Cast Iron Cable Weight

Control and Pump Switches

USER GUIDE

PART NUMBER:

7039

Cast Iron Cable Weight - USER GUIDE

Contents

Introduction

The cast iron cable weight is used as a pivot point for the activation of a control or pump float switch. Typically used in a tank where the float switch cable is suspended from a mounted float bracket or per local codes. This product can be used with different types of float switches for a variety of applications, including but not limited to: lift stations, septic tanks, holding tanks, pump chambers, and water tanks for liquids up to 200° F. Made with zinc plated cast iron.

Safety Guidelines

Before proceeding with the installation or operation of this product, read all instructions thoroughly, as well as complying with all federal, state and local codes, regulations, and practices. This product must be installed by qualified personnel familiar with all applicable local electrical and mechanical codes. Refer to the National Electrical Code (NFPA 70). Failure to properly install and test this product can result in personal injury or equipment malfunction.

⚠ ⚡ **WARNING** 🔥 💥

1. DISCONNECT POWER when installing or servicing the product. Failure to disconnect all power sources could result in serious injury or death.

2. NEVER enter a flooded space without proper Personal Protective Equipment (PPE). Always wear dielectric rubber boots and other applicable protective equipment when water is on the floor and you must service an energized pump, alarm system, or product.

3. DO NOT enter the water if the water level is higher than that of the protection your PPE offers or if your PPE is not watertight.

4. DO NOT use this product with or near flammable liquids.

5. DO NOT install this product in locations classified as hazardous or in explosive atmospheres as defined by any applicable electrical safety code.

Cast Iron Cable Weight - USER GUIDE
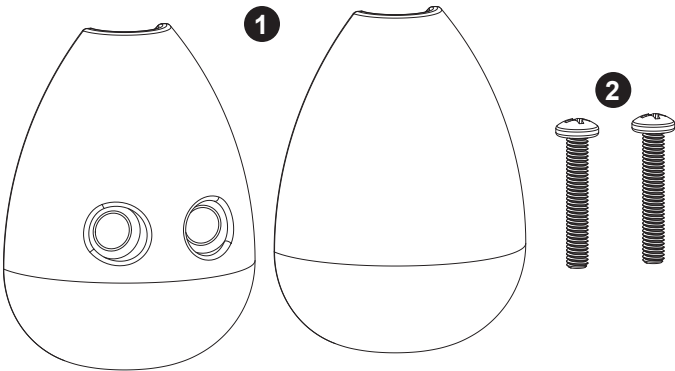
Product Included

The standard product will include: (1) Cast Iron Cable Weight and (2) Screws.

(1) Cast Iron Cable Weight
The cast iron cable weight is used as a pivot point for the desired activation level of the float switch.
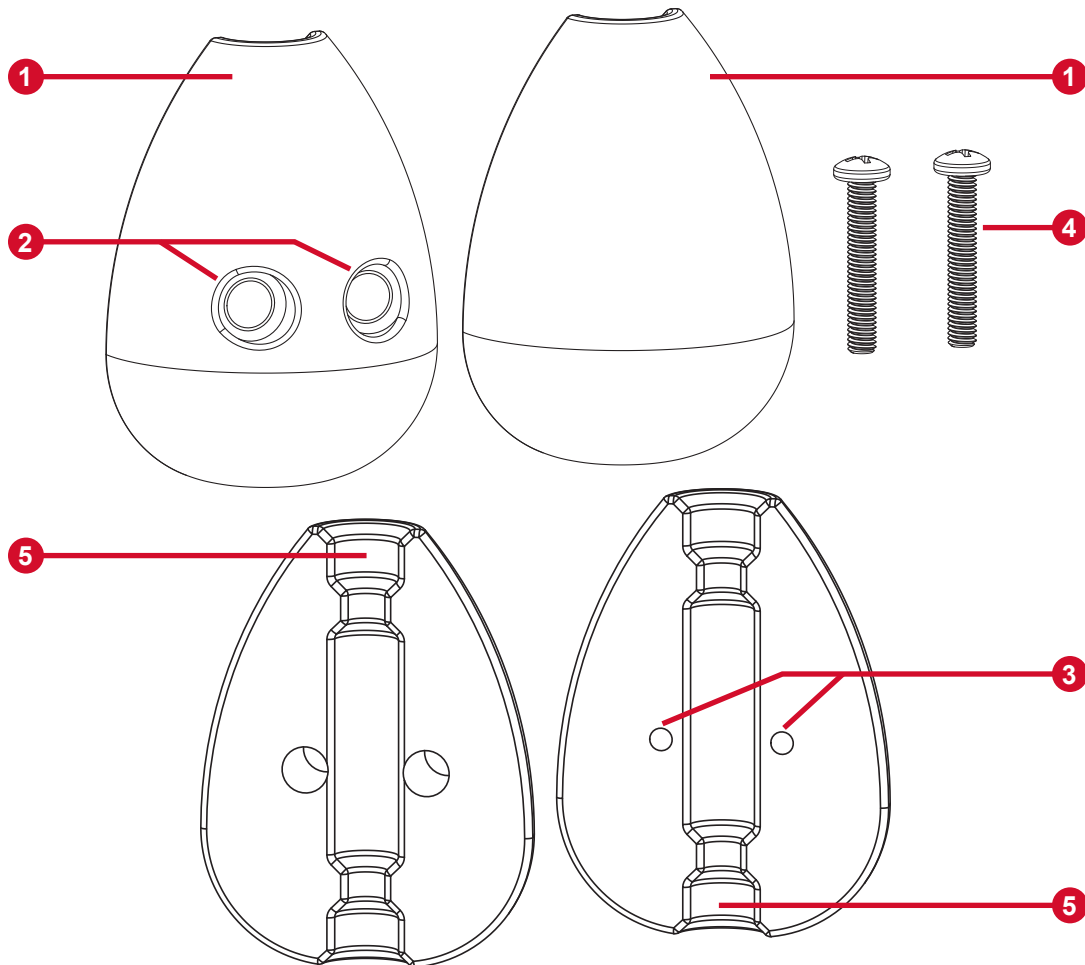
(2) Screws
Secures the cast iron cable weight to the float switch cable.

