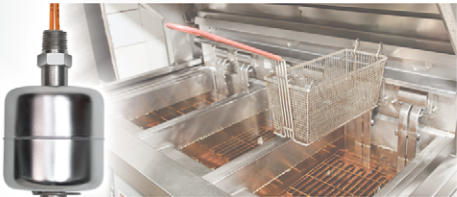


Liquid Sensing Technologies

PRODUCT OVERVIEW

Level
Ultrasonic
Radar
Pressure
Optical
Conductivity

FOOD SERVICE &
FOOD PROCESSING EQUIPMENT



INDUSTRIAL EQUIPMENT



WATER & WASTEWATER



MARINE



SPECIALTY VEHICLES



MEDICAL EQUIPMENT



Sensing Solutions since 1959

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Madison Company

A Leader In Liquid Level Technology

Sophisticated sensing technologies for liquid level control can be part of an overall solution designed to save customers money and time. Although fluids vary in viscosity, chemical makeup and temperature, Madison sensor products such as float switches, ultrasonic, radar and conductivity sensors are compatible with most liquid media and even some solids. Madison partners with every customer to provide either a stock or custom-engineered level sensor for even the most demanding applications. Madison Company has been providing sensing solutions for liquid level control in the U.S.A. since 1959.



Same-Day Shipment on Our Best-Selling Float Switches and Liquid Level Sensor Products

Madison Company offers same-day shipment on a selection of our best-selling stock float switches and standard liquid level sensor products.



Online Product Configurator

Create the custom level management switch for your unique application!



There are a vast variety of applications for multi-level and continuous level switches and visual level indicators. With the unique nature of each of your applications, it only makes sense that a customized level management switch would be necessary to meet your requirements. Madison Company has the answer to your predicament! With our online Product Configurator, you can determine the perfect multi-level switch or visual level indicator for the job at hand. Simply choose the proper base model number, mounting, float level position and a few other basic specifications and you will get a speedy price quote. Once you place your order, you will receive your custom part in just 10 working days. Some Configured Full-Size and Miniature Switch orders have a lead time of just 4 working days after receipt of order!

Anyone Can Build Liquid Level Sensors. Madison Designs Solutions.

Our Capabilities Go Beyond Sensor Manufacture

Why go to several different vendors?
Madison's manufacturing capabilities go beyond liquid level sensors.

Madison can produce sub-assemblies, complete with tank, installed sensor and wiring ready to install in your product.

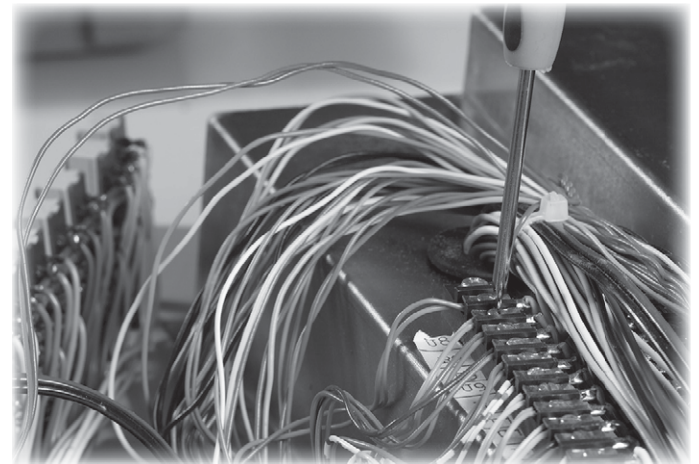
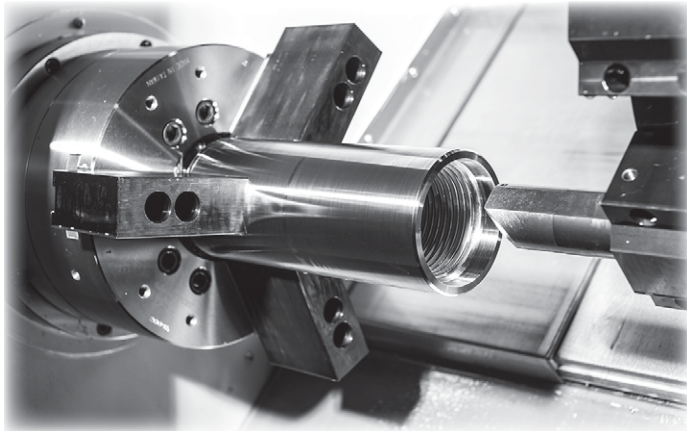
We can also bid on other portions of your project using customer-supplied prints or our design/build expertise.

Your Single Source Supplier for:

- Wiring Harness Design and Build
- CNC Machining and Turning
- Welding and Fabrication
- Design / Build

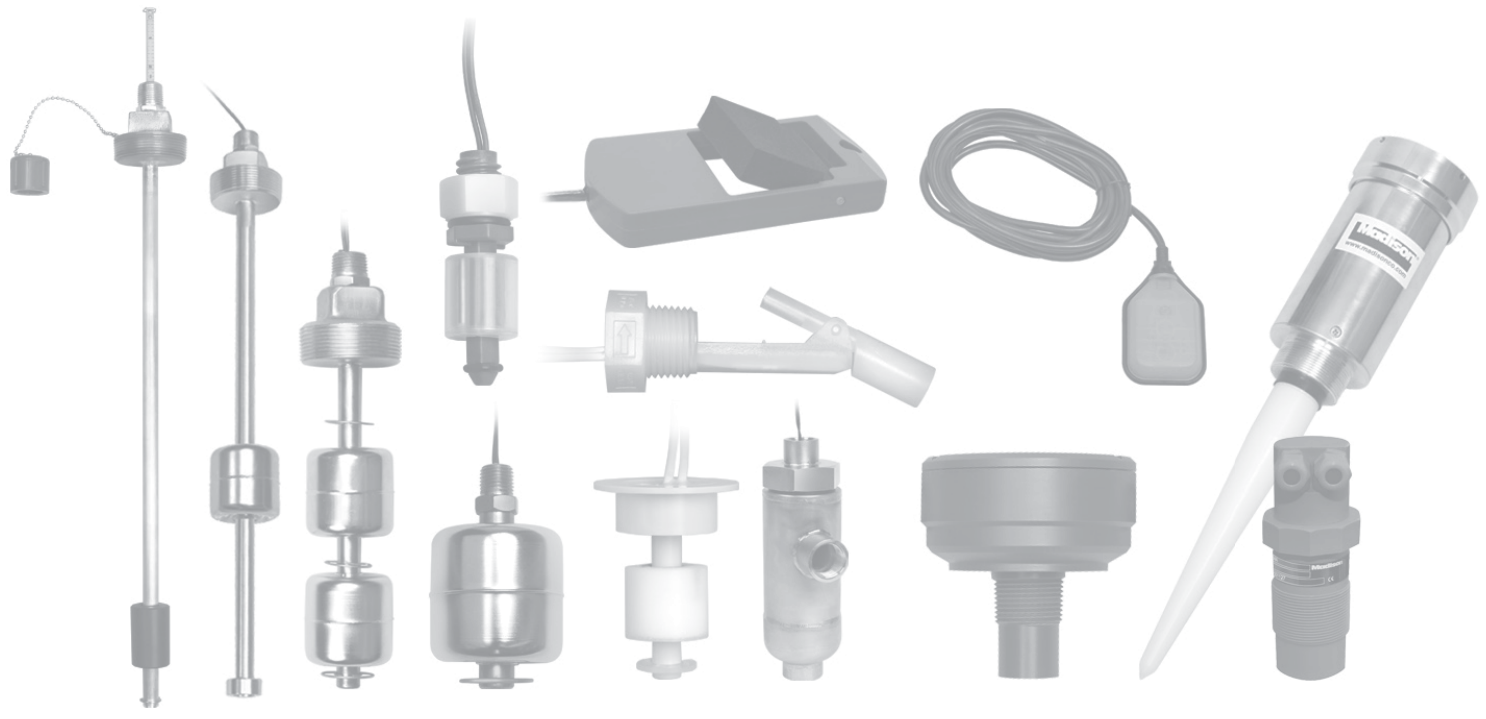
Additional Capabilities:

