

LIQUID LEVEL SWITCHES

NPT Type

The function of a Liquid Level Switch is to detect and monitor liquid level in a vessel.

Applications

Henry Technologies' Liquid Level Switches are designed for use in a variety of refrigeration and industrial applications. Liquid Level Switches can be installed in Liquid Receivers, Suction Line Accumulators, compressor crankcases, or a variety of other applications, to detect and monitor fluid levels.

Henry Technologies' Liquid Level Switches are suitable for use with ammonia, HFC and HCFC refrigerants and their associated oils, as well as other industrial fluids non-corrosive to steel and glass.

Main Features

- Patented optical sensor technology*
- NPT connection to liquid
- 1/2" conduit connection for wiring
- High and Low Voltage models
- Serviceable without refrigerant loss
- NEMA 4 and 4X approved
- Replacement parts available

How it Works

The Liquid Level Switches use light reflecting from a conical glass prism as a means of detecting the absence of a fluid at the level of the glass cone. When no fluid covers the lower half of the cone, infrared light from the module reflects from the mirror-like inner surface of the cone back to a light detector signaling the electric module to switch. When fluid covers the lower half of the glass cone, the light from the module passes into the fluid. This absence of light is detected by the module which switches into the opposite direction.

Technical Specifications

Maximum working pressure = 1200 PSI (82.7 Bar)

Allowable operating temperature = -40°F to +200°F (-40°C to +93.3°C)

Switch Inductive Rating = 36 VA Pilot Duty Rated

Power for Operation = 3.5 mA AC, 5.5 mA DC

Minimum Load = 2 mA (without bleed resistor)

Henry Technologies' Liquid Level Switches meet the requirements of UL 873 and UL 207 and are USR and CNR recognized by Underwriters Laboratories, Inc. Additionally, Liquid Level Switches are CE marked in accordance with PED.

Materials of Construction

The Level Switch Housing is made of plated steel with hermetically sealed soda lime glass prism. The Level Switch is secured in the housing with a plated steel retainer and sealed with a silicon O-ring.

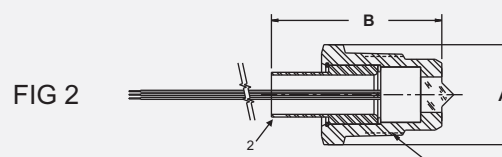
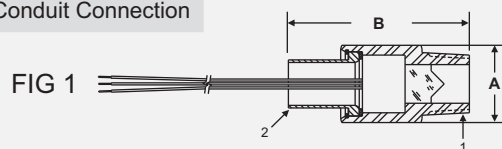


Installation - Notes

1. Liquid Level Switches must be installed horizontally. Switches cannot be mounted at an angle or vertically.
2. When installed, no objects are to be within 2" of the glass prism.
3. Install Level Switches with a socket wrench to avoid glass cracking. An open-end wrench should not be used.
4. The user must ensure the Liquid Level Switch is installed with appropriate thread sealant for the application.
5. Wiring diagrams are included with the full instructions given in the Product Instruction Sheet, included with each unit.

1 NPT Connection

2 1/2" Conduit Connection



Part No	NPT (inch)	Fig No	Dimensions (inch)	
			A (hex)	B
S-9400 Series	1/2	1	1-1/8	2.55
S-9400-1 Series	1	2	1-3/8	2.73

Part No	Voltage	Resistive Rating (Amp)	Contacts with Liquid Present	Wire color Code	Replacement Module
S-9400	120VAC 50/60 Hz	0.5	Closed	Yellow & White	2-044-012
S-9400-1	120VAC 50/60 Hz	0.5	Closed	Yellow & White	2-044-012
S-9400A	120VAC 50/60 Hz	0.5	Open	Yellow & White/Stripe	2-044-017
S-9400A-1	120VAC 50/60 Hz	0.5	Open	Yellow & White/Stripe	2-044-017
S-9420	208/240VAC 50/60 Hz	0.25	Closed	Red & White	2-044-015
S-9420-1	208/240VAC 50/60 Hz	0.25	Closed	Red & White	2-044-015
S-9420A	208/240VAC 50/60 Hz	0.25	Open	Red & White/Stripe	2-044-018
S-9420A-1	208/240VAC 50/60 Hz	0.25	Open	Red & White/Stripe	2-044-018
S-9424	24 V AC/DC	0.5	Closed	Orange & White	2-044-013
S-9424-1	24 V AC/DC	0.5	Closed	Orange & White	2-044-013
S-9424A	24 V AC/DC	0.5	Open	Orange & White/Stripe	2-044-020
S-9424A-1	24 V AC/DC	0.5	Open	Orange & White/Stripe	2-044-020

LIQUID LEVEL SWITCHES

Sight Glass Type

The function of a Liquid Level Switch is to detect and monitor liquid level in a vessel.

