



PSM INSTRUMENTATION LTD

KD12-H-W-T-A

Float level switch

User Manual

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We confirm that the products mentioned in this manual conform to the required safety standards in accordance with LVD 2006/95/EC

PSM WEEE Producer Registration No WEE/HC0106WW

Burrell Road Industrial Estate, Haywards Heath, West Sussex RH16 1TW, UK
Tel: +44 (0)1444 410040 Fax: +44 (0)1444 410121
[Http://www.psmmarine.com](http://www.psmmarine.com) E-mail: sales@psmmarine.com

Introduction

The PSM KD12 series of float switches provide alarm indication for liquid storage tanks. They are manufactured in a number of versions to provide either high or low level alarm indication and may be fitted with a variety of mounting options and an optional test handle to provide simulation of the alarm condition by mechanical displacement of the float arm.

This manual is issued to provide guidance on a specific version of the KD12 switch:-

Part number KD12-H-W-T-A

Fitted with test handle.

Mounting via JIS 5K 65A flange

Materials: Float SUS 304, SUS 316L

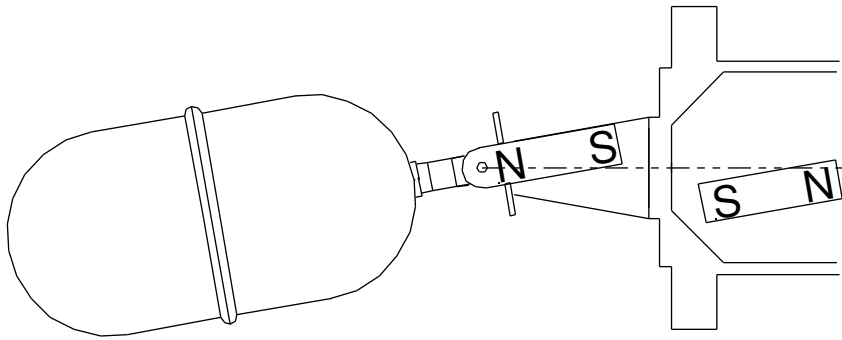
Flange SS41, SUS304, SUS 316L

Cover & Body Aluminium Epoxy coated

Switch Rating ; SPDT 120/250V AC 3A

For dimensional data refer to the included drawing S-001328-SW-GO

Operating Principle



A permanent magnet is located within the float assembly which rises and falls with changing liquid level. A second permanent magnet is positioned within the switch so that the adjacent poles of the two magnets repel one another through a non-magnetic diaphragm.

A change of fluid level moves the float through its permissible travel, this causes the float magnet to move and repel the other magnet to give the snap action operation of the microswitch.

Installation

Ensure that the flange sizes both on the instrument and the mounting location are correct

Check any duty tags to confirm that the switch is being installed for correct application

Confirm operation of switch is appropriate for the correct application (high or low action)

Take care not to damage the float during installation and ensure that the tank penetration is of sufficient size and does not restrict the movement of the float throughout its full arc of operation.

When installing the float level switch in the tank, ensure the correct positioning of the test lever

- High level alarm: test lever at the top.
- Low level alarm: test lever at the bottom.

A suitable gasket material should be installed depending upon the liquid to be monitored. The gasket and all mounting studs / bolts / washers and nuts are shipyard supply.

Tighten the mounting bolts in diagonal sequence and only sufficient to ensure compression of the gasket to ensure a seal.

Electrical Connection

The instrument termination head is fitted with a cable gland suitable for cable O.D. up to 10mm. Ensure that the selected signal cable is an appropriate size for the cable gland to ensure an effective seal when the gland is tightened. The thread for the cable gland is 3/4" if an alternative gland is to be used.

Electrical connection may be either 2 core or 3 core cable depending upon what signals are required to be monitored.

The switch has a changeover action with a common, normally open, and normally closed contact.

A connection diagram specific to the type of switch (High or Low alarm) will be found inside the termination head. The three terminations are marked A and B for Normally Open / Normally Closed and C for Common.

Note: That the reed switch has a rating of 120/250V AC 3A and so connected loads should not exceed this. Attempting to put excessive power through the reed switch will damage it irreparably.