Features

Refer to the illustration below to reference the feature descriptions provided.

(1) Cable Weight Halves - The cast iron cable weight is separated into two halves to affix around the float switch cable. Made from zinc plated cast iron.

(2) Screw Holes - Two screw holes are located on the front outside portion of the cable weight.

(3) Threaded Screw Holes - Two threaded screw holes are located on the inside back portion of the cable weight.

(4) Screws - Two screws are included to fasten both halves of the cable weight together.

(5) Cable Slots - The slots are located on both inside halves of the cable weight, sized for 18 AWG to 14 AWG type float switch cables and the bottom side of the weight acts as a pivot point for the control or pump float switch.

Cast Iron Cable Weight - USER GUIDE

Installation

⚠️ DISCONNECT ALL POWER SOURCES WHEN INSTALLING OR SERVICING THIS PRODUCT. FAILURE TO TURN OFF ALL POWER SOURCES COULD RESULT IN SERIOUS INJURY OR DEATH.
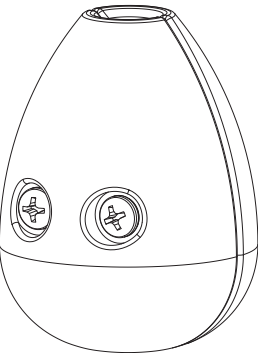
Installing Float Switch Cable

STEP 1: REMOVE SCREWS
Remove the two screws from the front of the cable weight by unscrewing until they release from the screw holes (1A) and pull directly away (1B).
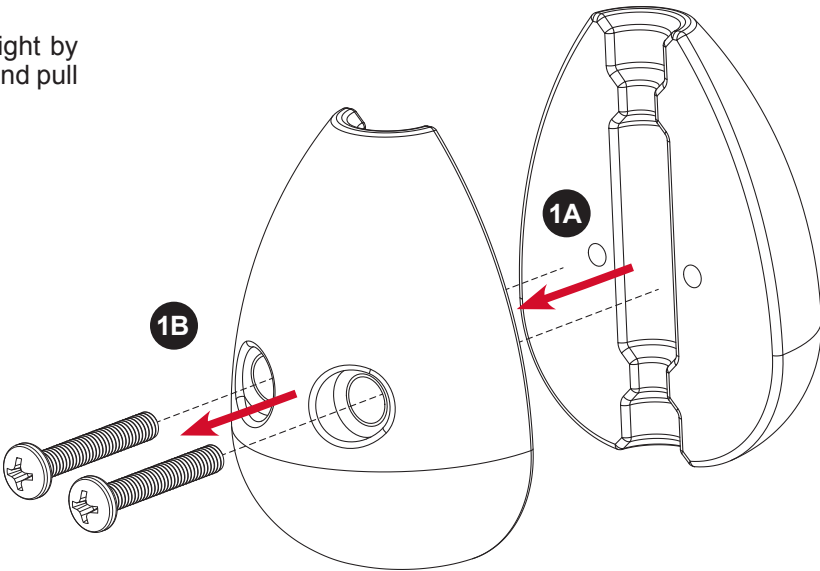
STEP 2: TETHER LENGTH
Determine the desired activation level, place float switch cable in the cable slot on the bottom half of the cable weight while the top half is removed, and tether float switch to the appropriate length. Refer to the instructions that came with the float switch for recommended tether length guides to determine activation or pumping range.

Note*: When installing the cable weight, make sure the narrow end is facing up to ensure proper operation of the float switch and prevent debris from collecting on the cable weight.

