Whitman Controls is an established leader in the manufacture of miniature pressure, vacuum, temperature, and liquid level switches.
Whitman Controls is a leader in the pressure, vacuum, temperature, and liquid level switch industry, a position we have held for over 40 years. The Whitman Value is built on our differentiated offering of high quality switches, and the ability to deliver product to EXACT customer specifications in two weeks or less. Off the shelf switches limit an application’s functionality and versatility. Why choose a competitor switch that results in inferior performance? We take into account your application and media environment, as well as all desired specifications to design a switch that will meet performance needs and exceed your expectations. High quality switches, designed to customer specifications in two weeks or less, with an unrelenting focus on superior service - Together they add up to the Whitman Value.

We offer the most extensive pressure, vacuum, temperature and liquid level switch selection in the industry. What does this mean for you? The ability to identify a switch that is suited perfectly for your application at a price that doesn’t break your budget. At Whitman, we are constantly evaluating our input prices to identify savings we can pass along directly to the buyer. And we do all of this without sacrificing performance and quality.

Numerous Choices and Additional Options – Have it your Way.
Need additional wire on top of the 12” standard offering? Looking for a 1/4” NPT fitting instead of 1/8” NPT? Need Teflon tape or Loctite Vibraseal on your fitting? These are just a few of the numerous additional options that are available to customers on all our switch offerings. You have a need and we have an answer. All our switches can be customized to meet any end-user requirements.

Experience and Knowledge, That’s Invaluable.
Whitman Controls directs its years of design and manufacturing experience toward providing value-added services to our customers. These services can help you lower costs and increase efficiency. Our engineering team will work intimately with you and your team to design a switch that will maximize application performance no matter what the environment. In addition, our exceptional mechanical abilities allow us to perform additional assemblies and deliver more complete tested systems and subassemblies.

ISO 9001 Certified – We Hold Ourselves, and Our Products, to the Highest Standards
Whitman Controls is ISO 9001:2015 Certified, which gives our customers the confidence that we hold our internal processes, and products, to the highest standards of quality and rigorous testing requirements. You can be confident that the product you receive has met all necessary regulatory requirements and will outperform your desired expectations.

Ongoing investment in research and development ensure we stay on the leading edge of switch technology while consistently offering new models to meet the demands of any application. Plus we do it all at a price that will save you money.

We appreciate your interest in our line of products, and are confident that our switch performance will meet your application requirements and exceed your expectations.

Quality products, fully customizable, with a commitment to superior service. Together they add up to the Whitman Value.
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PRESSURE SWITCHES

We manufacture a wide range of pressure switches to meet the needs of any industrial application and operating environment. Our preset switches are set at the factory to the specifications and parameters to fit our customers’ requirements. Our field adjustable switches allow our customers the flexibility of easily setting the switch parameters in the field as driven by the needs of the project.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P88G</td>
<td>Economical Pressure Switch</td>
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<tr>
<td>P90</td>
<td>Severe Environment Pressure Switch</td>
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<tr>
<td>P95</td>
<td>High Pressure Severe Environment Pressure Switch</td>
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<td>P100G</td>
<td>High Accuracy Low Pressure Environment Pressure Switch</td>
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<td>P117G</td>
<td>Stainless Steel Miniature Pressure Switch</td>
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<td>P117LG</td>
<td>NEMA 4 Stainless Steel Pressure Switch</td>
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<tr>
<td>W117G</td>
<td>Ultra Pure Stainless Steel Pressure Switch</td>
</tr>
<tr>
<td>W117LG</td>
<td>NEMA 4 Ultra Pure Stainless Steel Pressure Switch</td>
</tr>
<tr>
<td>P119G</td>
<td>Zinc Diecast Body Pressure Switch</td>
</tr>
<tr>
<td>J205G</td>
<td>High Pressure Low Set Point Pressure Switch</td>
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<tr>
<td>J205LG</td>
<td>NEMA 4 High Pressure Low Set Point Pressure Switch</td>
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<tr>
<td>P605</td>
<td>High Pressure High Set Point High Accuracy Pressure Switch</td>
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<tr>
<td>P605L</td>
<td>NEMA 4 High Pressure/Set Point/Accuracy Pressure Switch</td>
</tr>
<tr>
<td>J705</td>
<td>High Pressure High Set Point Pressure Switch</td>
</tr>
<tr>
<td>J705L</td>
<td>NEMA 4 Economical High Pressure/Set Point Pressure Switch</td>
</tr>
</tbody>
</table>
Pressure Switches

