



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 ECB12 Pending

Contact Legend (Size (mm²) Amperage)

Size 20 (0.5mm ²) 7.5A	Size 16 (1.5mm ²) 13A	Size 12 (2.5mm ²) 23A	Size 8 (3.6mm ²) 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.

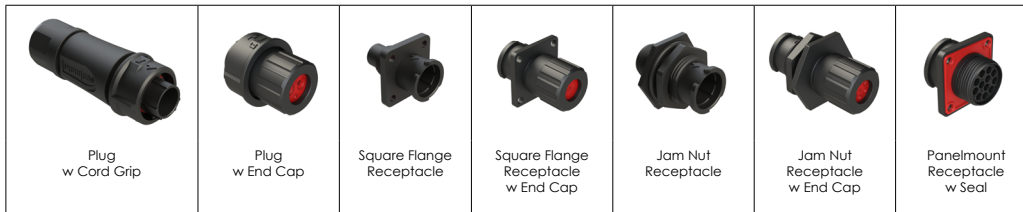
Shell Sizes & Insert Arrangements

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

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