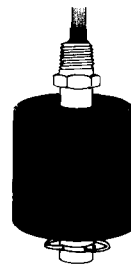




LV-10, LV-20, LV-30 Series
Liquid Level Switches
Operator's Manual: M0474/1092



GENERAL DESCRIPTION

The OMEGA® LV-10 Series Level Switches feature a small float displacement, especially suited for narrow or restricted areas. A standard NPT male fitting allows for quick installation in either the top or bottom of the tank or vessel. A sealed SPST switch provides consistent accuracy and high repeatability with the effects of shock, vacuum or vibration minimized. Extremely versatile, the switch is user selectable as normally open (N.O.) or normally closed (N.C.) by simply removing the retaining clip and inverting the position of the float.

For intermediate float displacement, the LV-20 Series will yield long life and greater stability for a broad range of level monitoring requirements. The LV-30 Series larger float displacement is intended for use with liquids of high viscosity, and is well suited for harsh environments. Both models share the standard features of the LV-10.

For pump-up/pump-down application, use OMEGA's SSRL series pump-down module. For applications requiring higher current or voltage ratings, use OMEGA's SSR240AC series solid state relays.

SPECIFICATIONS

STEM MATERIAL:	Brass, models LV-10, LV-20, LV-21, LV-30, LV-31; 316SS, models LV-11, LV-22, LV-23, LV-32, LV-33
FLOAT MATERIAL:	Buna N
OTHER WETTED MATERIAL:	316SS and Hysol
OPERATING TEMPERATURE:	Water: -40 to 180°F; Oil: -40 to 230°F
PRESSURE RATING:	150 PSI
SWITCH:	SPST
SWITCH ACTUATION:	Approx. ½ the distance from end of stem to mounting, or at halfway point of float travel.
SWITCH RATING:	Models LV-10, LV-11: 10VA; Models LV-20, LV-22, LV-30, LV-32: 20VA; Models LV-21, LV-23, LV-31, LV-33: 100VA
LEAD WIRES:	22 awg 24" polymeric for LV-10 and LV-20 Series; 18 awg 24" polymeric for LV-30 Series
SPECIFIC GRAVITY OF FLOAT:	LV-10 Series = 0.55; LV-20 Series = 0.59; LV-30 Series = 0.43. To determine minimum fluid specific gravity, add 0.1 to float specific gravity in clean liquid and 0.3 to float specific gravity in dirty water or viscous liquids.

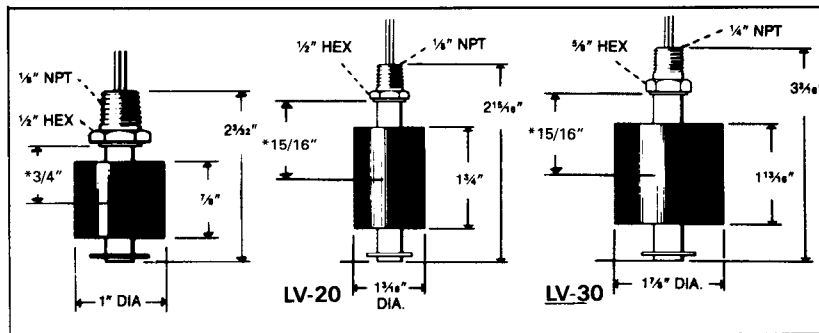
NOTE:

The reed relays in these level switches are intended to switch low level loads such as small light bulbs or logic signals to a computer or PLC. When switching inductive loads such as relays, solenoids, transformers, etc., or for applications requiring higher current or voltage ratings, use OMEGA's SSR240AC series solid state relays for switching AC loads.

SWITCH RATINGS - MAX. RESISTIVE LOAD

VA	Volts	Amps AC	Amps DC
10	0-50	.2	.13
	120	.08	.05
	240	.04	.02
20	0-30	.4	.3
	120	.17	.13
	240	.08	.06
100	120	.8*	N. A.
	240	.4	N. A.

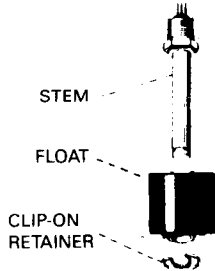
* Limited to 50,000 operations.