Pressure Switch Selection Guide

The chart below gives an overview of our pressure switch product catalog at Whitman, and the functionality of each of our switches. Depending on your desired set point, and maximum system pressure, you will find a switch that will meet your specific needs and exceed your expectations.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Minimum Set Point (PSIG)</td>
<td>1.5</td>
<td>0.75</td>
<td>0.75</td>
<td>0.10</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>400</td>
<td>500</td>
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<td>Maximum Set Point (PSIG)</td>
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<td>15.0</td>
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<tr>
<td>Maximum System Pressure (PSIG)</td>
<td>600</td>
<td>600</td>
<td>4,000</td>
<td>15</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>5,000</td>
<td>6,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Proof Pressure (PSIG)</td>
<td>600</td>
<td>600</td>
<td>4,000</td>
<td>20</td>
<td>750</td>
<td>750</td>
<td>750</td>
<td>5,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
</tbody>
</table>

**Steps Required for Identifying the Right Pressure Switch for your Application:**

**Step 1:** Identify the Maximum System Pressure on your Application

**Step 2:** Identify your Set Point and if on “Increasing” or “Decreasing” pressure

**Step 3:** Select a Sensor Code that applies to the Maximum System Pressure and Set Point Range desired for your application – Reference Table A on the corresponding Switch Page

**Step 4:** Determine your Set Point Option: C-set (Customer set, field adjustable), K-set (Factory pre-set to customer specifications, field adjustable), F-set (Factory set, non-adjustable)

**Step 5:** Select your Electrical Amperage and Contact Selection – Reference Electrical Switch Tables

**Step 6:** Select your Electrical Interface – Reference Electrical Interface Options

**Step 7:** Select your Wire Length if longer than 12” (Standard) is desired

**Step 8:** Confirm Wetted Materials are compatible with Fluid and Environment

**Step 9:** Select Additional Options – Reference Additional Options or Consult Factory

Please refer to our website at [www.whitmancontrols.com](http://www.whitmancontrols.com) for additional information or contact our engineering department at engineering@whitmancontrols.com.

Limitation of Application Liability:
Whitman Controls Corporation assumes the buyer to be expert in the intended application of Whitman Controls’ products. Whitman Controls claims no special expertise in the application of its products in the buyer’s equipment. Whitman Controls accepts no responsibility for the buyer’s selection and use of Whitman Controls products. Buyer’s interpretation and implementation of application suggestions and recommendations by Whitman Controls, general or specific, transmitted verbally or in writing, published or unpublished, is strictly at the buyer’s own risk.

Terms and Conditions:
All sales FOB Bristol, CT prepaid and added to the invoice. All prices net. Prices and specifications are subject to change without notice. Terms with established credit are net 30 days. Returns will not be accepted without a return authorization number issued by Whitman Controls. A 30% restocking fee will be charged on all items returned unless merchandise shipped was due to a Whitman Controls error.

International Terms and Conditions:
All sales FOB Bristol, CT. Payment prepaid in U.S. Dollars, on a U.S. Bank or by electronic transfer to a Whitman Controls banking institution.

