

4-1/2 in. (114 mm) Dial Level Switchgag[®] OPLH/OPLHACS Series

The OPLHC/OPLHACS Series Level Switchgag instruments are combination level-indicating gages with adjustable low- and high-limit switches. Limit switches can be wired directly to electric pilot circuits to operate alarms, shut down or start/stop pumps to maintain predetermined levels.

Surface-mount or panel-mount enclosures are available for both model series. All models feature a 4-1/2 in. (114 mm) dial for easy viewing. Adjustable limit switches are accessible from the front of the Switchgag instrument.

Specialized models are available for specific applications involving engines or electric motors.

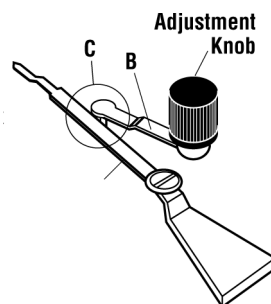
OPLHC/OPLHACS Series Switchgag instruments include two adjustable, pilot duty, pointer type contacts. Contacts have self-cleaning motion to enhance electrical continuity. Models are available with a rugged bourdon tube or a 316 stainless steel bellows sensing element for greater accuracy and sensitivity in lower ranges.

OPLHBP/OPLHABPS Internal latching control relays are available to provide ON/OFF automation for electric motor applications.

OPLHC and OPLHACS series are available in indication only MurphyGage[®] models (OPLHAGS). See the following pages to determine the model for your application.

Basic Operation

The OPLHC/OPLHACS Series operates from static head pressure. Pressure is transmitted to the process connection of the Switchgag instrument. From here, the pressure flexes the bourdon tube or operates the 316 stainless steel bellows (depending on which model you have). The bourdon tube/bellows operates the stainless steel rotary geared movement, which in turn operates the indicating pointer on the face of the dial. When the pointer (A)



closes with the limit contact (B), a control circuit (C) is completed and signals an alarm and/or shutdown or starts/stops a pump.



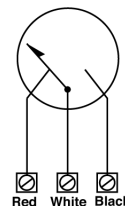
Selected configurations are third-party listed. Consult Enovation Controls for details.

Applications

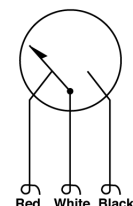
- Saltwater Disposal Systems
- Waterflood Systems
- Diesel Day Tanks
- Oil Storage Tanks

Internal Wiring

OPLHC, OPLHACS and OPLHAFP Series

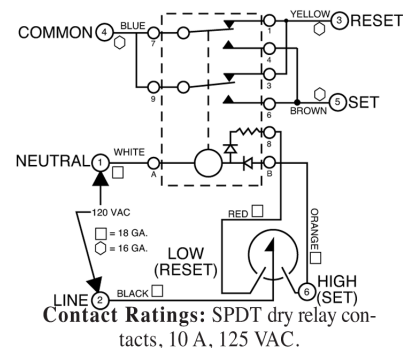


OPLHCE, OPLHFC, OPLHACES and OPLHAFCS Series



Contact Ratings: SPDT center off;
2 A, 30 VDC, 1 A, 125 VAC pilot duty.

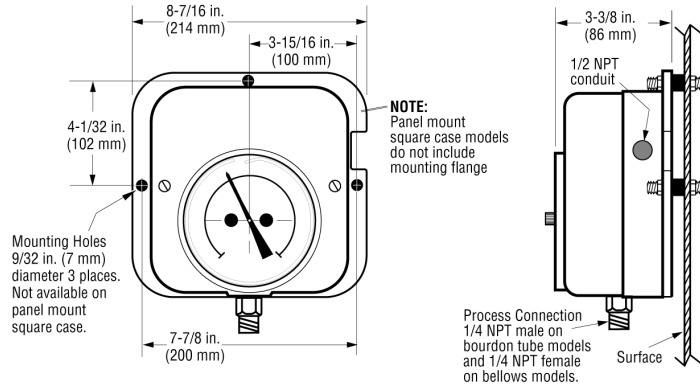
OPLHBP and OPLHABPS Series



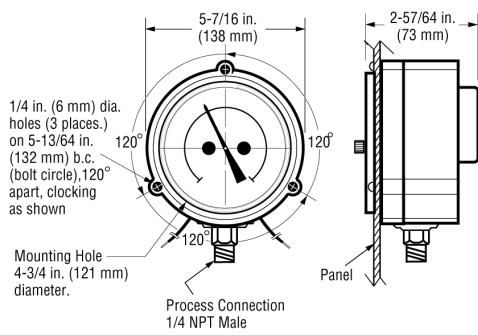
Contact Ratings: SPDT dry relay contacts, 10 A, 125 VAC.

