1 YEAR
WARRANTY

CE

User's Guide

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LV860
Level Sensor

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Please follow these installation, connection and adjustment instructions carefully. Failure to comply with these instructions or misuse of this equipment will void your warranty coverage.

 Equipment installation, connection and adjustment by qualified personnel only!

NOTES:

1 - Description

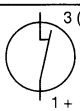
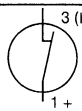
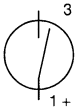
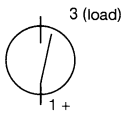
Level Sensor LV860 is designed to monitor liquids, granules and powder.

It operates on the principle of electrical capacitance changes arising when an electrode surrounded by air is immersed in the medium.

- Available either as a maximum or a minimum sensor.
- LED status indication
- **Minimum switching**

  Normally the sensor is immersed and the LED indicates. As the level drops below the sensor the LED extinguishes.
- **Maximum switching**

  Normally the sensor is not immersed and the LED indicates. As the level rises above the sensor the LED extinguishes.
- In the event of a short-circuit in the load circuit, the LED will extinguish.
- The LV860 in PTFE housing is suitable for foodstuffs and can be widely used in the food processing industry.

Minimum			Maximum		
medium level	transistor output	LED green	medium level	transistor output	LED green
					
					
short circuit in the load circuit					

2 - Technical Data

Medium temperature	-20°C to +130°C -4°F to +266°F
Short-time	to +150°C +302°F
Ambient temperature	-20°C to +85°C -4°F to +185°F
Pressure resistance:	
PTFE Teflon® fitting	max. 2 bar (29.4 PSI)
Polyamide 12 fitting	max. 25 bar (367.5 PSI)
Response delay	approx. 1 s
Degree of protection	IP 65 (with mating connector)
Input voltage	DC 24 V ±25%

CE - mark to demonstrate compliance with EC directive 89/336/EEC (EMC directive)

LV860 STD with compression nut
dimensions: mm (in.)

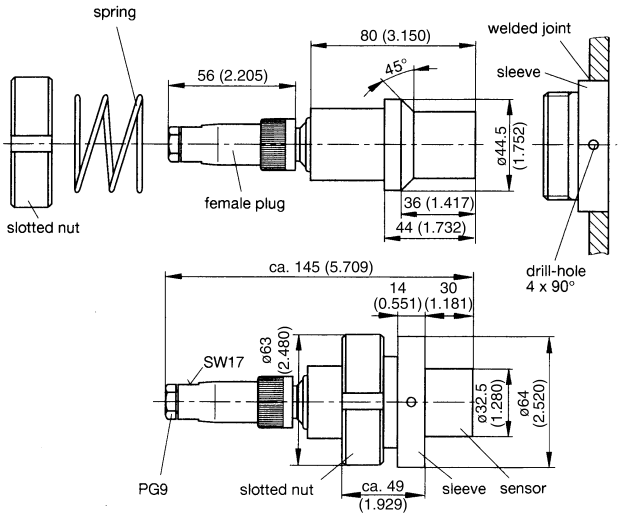


Fig. 1

3 - Level Sensor Installation

NOTE

The Level Sensor may be installed in any attitude.

1. Ensure sufficient clearance space (see fig. 1 and 2) in the container wall.

Installation STD (fig. 1):

- The screw joint comprises a sleeve, a spring and a slotted nut.
- The sleeve must be welded into the container wall.

2. Place the level sensor (without sealing compound) in the sleeve and tighten the spring and slotted nut.

Installation G1A or 1" NPT (fig. 2):

- Ensure a type G1A or 1" NPT thread in the container wall has been provided.

2. When tightening the level sensor please use the flats provided (SW32).

CAUTION

Do not overtighten.

LV860 G1A or 1"NPT
dimensions: mm (in.)

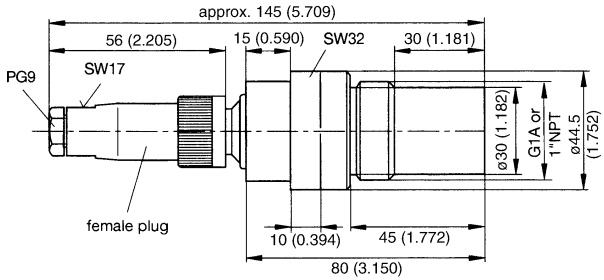


Fig. 2

4 - Connection

CAUTION

Check that the supply voltage corresponds with the voltage rating shown on the system.

1. Loosen the gland (PG9) (see fig. 1) and remove it together with clamping piece and bushing.
2. Unscrew the female plug.
3. Feed the supply cable through the gland (PG9), the clamping piece, the bushing and the female plug.
4. Connect the cable to the terminal block (see fig. 3).
5. Connect the supply voltage before adjusting the sensor.
6. Increase the level until the front side of the sensor probe is partly covered by the medium.

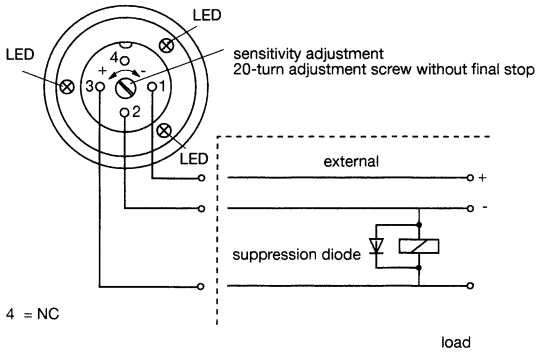


Fig. 3

7. **Minimum sensor**

- Turn the potentiometer screw clockwise until the LED extinguishes. Then slowly turn counterclockwise (+) until the LED indicates.

  Adjust the screw a further full turn clockwise (-) to compensate for any tolerance.

8. **Maximum sensor**

- Turn the potentiometer screw clockwise until the LED indicates. Then slowly turn counterclockwise (+) until the LED extinguishes.

  Adjust the screw a further full turn counterclockwise (+) to compensate for any tolerance.

9. Replace and tighten the female plug.
10. Replace the clamping piece and bushing in the female plug.
11. Tighten the cable gland nut (PG9).

The Level Sensor is now connected, adjusted and ready for operation.

5 - Operating Difficulties

Problem: The level sensor fails to operate correctly.

Solution:

- Drop medium level below the sensor.
- Remove the level sensor.
- Clean the sensor probe carefully.

▼ The level sensor may be steam-cleaned.

NOTES:

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's 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 malfunctions, 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. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been 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 are not warranted, including but not limited to contact points, fuses, and triacs.

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Direct all warranty and repair requests/inquiries to the OMEGA 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.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

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

1. Purchase Order 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, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

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

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