### Three Year Limited Warranty

The proven quality and reliability of Whitman Controls Corporation Pressure, Vacuum, Liquid Level, and Temperature Switches are backed by our 3 Year Limited Warranty when used in normal operation. Our complete warranty statement is provided with all quotations or is available on request.
Part Number Construction

All Pressure, Vacuum and Compound Switch Models Except P88, P90, P95

Model Number
Examples: P100G, P119G, J205G

J205G - 50S - C 1 2 L 24 - X

Additional Options
See Page 66 or Consult Factory

Sensor Code
See Table A on Switch Model Page

Set Point Options
C = Customer Set, Field Adjustable
K = Factory Set, Field Adjustable
F = Factory Set, Non-Adjustable

Electrical Amperage
See Page 66

P88 Pressure, Vacuum, Compound Switches

Model Number
P88

P88 G - 6 - C 15 TB

Electrical Interface Options
See Page 67

Switch Type
G = Guage
V = Vacuum
C = Compound

Electrical Amperage
See Page 66

Sensor Code
See Table A on Switch Model Page

Set Point Options
C = Customer Set, Field Adjustable
K = Factory Set, Field Adjustable
F = Factory Set, Non-Adjustable

P90 / P95 Pressure Switch

Model Number
P90 or P95

P90 - 2 - 5 2 L 24 - X

Additional Options
Consult Factory

Sensor Code
See Table A on Switch Model Page

Amperage Rating
1 = 1.0
5 = 5.0
11 = 11.0

Special Wire Length
12” is Standard, 24” Total

Electrical Interface Options
See Page 67

Contact Selection
1 = SPST
2 = SPDT
Pressure Switches

P88G
Economical Pressure Switch

OVERVIEW
The Whitman Controls P88G Economical Pressure switches are typically used in applications where reliable switch control supersedes accuracy of set point. These switches can be used in dry indoor applications or placed within an enclosure. Controlling on and off functions for fans and pumps where one may need a wide differential to prevent over-cycling is an ideal application use for the P88G.

KEY FEATURES
- Consistent switch control
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range

SPECIFICATIONS
- Set point Range: 1.5 to 500 PSIG
- Max System Pressure: 600 PSIG
- Temperature Range: -31°F to +185°F (-35°C to +85°C)
- Amps: 1-25 Amps Max
- Sensor Element: Diaphragm
- Weight: 7.4 oz
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  - Diaphragm: Buna N and Brass
  - Seal: Loctite #271
  - Body with Fitting: Zinc alloy, chromate finish
  - Optional Thread: ¼-18 BSPT male, ⅛-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>600</td>
<td>± 0.15</td>
<td>1.5 - 3.5</td>
</tr>
<tr>
<td>4</td>
<td>600</td>
<td>± 1.0</td>
<td>3.0 - 40.0</td>
</tr>
<tr>
<td>5</td>
<td>600</td>
<td>± 5.0</td>
<td>30.0 - 150.0</td>
</tr>
<tr>
<td>6</td>
<td>600</td>
<td>± 20.0</td>
<td>100.0 - 500.0</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

P90
Severe Environment Pressure Switch

OVERVIEW
The Whitman Controls P90 Severe Environment Pressure switches are built to operate in harsh conditions and are typically used in vehicle applications both off road and on. As these switches are NEMA 6 rated, they are weather proof and briefly submersible. Ideal use is on log skidders, tractors, handi-vans, cranes and numerous other applications where shock, vibration and weather are of primary concern.

KEY FEATURES
• Shock resistant up to 150G
• Vibration durability of 10Hz to 2,000Hz @ 10G’s
• Water resistant up to 1,000 PSIG high pressure spray
• Cold Storage up to -67°F (-55°F)
• NEMA 6 Rated: Weather-proof and briefly submersible
• Set point options: Factory set to customer specification, non-adjustable
• Extensive operating temperature range
• Wide range of electrical interfaces available
• SPDT or SPST availability

SPECIFICATIONS
• Set Point Range: 0.75 to 400 PSIG
• Max System Pressure: 600 PSIG
• Temperature Range: -40°F to +257°F (-40°C to +125°C)
• Amps: 1-11 Amps Max
• Sensor Element: Diaphragm
• Weight: 7oz
• Cycling: Not to exceed 20 CPM
• Wetted Parts:
  Diaphragm: Viton
  Lower Body: Zinc alloy, chromate finish
  Standard Thread: ⅛” NPT
  Optional Threads: 12-20 SAE, other fittings available in quantities