- Prototyping and Sampling
- Third Party Certification Management
- Demand Planning/Kanban



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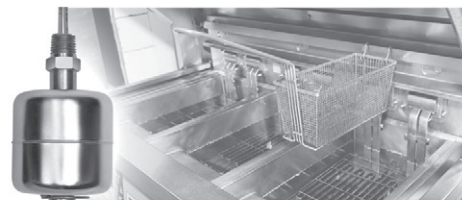
Sensor Solutions for Liquid Level, Pressure and Temperature Detection

A Solution for Every Application

For over 50 years, Madison Company has been the leading designer and manufacturer of float switches and liquid level sensor solutions for liquid level, pressure and temperature measurement. Our products are utilized in a variety of industries. Here are just a few:

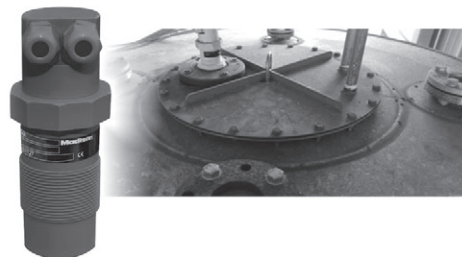
Commercial and Food Processing

Some of the most well-known names in the commercial and residential food equipment industry utilize Madison Company's float switches and liquid level and temperature sensors. Deep fryers, coffee makers and ovens are just a few of the products that rely on Madison float switches and combined liquid level and temperature sensors for precise control and measurement up to 482°F (250°C).



Industrial Equipment

Many industrial equipment manufacturers and process automation engineers have selected Madison products due to such design attributes as their resistance to extreme temperature and pressure ranges, vibration and shock; durability; and the ability to handle difficult medias.



Marine

Madison's accurate, dependable and reliable float switches and liquid level sensors are commonly used in marine applications. Many of our sensor products are approved by the American Bureau of Shipbuilding (ABS) and the USCG for use in commercial shipboard applications.



Medical Equipment

Madison Company designs and manufactures a wide range of fluid sensing products that are used in many OEM medical applications. Madison is currently providing sensors to medical OEMs for use in everything from reagent analyzing to fluid dispensing equipment.



Specialty Vehicles

Specialty vehicle manufacturers incorporate Madison sensors into tractors, hybrid automobiles, street sweepers, loaders and more. Applications include fuel tank level indicators, fuel cell level monitoring, and cargo monitoring and control.



Water and Wastewater

Madison's accurate, dependable and reliable float switches and liquid level sensors are commonly used in water and wastewater applications. From holding tanks to pits, ponds, streams and reservoirs, Madison Company manufactures standard and custom-designed switches and sensors for virtually any water and wastewater sensing application.



Toll free: ph 800-925-4328 Local: ph 262-253-4800 Email: info@gordonhatch.com

Material Selection Guide

The first consideration is the type of liquid, temperature and pressure to which the switch will be subjected. Madison manufactures liquid level switches in various styles, in a variety of materials, to cover a broad range of conditions. Following are some basic recommendations for selecting the proper liquid level switch material for your application.

Material	Application
316 Stainless Steel	For industrial applications including high-temperatures to 482°F (250°C), for high-pressures to 500 PSIG and corrosive conditions. Commonly used in food processing, hydrocarbons (including gases and other Hazardous Locations), medical, heating and process equipment.
Polypropylene	A good choice for lower-temperature applications to 221°F (105°C) including food processing and steamers. (Madison Company uses polypropylene that is FDA-approved for food contact). A good choice for general-purpose applications in commercial or consumer appliances and equipment for water and waste. Also good for acidic conditions, such as those found in electroplating and metal cleaning.
Brass & Buna-N PBT & Buna-N	A cost-effective choice for petroleum-based liquids such as lubricating oils and even diesel fuels. Widely used in storage tanks of vehicles, generators, transmissions and hydraulic systems. Other uses include lubrication, waste oil recovery, refining and fuel processing equipment.
Kynar PTFE (Teflon®)	Chemical and solvent-resistant properties make this material a problem solver for many applications. Its high purity nature is ideal for food handling and sensitive laboratory or test equipment.

Once a suitable material has been selected, the type of switch and configuration are the next considerations. Madison Company stocks a full line of standard products that can meet the requirements of many applications. For specific designs, Madison can custom-build, to order, switches with an infinite number of variations and options. Please utilize our specification sheets, or contact Madison's engineering department, to identify the ideal switch to meet your application's needs.

Madison Company has been ISO 9001 certified since 2001 for the design and manufacture of sensing devices and accessories.

Product Approvals

Many of Madison's sensor products meet the guidelines of and are approved by UL, NSF, CE, Canadian Standards Association and more. Visit www.madisonco.com for more information on our product approvals.



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Stainless Steel Single-Point Float Switches

Stainless steel is ideal for high-temperature to 482°F (250°C), high-pressure to 500 PSIG and corrosive conditions. Commonly used in food processing, medical, heating and cooling equipment, all-stainless-steel single-point float switches are durable and reliable. Madison also offers combination stainless stem and plastic float switches for lower-temperature and lower-pressure applications where such configurations are desired.



Miniature Stainless Steel



Full-Size Stainless Steel



Model	M5000	M8020
Rating	30 Watt	30 Watt
Stem/Float	SS	SS/Polypropylene
Max. Temp.	392°F (200°C)	221°F (105°C)
Max. Pressure	300 PSIG	100 PSIG
Float Specific Gravity	0.70	0.80
Fitting Type	1/8" NPT	1/8" NPT
Slosh Shield	No	No

Model	M5600	M5917
Rating	60 Watt	60 Watt
Stem/Float	SS	SS
Max. Temp.	392°F (200°C)	482°F (250°C)
Max. Pressure	200 PSIG	200 PSIG
Float Specific Gravity	0.55	0.55
Fitting Type	1/4" NPT	1/4" NPT
Slosh Shield	No	No



Full-Size Stainless Steel



Model	M5600-PR	MS5600	M5600-SPDT	MSB5600	M8600
Rating	100 Watt	60 Watt	25 Watt	60 Watt	60 Watt
Stem/Float	SS	SS	SS	SS	SS/ Polypropylene
Max. Temp.	392°F (200°C)	392°F (200°C)	392°F (200°C)	230°F (110°C)	221°F (105°C)
Max. Pressure	500 PSIG	200 PSIG	200 PSIG	85 PSIG	100 PSIG
Float Specific Gravity	0.70	0.55	0.55	0.55	0.75-0.77
Fitting Type	1/4" NPT	1/4" NPT	1/4" NPT	Bracket- Mounted	1/4" NPT
Slosh Shield	No	Yes	No	Yes	No

