

# Lead Line Pressure Swichgage® instrument

PT-96107B  
Revised 03-06  
Catalog Section 05

Model PT167EX

4-1/2 in. (114 mm) Diameter Dial



- Designed to Monitor Line Pressures of Highly Viscous and Mildly Corrosive Fluids
- Combination Indicating Gage and Critical Pressure Switch
- High and Low Pressure Limit Contacts Are Visible and Adjustable
- Explosion-proof Enclosure

## Description

The Murphy PT167EX is a pressure Swichgage instrument connected to a threaded pressure diaphragm housing. The Swichgage instrument is enclosed in an explosion-proof case and is CSA rated for Class I, Division 1, Groups C and D.\*

A Swichgage instrument is a pressure indicating gage with adjustable low and high pressure limit switches. When the gage pointer touches the low or high limit switches, an electrical circuit is completed which can operate alarms and/or shut down equipment.

The 2 NPT, sealed-diaphragm housing is attached directly to the Swichgage connection. The diaphragm housing is filled with a silicone fluid so that pressure against the diaphragm causes the Swichgage instrument to respond. The housing seals the Swichgage sensing element from the medium being measured.

## Applications

Applications include highly viscous liquids such as crude oil on lead line applications. Other applications have included asphalt, sludge, abrasive materials, etc.

## Specifications

**Case:** Explosion-proof, sand cast aluminum. Lens is removable. CSA Listed for Class I, Division 1, Groups C and D\*.

**Contact Rating:** 1 A, 125 V AC.

**Dial:** 4-1/2 in. (114 mm) white on black, dual scaled psi /kPa. Other dial configurations available. Consult factory.

**Ranges:** See *How to Order* on reverse side.

**Gage Accuracy:** ±3% full scale.

**Process Connection:** 2 NPT.

**Maximum Pressure:** 30% overpressure.

**Diaphragm Housing:**

Plated steel, Ni-Span®; silicon filled.

**Diaphragm Fluid:** Silicone 200.

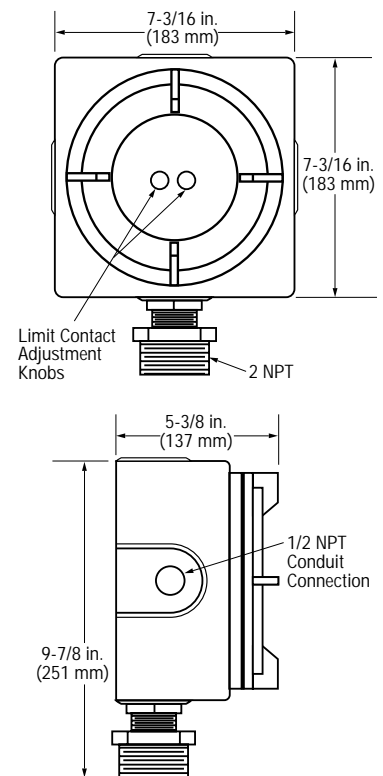
**Shipping Weight:** 16.5 lb (7.5 kg).

**Shipping Dimensions:** 12 x 12 x 9 in. (305 x 305 x 229 mm).

## Warranty

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

## Dimensions



\* The PT167EX is CSA listed for ranges 100 to 5000 psi (689 kPa to 34.5 MPa) [6.89 to 344.74 bar].

\*\* Products covered by this bulletin comply with EMC Council directive 89/336/EEC regarding electromagnetic compatibility as noted.

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## How to Order

To order, specify pressure range, bourdon tube and options. Example: **PT167EX-R-200-T1**.

PT167EX - -

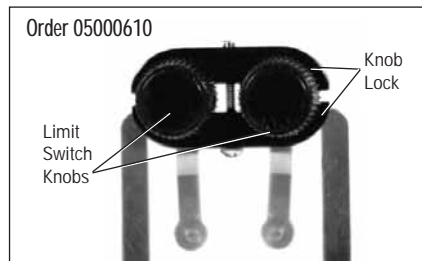
| Bourdon Tube Socket–Material/Size |  |           |   |
|-----------------------------------|--|-----------|---|
| Specify                           | Tube/Socket Material                             | Tube Type | Range Selection Limits<br>psi (MPa) [bar] |
| <b>A</b>                          | Grade A Phosphor Bronze (Tube)<br>Brass (Socket) | C-Tube    | Thru 1,000 psi<br>(6.89 MPa) [68.95 bar]  |
| <b>S</b>                          | 316 Stainless Steel<br>(Tube and Socket)         | C-Tube    | Thru 1,000 psi<br>(6.89 MPa) [68.95 bar]  |

| Ranges      |              |              |           |
|-------------|--------------|--------------|-----------|
| Specify     | vacuum/psi   | kPa/MPa      | bar       |
| <b>100</b>  | 0 - 100 psi  | 0 - 689 kPa  | 0 - 6.89  |
| <b>160</b>  | 0 - 160 psi  | 0 - 1.10 MPa | 0 - 11.03 |
| <b>200</b>  | 0 - 200 psi  | 0 - 1.38 MPa | 0 - 13.78 |
| <b>300</b>  | 0 - 300 psi  | 0 - 2.07 MPa | 0 - 20.68 |
| <b>400</b>  | 0 - 400 psi  | 0 - 2.76 MPa | 0 - 27.57 |
| <b>600</b>  | 0 - 600 psi  | 0 - 4.14 MPa | 0 - 41.36 |
| <b>1000</b> | 0 - 1000 psi | 0 - 6.89 MPa | 0 - 68.95 |

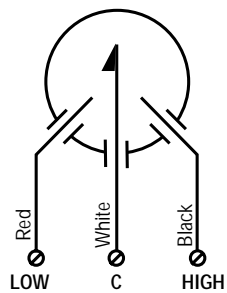
If specifying range in bar, kPa/MPa or kg/cm<sup>2</sup>, specify appropriate designator after value.  
Example: 20B = 20 bar.

**B** = Bar  
**K** = kPa/MPa  
**M** = kg/cm<sup>2</sup>

## Tamperproof Contact Accessory



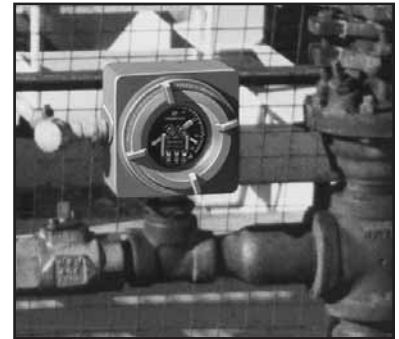
## Internal Wiring



Contact Rating: 1 A, 125 V AC

## Typical Installation

The photo at right shows the PT167EX installed in a lead line. For optimum effectiveness, the PT167EX should be installed ahead of all other devices or valves; by positioning it immediately adjacent to the well outlet, the Swichgage instrument monitors the entire lead line, sensing any blockage whether sludge build-up in the line or an accidental closed valve. The pressure transmitter threads into a 2 NPT tee on the lead line.



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