Tether Length

(*) Correct installation position example, narrow end up.

Control Switches (Narrow Angle)
Minimum recommended tether length is 6 inches

Pump Switches (Wide Angle)
Minimum recommended tether length is 6 inches
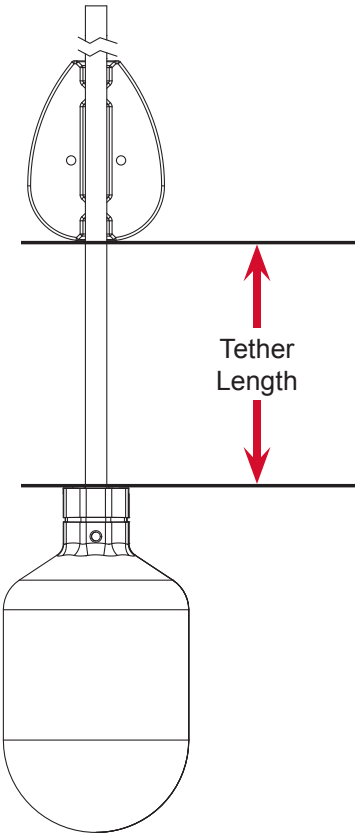
Installing Float Switch Cable (continued)

STEP 3: SECURE FLOAT SWITCH CABLE

To secure float switch cable to the cable weight, place the top half of the cable weight over the float switch cable and align the screw holes to the bottom half of the cable weight (3A). Tighten the two screws so both halves of the cable weight are snug against the cable (3B). Perform a pull test, if the float switch cable slips, tighten the screws until securely fastened to prevent slipping of the cable, this will maintain an accurate activation level (control switches) or pumping range (pump switches).
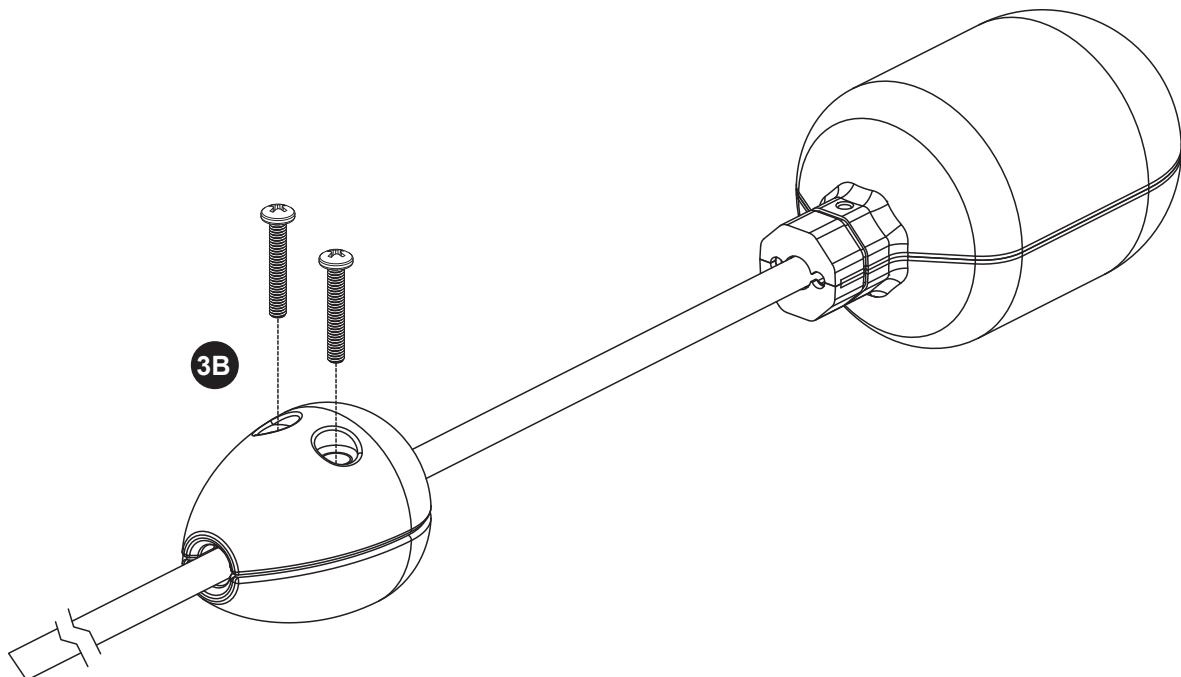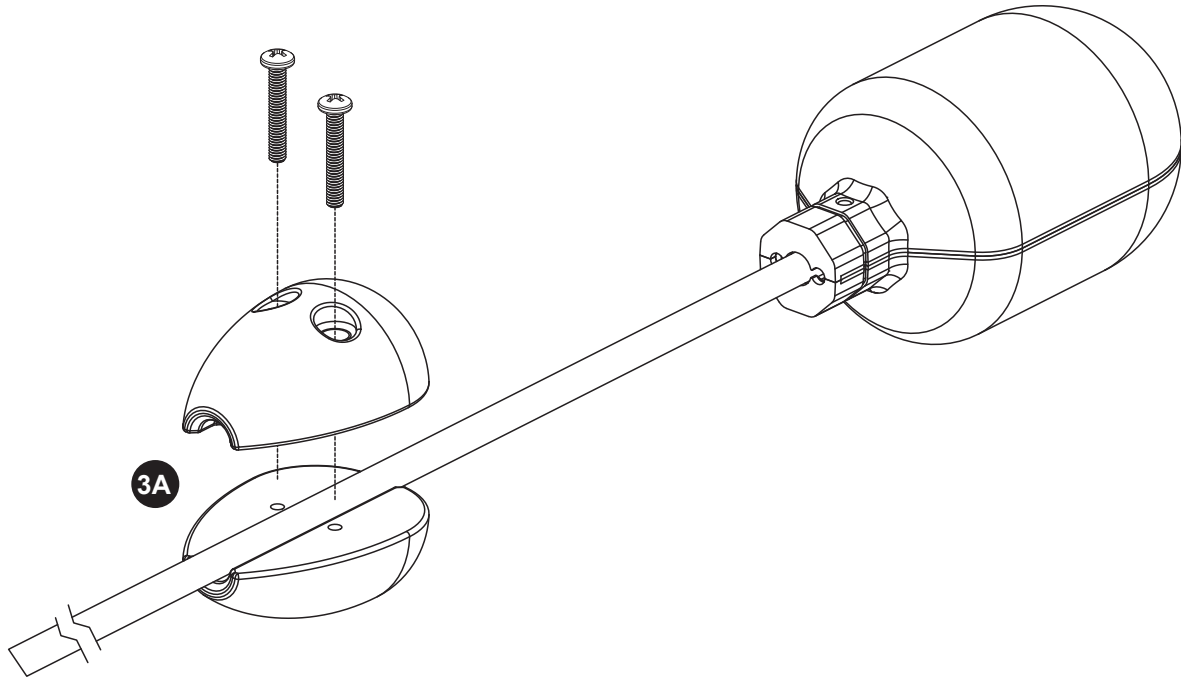
Cast Iron Cable Weight - USER GUIDE