Full-Size, Side-Mounted Stainless Steel



Model	Rating	Max. Temp.	Max. Pressure	Float Specific Gravity	Fitting Type
M5920	30 Watt	392°F (200°C)	300 PSIG	0.60	1/2" x 1/2" NPT
M5900	30 Watt	392°F (200°C)	300 PSIG	0.60	1" x 1/2" NPT
M5910	30 Watt	392°F (200°C)	300 PSIG	0.60	1/2" x 1/4" NPT
M5970	30 Watt	392°F (200°C)	100 PSIG	0.70	Bulkhead

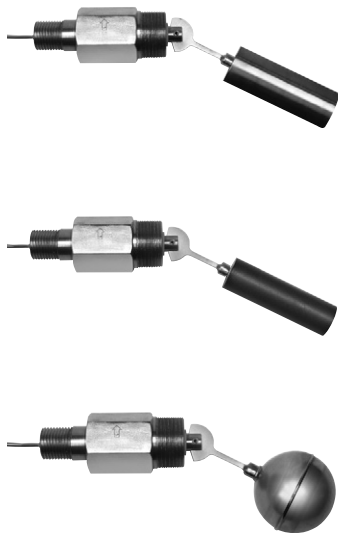
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Miniature, Side-Mounted Stainless Steel



Model	Rating	Max. Temp.	Max. Pressure	Float Specific Gravity	Fitting Type	Slosh Shield
M5010	30 Watt	392°F (200°C)	300 PSIG	0.70	3/8-24 UNF	No
MS5010	30 Watt	392°F (200°C)	300 PSIG	0.70	3/8-24 UNF	Yes

Heavy-Duty, Side-Mounted Stainless Steel



Model	Rating	Stem/Float	Max. Temp.	Max. Pressure	Float Specific Gravity	Fitting Type
M4190	100 Watt	304 SS	302°F (150°C)	150 PSIG	0.60	1" NPT
M4190-BU	100 Watt	304 SS/ Buna-N	221°F (105°C)	100 PSIG	0.45	1" NPT
M4190-HP	100 Watt	304 SS	302°F (150°C)	900 PSIG	0.50	1" NPT



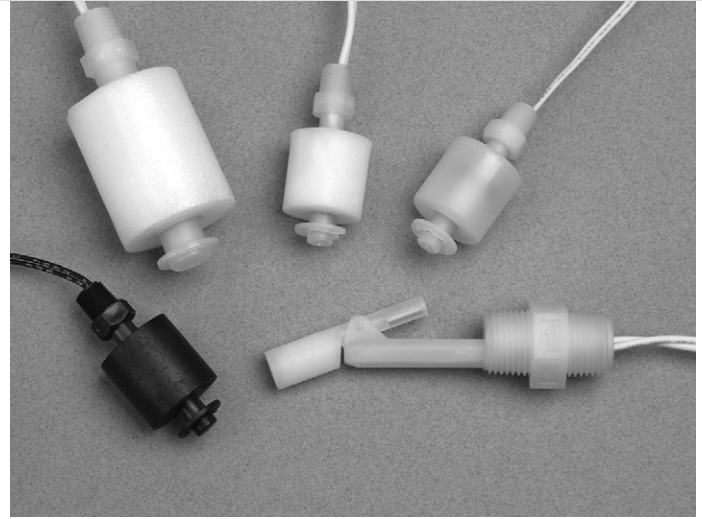
Plastic Single-Point Float Switches

Float switches and sensors engineered from plastics offer a variety of user benefits.

Polypropylene is ideal for acidic conditions such as those found in electroplating and metal cleaning. This material is also popular for lower-temperature food processing applications, and Madison only uses polypropylene that is FDA-approved for food contact.

Buna-N is the material of choice for petroleum-based liquids such as lubricating oils, gasoline and diesel fuels, and is widely used in storage tanks of vehicles, generators, transmissions and hydraulic systems.

For applications where chemical and solvent resistance are a necessity, Kynar can be a problem solver. This material's high-purity nature is ideal for food handling and sensitive laboratory or test equipment.



Full-Size Plastic



Model	M8800	MS8800	MSB8800	M7800
Rating	60 Watt	60 Watt	60 Watt	60 Watt
Stem/Float	Polypropylene	Polypropylene	Polypropylene	PBT/Buna-N
Max. Temp.	221°F (105°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)
Max. Pressure	100 PSIG	100 PSIG	100 PSIG	150 PSIG
Float Specific Gravity	0.77	0.77	0.77	0.77
Fitting Type	1/4" NPT	1/4" NPT	Bracket-Mounted	1/4" NPT
Slosh Shield	No	Yes	Yes	No



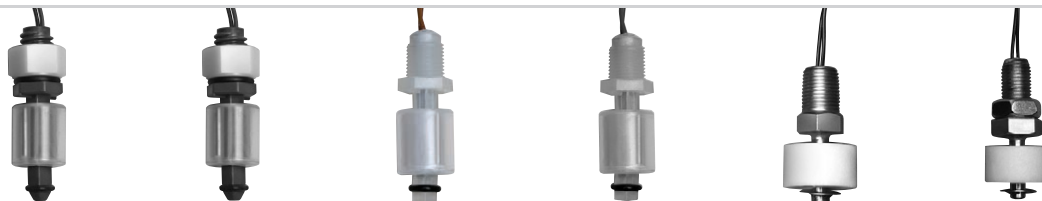
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Miniature Plastic



Model	M7000	MS7000	M8000	M8000B	MS8000	M9000	MS9000
Rating	30 Watt	30 Watt	30 Watt	30 Watt	30 Watt	30 Watt	30 Watt
Stem/Float	PBT/Buna-N	PBT/Buna-N	Polypro.	Polypro.	Polypro.	Kynar	Kynar
Max. Temp.	221°F (105°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)	203°F (95°C)	203°F (95°C)
Max. Pressure	150 PSIG	150 PSIG	100 PSIG	100 PSIG	100 PSIG	15 PSIG	15 PSIG
Float Specific Gravity	0.45	0.45	0.80	0.80	0.80	0.75	0.75
Fitting Type	1/8" NPT	1/8" NPT	1/8" NPT	3/8-16 UNC	1/8" NPT	1/8" NPT	1/8" NPT
Slosh Shield	No	Yes	No	No	Yes	No	Yes

Subminiature Plastic



Model	M3326	M3326-NO	M3326-NPT	M3326-NPT-NO	M4035	M4035-B
Rating	15 Watt	15 Watt	15 Watt	15 Watt	15 Watt	15 Watt
Stem/Float	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Stainless/ Polypropylene	Stainless/ Polypropylene
Max. Temp.	221°F (105°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)
Max. Pressure	50 PSIG	50 PSIG	50 PSIG	50 PSIG	100 PSIG	100 PSIG
Float Specific Gravity	0.60	0.60	0.60	0.60	0.70	0.70
Fitting Type	3/8-16 UNC	3/8-16 UNC	1/8" NPT	1/8" NPT	1/8" NPT	3/8-24 Bulkhead
Normally Open/Normally Closed	NC	NO	NC	NO	NC	NC





