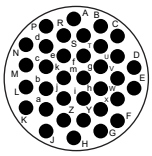
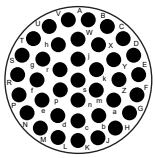
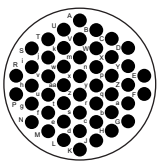
Shell Size 16			Shell Size 18			Shell Size 20		Shell Size 22	
9 Pos MIX 4 x Size 12 (2.5mm²) 23A 5 x Size 16 (1.5mm²) 13A 500V	19 Pos 19 x Size 16 (1.5mm²) 13A/500V	26 Pos 26 x Size 20 (0.5mm²) 7.5A/250V	8 Pos 8 x Size 12 (2.5mm²) 23A/500V	23 Pos 23 x Size 16 (1.5mm²) 13A/500V	32 Pos 32 x Size 20 (0.5mm²) 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	N R		-	-

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

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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 IP69K (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)
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 AWG Range	30 - 8AWG (0.05 - 10.0 mm²)
Sealing Material	NBR/Silicone Rubber
Min. Mating Cycles	>500

Shielding	EMI/RMI Available
Flammability Rating	UL 94 V-0
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)

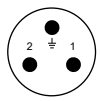
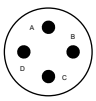
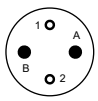
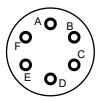
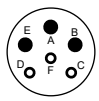
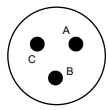
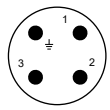
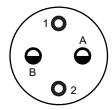
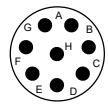
○	●	◒	◉
Size 20 (0.5mm²) 7.5A	Size 16 (1.5mm²) 13A	Size 12 (2.5mm²) 23A	Size 8 (3.6mm²) 45A

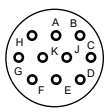
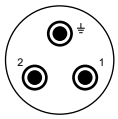
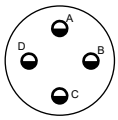
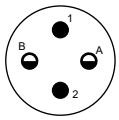
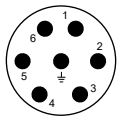
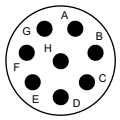
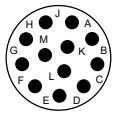
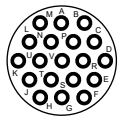
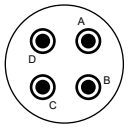
Recommended Wire Insulation Overall Diameter (OD) for End Caps

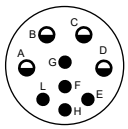
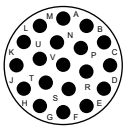
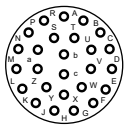
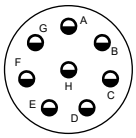
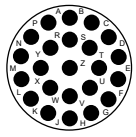
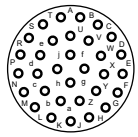
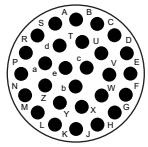
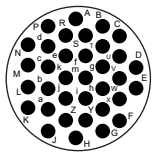
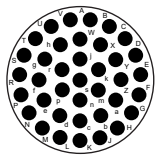
Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
20	30-20AWG (0.05-0.50mm²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 in)
16	24-14AWG (0.14-2.5mm²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
12	14-12AWG (2.5-3.5mm²)	3.3mm-4.3mm (0.130-0.169 in)	-
8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

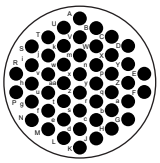
NOTE: * Applies to 14-3 insert arrangement only. See chart below.

ecomate® 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 16 (1.5mm²) 13A/500V	4(2+2)Pos MIX 2 x Size 16 (1.5mm²) 13A 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	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	N R		-	-

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

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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 feat **RADSOK® Contact Technology**, up to 300A/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

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)
Max. Current Amperage	Up to 300A
Max. Voltage Rating (AC/DC)	630V
Operating Temperature	-40°C to +125°C
Coupling System	Circular Bayonet
Housing Body	Body-Zinc Alloy; Coupling-Nickel Alum.
Contact Types	RADSOK®
Contact Termination	Crimp, Flat Tail, Screw Tail
Contact Material	Copper Alloy, Silver Plated
Wire AWG Range	8 - 3/0AWG (10 - 95mm²)
Sealing Material	Silicone Rubber
Min. Mating Cycles	>500