Installing Float Switch Cable in Application Area

STEP 1: INSTALL AT DETERMINED ACTIVATION LEVEL
Suspend the float switch with cable weight at the determined activation level using a mounted float bracket or per local codes.

MOUNTED FLOAT BRACKET

Activation Level

(narrow angle control switch, normally open example)
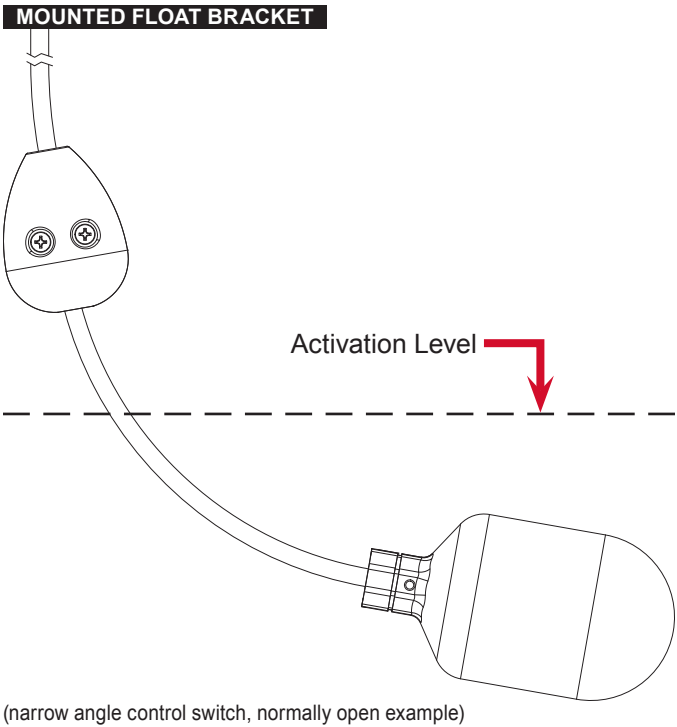
STEP 2: WIRING
Wire the float switch per manufacturer's instructions.

Testing

STEP 1: TESTING THE ACTIVATION LEVEL
Check the installation of the float switch by cycling the float on and off to ensure proper system operation.