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Side-Mounted Plastic



PBT Stem and Float



PBT Stem and Float



PBT Stem and Float



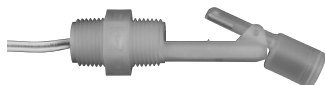
PBT Stem and Float



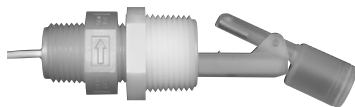
PBT Stem and Float



PBT Stem and Float



Polypropylene Stem and Float



Polypropylene Stem and Float

Model	Rating	Max. Temp.	Max. Pressure	Float Specific Gravity	Fitting Type	Slosh Shield
M7700	30 Watt	266°F (130°C)	100 PSIG	0.75	1/2" x 1/2" NPT	No
M7705	30 Watt	266°F (130°C)	100 PSIG	0.75	1" x 1/2" NPT	Yes
M7725	30 Watt	266°F (130°C)	100 PSIG	0.75	1/4" Spade/ 1/2" NPT	No
M7750	30 Watt	266°F (130°C)	100 PSIG	0.75	1/2" NPT	No
M7755	30 Watt	266°F (130°C)	100 PSIG	0.75	1" NPT	Yes
M7790	30 Watt	266°F (130°C)	100 PSIG	0.75	5/8-11 UNC, Bulkhead	No
M8700	30 Watt	221°F (105°C)	100 PSIG	0.50	1/2" x 1/2" NPT	No
M8700-C	30 Watt	221°F (105°C)	100 PSIG	0.50	3/4" NPT Bushing x 1/2" NPT	No

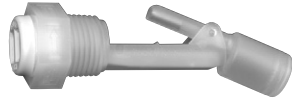


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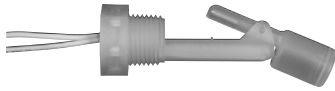
Side-Mounted Plastic



Polypropylene Stem and Float



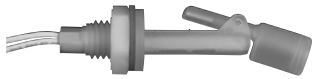
Polypropylene Stem and Float



Polypropylene Stem and Float



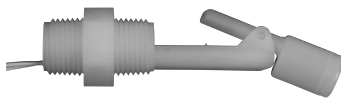
Polypropylene Stem and Float



Polypropylene Stem and Float



Polypropylene Stem and Float with Nitrile Compression Gasket for 0.91" dia. hole



Kynar Stem and Float



Kynar Stem and Float

Model	Rating	Max. Temp.	Max. Pressure	Float Specific Gravity	Fitting Type	Slosh Shield
M8705	30 Watt	221°F (105°C)	100 PSIG	0.50	1" x 1/2" NPT	Yes
M8725	30 Watt	221°F (105°C)	100 PSIG	0.50	1/4" Spade/ 1/2" NPT	No
M8750	30 Watt	221°F (105°C)	100 PSIG	0.50	1/2" NPT	No
M8755	30 Watt	221°F (105°C)	100 PSIG	0.50	1" NPT	Yes
M8790	30 Watt	221°F (105°C)	100 PSIG	0.50	5/8-11 UNC, Bulkhead	No
M8790-14/4184	30 Watt	221°F (105°C)	100 PSIG	0.50	5/8-11 UNC	No
M9700	30 Watt	221°F (105°C)	100 PSIG	0.75	1/2" x 1/2" NPT	No
M9705	30 Watt	221°F (105°C)	100 PSIG	0.75	1" x 1/2" NPT	Yes



Brass Single-Point Float Switches

The combination of a brass stem and Buna-N float offers an ideal level sensing option for applications involving lubrication, recovery, refining and fuel processing. These materials provide exceptional performance in petroleum-based liquids such as lubricating oils, gasoline and diesel fuels.



Full-Size Brass



Model	M4300	M4301
Rating	60 Watt	100 Watt
Stem/Float	Brass/Buna-N	Brass/Buna-N
Max. Temp.	221°F (105°C)	221°F (105°C)
Max. Pressure	150 PSIG	150 PSIG
Float Specific Gravity	0.45	0.45
Fitting Type	1/4" NPT	1/4" NPT
Slosh Shield	No	No

Miniature Brass



Model	M4500	MS4500
Rating	30 Watt	30 Watt
Stem/Float	Brass/Buna-N	Brass/Buna-N
Max. Temp.	221°F (105°C)	221°F (105°C)
Max. Pressure	150 PSIG	150 PSIG
Float Specific Gravity	0.45	0.45
Fitting Type	1/8" NPT	1/8" NPT
Slosh Shield	No	Yes



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Adjustable-Level Liquid Level Switches

Madison's adjustable level switches are ideal for tank applications with slight changes in the level at which the switch signal is needed to accommodate multiple tank designs or conditions.

- Downward switch height adjustment by the user can be as much as 2", and an upward adjustment could be from 9" to 69"
- Easy field adjustments for low-level indication
- Multi-level indications can also be provided
- User can change operation from Normally Closed to Normally Open



Model	M4302-7807-1	M5602-7808-1
Rating	60 Watt	60 Watt
Stem/Float	Brass/Buna-N	Stainless
Max. Temp.	221°F (105°C)	392°F (200°C)
Max. Pressure	150 PSIG	200 PSIG
Float Specific Gravity	0.45	0.55
Fitting Type	2" NPT Pipe Plug with Compression Fitting for Adjustability	2" NPT Pipe Plug with Compression Fitting for Adjustability
Slosh Shield	No	No



Multi-Point Switch Kits

These easy-to-use, Do-It-Yourself Kits provide the user with the opportunity to optimize their own multi-point switches and fabricate them in the field from the kit components. The standard ML kits are furnished with two floats and a 2" pipe plug. Maximum stem length is 43" (1092mm). Users who require a longer stem length or more levels can add one of the below to the appropriate part number:

- -LVL3 to add a 3rd level
- -LVL4 to add a 4th level
- -LVL3&4 to add a 3rd and 4th level



Model	ML4444	ML5555	ML8888
Rating	60 Watt	60 Watt	60 Watt
Stem/Float	Brass/Buna-N	SS	Polypropylene
Max. Temp.	221°F (105°C)	392°F (200°C)	221°F (105°C)
Max. Pressure	150 PSIG	200 PSIG	100 PSIG
Float Specific Gravity	0.45	0.55	0.75-0.77
Fitting Type	2" NPT	2" NPT	2" NPT



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Multi-Point Float Switches

Madison's highly reliable multi-point liquid level float switches are available in a wide selection of materials and configurations. Based on magnetic reed switch technology, these switches meet the needs of applications in many markets at competitive prices. In addition, Madison's engineers can design specific liquid level switches for OEM applications that require unique considerations in materials, configurations and system interfacing. With full, miniature and subminiature sizes, this line of multi-point float switches can be custom configured with the application questionnaire or utilizing Madison's **Parts Configurator** at www.madisonco.com.