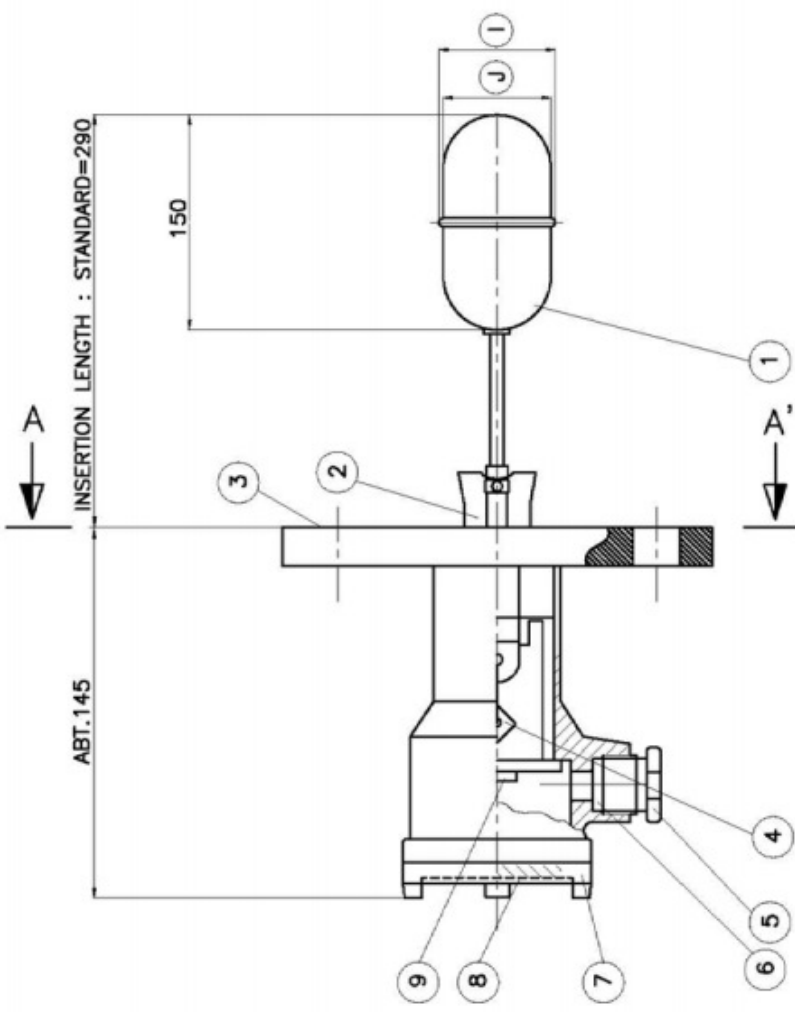
- 1. If the power rating of the switch is greatly exceeded, the contacts will become permanently welded together.**
- 2. If the switch is allowed to arc (spark) as it opens or closes the plated contacts will fail over time. [the greater the arc - the more rapidly failure will occur]**

Testing / Routine Maintenance

Ensure the system is connected to the correct power source to determine switching output.

Check the float level switch input signal either by moving the float by hand or by pushing on the test lever if fitted. The switch contacts should operate as the float / lever is moved.

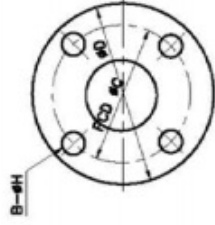
There is no specific requirement for routine maintenance., periodic checks for correct operation once installed should be made by operating the test handle and confirming that the alarm is activated.



VIEW A-A'

FLANGE DIMENSION TABLE

STM SIZE	B	C	D	H	I	J
1 5K65A	4	130	155	15	ø51	ø48

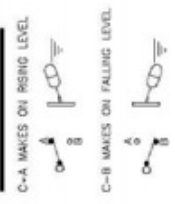


SPECIFICATION

LIQUID :
 MOUNTING : SIDE MOUNTING
 MAX. PRESS. : 7 Kg/cm²
 MAX. TEMP. : 120°C
 SWITCH : SPDT 250V3A
 IP GRADE : 56

NO	DESCRIPTION	MATERIAL	Q'TY	REMARK
9	TERMINAL		1	
8	NAME PLATE	BS	1	
7	COVER	ALC	1	
6	CLAND PACKING	RUBBER	1	
5	CABLE GLAND	BS	1	15C
4	MICRO SWITCH		1	
3	FLANGE	SS400	1	5K65A
2	MAGNET	ALNICO	1	
1	FLOAT	SUS316	1	

WIRING DIAGRAM



SCALE

NTS

UNLESS OTHERWISE STATED DIMENSIONS ARE IN MILLIMETRES / INCHES

TITLE
 Float Switch
 KD12-H-W-O-A

DRAWING NO

S-001328-SW-GO

SHT 1 OF 1

A4



Instrumentation Ltd

Haywards Heath, West Sussex RH16 1TW
 ph: 44 (0) 1444 410040 f: 44 (0) 1444 410121
<http://www.psm-sensors.co.uk>

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