Shielding	EMI/RMI Available
Flammability Rating	UL 94 V-0
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Test Voltage Rating	5000V
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

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

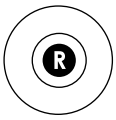
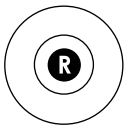
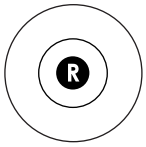
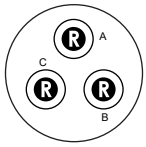
Straight Plug
Male
w RADSOK® Pin

Straight Plug
Female
w RADSOK® Socket

Square Flange
Receptacle
Male
w RADSOK® Pin

Square Flange
Receptacle
Female
w RADSOK® Socket

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

RADSOK Contact

Contact Legend (Size mm² / Amperage)

8AWG 3.6mm² 86A	4AWG 6.0mm² 120A	1/0AWG 8.0mm² 120-180A	3/0AWG 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: 8AWG to 3/0 AWG (10 - 95mm²)
- Available in Size 8AWG, 4AWG, 2AWG, 1AWG, 2/0AWG, and 3/0AWG in Pin, Socket, Flathole Tail and Screw Tail
- Current Rating Range: 45A to 300A
- Copper Alloy, Silver-Plated

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

Size 20 (1.0mm), 7.5A				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female Socket			
MP18W23x	MS18W23x	20 - 18AWG	0.50 - 0.75 mm²	Yes
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				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female 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
MP28M23x	MS28M23x	30 - 28AWG	0.14 - 0.05 mm²	Yes
Size 12 (2.5mm), 23A				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female Socket			
MP10B23x	MS10B23x	12-10AWG	4.0 - 6.0 mm²	Yes
Size 8 (3.6mm), 45A - For use with 1403 Layout Only				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female 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				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female 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				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female Socket			
SP20W2x	SS20W2x	22 - 18AWG	0.34 - 0.75 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				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female Socket			
SP14M2x	SS14M2x	16 - 14AWG	1.5 - 2.5 mm²	Yes
SP16M2x	SS16M2x	18 - 16AWG	0.75 - 1.50 mm²	Yes
SP20M2x	SS20M2x	22 - 20AWG	0.34 - 0.50 mm²	Yes
SP24M2x	SS24M2x	26 - 24AWG	0.14 - 0.25 mm²	Yes
Size 12 (2.5mm), 23A				
Part Number		Wire Range (AWG)	Wire Range (mm²)	Use with Endcap
Male Pin	Female 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 Barrel, Flathole Tail or Screw Tail

Part Number		Type	Contact Size (AWG)	Contact Size (mm)	Wire Range (AWG)	Wire Range (mm²)	Amperage	Plating	Contact Material
Male Pin	Female Socket								
MP6ARS8S	MS6ARS8S	Crimp Barrel	8AWG	3.6 mm	8-6AWG	10 - 16 mm²	86A	Silver	Copper Alloy
MP6ARS8S-10	MS6ARS8S-10	Crimp Barrel	8AWG	3.6 mm	8-6AWG	10 - 16 mm²	45A	Silver	Copper Alloy
HP25BCS	HS25BCS	Crimp Barrel	4AWG	6 mm	4AWG	20 - 25 mm²	120A	Silver	Copper Alloy
HPBHS	N/A	Flathole Tail	4AWG	6 mm	4AWG	20 - 25 mm²	120A	Silver	Copper Alloy
HPBSS	N/A	Screw Tail	4AWG	6 mm	4AWG	20 - 25 mm²	120A	Silver	Copper Alloy
HP25CCS	HS25CCS	Crimp Barrel	4AWG	8 mm	4AWG	20 - 25 mm²	120A	Silver	Copper Alloy
HP35CCS	HS35CCS	Crimp Barrel	2AWG	8 mm	2AWG	30 - 35 mm²	130A	Silver	Copper Alloy
HP50CCS	HS50CCS	Crimp Barrel	1AWG	8 mm	1AWG	40 - 50 mm²	180A	Silver	Copper Alloy
HPCHS	N/A	Flathole Tail	1AWG	8 mm	1AWG	40 - 50 mm²	180A	Silver	Copper Alloy
HPCSS	N/A	Screw Tail	1AWG	8 mm	1AWG	40 - 50 mm²	180A	Silver	Copper Alloy
HP25DCS	HS25DCS	Crimp Barrel	4AWG	10 mm	4AWG	20 - 25 mm²	120A	Silver	Copper Alloy
HP35DCS	HS35DCS	Crimp Barrel	2AWG	10 mm	2AWG	30 - 35 mm²	130A	Silver	Copper Alloy
HP50DCS	HS50DCS	Crimp Barrel	1AWG	10 mm	1AWG	40 - 50 mm²	180A	Silver	Copper Alloy
HP70DCS	HS70DCS	Crimp Barrel	2/0 AWG	10 mm	2/0 AWG	60 - 70 mm²	250A	Silver	Copper Alloy
HP95DCS	HS95DCS	Crimp Barrel	3/0 AWG	10 mm	3/0 AWG	85 - 95 mm²	300A	Silver	Copper Alloy
HPDHS	N/A	Flathole Tail	3/0 AWG	10 mm	3/0 AWG	85 - 95 mm²	300A	Silver	Copper Alloy
HPDSS	N/A	Screw Tail	3/0 AWG	10 mm	3/0 AWG	85 - 95 mm²	300A	Silver	Copper Alloy

