

# Float Actuated Oil Level Swichgage® instrument Installation Instructions

## Models L100, L100W, L120, L127, and L128



Read the following information before installing. A visual inspection of this product for damage during shipping is recommended before mounting. These installation instructions are intended for all L100, L120, L127, and L128 Series models.

### GENERAL INFORMATION

## WARNING

**BEFORE BEGINNING INSTALLATION OF THIS MURPHY PRODUCT**

- ✓ Disconnect all electrical power to the machine.
- ✓ Make sure the machine cannot operate during installation.
- ✓ Follow all safety warnings of the machine manufacturer.
- ✓ Read and follow all installation instructions.



### Description

The L100, L100W series are general purpose level Swichgage instruments designed for small engines and pumps. They connect to the crankcase through a 1/4 NPT pipe nipple and/or 1/2 NPT fittings.

The L120, L127 and L128 series Lube Level Swichgage instruments are designed for specific engines and mount directly to the machined surface on the crankcase.

- L120 Series fits engines previously manufactured by Witte Engine Works, Lufkin Industries and now manufactured by Arrow Speciality Company.
- L127 Series fits Fairbanks-Morse ZC series engines, Bell Manufacturing, and similar engines.
- L128 Series fits Arrow Speciality engines and the Climax/Continental Emsco series.

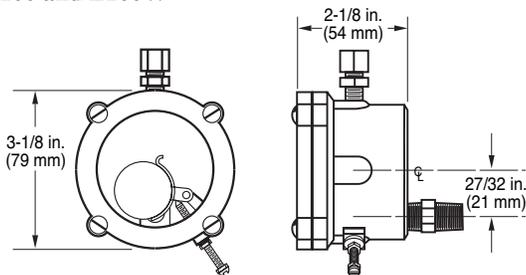
### Specifications

	Contact Rating	Case	Float	Gasket
<b>L100/L100W</b>	2A 30 V	Aluminum	Brass	Neo-Cork
<b>L120</b>	2A 30 V	Aluminum	Brass	Buna-N
<b>L127</b>	2A 30 V	Nylon	Brass	Buna-N
<b>L128</b>	2A 30 V	Nylon	Brass	Neo-Cork

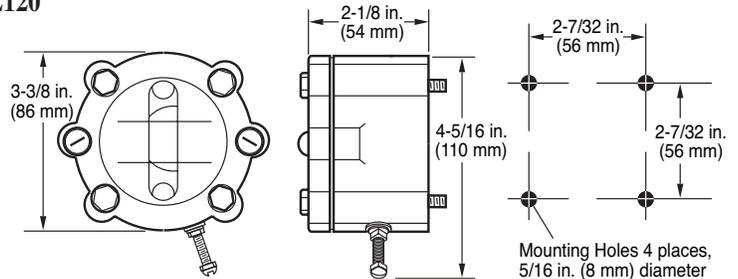
† Products covered by this literature comply with EMC Council directive 89/336/EEC regarding electromagnetic compatibility except as noted.

### DIMENSIONS

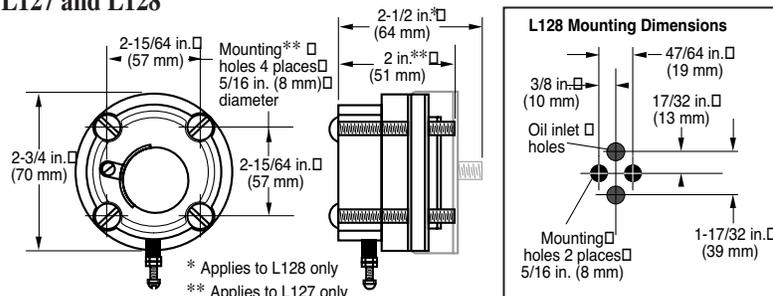
#### L100 and L100W



#### L120



#### L127 and L128



## INSTALLATION



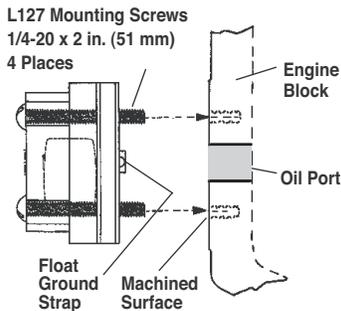
**WARNING: Disconnect all electrical power from the equipment and disable the equipment so it cannot start during the installation period.**

### Models L100, L100W

1. Install the pipe fittings into the crankcase drain or other fitting in the bottom of the crankcase. Use Teflon tape or non-hardening thread sealant. A tee should be installed so that it can be used as the crankcase drain. Be sure to install a pipe plug in the open side of the tee.
2. For crankcases vented to atmosphere, install the 1/4 in. (6 mm) tube fitting and cane in the top of the L100/L100W. For non-atmospheric crankcases, install the tube fitting and connect 1/4 in. (6 mm) copper tubing to a suitable fitting in the crankcase cavity above the normal operating and splash level of the lubricant. Note that the tube must remain open at all times and that it can be closed by oil splash. This will cause improper operation of the lube level Switchgauge instrument.

### Models L120, L127 and L128

1. All mounting surfaces must be clean of oil, grease, and dirt.
2. Be sure the mounting plate to engine crankcase gasket is properly aligned with the bolt hole and mounting plate hole patterns.
3. **FOR THE L127**, be sure that the float grounding strap extends into the crankcase cavity and fits tight against the crankcase.



4. Tighten mounting screws in a crisscross pattern. Do not overtighten the screws as this may cause case or mounting plate distortion resulting in oil leakage.

### All Models

1. Fill the crankcase with oil to the engine manufacturer's specified **LOWEST** level.
2. **IMPORTANT:** Adjust the low level contact screw so that the circuit "makes" (check continuity with an Ohm meter). Contact is **NOT** factory set.
3. Fill the crankcase to "full" level and observe that the float has risen and no longer "makes" with the low level contact. If the Switchgauge instrument also has a high level contact the float should **NOT** "make" with the high level contact with normal oil level. Set the high level contact at an appropriate setting for a crankcase overflow condition.
4. Attach appropriate wiring to the engine shutdown or alarm system. Consult appropriate Murphy or engine manufacturer's wiring instructions. Typical wiring is shown below.
5. Start the engine and verify that the oil level remains in a "safe" running level and that there are no oil leaks. Allow the engine to warm up and check that mounting screws are tight. **CAUTION:** Do not over tighten.
6. To check switch operation, open crankcase drain to allow oil level to drop until the low level contact "makes" and shuts down the engine. Refill crankcase.



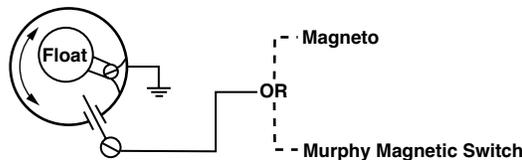
**CAUTIONS: Do NOT paint L127 or L128. Do NOT clean L127 or L128 with caustic or abrasive solutions or compounds. Do NOT clean L127 or L128 with solvents. Clean ONLY with soap and water.**

## TYPICAL WIRING DIAGRAM



**CAUTION: Perform the wiring operation with the power source off. Observe all contact and voltage ratings.**

The oil level Switchgauge instrument can be connected to a Murphy magnetic switch or magneto. Switch contact rating is 2 A @ 30 VAC/DC resistive, circuit closes to ground.



## Warranty

A limited warranty on materials and workmanship is given with this Murphy product. A copy of the warranty may be viewed or printed by going to [www.fwmurphy.com/warranty](http://www.fwmurphy.com/warranty)

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