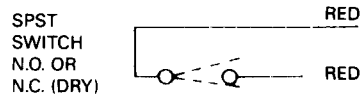
* Note: All switch actuation points have a tolerance of $\pm 1/8$ ".

REVERSING SWITCH OPERATION

The switch is user selectable as normally open or normally closed (dry). Simply remove the retaining clip and invert the position of the float. It is not necessary to disturb the installation.

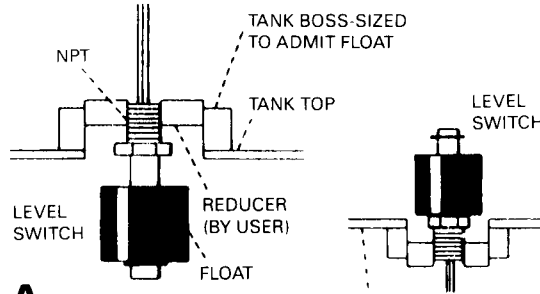


WIRING DIAGRAM

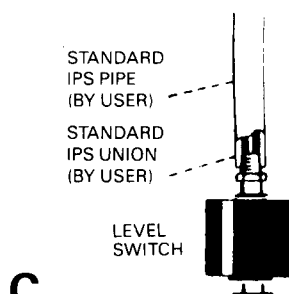


INSTALLATION

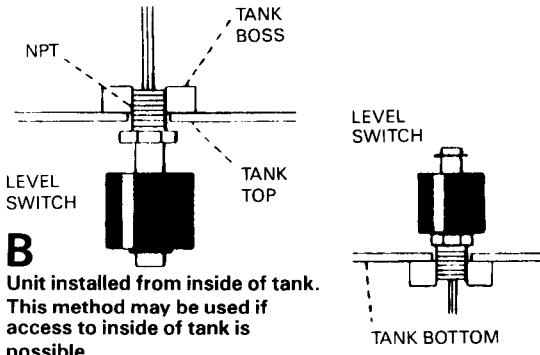
Install units vertically in tank top or bottom using Methods A, B, C or D (below).
 Note: Units will operate normally inclined up to 30°.



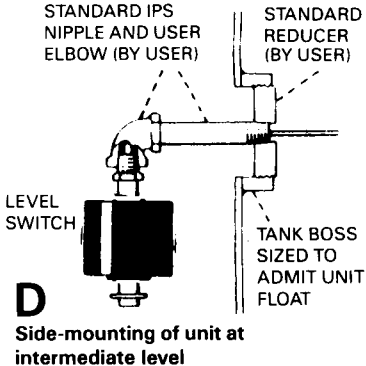
A
 Unit installed from outside of tank



C
 Extending level switch unit to intermediate level



B
 Unit installed from inside of tank.
 This method may be used if access to inside of tank is possible.



D
 Side-mounting of unit at intermediate level

NOTES:



Servicing USA and Canada: Call OMEGA Toll Free

USA

One Omega Drive, Box 4047
Stamford, CT 06907-0047
Telephone: (203) 359-1660
FAX: (203) 359-7700

Canada

976 Bergar
Laval (Quebec) H7L 5A1
Telephone: (514) 856-6928
FAX: (514) 856-6886

Sales Service: 1-800-826-6342 / 1-800-TC-OMEGASM
Customer Service: 1-800-622-2378 / 1-800-622-BESTSM
Engineering Service: 1-800-872-9436 / 1-800-USA-WHENSM
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Servicing Europe: United Kingdom Sales and Distribution Center

25 Swannington Road, Broughton Astley, Leicestershire
LE9 6TU, England
Telephone: 44 (1455) 285520 FAX: 44 (1455) 283912



WARRANTY

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of **13 months** from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses, and triacs.

OMEGA is glad to offer suggestions on the use of its various products. Nevertheless, OMEGA only warrants that the parts manufactured by it will be as specified and free of defects.

OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

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SPECIAL CONDITION: Should this equipment be used in or with any nuclear installation or activity, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the equipment in such a manner.

RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA ENGINEERING Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P.O. number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS OR **CALIBRATION**, consult OMEGA for current repair/calibration charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the repair/calibration,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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