Full-Size Multi-Point Float Switches



Model	M5602	M8602	M4602	M4302
Rating	60 Watt	60 Watt	60 Watt	60 Watt
Stem/Float	Stainless	SS/Polypropylene	SS/Buna-N	Brass/Buna-N
Max. Temp.	392°F (200°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)
Max. Pressure	200 PSIG	100 PSIG	150 PSIG	150 PSIG
Float Specific Gravity	0.55	0.75-0.77	0.45	0.45
Fitting Type	Options available	Options available	Options available	Options available

Miniature Multi-Point Float Switches



Model	M5002	M8080	M4502	M8002
Rating	30 Watt	30 Watt	30 Watt	30 Watt
Stem/Float	Stainless	Polypropylene	Brass/Buna-N	Stainless/Polypropylene
Max. Temp.	392°F (200°C)	221°F (105°C)	221°F (105°C)	221°F (105°C)
Max. Pressure	300 PSIG	25 PSIG	150 PSIG	100 PSIG
Float Specific Gravity	0.70	0.75-0.77	0.45	0.75-0.77
Fitting Type	Options available	Options available	Options available	Options available





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Continuous Level Float Sensors

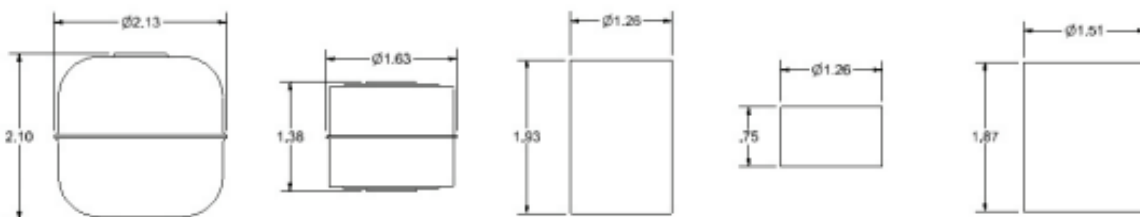
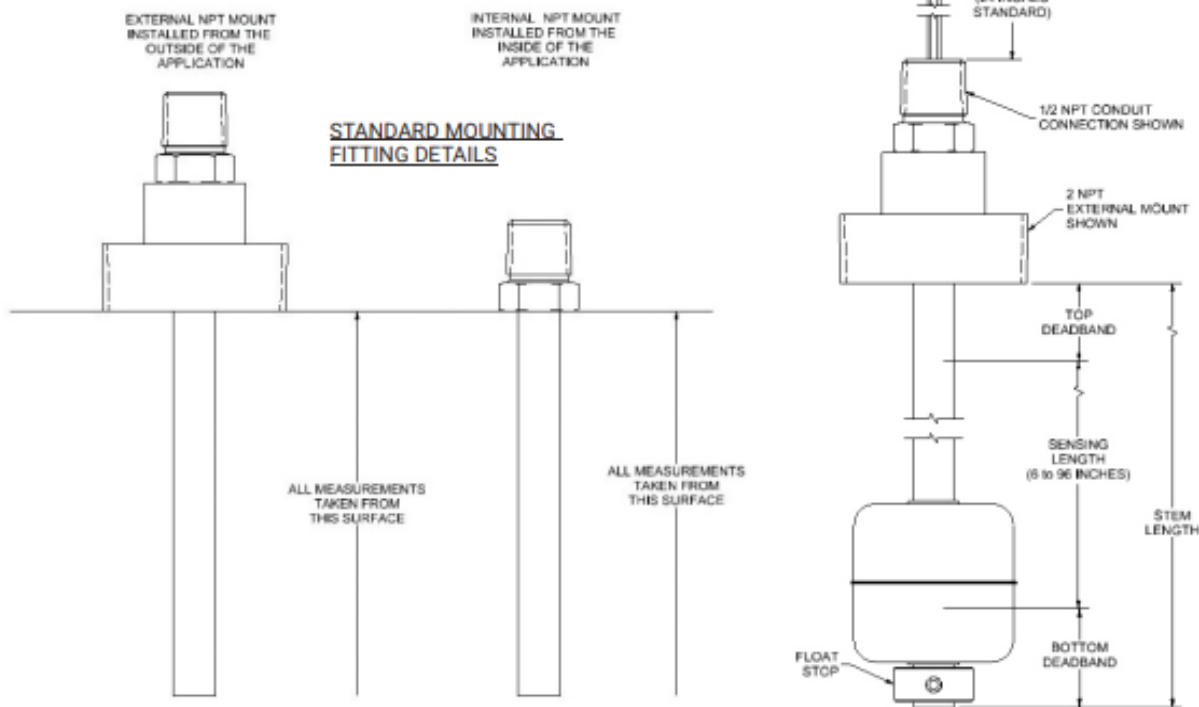


Madison's standard and customizable vertical-mount continuous level indicators provide tank level indication and control through the available resistive, current or voltage outputs. Connect the sensor output to a process meter, programmable controller, microprocessor or other readout system to control pumps, valves, alarms or other devices. Ideal for remote sensing in tanks with restricted or limited access; precise monitoring in a series of mixing tanks; central monitoring of liquid level in multiple remote tanks; monitoring the interface between two dissimilar liquids; and any application where the liquid level requires constant, accurate monitoring.

Rugged and reliable, Madison's continuous level float sensors are available in various materials, mounting configurations and output types for flexibility in varied fluid environments. These continuous sensors, when combined with Madison Panel Meters or other devices, provide accurate, uninterrupted tank level readout and control with 1/4" resolution.

High Accuracy: Model C4651 (1/4" resolution) sensor offers high resolution for accurate liquid height measurement and control.

The following information is for reference purposes only and is subject to change. Contact Madison for the latest product and technical sales information.



FLOAT / SPECIFIC GRAVITY DETAILS

RESOLUTION	STAINLESS STEEL	STAINLESS STEEL, 1.63" OD	BUNA	BUNA, 0.75" HIGH	POLYPROPYLENE
1/4" RESOLUTION	0.55	0.61	0.45	0.50	0.67

Application Questionnaire

Originator: _____ Phone: _____ Date: _____

Company: _____ Contact: _____ Phone: _____

Application Description: New Existing

Sensing Type: Single Point Multi Point Continuous Level
 Other: _____

Tank Material: _____

Tank Depth or Measurement Depth: _____

Sensing Distance, Levels, etc.: _____

Mounting Type: Internal External

Fitting Type: _____ (2" NPT Pipe Plug, Bulkhead, etc.)

Desired Material: Stainless Steel Brass Polypropylene
 Other: _____

Fluid Type: Water Oil Other: _____

Specific Gravity: _____ Please be specific, include chemical and concentration (other than basic water or oil)

Temp. Max.: _____ °F °C Pressure Max.: _____ PSI

Electrical

Output Type: _____

Device to be connected to: _____ (Normally open/closed, 4-20 mA, resistive, voltage)

Required Agency Approvals: _____ (Relay, PLC, controller, pump)

Connector Desired: Y N Manufacturer: _____ P/N: _____

Project Quantity

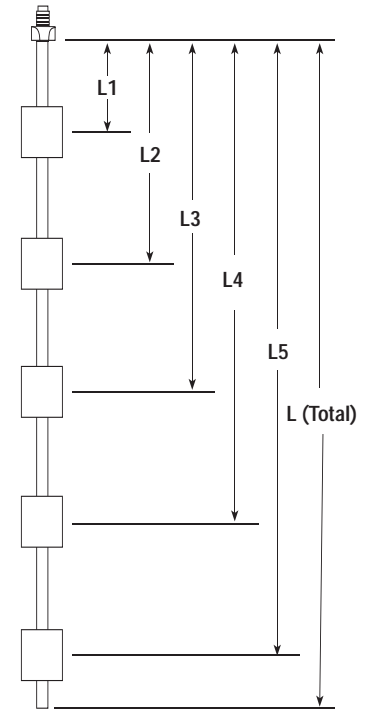
Immediate Need Qty.: _____ Require by Date: _____ ASAP

