

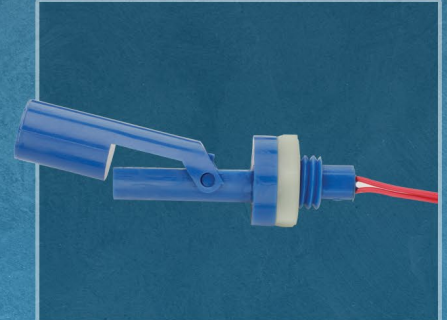


Level Switches

Selection Guide & How They Work

MADE IN THE U.S.A.

- Reed Switch Simplicity
- Single - Point Level Switches
- Multi - Point Level Switches
- Clean In Place Level Switches
- Sight Glass Window Indicator



THOMAS PRODUCTS LTD.
FLOW & LEVEL SWITCHES

Rev H

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Level Switches

Thomas Products is Different...

"An Engineer..... Hungers for more knowledge"

Unknown author

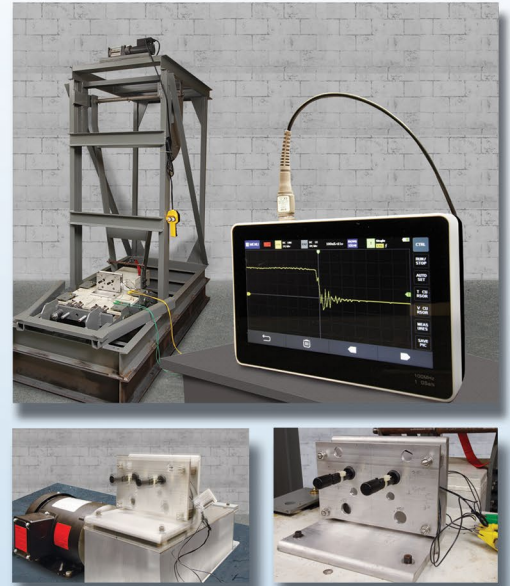
Unique to Thomas Products is our in-house Testing Facility. The program identifies weaknesses or shows you just what your liquid level switch or flow switch is capable of. Designed around military standards, all the test results are easy to understand.

We build what we sell. We know it is not possible to guarantee the quality of a sensor when we don't have control over how it is manufactured. Our customers are comfortable specifying Thomas Products because we do not sell third-party sensors, we make what we sell, our numerous patents are a reflection of our continued innovations.

