



em eco|mate® AQUARIUS™

PCB Mounted Jam Nut Receptacles for Heavy Duty, Harsh Environment Applications

Available in 6 Shell Sizes and 17 Insert Arrangements

Amphenol Sine Systems' ecomate® Aquarius™ PCB Mounted Jam Nut 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 when in a 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, 1/3 turn bayonet coupling.

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



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 45A
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
Jam Nut Material	Aluminum Alloy, Black Anodizing
Locking Posts	Copper Alloy, Tin-Plated
Contact Termination	Crimp, Solder
Contact Material	Copper Alloy, Gold-Plated (See datasheets)
Wire Range	0.09mm ² -6.0mm ² (10-28AWG)
Sealing Material	Silicone Rubber

Min. Mating Cycles	>500
Shielding	None
Flammability Rating	UL94-VO
Fluid Resistance	Gas, oil, mineral oil, acid bath, basic bath
Vibration	10-2000 Hz, level of 20 G's
Test Voltage Rating	1500V or 2000V
Overvoltage Category	III
Strain Relief Clamp Range	1.5 - 14.0mm
Insulation Resistance	5000 megohms min. of 25°C
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 2002/95/EC, Issue 13.2.2003
Approvals	UL ECBT2



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Contact Legend (Size (mm²) Amperage)

Size 8 (3.6mm ²) 45A	Size 12 (2.5mm ²) 23A	Size 16 (1.5mm ²) 13A	Size 20 (0.05mm ²) 7.5A

Recommended Wire Insulation Overall Diameter (OD)

Contact Size	Typical Wire Range	(N) Normal Wire Seal	(R) Reduced Wire Seal
8	12-10AWG (10.0-16.0mm ²)	2.8mm-5.8mm (0.110-0.228 in)	-
8*	16-8AWG (1.5-10.0mm ²)	2.8mm-4.1mm (0.110-0.161 in)	-
12	14-12AWG (2.5-3.5mm ²)	3.3mm-4.3mm (0.130-0.169 in)	-
16	24-14AWG (0.14-2.5mm ²)	2.0mm-3.2mm (0.079-0.126 in)	1.2mm-2.1mm (0.047-.083 in)
20	30-20AWG (0.05-0.50mm ²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.062 in)

ecomate® Aquarius™ PCB Mounted Jam Nut Receptacles - 6 Shell Sizes/17 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 (0.5mm ²) 7.5A/250V	4 Pos 4 x Size 20 (0.5mm ²) 7.5A/250V	3 Pos 3 x Size 16 (1.5mm ²) 13A/500V	4 Pos 4 x Size 12 (2.5mm ²) 23A/500V	4(2+2)Pos MIX 2 x Size 12 (2.5mm ²) 23A 2 x Size 20 (0.5mm ²) 7.5A 500V	6 Pos 6 x Size 20 (0.5mm ²) 7.5A/250V	3 Pos 3 x Size 16 (1.5mm ²) 13A/600V	4 Pos 4 x Size 16 (1.5mm ²) 13A/500V	8 Pos 8 x Size 16 (1.5mm ²) 13A/500V
-	-	-	N	N	N	N	R	R

Shell Size 12	Shell Size 14		Shell Size 16	Shell Size 18			
10 Pos 10 x Size 20 (0.5mm ²) 7.5A/250V	7 Pos 7 x Size 16 (1.5mm ²) 13A/500V	8 Pos 8 x Size 16 (1.5mm ²) 13A/500V	12 Pos 12 x Size 16 (1.5mm ²) 13A/500V	19 Pos 19 x Size 20 (0.5mm ²) 7.5A/250V	26 Pos 26 x Size 20 (0.5mm ²) 7.5A/250V	23 Pos 23 x Size 16 (1.5mm ²) 13A/500V	32 Pos 32 x Size 20 (0.5mm ²) 7.5A/250V
N	R	N	N	R	N	N	R

ecomate® Aquarius™ 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	7/16" - 28 UNEF	14.6	13.8
10	15.0	21.5	19.3	3.0	5.0	4.1	27.0	22.2	9/16" - 24 UNEF	17.8	16.8
12	19.0	21.5	19.3	3.0	5.0	4.1	27.0	31.7	11/16" - 24-2A UNEF	22.5	21.2
14	22.2	21.5	19.3	3.0	5.0	4.1	35.0	30.2	13/16" - 20 UNEF	25.6	24.2
16	25.3	21.5	19.3	3.0	5.0	4.1	38.1	33.3	15/16" - 20 UNEF	28.9	27.6
18	28.6	21.5	19.3	3.0	5.0	4.1	41.3	36.5	1" 1/16-18 UNEF	32.1	30.6

ecomate® Aquarius™ - PCB Mounted Jam Nut Receptacles

Part Number	Description	Amperage	Voltage
RTS78ND3S	3 Position, Jam Nut Receptacle, PCB Mounted, Socket, Size 8, ecomate® Aquarius™, Silicone Rubber Seal	7A	250V
RTS78ND4S	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

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

ecomate® Aquarius™ PCB Mounted Jam Nut Receptacles - 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

For more information, contact: Customer Service, +1 800 394 7732, csr@amphenol-sine.com

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