Cost Target / Purchased Price: _____ Annual Production Qty.: _____ Order Qty.: _____

Production Start Dates: _____ Competitor products: Y N Manufacturer: _____ P/N: _____

I will provide: Drawing Y N Photo Y N (please include ruler for scale)

Additional Comments:



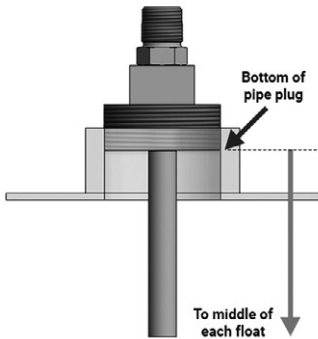
Note for Continuous Sensors:
 Provide Sense Length (L1 to L5)
 or L (Total)

Lead Length: _____
(Inches)

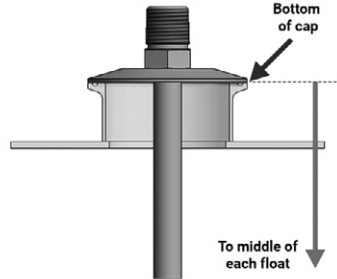


How to Measure Switch Points

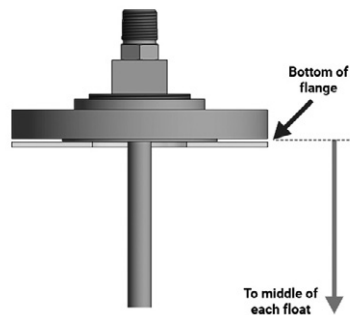
To measure switch points on single and multi-point float sensors, measure from fitting where indicated (mounting dependent) to middle of each float.



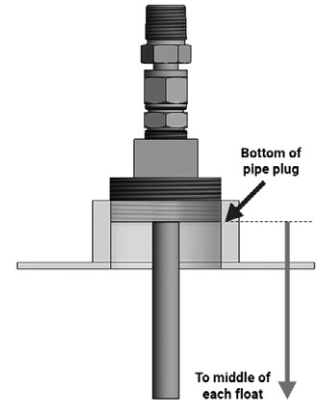
Pipe plug, external mount



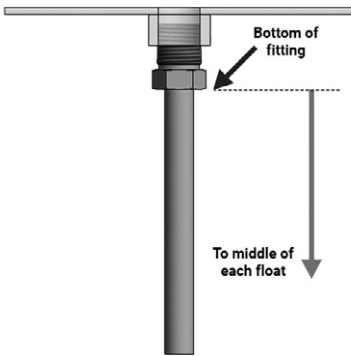
Sanitary fitting, external mount



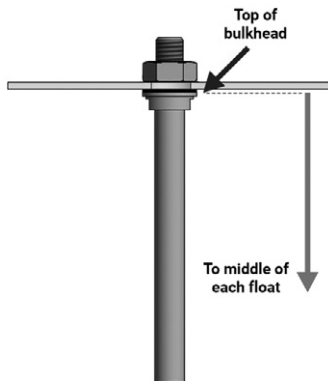
Pipe flange, external mount



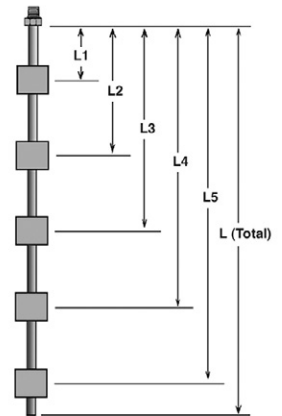
Pipe plug, adjustable, external mount



NPT, internal mount



Bulkhead, internal mount



Example


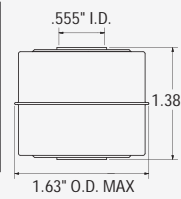

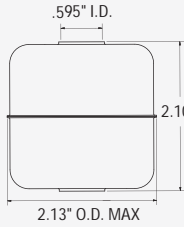
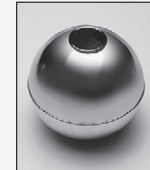
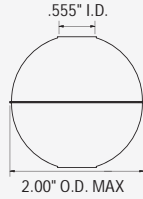

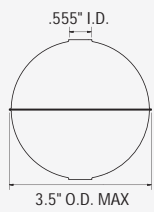


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Float Information

Full-Size Floats

Stainless Steel

  <p>200-M03645</p> <p>Max. Temp. 150°C Max. PSIG 120 Float SG 0.61 ±.02</p>	  <p>200-M03196</p> <p>Max. Temp. 250°C Max. PSIG 200 Float SG 0.55</p>	  <p>200-P00011</p> <p>Max. Temp. 250°C Max. PSIG 900 Float SG 0.66</p>	  <p>200-M03656</p> <p>Max. Temp. 200°C Max. PSIG 300 Float SG 0.28</p>
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Polypropylene




200-P00002

Max. Temp. 105°C
Max. PSIG 100
Float SG 0.75

Buna-N




200-P00004

Max. Temp. 105°C
Max. PSIG 150
Float SG 0.45




200-M03592

Max. Temp. 105°C
Max. PSIG 150
Float SG 0.45

Miniature-Size Floats

Stainless Steel




200-M03890


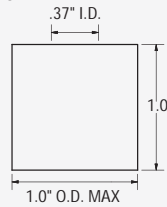
Max. Temp. 200°C
Max. PSIG 300
Float SG 0.70




200-P00055

Max. Temp. 200°C
Max. PSIG 250
Float SG 0.73 ±.02

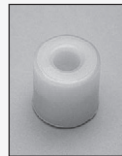
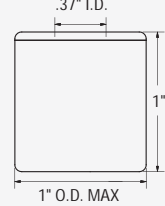
Polypropylene

200-P00001

Max. Temp. 105°C
Max. PSIG 100
Float SG 0.80


Kynar

200-M03582K

Max. Temp. 105°C
Max. PSIG 50
Float SG 0.85

Buna-N




200-P00030

Max. Temp. 105°C
Max. PSIG 150
Float SG 0.45

Interface Floats

Buna-N




200-M03641-1

Max. Temp. 105°C
Max. PSIG 150
Float SG 0.95

Stainless Steel




200-P00090

Max. Temp. 250°C
Max. PSIG 900
Float SG 0.90





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Visual Level Indicators



Madison Company's TL Series Visual Level Indicators provide simple and economical liquid level indication where no electrical power is available. With total length from 17.5" to 33" (44.45cm to 83.82cm) (custom lengths up to 6 feet/1.8m), these models are designed for use in remote and mobile storage tanks. A retractable steel tape measure blade magnetically latches to the level position of the magnetic float. Only the stem and float come in contact with the liquid – the tape measure is sealed in the liquid-tight stem with a protective cap so the tape blade is always clean and readable. Tank level is determined by sliding the tape out of the stem tube and reading the aligning graduation mark on the tape when the magnetic interlock is felt. Ideal for 30 or 55 gallon tanks. Visual Level Indicators can be custom configured with the Application Questionnaire or utilizing Madison's **Parts Configurator** at www.madisonco.com.