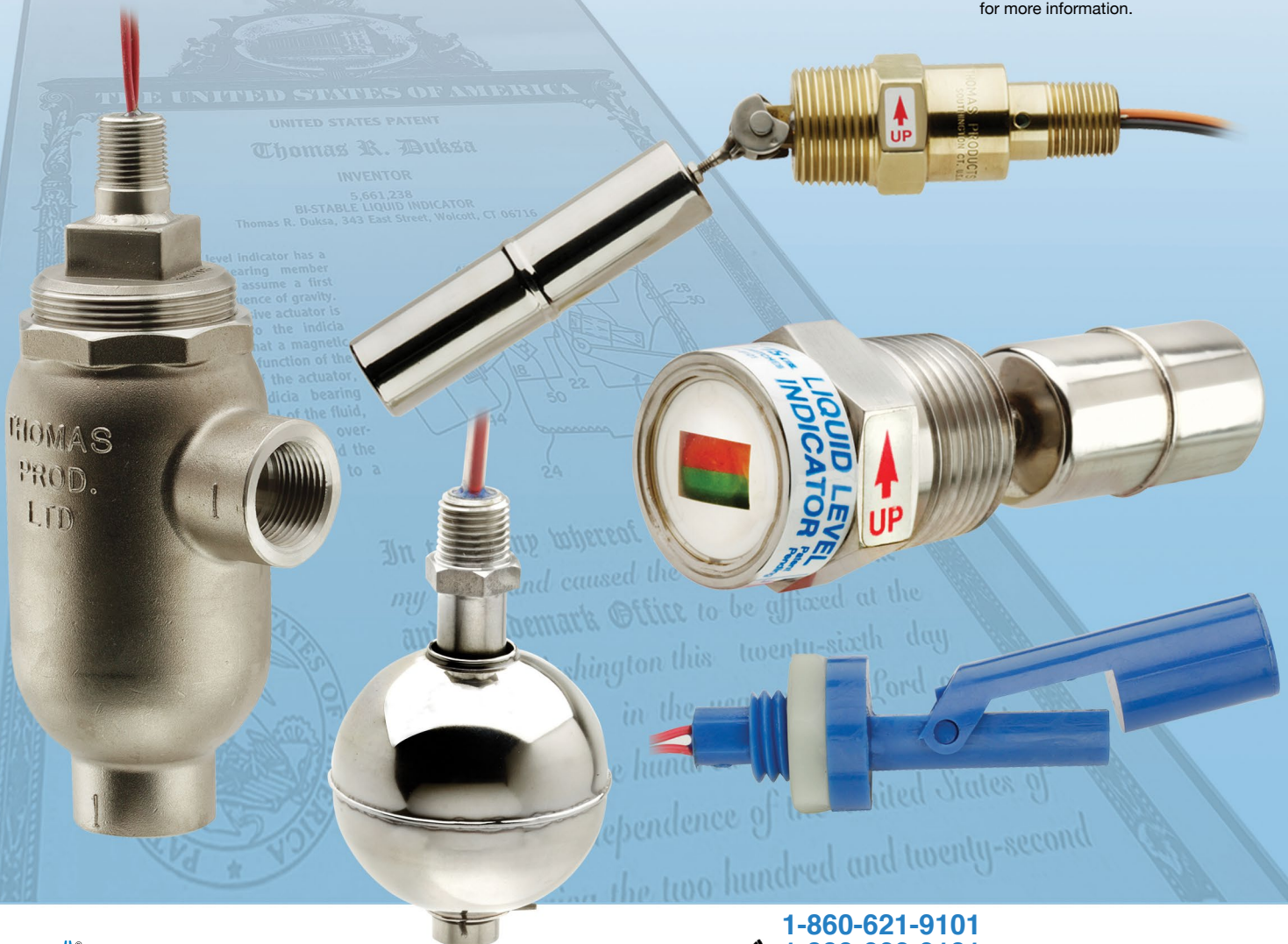
The same quality commitment goes into every sensor, whether it's a Liquid Level Switch, Flow Switch, Pump Control, Indicator etc. or a new patented Thomas Products invention or a production line sensor. Comparison testing is the perfect way to side by side compare against a Thomas Product sensor. Our extensive in house manufacturing and testing facility includes Injection Molding, CNC machining, Welding, Destructive and non Destructive testing, Hammer blow shock test and Variable amplitude vibration testing, Time Temperature, Accelerated life test, and so much more. We welcome inquiries to prove our sensors by comparison testing data compared to any competitors similar product.

Thomas Products reads as an open book, we have always offered help without obligation since 1974.

Liquid Level Switch Comparison Testing Program



Please contact the factory sales department for more information.



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Selection Guide & How They Work



Single - Point

Liquid level switch operation:

All reed switch styles of level switches work by the same basic principle, using a hermetically sealed reed switch and magnet. Housed inside a tubular stem is a magnetically operated, hermetically sealed reed switch, which opens and closes its electrical contacts in direct relationship to the position of the adjacent magnet within the float and liquid level. To reverse the switch logic simply remove the grip ring and invert the float.

Advantages

- Reversible switch logic
- Tank top or bottom mounting



4700



4200



4800

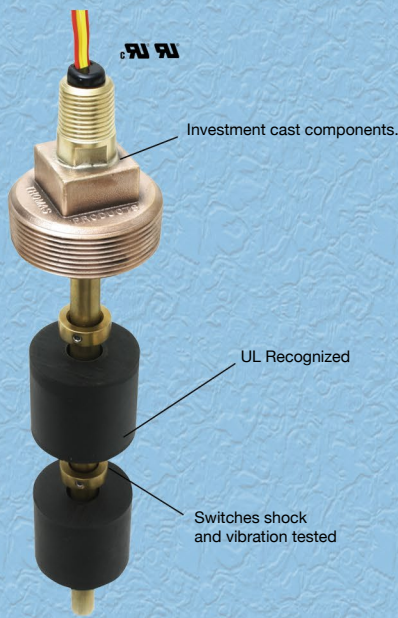
Single - Point Level Switches



4200 H



Multi - Point



4000 Style 3



4000 PVC



4000 Style 4

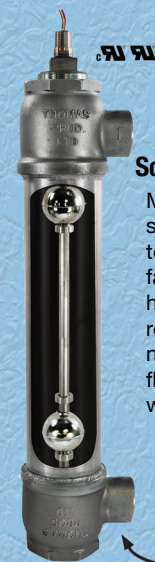
Multi - Point liquid level switches are custom built to the customers requirements, generally up to 10 feet long.