Applications

Henry Technologies' Liquid Level Switches are designed for use in a variety of refrigeration and industrial applications. The E-Series Liquid Level Switches are designed to be used with the Henry Technologies' LI-50 Series Sight Glass. The Sight Glasses and Liquid Level Switches can be installed on Liquid Receivers, Suction Line Accumulators, compressor crankcases, or a variety of other applications, to detect and monitor fluid levels.

Henry Technologies' Liquid Level Switches do not come in contact with the fluid being monitored. However, the LI-50 Series Sight Glasses are suitable for use with ammonia, HFC and HCFC refrigerants and their associated oils, as well as other industrial fluids non-corrosive to steel and glass.

Main Features

- Patented optical sensor technology*
- Installed on existing Sight Glasses
- 1/2" conduit connection for wiring
- High and Low Voltage models
- Serviceable without refrigerant loss
- Replacement parts available

How it Works

The Liquid Level Switches use light reflecting from a conical glass prism as a means of detecting the absence of a fluid at the level of the glass cone. When no fluid covers the lower half of the cone, infrared light from the module reflects from the mirror-like inner surface of the cone back to a light detector signaling the electric module to switch. When fluid covers the lower half of the glass cone, the light from the module passes into the fluid. This absence of light is detected by the module which switches into the opposite direction.

Technical Specifications

Maximum working pressure LI-50 = 500 PSI (34.4 Bar)
Allowable operating temperature = -40°F to +200°F (-40°C to +93.3°C)

Switch Inductive Rating = 36 VA Pilot Duty Rated
Power for Operation = 3.5 mA AC, 5.5 mA DC
Minimum Load = 2 mA (without bleed resistor)

Henry Technologies' Liquid Level Switches meet the requirements of UL 873 and UL 207 and are USR and CNR recognized by Underwriters Laboratories, Inc. Additionally, Liquid Level Switches are CE marked in accordance with PED.

Materials of Construction

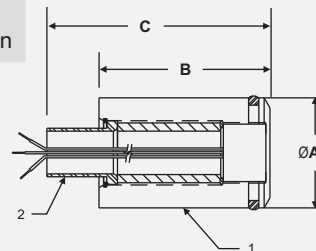
The Level Switch Housing is made of Lucite and is sealed with a synthetic rubber O-ring.



Installation - Notes

1. E-9400 Series Liquid Level Switches are installed using an existing LI-50 Series Sight Glass.
2. The Liquid Level Switch must be installed so that the module is touching the Sight Glass face.
3. The Sight Glass and Liquid Level Switch must be installed horizontally. Switches cannot be mounted at an angle or vertically.
4. Wiring diagrams are included with the full instructions given in the Product Instruction Sheet, included with each unit.

- 1 Lucite Body
- 2 1/2" Conduit Connection



Part No	Connection	Dimensions (inch)		
		ØA	B	C
E-9400 Series	LI-50-3AR	1.61	2.5	3.26

Part No	Voltage	Resistive Rating (Amp)	Contacts with Liquid Present	Wire color Code	Replacement Module
E-9400	120VAC 50/60 Hz	0.5	Closed	Yellow & White	2-044-012
E-9400A	120VAC 50/60 Hz	0.5	Open	Yellow & White/Stripe	2-044-017
E-9420	208/240VAC 50/60 Hz	0.25	Closed	Red & White	2-044-015
E-9420A	208/240VAC 50/60 Hz	0.25	Open	Red & White/Stripe	2-044-018
E-9424	24 V AC/DC	0.5	Closed	Orange & White	2-044-013
E-9424A	24 V AC/DC	0.5	Open	Orange & White/Stripe	2-044-020