Dimensions

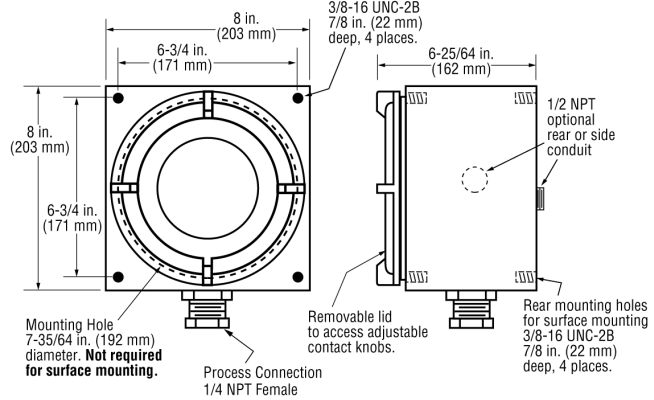
Surface / Panel Mount Enclosure (Square Case)



Panel Mount Enclosure (Round Case)

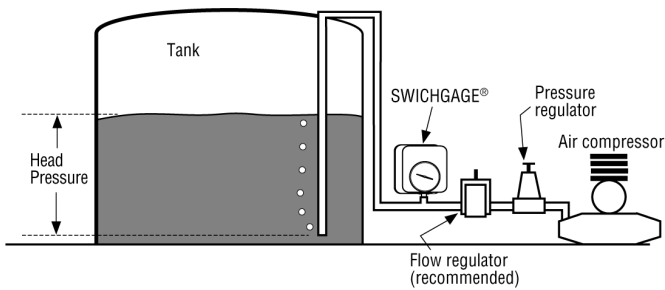


Explosion-proof Enclosure ("EX" Option)

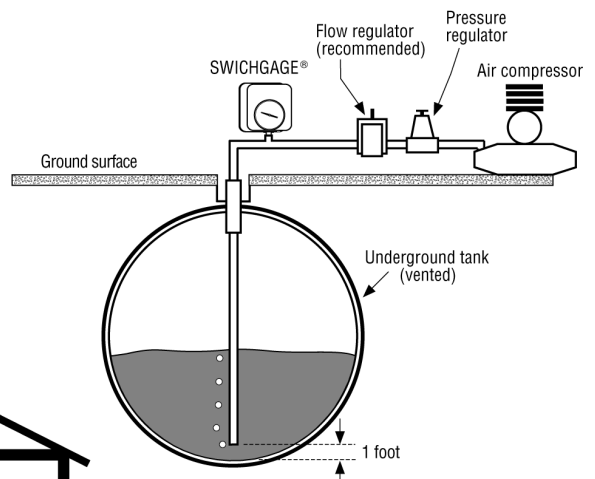


Typical Applications

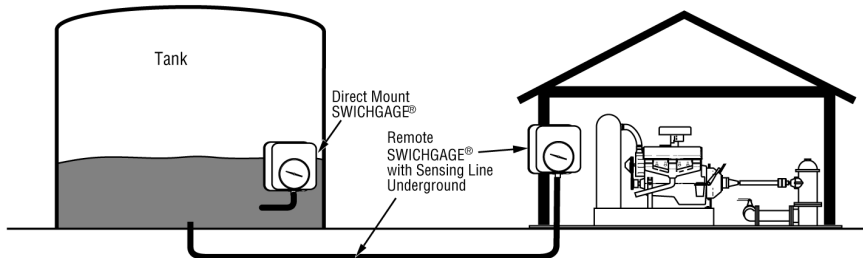
Above Ground Tank



Below Ground Tank



Direct and Remote Tank



Specifications

	OPLH / OPLHA Series														
	OPLHC*	OPLHFC	OPLHCE	OPLHACS	OPLHACES	OPLHBP	OPLHABPS	OPLHBPE	OPLHABPES	OPLHIG	OPLHFG	OPLHAGS	OPLHAGES	OPLHAFCS	OPLHAFGS
Enclosure Type (die cast aluminum)															
• Surface mount, square case	•			•		•	•			•		•			
• Panel mount, round case		•								•				•	•
• Panel mount, square case			•		•			•	•			•			
Limit Switch Ratings															
• Pointer Contacts: SPDT center off; 2 A, 30 VDC, 1 A, 125 VAC	•	•	•	•	•	•	•	•	•					•	
Latching Control Relay															
• SPDT, 10 A @ 120 VAC (standard)						•	•	•	•						
• DPDT, 12 VDC (Optional)						•	•	•	•						
• DPDT, 24 VAC (Optional)						•	•	•	•						
• DPDT, 24 VDC (Optional)						•	•	•	•						
Sensing Element															
• Bourdon Tube, Bronze/Brass (standard)	•	•	•			•		•		•	•				
• Bellows, 316 Stainless Steel (standard)				•	•		•		•		•	•	•	•	•
Process Connections															
• 1/4 NPT Male	•	•	•			•		•		•	•				
• 1/4 NPT Female				•	•		•		•		•	•	•	•	•
Geared Movement: 300 series stainless steel	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Accuracy (standard calibration is for water)															
• ±2% first/last quarters of scale, 1% middle half scale ⁽¹⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
OPTIONS AVAILABLE (specify when ordering)															
• Environment sealed for isolation from the elements (ES) ⁽²⁾		•								•				•	•
• Explosion-proof case; Class I, Div. I, Groups C & D (EX)	•			•		•	•								
• Explosion-proof less case; internal gage mechanism without case (EL)	•			•		•	•								
• Less case; internal gage mechanism without case (LC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• Tickler contact (TA)				•	•									•	
RANGES AVAILABLE (specify when ordering)															
• 0–5 ft. (0–1.5 m) dual scale dial				•	•		•		•		•	•	•	•	•
• 0–10 ft. (0–3 m) dual scale dial				•	•		•		•		•	•	•	•	•
• 0–20 ft. (0–6 m) dual scale dial	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• 0–30 ft. (0–9 m) dual scale dial	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• 0–60 ft. (0–18 m) dual scale dial	•	•	•			•		•		•	•				
• 0–120 ft. single scale dial	•	•	•			•		•		•	•				
• 0–3.6 metres single scale dial				•	•		•		•		•	•	•	•	•
• 0–4 metres single scale dial				•	•		•		•		•	•	•	•	•
• 0–6 metres single scale dial				•	•		•		•		•	•	•	•	•
• 0–9 metres single scale dial	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

