



*HLL Refrigerant Float Switch*

## INTRODUCTION

These Hansen refrigerant liquid level float switches (HLL Series) are used to electrically indicate or control a liquid level by opening or closing a SPDT switch. Their simple, reliable design provides long life performance for almost any application.

## APPLICATIONS

These refrigerant liquid level float switches are typically installed on a vessel's liquid level column. They can control liquid level by controlling a liquid fill solenoid valve. Often, they are used to provide high level cut-out or alarm. In addition, they can be used to turn off a recirculating liquid pump if a low level occurs. Other applications include control of liquid level via a liquid exit solenoid valve, level indication via a pilot light, and transfer drum operation.

## MATERIAL SPECIFICATIONS

Safe Working Pressure: 400 psig (27 bar),  
600 psig (40 bar) for CO<sub>2</sub>

Operating Temperature: -50°F to +150°F  
(-45°C to +65°C)

Connections: 3/4" FPT / 1" Butt Weld combination

Specific Gravity: 0.57 to 1.70

Electrical Switch: 120V, 240V, 10 amp SPDT

Connection: 1/2" NPSM for conduit, optional  
DIN plug (3 wire plus ground)

## Specifications, Applications, Service Instructions & Parts

### REFRIGERANT FLOAT SWITCHES

for Ammonia, R22, R134a, CO<sub>2</sub>  
and Other Approved Liquids

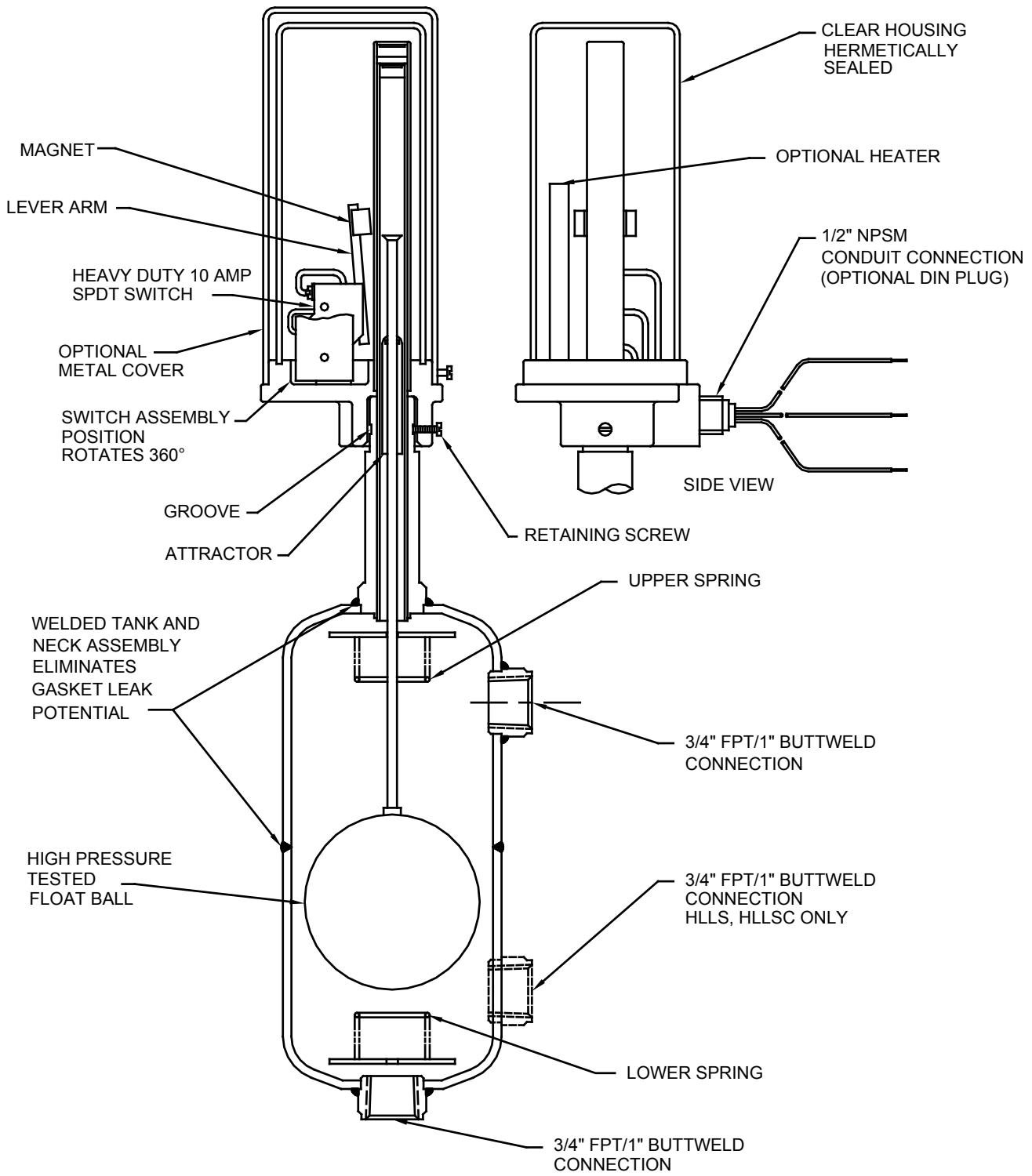


## ADVANTAGES

Innovative features make these float switches the superior selection. To overcome the most common reason for existing float switch failure, switch burnout, a heavy duty 10 amp snap action Honeywell SPDT Micro Switch® is used. This switch is sealed in a clear housing to allow visual confirmation of switch action but protection from tampering. In addition, the switch is surrounded by an inert gas which provides an environment which inhibits corrosion. For ease of installation, switch assembly position rotates 360°. If the switch assembly should ever need to be replaced, simply loosen the retaining screw and lift the float switch assembly off the top of the tank assembly. Optional switch housing heater prevents moisture penetration in humid environments.

