



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 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 separate 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



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.



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

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

IP Rating	IP67/68/69K (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 Range	30 - 8AWG (0.05 - 10.0 mm ²)
Sealing Material	Silicone Rubber
Min. Mating Cycles	>500

Shielding	None
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	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 Pending

Contact Legend (Size (mm) Amperage)

Size 20 (0.5mm) 7.5A	Size 16 (1.5mm) 13A	Size 12 (2.5mm) 23A	Size 8 (3.6mm) 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 (0.05-0.50mm ²)	1.6mm-2.6mm (0.063-0.102 in)	1.2mm-1.6mm (0.047-0.063 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)
12	14-12AWG (2.5-3.5mm ²)	3.3mm-4.3mm (0.130-0.169 in)	-
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)	-

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

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

Connector Configurations



Backshell Cable Diameters

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