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>PSIG</td>
<td>PSIG</td>
<td>DECREASING PSIG</td>
</tr>
<tr>
<td>1</td>
<td>600</td>
<td>± 0.75</td>
<td>0.75 - 3.0</td>
</tr>
<tr>
<td>2</td>
<td>600</td>
<td>± 1.0</td>
<td>3.0 - 6.0</td>
</tr>
<tr>
<td>3</td>
<td>600</td>
<td>± 2.0</td>
<td>6.0 - 20.0</td>
</tr>
<tr>
<td>4</td>
<td>600</td>
<td>± 5.0</td>
<td>12.0 - 47.0</td>
</tr>
<tr>
<td>5</td>
<td>600</td>
<td>± 10.0</td>
<td>30.0 - 110.0</td>
</tr>
<tr>
<td>6</td>
<td>600</td>
<td>± 20.0</td>
<td>75.0 - 270.0</td>
</tr>
<tr>
<td>7</td>
<td>600</td>
<td>± 40.0</td>
<td>100.0 - 330.0</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

P95
High Pressure Severe Environment Pressure Switch

OVERVIEW
The Whitman Controls P95 Severe Environment Pressure switches are built to operate in harsh conditions and are typically used in vehicle applications both off road and on. As these switches are NEMA 6 rated, they are weather proof and briefly submersible. Resiliency in high pressure conditions is the key differentiator relative to its P90 sister switch, with the ability to withstand hydraulic spikes to 4,000 psig. Ideal use is on log skidders, tractors, cranes and numerous other applications where pressure spikes, shock, vibration and weather are of primary concern.

KEY FEATURES
- Ability to withstand hydraulic spikes to 4,000 psig
- Shock resistant up to 150G
- Vibration durability of 10Hz to 2,000Hz @ 10G’s
- Water resistant up to 1,000 PSIG high pressure spray
- Cold Storage up to -67°F (-55°C)
- NEMA 6 Rated: Weather-proof and briefly submersible
- Set point options: Factory set to customer specification, non-adjustable
- Extensive operating temperature range

SPECIFICATIONS
- Set Point Range: 0.75 to 400 PSIG
- Max System Pressure: 4000 PSIG
- Temperature Range: -40°F to +257°F (-40°C to +125°C)
- Amps: 1-11 Amps Max
- Sensor Element: Diaphragm
- Weight: 7oz
- Cycling: Not to exceed 20 CPM
- Wetted Parts: Diaphragm: Viton
  Lower Body: 303 Stainless steel
  Standard Thread: ⅛” NPT
  Optional Threads: 12-20 SAE, other fittings available in quantities

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
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<tr>
<td></td>
<td>PSIG</td>
<td>PSIG</td>
<td>DECREASING PSIG</td>
</tr>
<tr>
<td>1</td>
<td>4000</td>
<td>± 0.75</td>
<td>0.75 - 3.0</td>
</tr>
<tr>
<td>2</td>
<td>4000</td>
<td>± 1.0</td>
<td>3.0 - 6.0</td>
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<td>4000</td>
<td>± 2.0</td>
<td>6.0 - 20.0</td>
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<td>± 20.0</td>
<td>75.0 - 270.0</td>
</tr>
<tr>
<td>7</td>
<td>4000</td>
<td>± 40.0</td>
<td>100.0 - 330.0</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point

CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

P100G
High Accuracy Low Pressure Environment Pressure Switch

OVERVIEW
The Whitman Controls P100G High Accuracy Low Pressure Environment Pressure switches are ideal in light pressure applications where precision of setpoint must be high and repeatability low. These switches are commonly used in natural gas well heads, natural gas generator sets, and air applications like forced draft blowers. The P100G can be used both in dry indoor applications or within an enclosure.