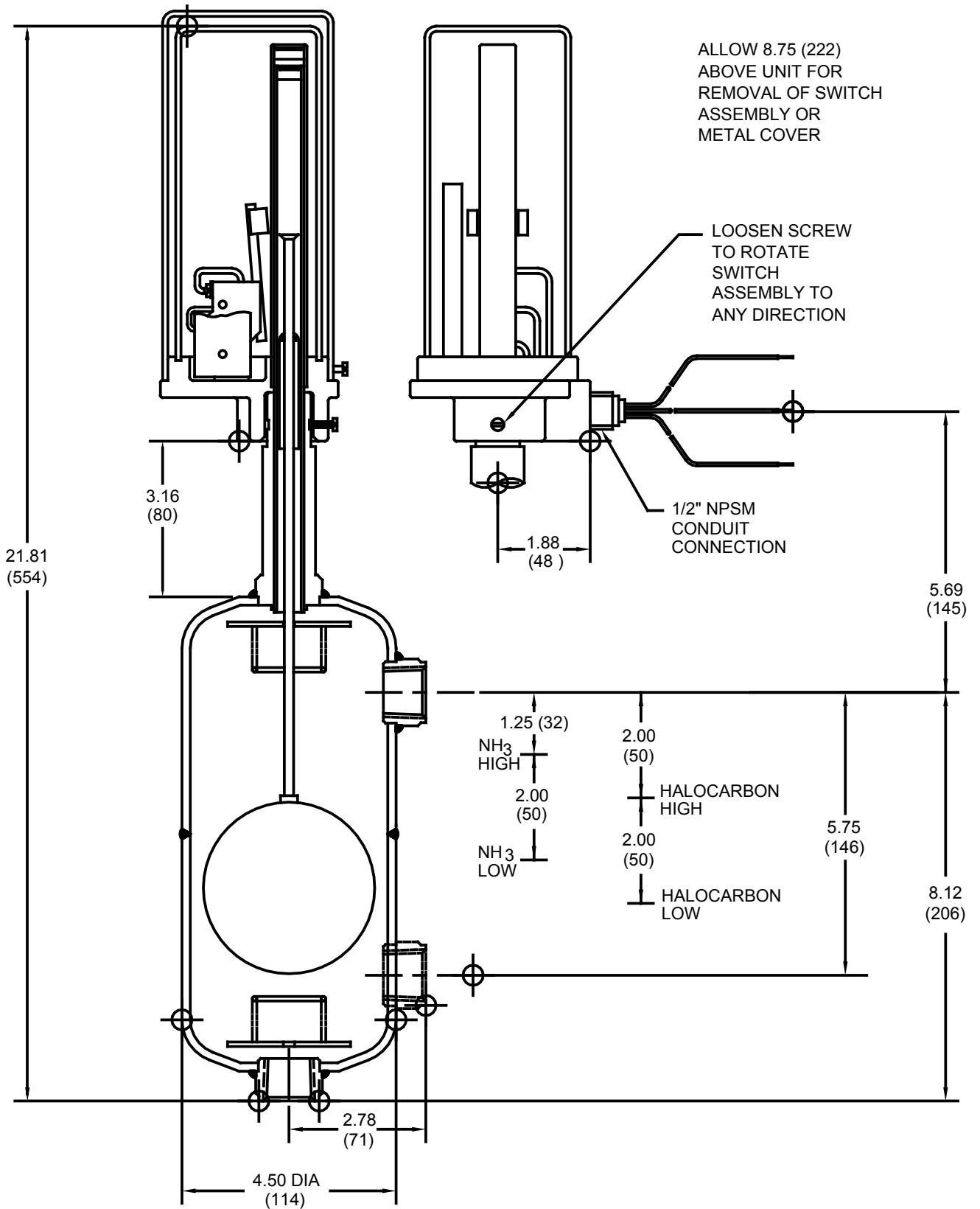
Tank assembly is rugged, steel bodied with unique combination 3/4" FPT / 1" Butt Weld connections. Inside, a high pressure tested float ball moves up and down via a large diameter stem, overcoming potential bending or breakage. Its movement is accurately guided by the attractor and an alignment guide. Therefore, the float ball assembly is not subject to the common, adverse effects of normal oil and sludge build-up on the tank interior walls. A deflector plate across the inlet of the tank assembly protects the float ball against sudden surges and provides smoother operation. In addition, lower and upper cushioning springs provide improved protection for the float ball. A standard 2" (50 mm) differential prevents most short cycling due to momentary changes in liquid level; other differentials down to 0.5" (13 mm) are available. Because the tank assembly is welded, it eliminates gasket leak potential as well as tampering.

# KEY FEATURES



# INSTALLATION DIMENSIONS

INCHES (MM)

