



Sensing Solutions since 1959

# Sensor Reference Information Voltage Ratings

## Current and Voltage Rating of Liquid Level Switches

Switch Rating (Max. VA)	UL Rating of Level Switch				Madison Calculation
	Amperes (resistive) at 240 VAC	Amperes (resistive) at 120 VAC	Amperes (resistive) at 120 VDC	Amperes (resistive) at 24 VDC	Amperes (resistive) at 12 VDC
360	1.50	3.00	0.75	3.00	3.00
100	0.40	1.00	0.40	1.00	2.00
60	0.40	0.50	0.20	0.50	0.70
30	0.14	0.28	0.07	0.28	0.56
25	-	0.28	-	0.28	0.28
15	-	0.12	100 VDC / 0.10	0.30	0.30

The above are specific voltage and current levels tested by Underwriters Laboratories for resistive loads only. Madison Float Switches can be used at any voltage up to the listed maximum AC or DC voltage shown for the corresponding Switch Rating listed.

*Please note: Maximum VA is Volts x Amps and is the term used for apparent Power in a circuit. These power ratings are for resistive loads that are at a steady state and are calculated as Power (VA/Watts) = Voltage (AC/DC) \* Current (Amps-resistive load). It is simply the product of voltage and current, without taking into account the type of load (resistive, capacitive or inductive). We recommend that switches stay below these ratings for non-resistive loads.*

For inductive or capacitive loads, maximum switch life cycles will be achieved if appropriate spike/arc suppression is used. Please review our [Electrical Considerations](#) found on the Madison website and consult with your electrical design engineer. Common devices such as pumps, coils and light bulbs can create these types of spikes. For these more complex cases, one must remember to stay below the maximum current and/or voltage ratings of the switch regardless of the power rating.

For example, our 30-watt standard switches have a maximum switching current of 1 Amp and a carrying current of 2.5 Amps. If the switch is connected to a 12 V circuit that spikes to 2 Amps and runs at a steady state of 1 Amp, the power spike exceeds the switch rating although the steady state running power is 12 Watts. Due to the heat and type of power dissipated during the spike, the contact may be damaged or even welded together, causing switch failure.

Custom designs have other elements to consider and even alternative ground paths that may affect the power delivered to a switch. It is important to consult your engineering department before assuming the system's power requirements. Contact the factory for additional assistance.

Madison Company, Inc.  
27 Business Park Drive  
Branford, CT 06405

203-488-4477 or 800-466-5383  
info@madisonco.com  
www.madisonco.com