Activation Level

Activation Range

Deactivation Level

(narrow angle control switch, normally open example)

General Operation

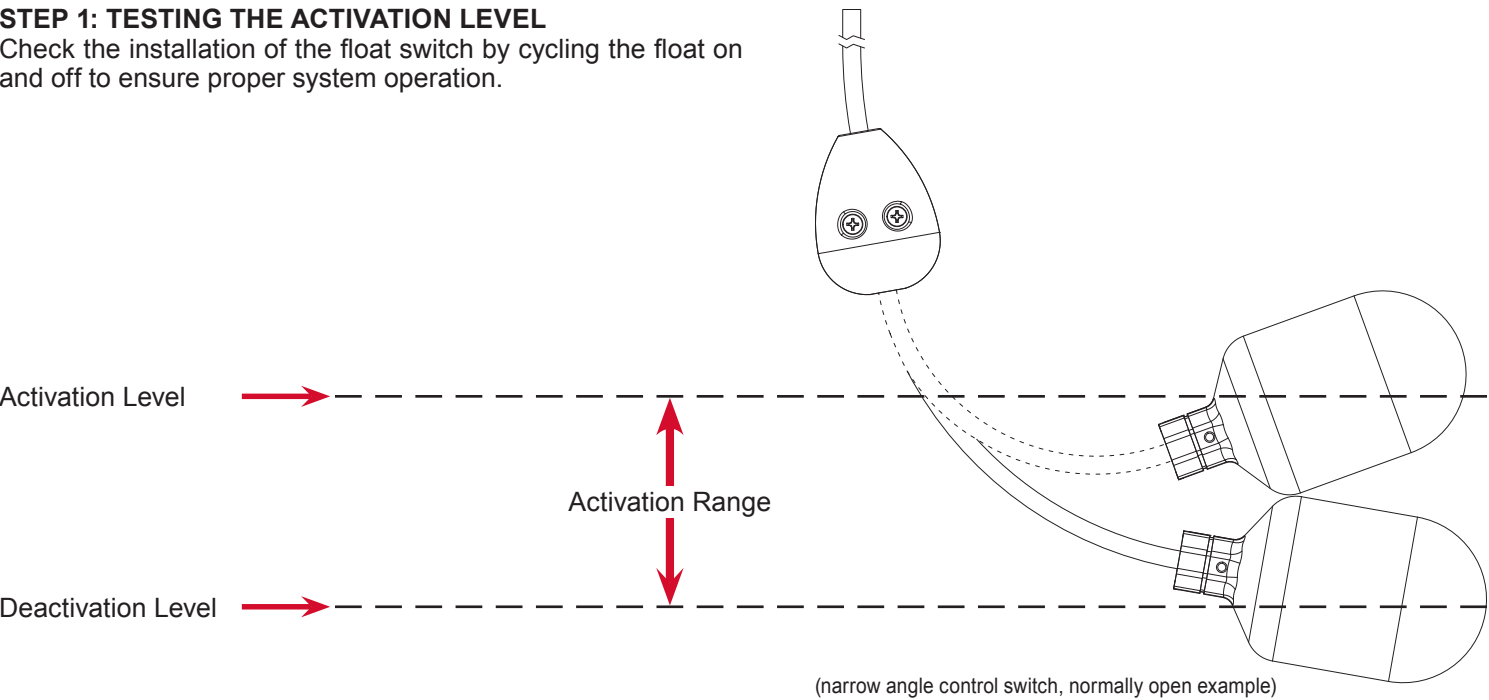The cast iron cable weight is used as a pivot point for the activation of a control or pump float switch. Typically used in a tank where the float switch cable is suspended from a mounted float bracket to monitor liquid levels. The examples shown in this section indicate the total operating angles for Alderon™ float switches.

Note: Other brands of float switches may have different total operating angles or activation/deactivation levels above/below horizontal. Refer to the instructions that came with the float switch for complete operation information.

Narrow Angle Control or Pump Switch Information

▪20° total operating angle

Normally Open:

▪Activates 15° above horizontal
▪Deactivates 5° below horizontal

Normally Closed:

▪Activates 5° below horizontal
▪Deactivates 15° above horizontal

Normally Open - High Level Alarms or Pump Down (empty) applications
Normally Closed - Low Level Alarms or Pump Up (fill) applications

(normally open example)

Cast Iron Cable Weight - USER GUIDE

Medium Angle Control Switch Information

▪60° total operating angle

Normally Open:

▪Activates 15° above horizontal
▪Deactivates 45° below horizontal

Normally Closed:

▪Activates 45° below horizontal
▪Deactivates 15° above horizontal

Normally Open - High Level Alarms or Pump Down (empty) applications
Normally Closed - Low Level Alarms or Pump Up (fill) applications

(normally open example)

Medium Angle Pump Switch Information

▪50° total operating angle

Normally Open:

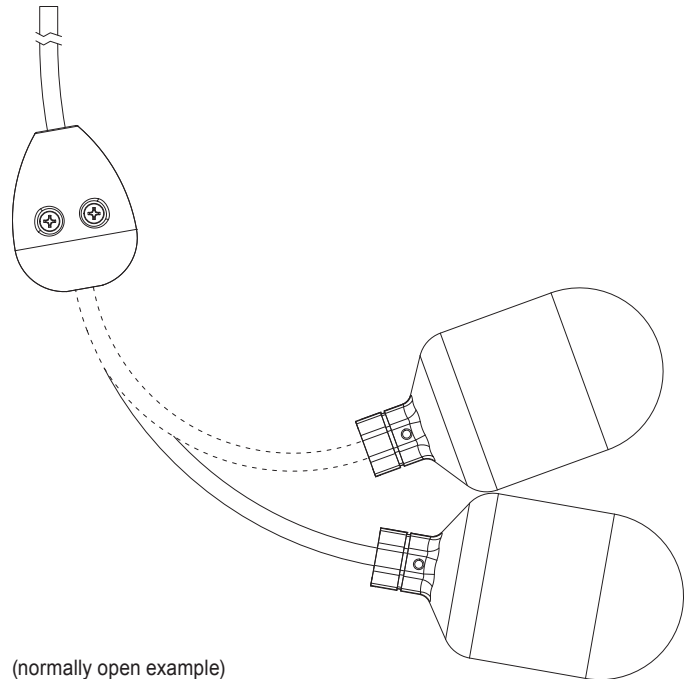▪Activates 45° above horizontal
▪Deactivates 5° below horizontal

Normally Closed:

▪Activates 5° below horizontal
▪Deactivates 45° above horizontal

Normally Open - High Level Alarms or Pump Down (empty) applications
Normally Closed - Low Level Alarms or Pump Up (fill) applications

(normally open example)

Wide Angle Control or Pump Switch Information
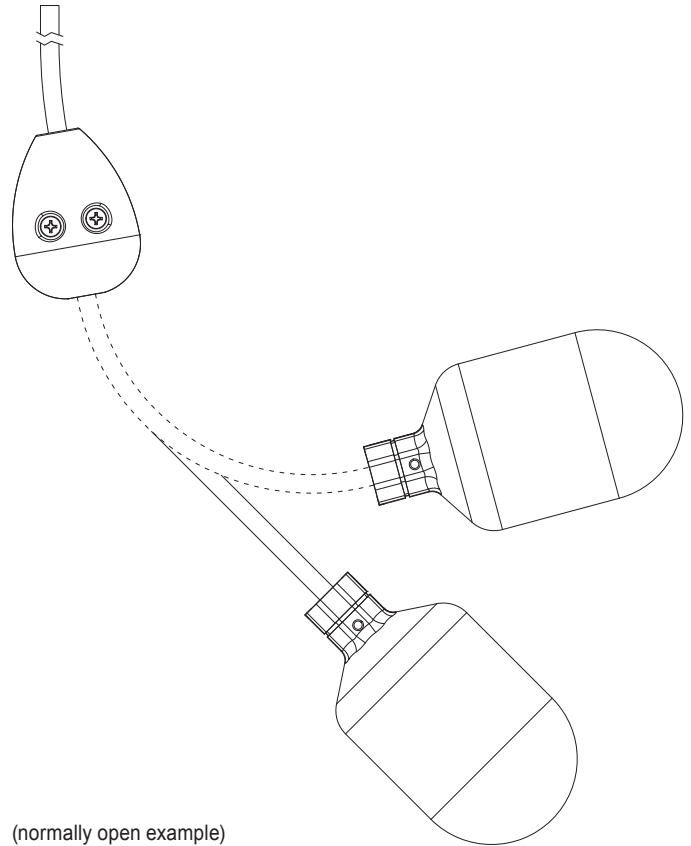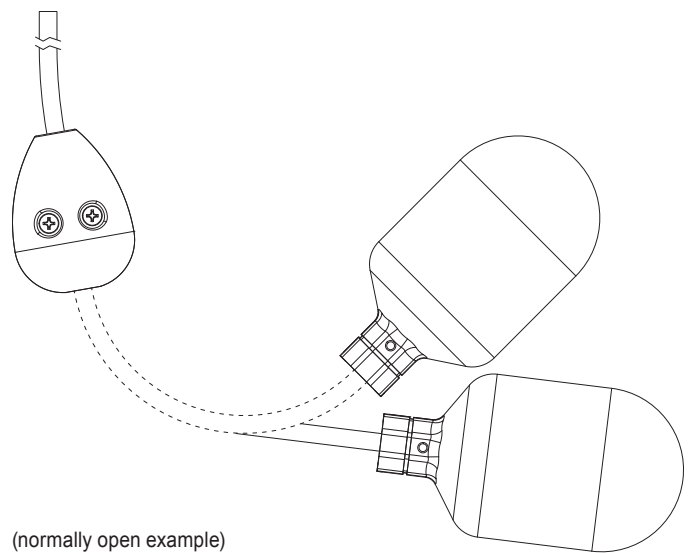
▪ 90° total operating angle