Our same approved construction techniques that withstand grade A shock, Mil - S - 901 and vibration, Mil Std 167 - 1 type 1 are used.

Multi - Point Level Switches

Solutions for unique applications:

Model 4000 style 10 is used on the side of tanks where access from top or bottom is not practical. It is fabricated with investment cast-head components, pre-machined ready for welding. Process connections range from NPT threads, flanges or socket ends for direct weld installation.



4000 Style 10



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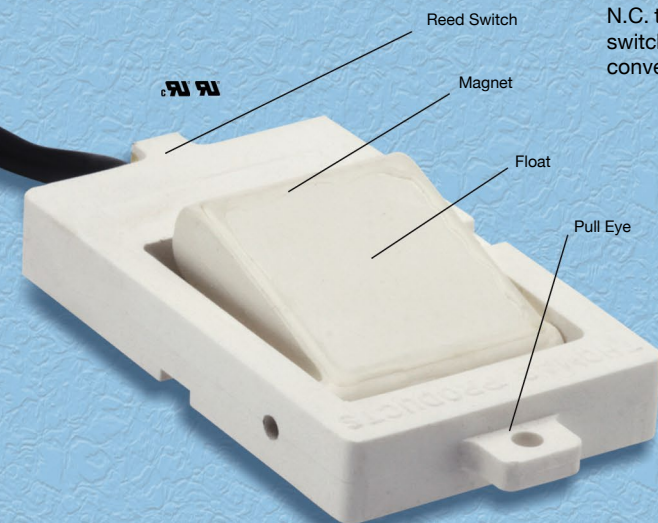


Level Switches

How They Work Overview



3800 Pancake Leak Detection



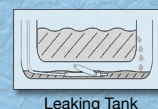
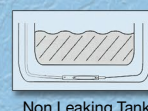
Horizontal Interstitial Float Switch

Thomas Products first invented the Model 3800 in 1986 for use in re-ink machines. This model can be used in two basic ways, one, the switch lays on the bottom of the tank or containment area in the N.C. tank dry condition, as the liquid level and float rise the contacts open. The other method is the switch may be suspended from above the liquids level. The float hangs down in the N.O. condition, conversely as the level and flow rise the contacts close.



Advantages

- Double wall tanks
- Containment piping
- Detection systems
- No special controls necessary
- No false indications

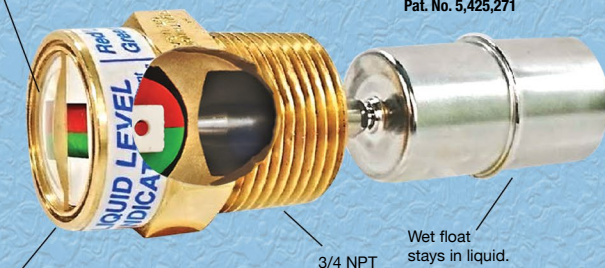


5100 Sight Window Indicator

Dry Eye™ Sight Glass Window

Dry indicator is not in contact with liquids.

Pat. No. 5,425,271



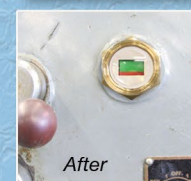
Safe ambient pressure side.
No sight windows to blowout.

Sight Glass Level Indicator

The housing has two separate chambers. In the front chamber behind the transparent lens is a two color roller, half red, half green and is equipped with a magnet. In the rear chamber is a magnet equipped float free to swing with the action of the liquid's level. The poles of the two magnets are opposite creating a permanent interlock. As the liquid level falls, the float and magnet swing to rotate the roller exposing the red side indicating a low liquid level. Accordingly, as the level rises, the green side indicating a satisfactory liquid level condition appears.