KEY FEATURES
• Highly accurate setpoints and repeatability
• Set point options: Factory set, field adjustable, or a combination
• Extensive operating temperature range
• Wide range of electrical interfaces available
• SPDT or SPST availability

SPECIFICATIONS
• Set Point Range: See Table A
• Max System Pressure: 15 PSIG
• Temperature Range: -65°F to +190°F (-54°C to +88°C)
• Amps: 5 Amps Max
• Sensor Element: Diaphragm
• Weight: 7.8oz (varies slightly with electrical interface selection)
• Cycling: Not to exceed 100 CPM
• Wetted Parts:
  Diaphragm: Buna N with 316 stainless steel reinforcing
  Seal: Loctite #271
  Body: Anodized aluminum
  Standard Thread: ⅛-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE</th>
<th>SET POINT REPEATABILITY</th>
<th>DECREASING</th>
<th>INCREASING</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td></td>
<td>DECREASING</td>
<td>INCREASING</td>
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<td></td>
<td></td>
<td></td>
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<td>INCREASING</td>
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<tr>
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<td>0.31 - 30.54</td>
</tr>
<tr>
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<td>-</td>
<td>415.2</td>
<td>2.75 - 395.03</td>
<td>4.15 - 415.2</td>
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</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

2018 Product Catalog
Pressure Switches

P117G
Stainless Steel Miniature Pressure Switch

OVERVIEW
The Whitman Controls P117G Stainless Steel Miniature Pressure switches are sharp, highly-versatile devices that can be used in hundreds of OEM and routine mechanical applications. There are numerous fitting and electrical connection options available featuring There are numerous fitting and electrical connection options available including TB, TS, Military, and DIN Connectors.

KEY FEATURES
- Miniature size
- Stainless steel body
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- **Set Point Range:** 0.80 to 500 PSIG
- **Proof Pressure:** 150% of sensor capacity
- **Temperature Range:** -65°F to +225°F (-54°C to +107°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Capsule
- **Weight:** 3oz (varies slightly with electrical interface selection)
- **Cycling:** 3H/5H – Not to exceed 60 CPM, 10H/25H/50H – Not to exceed 20 CPM
- **Wetted Parts:**
  - Capsule: 17-7 PH
  - Seal: Loctite #271
  - Fitting: 303 Stainless steel
  - Standard Thread: ⅛-27 NPT male
  - Optional Threads: ¼-18 NPT male, 7/16-20 UNF male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
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<td>DECREASING PSIG</td>
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<td>30</td>
<td>± 0.6</td>
<td>0.8 - 3.0</td>
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<tr>
<td>5H</td>
<td>50</td>
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<td>2.0 - 48.0</td>
</tr>
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<td>± 2.0</td>
<td>3.0 - 96.5</td>
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<tr>
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<td>± 5.0</td>
<td>7.5 - 242.5</td>
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<tr>
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</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

P117LG
NEMA 4 Stainless Steel Pressure Switch

OVERVIEW

The Whitman Controls P117LG NEMA 4 Stainless Steel Pressure Switches are the weather-proof, liquid-resistant version of the P117G. The NEMA 4 rating makes these rugged switches suitable for outside applications or in areas of condensing humidity. Unlike the P117G, the P117LG set point is factory set to customer specification and is non-adjustable. Numerous fitting options are available.

KEY FEATURES

- NEMA 4 Rated
- Stainless steel body
- Weather-proof, liquid resistant
- Set point options: Factory set to customer specification, non-adjustable
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS

- **Set Point Range:** 0.80 to 500 PSIG
- **Proof Pressure:** 150% of sensor capacity
- **Temperature Range:** -65°F to +225°F (-54°C to +107°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Capsule
- **Weight:** 3oz (varies slightly with electrical interface selection)
- **Cycling:** 3H/5H – Not to exceed 60 CPM, 10H/25H/50H – Not to exceed 20 CPM
- **Wetted Parts:**
  - Capsule: 17-7 PH
  - Seal: Loctite #271
  - Fitting: 303 Stainless steel
  - Standard Thread: ½-27 NPT male
  - Optional Threads: ¼-18 NPT male, 7/16-20 UNF male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
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<th>SET POINT REPEATABILITY</th>
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*Exceeding sensor capacity may cause shift in set point

CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

W117G
Ultra Pure Stainless Steel Pressure Switch

OVERVIEW
The Whitman Controls W117G Ultra Pure Stainless Steel Pressure Switches have all welded stainless steel interiors which are Helium leak checked to pass 4 x 10-9 Std CC/Sec. These switches are used in silicon wafer ovens, numerous medical devices and other applications where even the slightest impurities are not tolerated. There are a number of fitting options available featuring the ¼” VCR Male and many interface options to fit any application.

