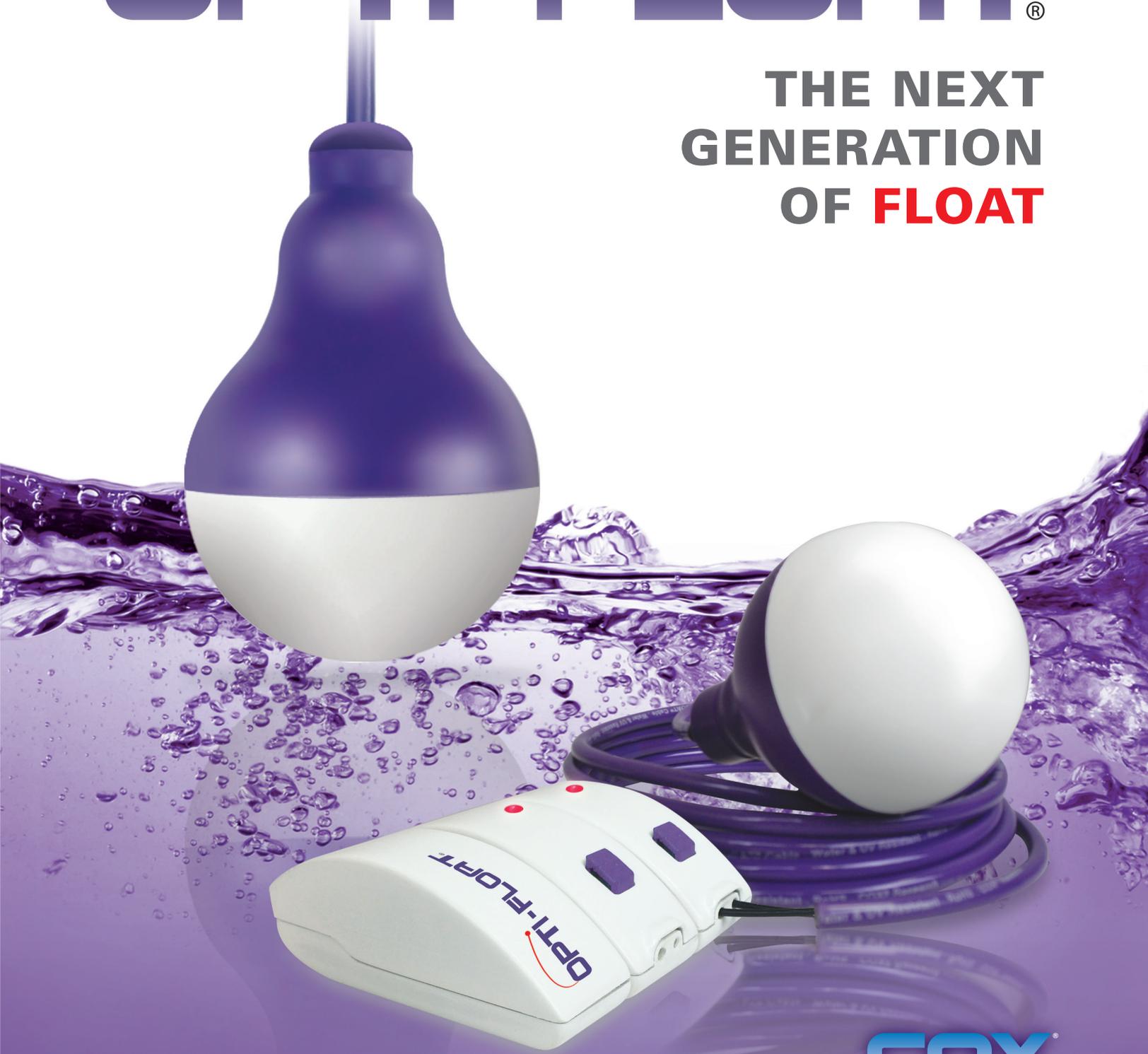


# OPTI-FLOAT<sup>®</sup>

THE NEXT  
GENERATION  
OF **FLOAT**



**COX**<sup>®</sup>  
RESEARCH



Made in the USA

# MERCURY & LEAD FREE, NON-MECHANICAL

## 15 MILLION OPERATIONS

Combining new technology with a familiar device, the **Opti-Float®** level detector is a revolutionary innovation in discrete level detectors. It's made of safe, recyclable materials. It's mercury and lead free and is built to last for years of service. Rated for over 15,000,000 operations.

The design of the **Opti-Float®** level detector is amazingly simple. Using fiber optic cable, it transmits a beam of light from an LED in a remote transceiver down to the float, where the beam makes and breaks depending on the tilt of the float. When the transceiver detects the presence or absence of light, it activates a relay in the transceiver, which can then operate other devices. The transceivers are all dual DIN rail mounted units. Additional transceivers can be used for additional floats.

The fiber optic cable, created specifically for the **Opti-Float®** level detector, requires no special tools for connection. And while it looks similar to other float cables, there is one huge exception: No electrical wires and inherently safe! So now, for the first time, floats can be used directly, without special equipment, in hazardous locations. The **Opti-Float®** Level Detector offers two product lines in order to best serve commercial, residential and industrial markets.