Advantages

- Non-Electric
- Replaces unreadable sight windows
- Made in brass or 316 SST
- Journeyman pipe fitter not required
- Installs at points of indication
- Safe for hazardous locations



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Level Switches

Selection Guide

Top or bottom mounting

Single - Point

4200



4200



**4200 H
Haz Loc**



4500



Stem & Mounting Materials	Polysulfone, or Polypropylene	Brass or SST	Brass or SST	Brass or SST
Float Materials	Polysulfone, or Polypropylene.	4200 BUNA, or SST	SST	BUNA
Advantages	OEM large volume use, food grade, potable water, and beverage.	Fuel and chemical applications. Float interfacing available.	4200 H high-pressure applications, hazardous locations.	Compatible with fuel, oil, etc. Float interfacing available.
Process Connections	1/8" or 3/8" bulkhead with gasket & nut.	1/8" NPT	1/8" NPT	1/8" NPT
Reed Switch	20 VA SPST	20 VA SPST	20 VA SPST	20 VA SPST, 100 VA SPST
Hazardous Locations	N/A	N/A	4200 H Class I Div. 1 groups C&D. Class I Div. 2 groups A,B,C & D	N/A
Operating Temp	- 40° F to + 225° F	- 40° F to + 300° F (Depending on float specified).	- 40° F to + 300° F (Depending on float specified).	- 40° F to + 230° F (Depending on media).
Operating PSI	100 PSI Max. (Depending on float specified).	400 PSI Max. (Depending on float specified).	150 or 400 PSI Max.	150 PSI Max.

Single - Point

4600



**4700
4700 H**



4800



Stem & Mounting Materials	Brass or SST	Brass or SST	PVC
Float Materials	BUNA	SST	PVC
Advantages	Compatible with fuel, oil, etc. Float interfacing available.	4700 H high-pressure applications, hazardous locations.	Economical, wide chemical applications, plating solutions, etc.
Process Connections	1/4" NPT	1/4" NPT	1/4" NPT
Reed Switch	20 VA SPST, 100 VA SPST	20 VA SPST, 100 VA SPST	20 VA SPST
Hazardous Locations	N/A	4700 H Class I Div. 1 groups C&D Class I Div. 2 groups A,B,C & D	N/A
Operating Temp	- 40° F to + 230° F (Depending on application).	- 40° F to + 300° F	- 40° F to + 140° F
Operating PSI	150 PSI Max.	750 PSI Max.	100 PSI Max.



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Multi - Point

4000
Styles 1-4



4000
Adjustable



4000
Styles 5-9



Stem & Mounting Materials	Materials to customer specs. Brass, SST, PVC	Materials to customer specs. Brass, SST, PVC	Materials to customer specs. Brass, SST, PVC
Float Materials	BUNA or 316 SST	BUNA or 316 SST	BUNA, 316 SST, Polysulfone & Polypropylene.
Advantages	Installs from inside or outside of tanks. Top or bottom, variety of mountings.	Adjustable position along length of stem.	Installs from inside or outside of tanks. Top or bottom, variety of mountings.
Process Connections	1/2", 1 1/4", 2" NPT & 3" 150# ANSI flange. Any length available.	Any model 4000 metal construction.	1/8", 3/4", 1" NPT, 3-5/8" diameter flange. Any length available.
Stem Diameter	1/2"	5/16" & 1/2"	5/16"
Reed Switch	20 VA SPST, 20-100 VA SPST or 20 VA SPDT	20 VA SPST, 20-100 VA SPST or 20 VA SPDT	20 VA SPST, 20-100 VA SPST or 20 VA SPDT
Switch Points	1 to 6	1 to 6	1 to 5
Operating Temp	- 40° F to + 300° F (Depending on style).	- 40° F to + 300° F (Depending on style).	- 40° F to + 300° F (Depending on style).
Operating PSI	750 PSIG Max. (Depending on style).	750 PSIG Max. (Depending on style).	750 PSIG Max. (Depending on style).