Normally Open:

▪ Activates 45° above horizontal
▪ Deactivates 45° below horizontal

Normally Closed:

▪ Activates 45° below horizontal
▪ Deactivates 45° above horizontal

Normally Open - High Level Alarms or Pump Down (empty) applications
Normally Closed - Low Level Alarms or Pump Up (fill) applications
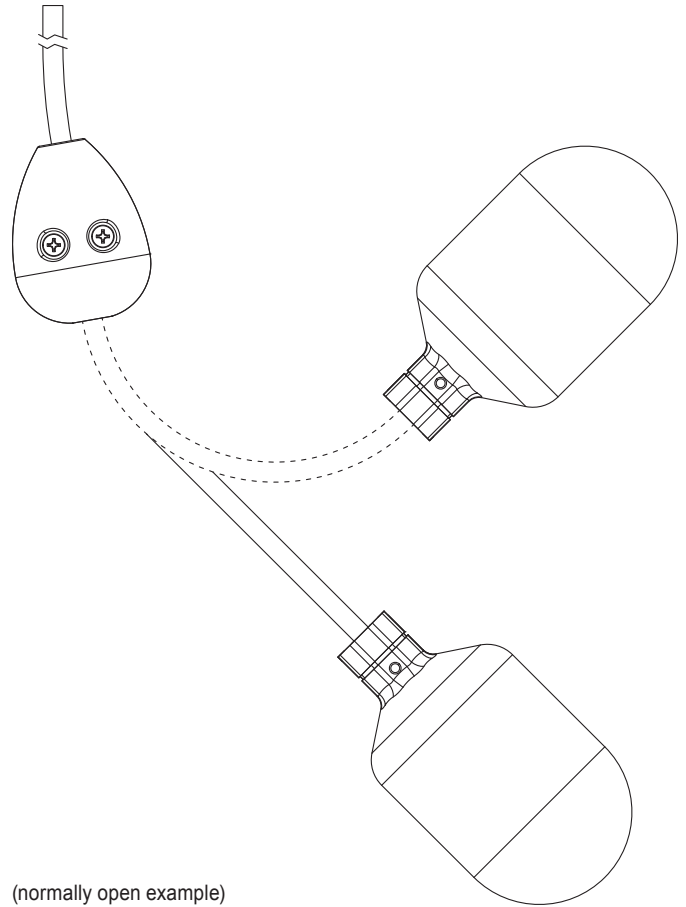
(normally open example)

Multiple Float Application Example

Multiple float switches with cable weights are typically used for control applications to empty or fill a tank.

Normally Open (empty):

Top Float   =   High Alarm
Middle Float =   Start Pump
Bottom Float =   Stop Pump

Normally Closed (fill):

Top Float   =   Stop Pump
Middle Float =   Start Pump
Bottom Float =   Low Alarm

EMPTY TANK
(normally open example)

Control Switch "High Alarm"

Control Switch "Start"

