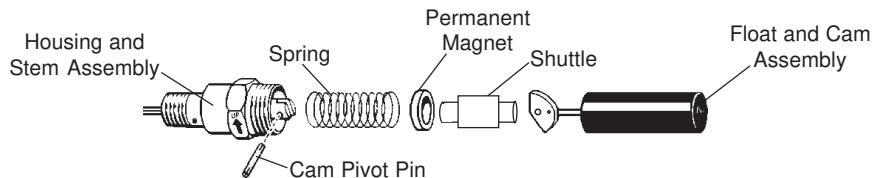


Maintenance . . .

An occasional cleaning when excessive contamination is present in the liquid is all that is normally required. **To clean unit:** Compress split end of cam pivot pin, remove pin and disassemble unit as shown below. Wipe parts clean with hydrocarbon solvent and reassemble unit. Lock cam pivot pin by spreading split end slightly with screwdriver.

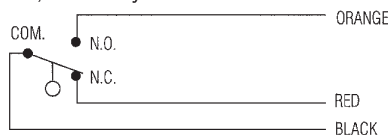


Electrical Connection . . .

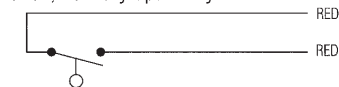
Electrical connection is provided by wire leads with 1/2" NPT or junction box with 1/2" NPT.

Typical Wiring Diagrams . . .

SPDT, Shown Dry



SPST, Normally Open - Dry



SPST, Normally Closed - Dry



Important Points!

Product must be maintained and installed in strict accordance with the National Electrical Code and GEMS technical brochure and instruction bulletin. Failure to observe this warning could result in serious injuries or damages.

An appropriate explosion-proof enclosure or intrinsically safe interface device must be used for hazardous area applications involving such things as (but not limited to) ignitable mixtures, combustible dust and flammable materials.

*** Warning: To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Pressure and temperature limitations shown on individual catalog pages and drawings for the specified level switches must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/temperatures and their frequencies.

Selection of materials for compatibility with the media is critical to the life and operation of GEMS level switches. Take care in the proper selection of materials of construction; particularly wetted materials.

Life expectancy of switch contacts varies with applications. Contact GEMS if life cycle testing is required.

Ambient temperature changes do affect switch set points, since the specific gravity of a liquid can vary with temperature.

Level switches have been designed to resist shock and vibration; however, shock and vibration should be minimized.

Liquid media containing particulate and/or debris should be filtered to ensure proper operation of GEMS products.

Electrical entries and mounting points may require liquid/vapor sealing if located in an enclosed tank.

Level switches must not be field repaired.

Physical damage sustained by the product may render it unserviceable.



LS-2050/LS-52100 Series Side-Mounted Level Switches Instruction Bulletin No. 72950

Units are side-mounted in the tank at the point of high, low or intermediate level sensing. Ideal for tanks with "hard-to-get-at" tops or bottoms. Float and cam action is positive. Standard versions are U.L. Recognized - File No. E45168. Explosion-proof units are approved for Class I, Division I, Group D hazardous areas.

Standard Versions	Explosion-Proof Versions		Switch*
	FM Approved	CSA Listed	
LS-2050's			
30288	----	----	SPDT, 20 VA
30290	55690	55690	SPDT, 20 VA
48068	----	----	SPST, 100 VA, N.O.**
48069	----	----	SPST, 100 VA, N.C.**
LS-52100's			
52100	121753	121753	SPDT, 20 VA
116971	----	----	SPST, 100 VA, N.O.**
116972	----	----	SPST, 100 VA, N.C.**

*See "Electrical Data" on next page for more information

**100 VA switches are not UL recognized or CSA listed

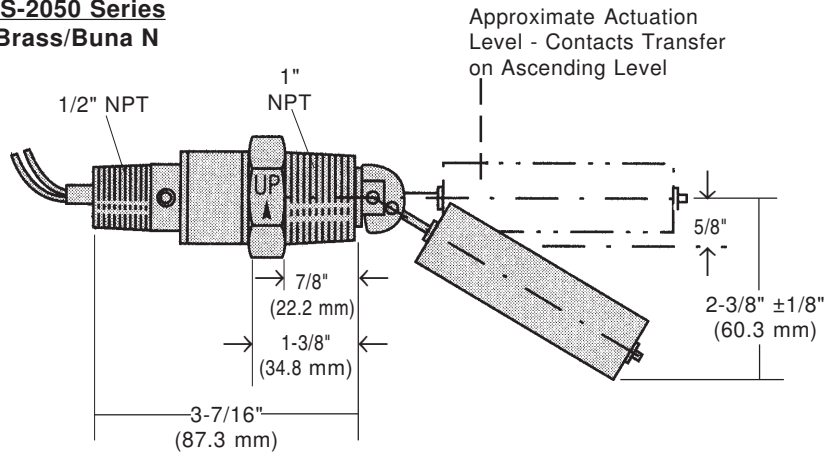
Specifications . . .