Multi - Point

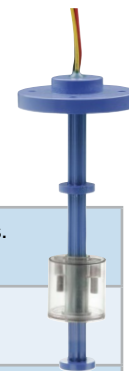
4000
Styles 11



4000
Style 10



5000
Styles A-D



Stem & Mounting Materials	Materials to customer specs. Brass, Carbon Steel, SST, PVC	Materials to customer specs. Brass, SST, PVC	Materials to customer specs. Polysulfone, Ryton
Float Materials	BUNA, 316 SST & PVC	BUNA, 316 SST & PVC	Polysulfone, Polypropylene, BUNA, & 316 SST
Advantages	Side of tank mounting.	External tank mounting. Verity of connections and styles.	FDA approved material, installs top or bottom, variety of mountings.
Process Connections	2", 3", or 4" 150# ANSI flange.	Any model 4000 metal construction.	1/8", 1" NPT 3/8" - 16 bulkhead 2" diameter flange.
Stem Diameter	1/2"	1/2"	5/16" - fluted
Reed Switch	20 VA SPST, 20-100 VA SPST or 20 VA SPDT	20 VA SPST, 20-100 VA SPST or 20 VA SPDT	20 VA SPST
Switch Points	1 to 6	1 to 6	1 to 4
Operating Temp	- 40° F to + 300° F (Depending on style).	- 40° F to + 300° F (Depending on style).	- 40° F to + 225° F
Operating PSI	750 PSIG Max. (Depending on style).	750 PSIG Max. (Depending on style).	500 PSIG Max. (Depending on style).



Level Switches

Selection Guide Interstitial & Side Mounted Level Switches

Side Mount & Interstitial

4000
Style 3700



3800



3900



4100



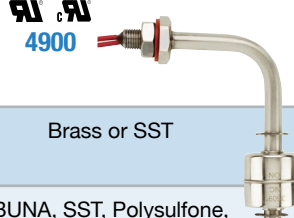
Stem & Mounting Materials	Brass, or SST Housing SST	PVC	Brass, or SST	Brass, or SST
Float Materials	BUNA or SST	PVC	SST	SST
Advantages	External tank mounting to side of tank.	Interstitial spaces, suspended, double wall containment systems.	Side tank mounting for use in contaminated and viscous fluids. Food processing equipment.	Side tank mounting, high-pressure applications. Replacement parts available.
Process Connections	Port size 1" NPT	N/A	1/8" NPT or 3/8" -24 bulkhead, Silicone gasket & nut.	1" NPT
Reed Switch	20 VA SPST 20 VA SPDT	20 VA SPST	20 VA SPST	20 VA SPDT
Operating Temp	- 40° F to + 300° F	- 30° F to + 140° F	- 40° F to + 300° F	- 40° F to + 300° F
Operating PSI	750 PSI Max. (Depending on float specified).	50 PSI Max.	50 PSI Max.	900 PSI Max. (Depending on float specified).

Side Mount & Indicator



4400

4900



5100

Sight Glass Window Indicator

Pat. No. 5,425,271



Stem & Mounting Materials	Polysulfone, Polypropylene or optional Ryton.	Brass or SST	Brass or SST
Float Materials	Polysulfone, Polypropylene or optional Ryton.	BUNA, SST, Polysulfone, or Polypropylene.	SST
Advantages	Side tank mounting, economical, FDA approved material.	Side tank mounting, high-pressure applications, variable length stems.	Side tank mounting, use in hazardous locations. Non-electrical 2 color indicator flag (red & green).
Process Connections	1/2" NPT, 1/2"-13 or 5/8"-11 bulkhead & nut.	1/8" NPT or 3/8"-24 bulkhead, Silicone gasket & nut.	3/4" NPT
Reed Switch	20 VA SPST	20 VA SPST	N/A
Operating Temp	- 40° F to + 225° F	- 40° F to + 300° F (Depending on float specified).	- 40° F to + 225° F
Operating PSI	150 PSI Max. (Depending on float specified).	400 PSI Max. (Depending on float specified).	400 PSI Max.



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Since 1974

Visit our website for detailed information on our product line of switches, controls, indicators & accessories.



Flow Switches

How They Work And Selection Guide.
Piston & Shuttle Flow Switches



Level Switches

How They Work And Selection Guide.
Single - Point Level Switches



Multi-Point Level Switches

How They Work And Selection Guide.
Custom Made Level Switches



Pump Controls

How they work and selection guide.
Chemical Feed Pump Controls



Flow & Level Indicators

How they work and selection guide.
Sight Glass Window Indicator



Accessories

NEMA Type 2 Plastic JIC Enclosures,
Latching Relays, Adapters



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