Ultrasonic Non-Contact Level Sensors



Madison Company offers a complete line of standard and advanced ultrasonic level measurement sensors for liquids. These products continue to meet demanding applications in many markets, at competitive prices.

In addition, Madison Company has the engineering capabilities to design these sensors for your specific non-contact level measurement needs, providing unique considerations for materials to be measured, vessel configuration and system interfacing.

The microprocessor-based circuits provide a temperature-compensated signal for improved accuracy. All models have the ability to filter false echoes produced by peripheral obstructions.

Continuous level measurement can be provided in a range of 0.33' to 32' (0.10m to 10m) with several power and programmability options. Point level control can also be obtained using a Madison panel meter or PLC.



Radar Non-Contact Level Sensors



Madison Company offers a series of low-cost radar sensors for continuous level measurement. This product series offers a logical extension to the ultrasonic sensor series, where application conditions are in need of non-contact liquid level measurement and where ultrasonic level measurement is not acceptable.

As with all Madison products, this radar technology can be designed for your specific level measurement needs, providing unique considerations for materials to be measured, vessel configuration and system interface.

Single frequency radar level sensors are ideal for conditions not suitable for ultrasonic, such as reflective liquids with foamy surfaces or vapor. Dual frequency radar sensors are used for open channel flow and uneven, dusty solids such as gravel and aggregates.

Features Include:

- Non-contact measurement
- Continuous level measurement
- Pulse radar measurement range 10" to 100' (0.254m to 30m)
- Networkable, multi-sensor with available software
- Simple push-button calibration





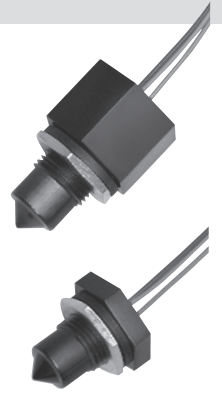
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Optical Liquid Level Sensors

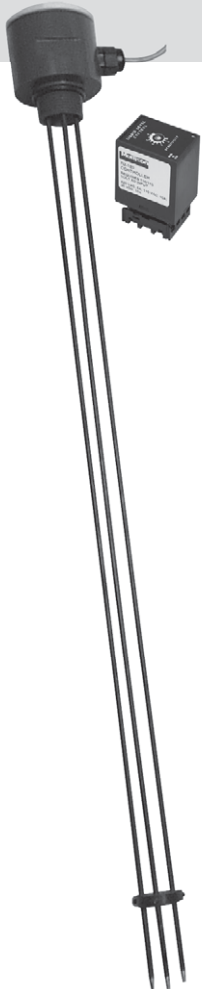


Madison's optical liquid level sensors offer highly accurate point level sensing in a compact design. Optical sensors are repeatable switching point detectors with no moving parts, making them ideal for tight spaces and providing dependable operation in a wide variety of applications.

Stainless steel and plastic standard models offer price-sensitive solutions for aggressive environments, OEM applications and more. Custom configurations are also available.



Conductivity Sensors



While a conductivity switch and a float-type switch provide the same functions, the conductivity switch offers the advantage of no moving parts, enabling it to be used in several environments that would cause a float to stick or to not operate at all. These would include semisolid liquids like food industry and industrial slurries or heavy-bodied liquids like wastewater. With no moving parts, switch operation is not interrupted.

Only an extremely small amount of current is necessary for conductivity sensors to perform. As with any device, a properly installed and grounded system poses no electrical hazard. Models designed with food-grade materials to meet NSF requirements are available.



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Drum Level Sensors



Madison Company offers several level indication products designed specifically for standard 20, 30 and 55 gallon drums. These level indicators will fit-up directly with standard 3/4" NPT bungs.

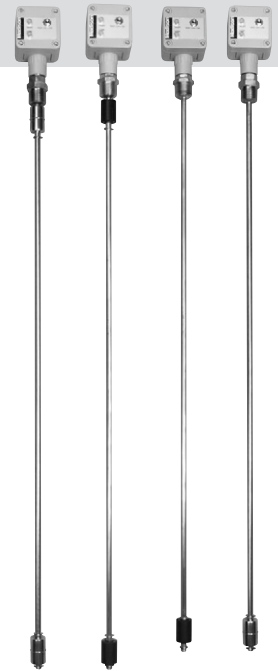
This family of standard level indicators comes in low-level, high-level and multi-level designs, for both low- and high-level indication. The basic level switches require a power source. When configured with an alarm, battery power is on-board.

Optional alarms are available in either a fixed-mount (to the level switch) or a remote-mount design. This option provides both the level switch and the alarm with battery power for ease of use in remote sites where a power source is not readily available.

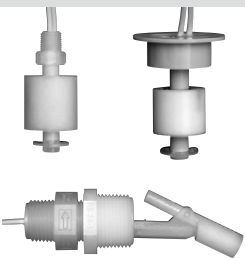
For those drum applications requiring a non-contact level device, the Madison U3M Mini Ultrasonic Sensor is the way to go. This sensor also mounts directly into a 3/4" NPT bung with optional adapter and requires a power source. The sensor is calibrated by the user using an on-board push button.

Features:

- Multiple drum level choices
- Easy mating to standard drum bung
- Remote alarm and power abilities
- Choice of contact or non-contact level indication
- Choice of high- and/or low-level indication and alarm



HVAC Sensors & Float Switches



Madison Company offers a standard family of water-activated level switches designed for condensate return systems in HVAC and HVACR systems. These condensate level float switches can be used for the return of hot condensate in a boiler system, in an air conditioning condensate line, or to give a signal to a pump or compressor control when water is detected in the drain pan.

The M8000-C float switch is designed for either a press fit into a standard 3/4" schedule, 40 PVC pipe tee (allowing for future clean out), or glued in place using standard PVC pipe cement. This vertically mounted switch will provide an excellent level signal at up to a 30° angle and incorporates a vent hole for line air to escape.

The M8000, also a vertically mounted switch, requires a mounting hole to accommodate a 1/8" NPT fitting. The M8700-C is a horizontally mounted float switch for use where side mounting is preferred, such as in the side of a pan or reservoir.

These switches can also be used in compressed air condensate drain lines that are normally found on intercoolers, after coolers, dryers, drip legs and receiver tanks. They are cost-effective solutions when compared to electric solenoid valve methods. These models are available for same-day shipment through Madison's Switch In-Time program.



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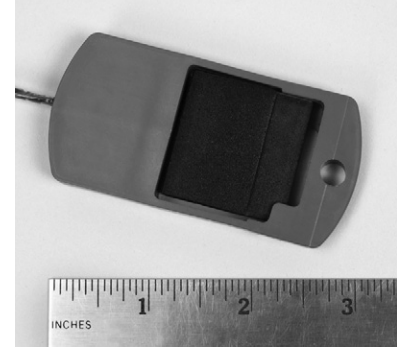
Interstitial Sensors & Switches



Madison Company's Interstitial Switch is a thin-profile device designed for double-wall tanks and pipes. The 3/8" (9.525mm) high switch is ideal for underground tanks and piping where the double-wall construction needs to be monitored for product release from the inner tank. It can also be used to signal the presence of liquid leaks or overflows in any containment area by connecting to a suitable alarm indicator. The

avoidance of potential cleanup costs through early detection of leaks is well worth the cost of this unit.