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

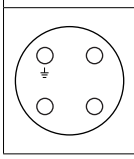
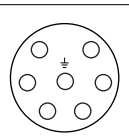
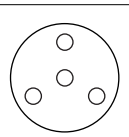
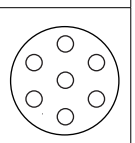
Potential Applications: Factory Automation, Industrial, Heavy Equipment, Heavy Duty, Transportation, Entertainment/Lighting, Welding, Special Machinery, Surveillance, Traffic Systems, HVAC, I/O Module

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 AWG Range	26 - 14AWG (0.14 - 2.5mm²)
Sealing Material	Neoprene
Min. Mating Cycles	>500

Shielding	None
Flammability Rating	UL 94 V-0
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Overvoltage Category	III
Strain Relief Clamp Range	6.0 - 12.5mm
Insulation Resistance	≥ 10^8 Ω
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 2 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)
Max. Current Amperage	Up to 50A @ 40°C
Max. Voltage Rating (AC/DC)	900V
Operating Temperature	-40°C to +125°C
Coupling System	Circular Bayonet
Housing Body	Thermoplastic UL94-VO
Contact Types	Stamped & Formed
Contact Termination	Screw (Field Install), Crimp
Contact Material	Copper Alloy (Gold, Tin & Silver Plating are available)
Wire AWG Range	28 - 10AWG (0.09 - 6.0 mm²)
Sealing Material	Neoprene
Min. Mating Cycles	>500

Shielding	None
Flammability Rating	UL 94 V-0
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Overvoltage Category	III
Strain Relief Clamp Range	8.0 - 21.0mm
Insulation Resistance	≥ 10^8 Ω
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, UL and CSA

ecomate® C-16 - Connector Configurations

C-16-3

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

C-16-L

Straight Plug Female

Receptacle Male

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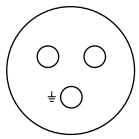
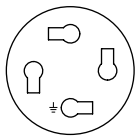
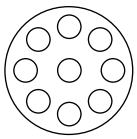
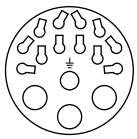
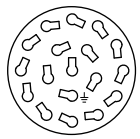
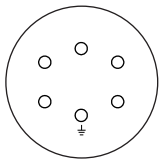
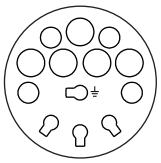
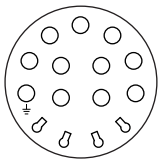
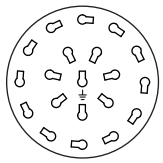
ecomate® C16-3 - Shell Sizes & Insert Arrangements
(Front view of pin insert/rear view of socket insert shown for reference only)

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

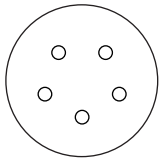
5+PE Pos 6 x 21A 400V	12+PE Pos MIX 9 x 11A, 4 x 21A 9 x 300V, 4 x 500V	14+PE Pos MIX 4 x 6A, 11 x 12A 400V	19+PE Pos MIX 20 x 6A 250V
			

Backshell Cable Diameters

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

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

Shell Size 2

4+PE Pos 5 x 50A 600V


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