



Application Alley

Appliance - Reed Sensor

*Condensed Water From Commercial Laundry Dryers are
Controlled by a Reed Sensor*

Introduction

Commercial laundry operations have several washer and dryer units to typically handle several customers at once. The dryers by their very nature dry the wet clothes by heating them with gas or electricity. The water is vaporized and must then be carried out of the dryer compartment to rid the moisture. Most times it's not convenient to simply vent the vapor directly to the outside air. Standex's reed sensors play a direct role in solving this problem.

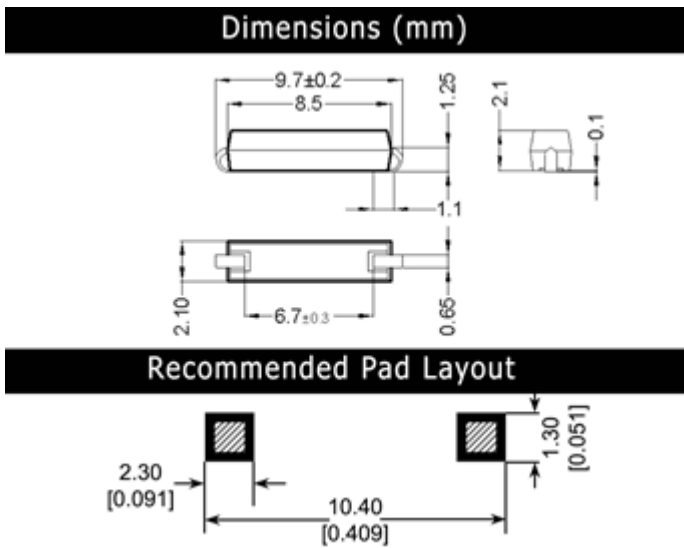


Figure 1. MK17-x-3 Sensor physical layout

Features

- Magnet and Reed Sensor are isolated and have no physical contact by typically having the magnet mounted to a float and the Reed Sensor is mounted on the body of the casing close to the high point of the water and positioned to accurately pick up the magnetic field from the magnet in the float.
- The reed switch used in the Reed Sensor is hermetically sealed and is therefore not sensitive to rough, wet, moist environments
- The magnet is not affected by its environment
- Tens of millions of reliable operations

- Surface mount and through hole packages available
- Cylindrical hole and screw fastening mounting
- Contacts dynamically tested

Applications

- Ideal for sensing the water level in commercial clothes dryers
- Ideal for applications sensing any kind of liquid level in a host of different configurations

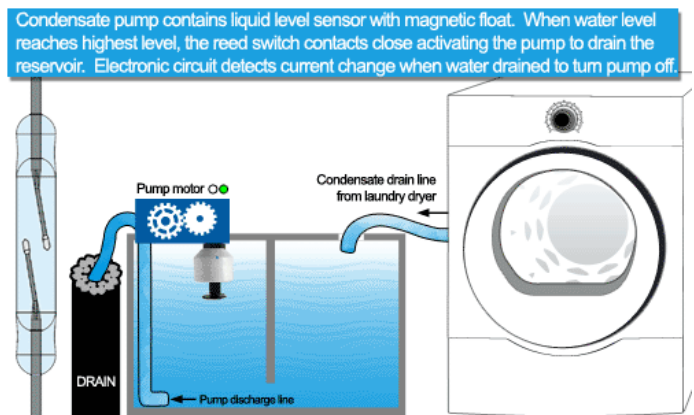


Figure 2. Condensation line drains into a reservoir with built in pump containing a level sensor.

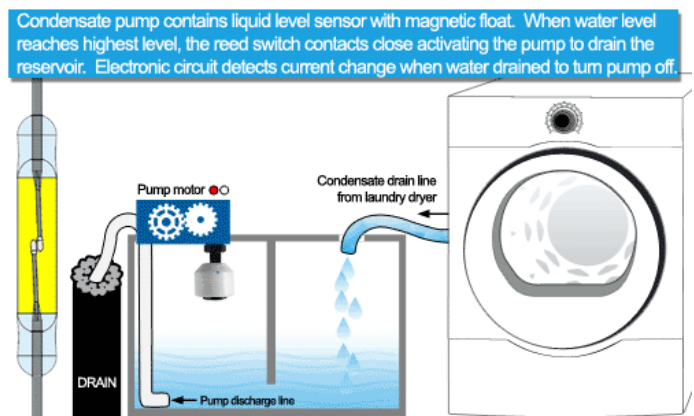


Figure 3. When the condensation reaches a high level the reed switch activates a pump which drains the water.

Condensed Water's Max Limit in Commercial Clothes Dryers is Sensed by Reed Sensors

Commercial laundromats are used extensively around the world and are typically open 24 hours a day. Multiple commercial clothes dryers are constantly in use. Because most of the time it is inconvenient to vent the water vapor generated in the clothes dryer directly to the outside air, the vapor is passed through a condenser. The condenser

condenses the water vapor into a storage tank. The water level in then monitored using reed sensors.

A magnet is generally mounted in a float that rides up and down with the water level in the storage tank or reservoir. As the water level reaches the upper limit, Standex's reed sensor, which is conveniently positioned near the top of the reservoir, will sense this high water mark.