Control Switch "Stop"
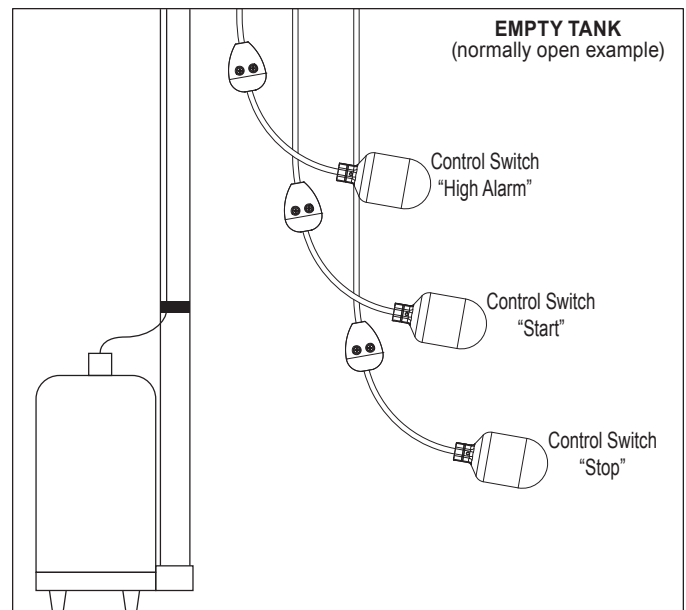
Troubleshooting

PROBLEM	PROBABLE CAUSE	SOLUTION
Float switch cable is slipping	Screws are not properly fastened	Make sure screws are securely fastened for size of the float switch cable (refer to Secure Float Switch Cable step 3 on page 7)
	Float switch cable is not the correct gauge (AWG)	Measure float switch cable diameter to ensure it's compatible, minimum size of 0.28 inches (18 AWG) and maximum size of 0.39 inches (14 AWG)
Cable weight is not accepting screws	Screw holes on top half of the cable weight are not properly aligned with threaded screw holes on the bottom half of the cable weight	Align the screws holes on the top half of the cable weight with threaded screw holes on the bottom half of the cable weight, securely fasten screws
	Float switch cable is not the correct gauge (AWG)	Measure float switch cable diameter to ensure it's compatible, minimum size of 0.28 inches (18 AWG) and maximum size of 0.39 inches (14 AWG)
Float switch is not activating	Obstruction preventing the float switch from tilting to the proper activation angle	Move the float switch and float tree to a location in the monitoring area free of obstructions or remove obstruction from monitoring area if possible
	Incorrect installation of float switch	Refer to instructions that came with the float switch for recommended tether length guides, mounting location, total operating angle, and activation levels for normal operation

Specifications

Cable Weight Material:	Zinc plated cast iron
Screws Material:	Stainless steel
Cable Slot:	18 AWG to 14 AWG type cable sizes (diameter 0.28 - 0.39 inches)
Operating Temperature:	For use in liquids up to 200° F
Diameter:	1.94 inches
Height:	2.50 inches
Weight:	1.20 lb

Warranty Information

Three-Year Limited Warranty - Standard Products

LIMITED WARRANTY: Subject to the conditions of this Three-Year Limited Warranty, Alderon Industries, LLC ("Alderon") warrants to the original user or consumer of an Alderon product (the "Product") that, for a period of three (3) years from the date of manufacture, the Product will be free from defects in materials and workmanship under normal use and service, and provided the Product is installed, operated and maintained in accordance with instructions supplied by Alderon.

WARRANTY EXCLUSIONS: Notwithstanding anything to the contrary, this Limited Warranty does not cover:
1. Alderon custom control units. Please see the One-Year Limited Warranty – Custom Controls.
2. Damage, defects or malfunctions resulting from (a) failure to properly install, operate or maintain the Product in accordance with printed instructions provided and with applicable local codes, ordinances and good trade practices; (b) normal wear and tear; (c) abuse, accident or negligence; (d) de-installation and movement of the Product from its original installation location; (e) repair and/or modification of the Product without prior authorization from Alderon; (f) use of the Product for purposes other than for what it was designed and manufactured; or (g) conditions beyond the control of Alderon, including lightning and freight damages (hidden or visible). **Contact parcel or the freight company for claims on freight damage in transit.**
3 Cost of field labor or other charges incurred by you in removing and/or re-affixing the Product or any part or component thereof.
4. Transportation costs.

CLAIM PROCEDURE: To make a claim regarding breach of warranty, (a) the claim must be received by Alderon before the expiration of the warranty period; and (b) the defective Product, or part thereof, must be returned to a designated Alderon location, **FREIGHT PREPAID,** together with proof of purchase. A return goods authorization must be received prior to the return of the defective Product or part. Please contact the sales representative in your area to determine the designated Alderon location for return and to obtain the return goods authorization. If you do not have a sales representative in your area, please call 218-483-3034 to submit your claim, or mail notice of your claim to:

Warranty Claims
Alderon Industries, LLC
P.O. Box 827
Hawley, MN 56549

EXCLUSIVE REMEDY: In the event of a warranty claim that Alderon determines to be covered by this Limited Warranty, Alderon will, at its option, repair or replace the Product.

The above limited warranty and this exclusive remedy are the sole express warranty and remedy given by Alderon on the Product. No warranties or representations at any time made by any representative from Alderon shall vary or expand the provisions hereof. TO THE EXTENT PERMITTED BY LAW, ALL EXPRESS AND IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT) OTHER THAN THE EXPRESS LIMITED WARRANTY SET FORTH ABOVE ARE EXPRESSLY DISCLAIMED. UPON THE EXPIRATION OF THE ABOVE STATED LIMITED WARRANTY PERIOD, ANY AND ALL APPLICABLE IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT, ARE DISCLAIMED. SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

LIABILITY LIMITATION: In no event will Alderon's liability to you or any other person or entity exceed the price paid to Alderon for the defective Product. IN NO EVENT SHALL ALDERON BE LIABLE TO YOU OR ANY OTHER PERSON OR ENTITY FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT OR SPECIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF WARRANTY (INCLUDING ANY IMPLIED WARRANTIES) OR ANY OTHER CONTRACT, STRICT LIABILITY, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, INCLUDING ARISING FROM INSPECTION OR REMEDY DELAYS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION AND EXCLUSION MAY NOT APPLY TO YOU.

62800933.2

This page intentionally left blank

Company Location: 151 16th Street South, Hawley, MN 56549
Mailing Address: PO Box 827, Hawley, MN 56549
Main Office Phone: 218.483.3034
Website: alderonind.com
General Inquiry Email: info@alderonind.com
Submit New Orders: orders@alderonind.com