

## MS8F

# Buoyancy Level Switch

## Extended body horizontal electric level float switch K-TEK Products



### Introduction

The MS8F is a single-pole, double-throw electric switch capable of sensing high or low liquid level inside a process vessel. This switch has a stainless steel housing and is hermetically sealed and requires no maintenance. The MS8F can provide either a normally open or normally closed dry contact to activate external devices such as alarms or solenoids. Variations in process fluid specific gravity have minimal effect on the level measured because of the small size of the integral stainless steel float.

The standard unit is installed through a 1" NPT fitting and has a float constructed of 316 SS that will operate in specific gravities down to 0.4 and pressures to 600 psig at 300°F. Due to the length of the float, this switch must have 4" of vertical clearance for the unit to operate. This switch is available with various mounting options and insertion lengths to 24 inches/610mm.

### Features

- Electrical Contacts are Magnetically Isolated from Process
- Stainless Steel Float for Low Pressure / High Temperature Applications
- Mounting Via 1" NPT Process Connection
- Optional Flange Mounting Adapters Available
- Hermetically Sealed SPDT Switch (NO / NC Contact)
- Vibration Resistant
- Switch is Totally Enclosed within Stainless Steel Housing (flying leads)
- Hex Shaped Housing & SPDT Contacts Allow for Easy Installation
- Designed & Constructed to FM, UL, NEMA & ANSI/ISA Guidelines
- Two Standard QuikShip Models with Various Custom Designs Available

**SPECIFICATIONS:**

Switch Type	Magnetically actuated, hermetically sealed bistable switch, SPDT, Form C
Contact Material	Rhodium Alloy
Switch Action	Break before make
Contact Ratings	AC Ratings: 100 VAC, 1 Amp, 100 VA, resistive DC Rating: 100 VDC, 1 Amp, 100 W, resistive (if higher contact ratings are required, see IR10 & PP10 Data Sheets)
Process Temperature	-40 to 302°F / -40 to 150°C
Maximum Pressure	600 psig @ 300°F / 41 bar @ 150°C
Connections	1" MNPT Process, 1/2" FNPT Conduit & AWG 20 Wiring Harness (18 inch); MS8F Housing is 1 3/4" Hex for tightening into process connection.
Insertion Length	10 in. / 254 mm Standard; Optional lengths to 24 in. / 610 mm available
Materials	316 SS Wetted Parts
Specific Gravity	0.4 Minimum (Clean Fluids)
Approvals	General Purpose Only

**ORDERING INFORMATION:**

**Custom Models:**

**MS8F / a / b / c / d:**

**/a Process Connection**

- 10** 1" MNPT **Standard**
- WPx** Welded Flange (use suffix option from Table 1)
- FLx** Loose Flange (use suffix option from Table 1)

**/b Markings**

- X** **Standard** Marking
- NP** Standard Marking with 316 SS Nameplate (includes Customer Specified Tag Number)

**/c Insertion Length**

- E1** 10 in. / 254 mm **Standard**
- E2** 16 in. / 406 mm
- En** Custom Insertion Length; n = 10 to 24 inch / 254 to 610 mm

**Note:** Sizing Calculation for Through Nozzle Installation (Insertion Length - 10 inches = Maximum Nozzle Projection)

**/d Approvals**

- X** None **Standard**

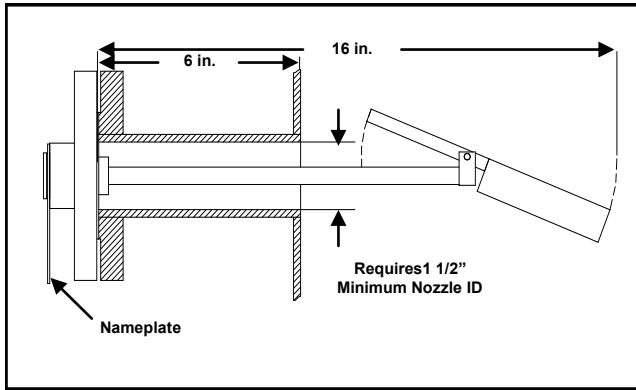
**Accessories:**

- PP10 Pumpak Controller; Two MS8F Switches Required; (i.e. Hi / Lo Control Configuration)
- IR10 Interposing Relay; Only one MS8F Switch Required

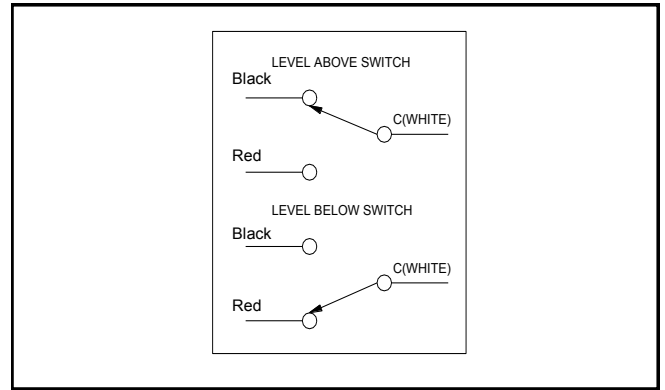
<b>Table 1 Process Connection Options</b>		
	<b>Welded Flange</b>	<b>Loose Flange</b>
<b>Flange Adapter<sup>1</sup></b>	<b>Option (/a)</b>	<b>Option (/a)</b>
1-1/2", 150#	SR151	SRL151
1-1/2", 300#	SR153	SRL153
2", 150#	SR21	SRL21
2", 300#	SR23	SRL23
2-1/2", 150#	SR251	SRL251
2-1/2", 300#	SR253	SRL253
3", 150#	SR31	SRL31
3", 300#	SR33	SRL33
4", 150#	SR41	SRL41
4", 300#	SR43	SRL43
6", 150#	SR61	_____
6", 300#	SR63	_____

<sup>1</sup>All flanges are standard raised face.

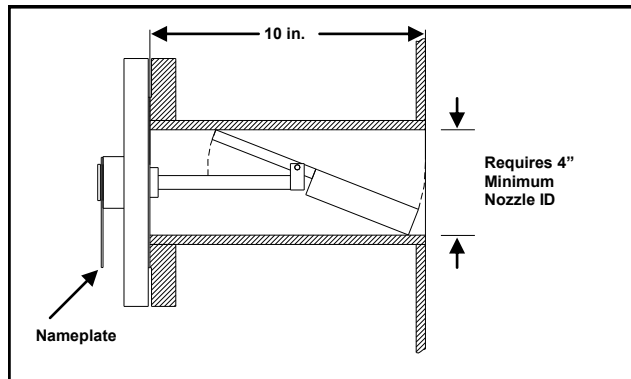
### Typical Through Nozzle Installation



### Operation of Electrical Contacts



### Typical Inside Nozzle Installation



# Contact us

**ABB Inc.**

18321 Swamp Road  
Prairieville, LA 70769 USA  
Phone: +1 225 673 6100  
Service: +1 225 677 5836  
Fax: +1 225 673 2525  
Service e-mail: [service@us.abb.com](mailto:service@us.abb.com)

[www.abb.com/level](http://www.abb.com/level)

**Note**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents - in whole or in parts - is forbidden without prior written consent of ABB.

Copyright© 2012 ABB  
All rights reserved

DS/MS8F-EN Rev. F 06.2012