

# Wellmark Series 686

## 686 Floatswitch for pressure vessels up to 200 psig

### Application

The Series 686S Floatswitch is a float type control which completes an electrical circuit to a pump, valve, alarm or other device, when the liquid in the vessel rises (or lowers) to a pre-determined point.

### Features

- **Corrosion Proof:** Float and arm are 304 S.S., Cad plated steel vessel connection (other materials available for more corrosive liquids).
- **Explosion Proof:** CSA approved  
Class I Group D  
Class II Group E, F and G  
Hazardous locations
- **Switch Outputs:** The 686 can be obtained with micro switch outputs, ie.; SPST, DPDT.
- **Adjustments:** Nothing to adjust or get out of calibration on the mercury switch. Micro switches can be adjusted from the outside when the floatswitch is installed on the vessel.
- **Simple Installation:** On an INTERNAL MOUNT, the float passes through a 2" nipple. On an EXTERNAL MOUNT, install on 2" external pipe riser connected to the pressure vessel above the high level and below the low level control points.
- **Long Life:** Permanently dry-film lubricated S.S. shaft and Teflon® bearing comprise the only pivot point. Due to large bearing surface area, wear is negligible.

### Operation

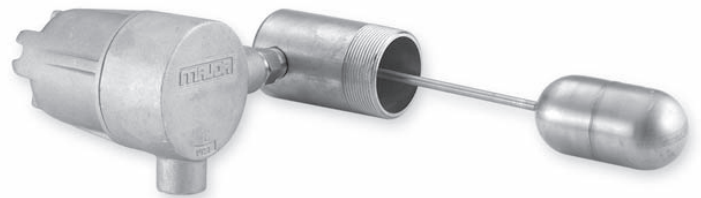
The float and arm are rigidly attached to the dry-film lubricated shaft which rotates in the shaft housing. A bracket at the other end of the shaft actuates the switch. A Viton® O-Ring seals against pressure and leakage along the shaft. A Teflon® washer separates the metal parts and provides lubricity. If leakage ever occurs, the liquid in the vessel seeps out of the safety vent hole. Thus, it is impossible for the liquid to ever enter the switch housing. The maximum travel of the float between the switch "make" and "break" is 1/4" for micro switches.

### Switch ratings

686SF	..... SPDT Micro switch
	15 A @ 125, 250 or 480 VAC
	1/8 HP-125 VAC, 1/4 HP-250 VAC
	1/2 A @ 125 VDC, 1/4 A @ 250 VDC
686SG	..... DPDT Micro switch
	10 A @ 125 or 250 VAC

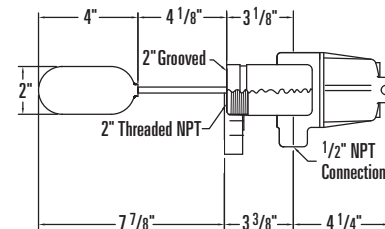
### Specifications

Switch housing	.....Explosion proof cast aluminum
Operating pressure	.....0 to 200 psig
Proof pressure	.....400 psig
Operating temperature	..... -20°F to +400°F
External float housing	.....Ductile iron
Electrical connection	.....1/2" Female pipe thread

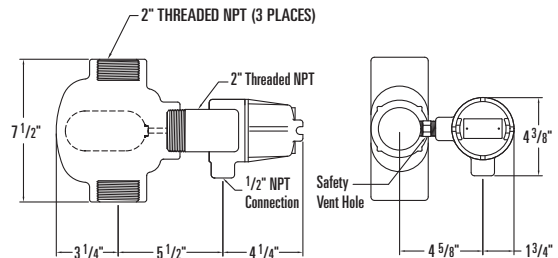


### Dimensional data

#### Internal type



#### External type



# Model code

## Determining the model code

Example given: Standard Model 686SF1AIN\* float control for vented vessels up to 200 psig with, SPDT micro switch output, 2" NPT (cad plated steel) vessel connection, 304 S.S. float and float arm, for internal vessel mounting.

**686 SF 1 A I N \***

A
B
C
D
E
F

**A TYPE OF SWITCH**

Code	Option
SF	SPDT Micro switch
SG	DPDT Micro switch

**B BODY END CONNECTION**

Code	Type	Material
1	2" NPT	Cad plated steel
2	2" NPT	304 S.S.
3	2" NPT	316 S.S.
7	2" Grooved	Cad plated steel

**C FLOAT & ARM MATERIAL**

Code	Float	Arm
A*	304 S.S.	304 S.S.
B	316 S.S.	316 S.S.

\*Option only available with standard arm

**D FLOAT CONTROL HOUSING**

Code	Option
I	Internal (none)
X	External (Cad plated Ductile) ASTM A-536-GR65-45-12

**E COATINGS AVAILABLE**

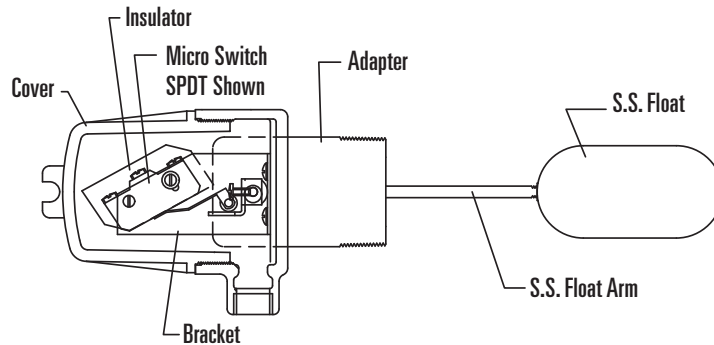
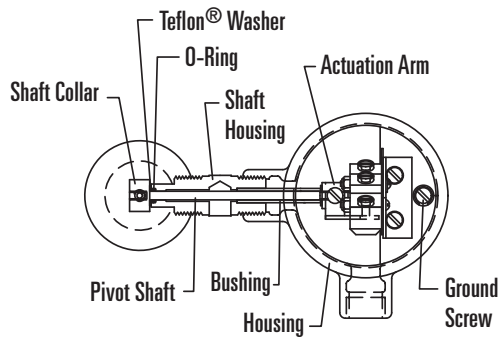
Code	Option
N	None
E	Epoxy

**F EXTRA OPTIONS**

Code	Option
-	Std. float arm, 1/4" x 7-5/8" (304SS or 316SS)
h	Ext. float arm, (non-std) 316 SS*
S	Stainless steel tag

\*Ext. arms available only in 316SS = 5", 6", 12", 18"

### Typical assembly



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