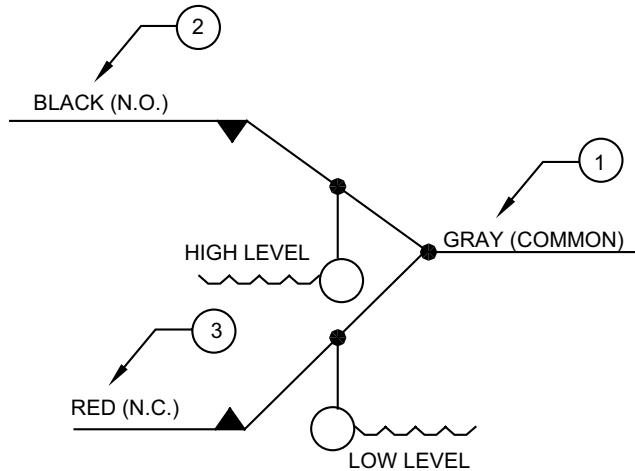


## INSTALLATION INSTRUCTIONS

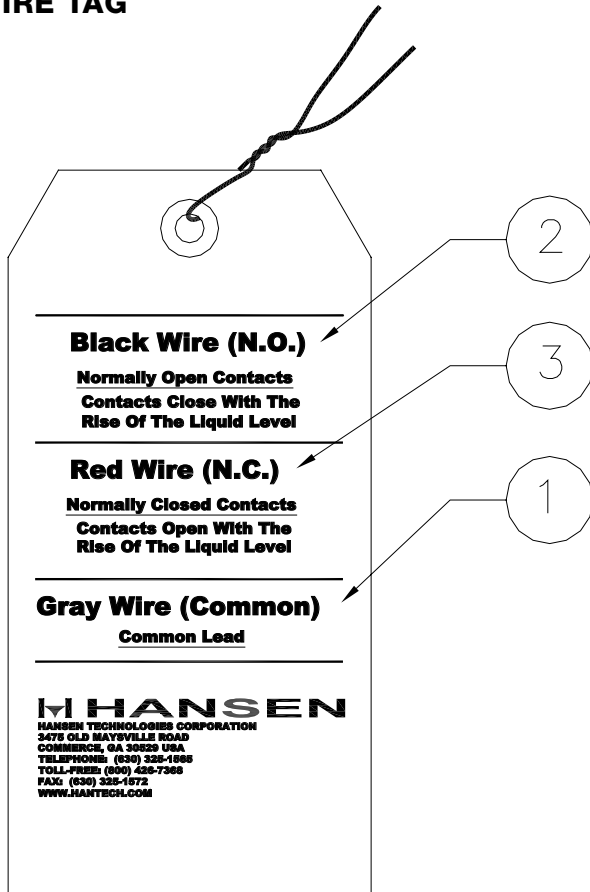
Carefully remove plastic cap and wooden retaining plug from the side connection of the tank and discard. Install tank per proper refrigeration practice being sure tank is vertical in all planes.

Remove the shipping tube from the float switch assembly and discard. Install the float switch assembly on the float switch tank being certain the float switch assembly bottoms on the neck assembly. Warning: Tighten the retaining screw such that the screw tip is in the groove in the neck assembly. If the float switch assembly is not properly positioned and retained, the switch may not function.

## ELECTRICAL WIRING



## WIRE TAG



## CAUTION

Hansen refrigerant float switches are only for refrigeration systems. These instructions and related safety precautions must be read completely and understood before selecting, using or servicing these liquid level monitors. Only knowledgeable, trained refrigeration mechanics should install or service these refrigerant float switches. Stated temperature and pressure limits should not be exceeded. See also the Safety Precautions sheet supplied with product. Escaping refrigerant might cause personal injury, particularly to the eyes and lungs.

## WARRANTY

Hansen electrical parts are guaranteed against defective materials and workmanship for 90 days F.O.B. our plant. All other components are guaranteed for one year F.O.B. our plant. No consequential damage or field labor is included.

## ORDERING INFORMATION

CAT NO	DESCRIPTION
HLL	Standard Float Switch with Side & Bottom Connections
HLLS	Universal Float Switch with 2 Side & 1 Bottom Connections
HLLC	HLL with Protective Metal Cover
HLLSC	HLLS with Protective Metal Cover
HLLSW	Switch Assembly Only, Hermetic (fits all above HLL models)
E	European DIN Plug Construction (add E suffix to any of the above HLL models)
COV	Metal Cover Only (fits HLL)
HTR1*	10 Watt 115V Heater (fits HLL)
HTR2*	10 Watt 230V Heater (fits HLL)

Specify Catalog Number. To order float switch with heater, add H suffix; Example: HLLH and specify voltage. Heater can also be retrofitted.

## HANSEN

Hansen Technologies Corporation  
400 Quadrangle Drive, Suite F  
Bolingbrook, Illinois 60440 USA  
Tel: 630.325.1565 Fax: 630.325.1572 Toll: 866.4HANSEN  
Email: sales@hantech.com Web: www.hantech.com  
USA · Asia · Europe · India · Latin America · Middle East  
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