* Bourdon tube, 316 SS optional.

⁽¹⁾ Bourdon tube (OPLHC) models in the 20 ft. (6 m) range have an accuracy of 3% full scale.

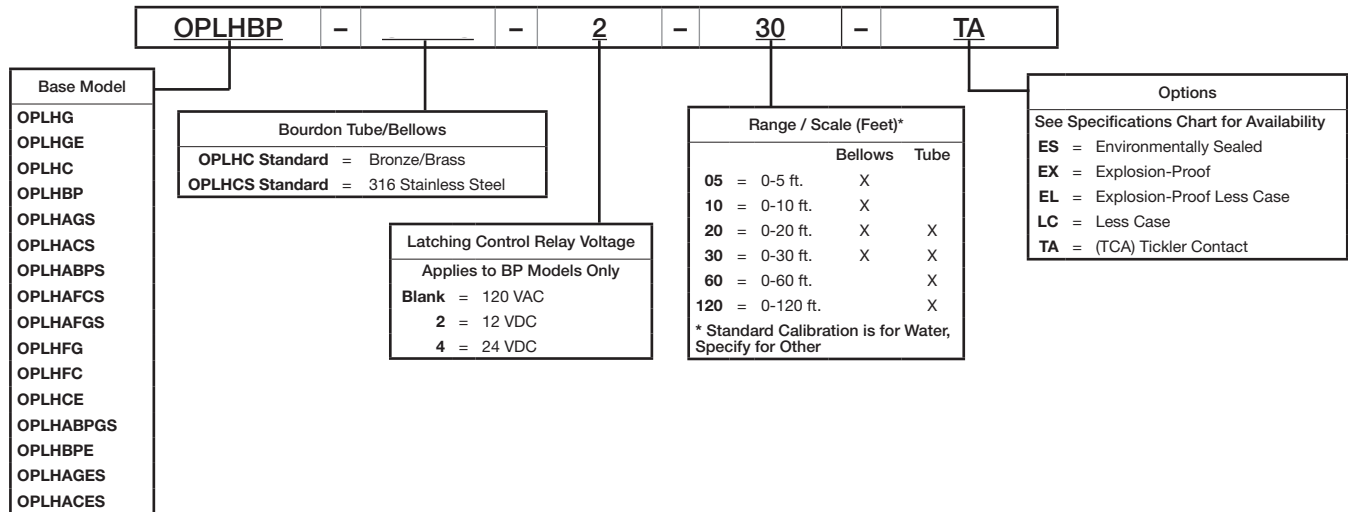
⁽²⁾ ES option available for the 20 ft. (6 m) range models and above.

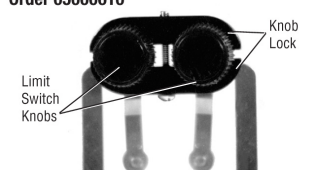
NOTES:

- Options may not be available in combination. Consult factory.
- Over range is not to exceed 10% FS above full range.
- Calibration is for water. Specify for other liquids.
- Add **TOTAL** height of liquid above the pressure connection to determine correct range (dial scale).
For elevated tanks subtract the tank elevation from gage reading to determine actual tank level.
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How to Order

Options listed below. All configurations may not be available. Call your sales representative or Enovation Controls for more information.



Part Number	Model and Description	Notes
05000610	Tamper-proof Contact Accessory	<p>Order 05000610</p> 

Shipping Dimensions:

16 x 11 x 5-1/2 in. (406 x 279 x 140 mm)
 Explosion-proof models: 12 x 12 x 9 in. (305 x 305 x 229 mm)

Shipping Weights:

Item Weight: 8 lb. (3.6 kg) approximately
 Explosion-proof models: 22 lb. (10 kg) approximately