Patented. Other U.S. and Foreign Patents Pending.



Installation instructions, warranty information and other downloads are available online at [www.optifloat.com](http://www.optifloat.com)  
Opti-Float® and Optical Float® are registered trademarks of Cox Research and Technology, Inc.

## THE OPTI-FLOW SYSTEM

The **OPTI-FLOW** system is a discrete position-indicating device. When used with check valves in water/waste water systems, it will give positive feedback to a monitoring device or control panel that the pump is actively moving water.

The **OPTI-FLOW** uses groundbreaking technology by using light instead of electricity. The use of plastic fiber optic cable allows a beam of light to be transferred from an LED in a remote transceiver to the inside of the non-corrosive housing. From here, it makes or breaks the light circuit depending on the tilt of the lever arm. It has been rated for 15 million operations, is inherently safe, and is suitable for use in Class 1 Div. 1 areas.

Alternate methods to the **OPTI-FLOW** provide limited and often times unreliable information. For example, when using a contact off of the motor starter it will only indicate that the motor should be running, not that it actually is. When using a current sensor, this can show that a motor is running, but it may not actually be moving water due to a clogged line or closed valve. Mechanical limit switches work similarly to the **OPTI-FLOW**, but their mechanical features make them prone to failure. Additionally, the flow of electricity to these devices makes them dangerous and while explosion proof switches are available, they are also very expensive.



Additionally, when the **OPTI-FLOW** is used on pump station hatches it will indicate whether the hatches are open or closed. This will show if a hatch has opened accidentally or if there has been an un-authorized entry. Open hatch doors can provide a very dangerous situation. Someone or something (animals, trash, etc.) could fall in and be killed or hurt and could also provide damage to the pumps. Open doors can also let out gasses and odors that could be offensive to some.

The **OPTI-FLOW** is a simple yet revolutionary product with far reaching capabilities. For more information please email [mariah@coxresearch.com](mailto:mariah@coxresearch.com).



# OPTI-FLOAT

The OPTI-FLOAT® Liquid Level Detector is made of safe, recyclable materials. It's mercury and lead free, is built to last for years of service, and uses no electrical wires to connect to the external control panel.



# OPTI-FLOAT MINI



## COMPARISON CHART



FEATURES	ORIGINAL	MINI
Rated for 15 Million Operations	✓	✓
Inherently Safe, Eliminates Need for Intrinsically Safe Relay	✓	✓
Simple Installation; No Special Tools Required	✓	✓
Mercury and Lead Free; Made of Recyclable Materials	✓	✓
Float Warranty	3 Years	5 Years
Transceiver Warranty	2 Year	2 Year
Can Be Used in Classified Areas	✓	✓
Dual Float Transceiver	✓	
Single Float Light Link Transceiver		✓
Float Size Diameter	4.25"	3.5"
Heavy Duty: Industrial/Heavy Commercial	✓	
Residential/Light Commercial Application		✓
Standard Cable Length up to 75'		✓
Standard Cable Length up to 100'	✓	
Plug and Play		✓
Chatter Resistant	✓	✓
Retro Kits Available For Easy Conversion of Existing Systems	✓	✓
Double Sealed	✓	
Din Rail Mountable	✓	✓
"Mix and Match" Capabilities (Original Float & Transceiver/ Mini Float & Transceiver)	✓	✓
Certifications	UL, CUL, EU	UL, EU

## OPTI-FLOAT® COMPONENTS



### The OPTI-FLOAT® Transceiver

Operating Voltage: 12 VDC ± 10%  
 Power Consumption: 1.2 VA max  
 Output: Relay SPDT 3 amp @ 240VAC, each channel  
 Ambient operating temperature: -15 to +130F (-25 to +55C)  
 Storage temperature: -15 to +155F (-25 to +70C)  
 UL Listed

**OPTI - TR2**



### The OPTI-FLOAT® Power Supply

120/240VAC-12VDC, 10 Watt  
 Class 2 DIN Rail Mounted  
 3.58"H x 0.71"W x 2.19"D  
 UL Listed

**OPTI - PS1**

## OPTI-FLOAT® TOOLS



### OPTI-FLOAT® Splices

**OPTI - SP2**



### OPTI-FLOAT® Optical Cable Stripper

**OPTI - CS1**



### OPTI-FLOAT® Light Duty Cable Cutter

**OPTI - CC1**

## OPTI-FLOAT® MINI COMPONENTS



### Light Link Power Supply

**MINI - PS2**



### Light Link Transceiver

**MINI - TR3**

## OPTI-FLOAT® MINI TOOLS



### OPTI-FLOAT® Splices

**OPTI - SP2**



### Space Saver Bracket

**MINI - SSB**



### OPTI-FLOAT® Light Duty Cable Cutter

**OPTI - CC1**



### Wiring/Tool Kit

**MINI - WK**

## OPTI-FLOAT® MOUNTING OPTIONS



**OPTI-FLOAT® Weight**  
Stainless Steel

**OPTI - WT1**



**OPTI-FLOAT® Universal Attachment Bracket**

For cable, chain or pipe.  
Easy to attach and remove.