The M3769 Interstitial Switch is constructed of a Valox 420 housing and Buna-N float with a stainless steel pivot pin. The standard M3769 model comes with 10' (3m) of Halar-jacketed cable.



Suspendible Float Switches



Ideal for vertical mounting in a tank or process vessel where space limitations exist, Madison's suspendible float switches provide high/low level monitoring in applications such as chemical tanks, storage tanks, generators, transmissions, hydraulic systems, plating baths, parts washers, sumps, wastewater systems and more.

For environments including intensive agitation of the liquid, boiling fluids or surging due to large inflows and outflows of liquid, a slosh shield is recommended for accurate float operation.



Model	Rating	Stem/Float	Max. Temp	Max. Pressure	Float Specific Gravity	Fitting Type	Slosh Shield
M3782	30 Watt	Brass/Buna-N	221°F (105°C)	50 PSIG	0.45	240", 22 AWG Halar-Jacketed Cable (standard)	Yes

Tilt Float Sensors and Switches

Madison Company's Tilt Float Switches provide inexpensive, efficient and highly reliable level detection or control for large open vessels, water tanks, reservoirs, sumps and ponds.

Three different designs are available to suit your individual application. The propylene float is chemically resistant and extremely durable for long service life and resistance to heat, oxidation, ozone and aging due to weather or application conditions. These tilt float switches are designed for wastewater or pond level control, or any application where conditions are challenging and smaller sensors can't hold up.



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Hydrostatic Pressure Level Sensors

Hydrostatic, Submersible Pressure Level Sensors



The PH4201 Series of hydrostatic, submersible pressure level sensors are specifically designed for pressure and hydrostatic level measurements of groundwater, wastewater, process liquids or sea water. Ideal for tanks, small-size bore holes, wells, dams, irrigation, sewage, rivers or oceanography, these pressure sensors accurately measure the height of the water column above by sensing the pressure of that specific liquid. The titanium housing provides immunity to virtually all environments, including brackish water, sludge or other chemicals better than most stainless steel transducers. The sensors' polyurethane vented cable is molded to the sensor housing for reliable waterproof operation proven through many years of experience and varying liquid sensor applications.

The pressure sensors come standard with a polyurethane cable, but can be custom configured with FEP cable for oils or other chemical resistance. To avoid any cable elongation in deep well applications (sensing down to 1000 feet/305m), an integral Kevlar strand supports the sensor. The PH4201 Series full-scale range can be designed as low as 0-30" WC, making it ideal for small tanks, process runoff and water vessels, though it can also work reliably to sense pressures to 150 psi. These sensors include a 1/2"-20 process connection under the "Drop-In" nose cone for external mounting to process fittings.

Applications:

- Great for water tanks, wastewater management, food and beverage, industrial processing, pulp & paper and pharmaceutical
- Ideal for accurate level indication for drop-in continuous liquid level measurement and monitoring

Clog-Free Hydrostatic Submersible Pressure Level Sensors

The Madison PC4203 clog-free submersible pressure level sensor series is specifically designed for hydrostatic pressure level measurements of wastewaters or liquids which will clog most other sensors. The 316L stainless steel housing and ceramic diaphragm are chemically resistant and clog free, making them ideal for virtually all environments with debris, sludge or small particles, such as applications involving food processing, lake level monitoring or sewage lift stations.

The sensor's polyurethane vented cable is molded to the sensor housing to provide the most reliable waterproof sensor seal and years of pressure level measurement. Custom pressure sensors with FEP cable can also be manufactured as an option for chemical resistance in fuels, oils or solvents. To avoid any cable elongation, an integral Kevlar strand is incorporated. A feature of the PC4203 series is that its full scale range starts as low as 0-36" WC to over 100 psi, making it ideal for small tanks, ponds and water vessels or deep wells. An attachable Cage Weight (p/n PC-CW2, shown at right) is available for drop-in situations or for turbulent environments and lift stations.



Applications:

- Great for waste management, slurries, food, beverage, industrial processing, pulp & paper and pharmaceutical
- Typical applications include sewage lift stations, tanks, wells, pipes, irrigation, process runoff and rivers

** Note: To ensure years of accurate, trouble-free service, Madison's hydrostatic pressure level sensors require a Desiccant Filter (p/n PH-FIL) or Environmentally Sealed Bladder (p/n PH-EMS).*



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Digital Panel Meters

Process & Temperature Digital Panel Meters



The Madison MD4814 digital panel meter family boasts the most versatile digital panel meters on the market, with the ability to display a wide variety of process application signals. The digital panel meter display is field programmable to accept process current (4-20 mA), voltage signals (0-5V, 0-10V, etc.) or temperature signals like 100 Ohm RTDs, plus the four most common thermocouple inputs. This basic panel meter is ideal for sensing and viewing critical process and tank levels, while the viewable LED panel meter display is easy to read from a distance.

The panel meter housing fits standard 1/8 DIN mount enclosures and features a NEMA 4X front panel with convenient mounting hardware. Power for the meter is 85 - 265VAC or 12 - 36VDC. The panel meter can be ordered with optional relays or 24VDC output to provide power to transmitters if needed. Programming and setup can be performed with the four front panel push buttons. The displayed values can be field programmed to display as percent, inches, gallons or any associated value of your choice. The meter can also be programmed through a PC via software, and it can be copied from panel meter to panel meter using the Copy function (optional accessories required). The MD4814 series can be ordered in standard or extra-large display sizes.

Applications:

- Process signal conversion into digitally displayed sensor values for real-time liquid level indications
- Programmable relay output for process tanks, pump-up, pump-down or alarm controls
- Accepts most standard process signals like 4-20mA, 0-10VDC or temperature sensors (RTD, thermocouples)

Dual-Line Digital Panel Meters



The Madison MD4815 dual-line digital panel meter series boasts specifications and functionality that makes it one of the most advanced lines of process meters available on the market. It features a dual-line, 6-digit display (999,999), signal conditioning and function keys. These panel meters can be field programmed to accept process inputs like current 4-20 mA, voltage (0-5V, 1-5V, 0-10V and $\pm 10V$) inputs.

The standard 1/8 DIN mount enclosure features a NEMA 4X front panel and convenient mounting hardware. This panel meter is available for 85 - 265VAC or 24VDC / selectable 12VDC input voltages. Standard isolated 24VDC @ 200 mA/100 mA output supply can provide power to most transmitters or sensors where needed. These panel meters include 2 programmable relays for trigger and reset sensor signal control points. The dual display allows these panel meters to display the process value and associated value type or tag for easy indication and display. Panel meter programming and setup can be easily performed with the four front panel push buttons and a simple step-by-step menu. The meter can also be programmed through a PC via software and can be copied from panel meter to panel meter using the Copy function (optional accessories required).

Applications:

- Process signal conversion into digitally displayed sensor values for real-time liquid level indications
- Programmable relay output included for pump-up, pump-down or process alarm controls
- Accepts standard process signals like 0-20 mA, 4-20 mA and voltage (0-5V, 1-5V, 0-10V and $\pm 10VDC$)



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