Specifications . . .	LS-2050		LS-52100
	Stem & Mtg Material	Brass	316 SS
Float Material	Buna N	316 SS	304 SS
Other Wetted Materials	316 SS, Beryllium Copper, Teflon, Ceramic	SS, Teflon, Ceramic	Teflon, Ceramic
Operating Temp °F	Water: To +180°F Oil: -40° to +250°F	-40°F to +300°F	
PSIG, Max. @ 70°F	150	900	500
Mounting Attitude	Horizontal: ±15°		
Switch Differential (In Liquid)	1/2" Min.	Approx. 3/4"	
Liquid Specific Gravity	.8 Min.	.9 Min.	.85 Min.
Lead Wires	#18 AWG, 24" L., Polymeric		

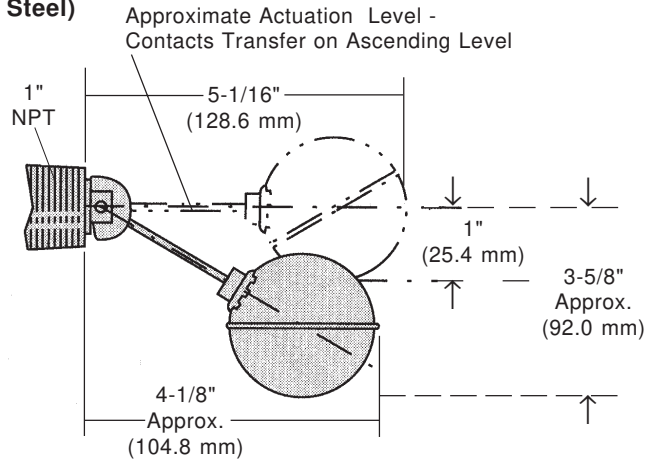


Dimensional Data . . .

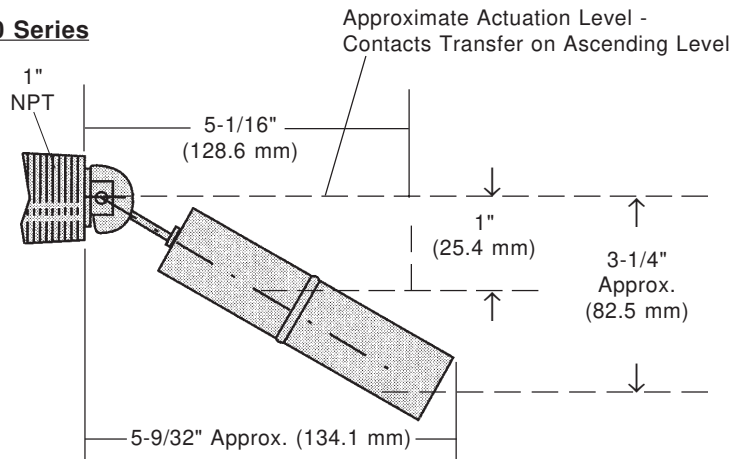
LS-2050 Series (Brass/Buna N)



LS-2050 Series (All Stainless Steel)



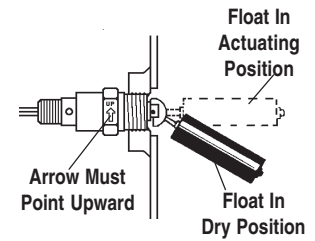
LS-52100 Series



To Install LS-52100 Series or LS-2050 Series Units with Buna N Float . . .

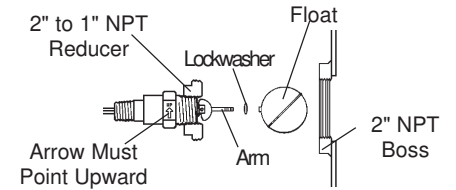
Insert unit from the outside through 1" NPT boss in the tank side and tighten so that the arrow on the unit housing is pointing upward.

Important: Units should be installed in environments free from excessive contamination and high shock.

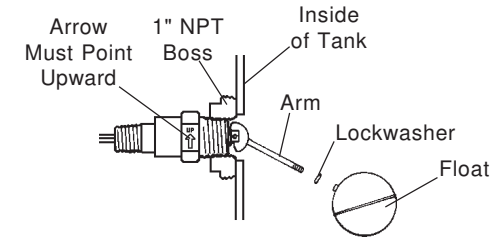


To Install LS-2050 Series Units with Stainless Steel Float . . . (Use either Method A or Method B shown below)

Method A: From outside of tank. Unscrew and remove float and lockwasher from unit arm. Thread a 2" to 1" NPT reducer (by others) onto unit and reassemble float and lockwasher. Insert unit and reducer in 2" NPT boss in tank side and tighten so that arrow on unit housing points upward.



Method B: When inside of tank is accessible. Unscrew and remove float and lockwasher from unit arm. Insert unit in 1" NPT boss in tank and tighten so that arrow on housing points upward. Reassemble float and lockwasher on unit arm from inside of tank.



Electrical Data . . .

Switch Ratings - Max. Resistive Load

VA	Volts	Amps A.C.	Amps DC
20	0-30	.4	.3
	120	.17	.13
	240	.08	.06
100*	120	.8**	N.A.
	240	.4	N.A.

* 100 VA switches are not U.L. Recognized or CSA listed

** Limited to 50,000 operations.



This product is suitable for Class I and Class II applications only, per the requirements of standard EN60730 and any additional specific requirements for a particular application or medium being sensed. Class I compliance of metal bodied units requires a ground connection between the metal body and the earthing system of the installation. Class I compliance of plastic bodied units in contact with a conductive medium requires that the medium be effectively earthed so as to provide an earthed barrier between the unit and accessible areas. For Class III compliance, a supply at safety extra-low voltage (SELV) must be provided. Please consult the Factory for compliance information on specific part numbers.

European Pressure Directive

The product is designed and manufactured in accordance with Sound Engineering Practice as defined by the Pressure Equipment Directive 97/23/EC. This product must not be used as a "safety accessory" as defined by the Pressure Equipment Directive, Article 1, Paragraph 2.1.3. The presence of a CE Mark on the unit does not relate to the Pressure Equipment Directive.