**OPTI - UAB1**



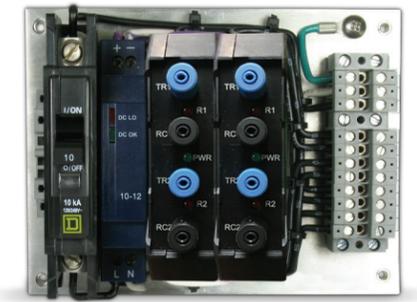
## OPTI-FLOAT® RETRO KITS



### Retro Kit Enclosed Assembly

Retro-Kit OPTI-RK4SS (others similar) Retro Kit consists of Transceivers, Power Supply, Circuit Breaker, Terminal Strips, and padlockable Enclosure all pre-wired. 120VAC Input, UL Listed. Floats not included.

**OPTI - RK 4 SS**  
**A B**



### Retro Kit Open Assembly

Open Assembly OPTI-OA4 (others similar) Open Assembly consists of Transceivers, Power Supply, Circuit Breaker, and Terminal Strips, all pre-wired on an aluminum plate. 120VAC Input, UL Listed. Floats not included.

**OPTI - RK 4**  
**A**

## OPTI-FLOAT® MINI MOUNTING OPTIONS



**Weight**

**MINI - WT2**



**OPTI-FLOAT® Universal Attachment Bracket**

For cable, chain or pipe.  
Easy to attach and remove.

**OPTI - UAB1**



## OPTI-FLOAT® MINI GO BUNDLE SYSTEMS

### 2 Float Go Bundle



### 3 Float Go Bundle



### 4 Float Go Bundle



### Each bundle comes with:

- + 2, 3 or 4 floats
- + 2, 3 or 4 transceivers
- + 1 power supply
- + Tool/Wiring Kit
- + 1 Space Saver Bracket

Each available with 15', 25', 50', 75' floats, weighted or unweighted.

# OPTI-FLOAT®

## TECHNICAL DATA

### DUAL TRANSCEIVER:

**Operating voltage:**  
12 VDC +/-10%

**Power consumption:**  
1.2 VA max.

**Output :**  
Relay SPDT 3 amp @ 240VAC, each channel

**Ambient operating temperature:**  
-15 to +130F (-25 to +55C)

**Storage temperature:**  
-15 to +155F (-25 to +70C)

UL Listed and RoHS Compliant

### FLOAT:

**Housing material:**  
Polypropylene

**Cable:**  
PVC over dual plastic fibers (.31" O.D.)

**Standard cable lengths:**  
30' and 60' (contact factory for other lengths)

**Ambient liquid operating temperature:**  
+32 to +130F (0 to +55C)

**Ambient air standby operating temperature:**  
-15 to + 155F (-25 to +70C)

**Storage temperature:**  
-15 to + 155F (-25 to +70C)

**Operating Wavelength:**  
400 to 1200 nm

# OPTI-FLOAT® MINI

## TECHNICAL DATA

### TRANSCEIVER:

**Operating Voltage:**  
120 VAC

**Power consumption:**  
1 VA/Transceiver

**Output:**  
Relay SPDT 3 amp @ 240 VAC

**Ambient operating temperature:**  
-15 to +130F (-25 to +55C)

**Storage temperature:**  
-15 to +155F (-25 TO +70C)

RoHS Compliant

### FLOAT:

**Housing material:**  
Polypropylene

**Cable:**  
Polyurethane over dual plastic fibers (.31" O.D)

**Standard cable lengths:**  
15', 25', 50, 75'

**Ambient liquid operating temperature:**  
+32 to +130F (0 to +55C)

**Ambient air standby operating temperature:**  
-15 to +155F (-25 to +70C)

**Storage temperature:**  
-15 to +155F (-25 TO +70C)

**Operating Wavelength:**  
400 to 1200 nm

# COX RESEARCH

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**COX Research** is leading the way in Advanced Wastewater Solutions. From inventive float technology, maintenance systems to pump station mitigation, **COX Research** is an innovator in wastewater technologies.

**Cox Research** is a manufacturer of Control Panels and Relay Rack assemblies for clients in a wide range of industries. We offer custom design and fabrication for OEM clients, contractors, and end users requiring either large or small production runs.

In addition, **Cox Research** offers full turnkey Instrumentation and Control (I&C) services. We have the expertise and flexibility to meet all your needs.

## SERVICE. QUALITY. INNOVATION.

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**COX Research** is a UL508A, UL698A, & UL698B manufacturer of Control Panels and Relay Rack assemblies.

Our manufacturing facility and offices are located in Baton Rouge, Louisiana – so are proudly made in the USA. We provide state of the art engineering, manufacturing, and testing capabilities. This allows us to supply our customers with cost effective solutions while maintaining very competitive lead times.

Our expertise, tooling, and volume, coupled with our low overhead provides for consistent competitive solutions on each project



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