

AUTOMATION

PRODUCTS
GROUP, INC.

Operator's Manual

LF Series

Model LFP-V

Miniature Level Switch

Doc #9004722 / Part #200437

Rev. A2, 11/19



Automation Products Group, Inc.

Tel: 1/888/525-7300 • Fax: 1/435/753-7490 • www.apgsensors.com • E-mail: sales@apgsensors.com

Table of Contents

Warranty	3
Introduction.....	4
Specifications.....	4
Installation	5
Wiring	7

- **Warranty and Warranty Restrictions**

This product is covered by APG's warranty to be free from defects in material and workmanship under normal use and service of the product for 24 months. For a full explanation of our Warranty, please visit <https://www.apgsensors.com/about-us/terms-conditions>. Contact Technical Support to receive a Return Material Authorization before shipping your product back.

Scan the QR code below to read the full explanation of our Warranty on your tablet or smartphone.



• Introduction

The miniature magnetic level sensors are used for liquid level detection. They have been designed for reliable operation in small tanks and containers. Their rugged design and careful engineering make them the optimum solution for OEM and large volume applications.

• Specifications

Operational Versions

LFP-V-2A	polycetal stem and buna float
LFP-V-2B.....	brass stem and buna float
LFP-V-2F	PVDF stem and PVDF float
LFP-V-2P	polypropylene stem and polypropylene float

Characteristics

Switch Rating (resistive load) (50 VA):

Max contact rating.....50 VA AC; 50 W DC

Max current.....0.5 A AC; 0.5 A DC

Max voltage.....300 V AC; 300 V DC

Life expectancy..... 10^7 operations (at 12 VDC, 5 mA)

Max temperature range-14 to 194°F (-10 to 90°C)
for LFP-V-2A, LFP-V-2B, and LFP-V-2P
-4 to 175°F (-20 to 80°C)
for LFP-V-2F-300
-14 to 104°F (-10 to 40°C)
for LFP-V-2F-1000

Max pressure145 psi (10 bar) for LFP-V-2A,
LFP-V-2B, LFP-V-2F-1000, and LFP-V-2P
28.4 psi (1.96 bar) for LFP-V-2F-300

Min SG.....0.6 for LFP-V-2A, LFP-V-2B
0.85 for LFP-V-2F-300 and LFP-V-2P
0.9 for LFP-V-2F-1000

• **Installation**

Environment

The LFP should be installed in an area that meets the following conditions:

- Within the specified temperature range.
- Located away from any strong magnetic field.
- Located away from drop, splash or vapor around the lead wire egress.

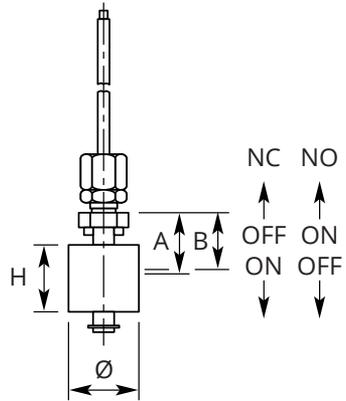
Note: Apply the proper sealing compound over the lead wire egress if necessary. Liquid penetration may ruin insulation.

- Clean liquid, free from any foreign matter.
- Ample space for maintenance/ inspection.

Location

DO NOT locate near liquid inlets/ outlets.

If there is surface wave motion, use a time delay relay to dampen the switch action.



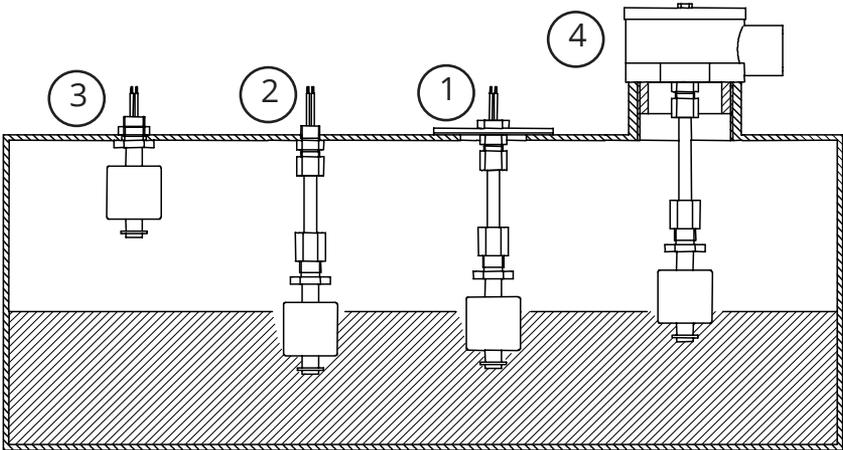
Point of operation in SG = 1.0 (water)

	2A	2B	2P	2F-1000
NC-A: Falling switch closes at	24.5	21.5	20.0	19.0
NC-B: Rising switch opens at	23.0	20.0	18.5	17.5
NO-A: Falling switch opens at	22.5	19.5	17.0	16.5
NO-B: Rising switch closes at	21.0	18.0	15.5	15.0
Size of float	ø25xH25	ø25xH25	ø25xH25	ø25xH25

Note: Standard switch operation is NC (switch closes as the level falls). Switch action can be reversed by inverting the float. The direction of close is marked on the float.

Installation

Install the LFP vertically with the lead wires up and down.

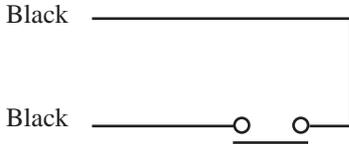


1. **Flange:** Open holes (as necessary) through top of tank. Insert float and tighten the nut. Be sure to use a suitable gasket, O-ring, or thread tape. Use a 1/4" pipe for extension, if necessary.
2. **Threaded:** Use R1/8" or G1/8" female thread in top of tank. Use suitable O-ring or thread tape.
3. **Bulkhead:** Drill a 10 mm (0.4") hole in tank top. Insert and tighten the nut. Use a suitable O-ring or thread tape.
4. **Terminal Box:** Provide G2" female mounting boss. Use suitable O-ring or thread tape.

Note: After assembling the extension pipe, check insulation (100 MW or more) and switch operation. Improper assembly or seal may result in damage or injury.

• Wiring

Wiring should be in accordance with all local codes. Lead wires are 22 AWG, UL listed. We recommend the use of solderless lugs for connection.



Switch Rating (Resistive)

- Max capacity 50 VA, 50 W
- Max current 0.5 A AC, 0.5 A DC
- Max voltage 300 VAC, 300 VDC

Note: Max pull-load of the lead wire is 20 N. Excessive pulling or kinking of the lead wire may break the switch.

Caution!

Protection for electrical surges:

• Overvoltage

Reed switches are not designed for the direct starting of inductive loads such as motors, contactors, solenoid valves, and so on. They are susceptible to damage from overvoltages. **DO NOT EXCEED THE CONTACT RATINGS.** Contact should be wired to miniature relays, suppressors or similar devices.

• Overcurrent

Momentary surge current may be produced by switching lamps or stray capacity from long cable length, consequently welding the reed switch. Contact should be wired to a relay unit, coils in series, or suppressors.

AUTOMATION

PRODUCTS
GROUP, INC.



Automation Products Group, Inc.

Tel: 1/888/525-7300

1/435/753-7300

Fax: 1/435/753-7490

e-mail: sales@apgsensors.com

www.apgsensors.com

Automation Products Group, Inc.

1025 W. 1700 N.

Logan, UT 84321