Specifications (@ 20°C) MK15 & MK06 Series

	Min	Max	Units
Operate Specifications			
Must close distance	5	25	mm
Must open distance	5	25	mm
Hysteresis	Typical 50%		
Load characteristics			
Switching voltage		200	V
Switching current		0.5	Amps
Carry current		1.5	Amps
Contact rating		10	Watts
Static contact resistance		150	mΩ
Dynamic contact resistance	200		mΩ
Breakdown voltage	320		V
Operate time		0.5	msec
Release time		0.1	msec
Operate temp MK06	-20	85	°C
Storage temp MK06	-20	85	°C
Operate temp MK15	-20	130	°C
Storage temp MK15	-20	130	°C

Surface Mount Sensor Series				Illustration
Series	Dimensions	mm	inches	
MK15	W	2.5	0.098	
	H	2.5	0.098	
	L	19.50	0.768	
MK16	W	2.3	0.091	
	H	2.3	0.091	
	L	15.60	0.614	
MK17	W	2.1	0.083	
	H	2.1	0.083	
	L	9.61	0.378	
MK22	W	2.7	1.060	
	H	2.3	0.091	
	L	15.60	0.614	
MK23-35	W	2.2	0.087	
	H	1.95	0.077	
	L	15.75	0.620	
MK23-66	W	2.2	0.087	
	H	2.7	1.060	
	L	19.60	0.772	
MK23-87	W	2.0	0.079	
	H	2.1	0.083	
	L	15.60	0.614	
MK23-90	W	2.54	0.100	
	H	3.05	0.120	
	L	24.9	0.980	

Dimensions (mm)

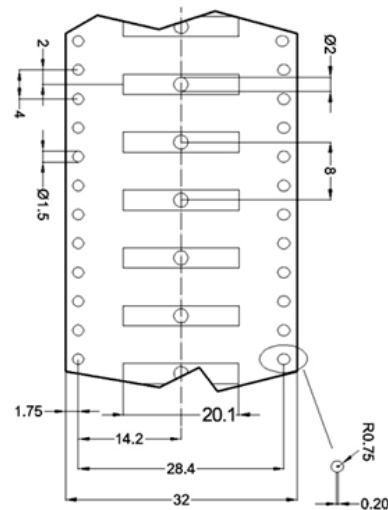


Figure 4. MK15 Tape & Reel





Once this high water level is reached the reed sensor will switch on a water pump, allowing water to be emptied automatically, pumping directly into a water drain system. Having a pump that only turns on when the storage tank is full is very energy efficient, compared to having the pump running all the time.

The reed sensor is an excellent choice because it can operate reliably over a wide temperature range, and represents an economical way to carry out the sensing function. Because Standex's sensors use




hermetically sealed reed switches that are further packaged in strong high strength plastic, they can be subject to rough treatment and environmental concerns such as spillage water, and moisture without any loss of reliability.

Standex's sensors are packaged for surface mounting as well as through hole mounting. Also, Standex has cylinder packages and well as screw fastening packages having lead wires for remote attachment to the electronics.





Cylindrical Panel Mount Sensor Series

Series	Dimensions		Illustration	
	mm	inches		
MK03	D	5.25	0.207	
	L	25.5	1.004	
MK14	D	4	0.157	
	L	25.5	1.004	
MK18	D	5	0.197	
	L	17	0.669	
MK20/1	D	2.72	0.107	
	L	10	0.394	

Rectangular Panel Mount Sensor Series

Series	Dimensions		Illustration	
	mm	inches		
MK04	W	13.9	0.547	
	H	5.9	0.232	
	L	23.0	0.906	
MK05	W	19.6	0.772	
	H	6.1	0.240	
	L	23.2	0.913	
MK12	W	14.9	0.587	
	H	6.9	0.272	
	L	32.0	1.260	

Through Hole Sensor Series

Series	Dimensions		Illustration	
	mm	inches		
MK06-4	W	3.3	0.130	
	H	3.3	0.130	
	L	12.06	0.475	
MK06-5	W	2.8	0.110	
	H	3.2	0.126	
	L	14.30	0.563	
MK06-6	W	3.3	0.130	
	H	4.2	0.165	
	L	17.24	0.679	
MK06-7	W	3.3	0.130	
	H	4.2	0.165	
	L	19.78	0.779	

**Consult the factory for more options not listed above.

Find out more about our ability to propel your business with our products by visiting www.standelectronic.com or by giving us a hello@standelectronic.com today! One of our engineers or solution selling sales leaders will listen to you immediately.

About Standex Electronics

Standex Electronics is a worldwide market leader in the design, engineering, and manufacture of standard and custom electro-magnetic components, including magnetics products and reed switch-based solutions.

Our magnetics offerings include planar, current sense, and conventional low- and high-frequency transformers and inductors. Reed switch-based solutions include Meder, Kent, and KOFU brand reed switches, as well as a complete portfolio of reed relays, and a comprehensive array of fluid level, proximity, motion, water flow, HVAC condensate, hydraulic pressure differential, capacitive, conductive and inductive sensors.

We offer engineered product solutions for a broad range of product applications in the transportation, automotive, medical, test and measurement, military and aerospace, aviation, HVAC, appliance, security and safety, and general power and industrial markets.

Standex Electronics has a commitment to absolute customer satisfaction through a partner, solve, and deliver approach. With a global organization that offers sales support, engineering capabilities, and technical resources worldwide – we implement customer driven innovation that puts the customer first.

For more information on Standex Electronics, visit us on the web at standexelectronics.com.

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