KEY FEATURES
- High purity
- Welded stainless steel body and interiors, helium leak checked
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- Set Point Range: 0.80 to 500 PSIG
- Proof Pressure: 150% of sensor capacity
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Electric beam welded, helium leak tested
- Weight: 3oz (approx.)
- Cycling: 3H/5H – Not to exceed 60 CPM, 10H/25H/50H – Not to exceed 20 CPM
- Wetted Parts:
  Capsule: 17-7 PH, electron beam welded
  Fitting: 303 Stainless steel
  Standard Thread: ⅛-27 NPT male
  Optional Threads: ¼ VCR male, ¼-18 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

**W117LG**

NEMA 4 Ultra Pure Stainless Steel Pressure Switch

**OVERVIEW**

The Whitman Controls W117LG NEMA 4 Ultra Pure Stainless Steel Pressure Switches have all welded stainless steel interiors which are Helium leak checked to pass 4 x 10^-9 Std cc/sec. These are the NEMA 4 rated weather-proof, liquid-resistant version of the W117G, suitable for outside applications or in areas of condensing humidity. These switches are used in silicon wafer ovens, numerous medical devices, and other applications where even the slightest impurities are not tolerated.

**KEY FEATURES**

- High purity
- NEMA 4 Rated
- Stainless steel body and interior, helium leak checked
- Weather-proof and liquid-resistant
- Set point options: Factory set to customer specification, non-adjustable
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

**SPECIFICATIONS**

- **Set Point Range:** 0.80 to 500 PSIG
- **Proof Pressure:** 150% of sensor capacity
- **Temperature Range:** -65°F to +225°F (-54°C to +107°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Capsule – Electric beam welded, helium leak tested
- **Cycling:** 3H/5H – Not to exceed 60 CPM, 10H/25H/50H – Not to exceed 20 CPM
- **Wetted Parts:** Capsule: 17-7 PH, electron beam welded
  Fitting: 303 Stainless steel
  Standard Thread: ⅛-27 NPT male

**SENSOR CODE AND PERFORMANCE CHARACTERISTICS**

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<tr>
<th>SENSOR CODE</th>
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</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
P119G
Zinc Diecast Body Pressure Switch

OVERVIEW
The Whitman Controls P119G Zinc Diecast Body Pressure Switches are the inexpensive version of the P117G and recommended for indoor OEM use. It is used as a pressure limit switch on X-Ray tubes and Cat Scan Tubes as well as a safety switch in numerous applications. The compact nature of these switches make them ideal for tight spaces. They are available with a cast in ¼” NPT fitting as an option. There are also several electrical interface options available.

KEY FEATURES
- Zinc Diecast Body
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- Set Point Range: 0.80 to 500 PSIG
- Proof Pressure: 150% of sensor capacity
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Capsule
- Weight: 2oz (varies slightly with electrical interface selection)
- Cycling: 3H/5H – Not to exceed 60 CPM, 10H/25H/50H – Not to exceed 20 CPM
- Wetted Parts:
  Capsule: 17-7 PH
  Seal: Loctite #271
  Body with Fitting:
  Round body – Zamac 3, chromate finish
  Hex body – ZA8, chromate finish
  Standard Thread: ⅛-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
OVERVIEW

The Whitman Controls J205G High Pressure Low Set Point Pressure Switches are among our most versatile offering, affording the end user an extensive operating environment and a wide range of set point optionality. These switches can be exposed to high pressure without compromising integrity or switch functionality. Uses include gas bottle change switches and oil or water supply control. They are frequently used in pump and reservoir applications. The internals are stainless steel with a diaphragm o-ring that is available in numerous compounds.

KEY FEATURES

- Overpressure feature, allowing the switch to be subject to high pressure without compromising integrity
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability
- Wide range of set point optionality

SPECIFICATIONS

- Set Point Range: 0.80 to 800 PSIG
- Max System Pressure: 5,000 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Diaphragm
- Weight: 4.0 oz (varies slightly with electrical interface selection)
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  - Diaphragm: 316 Stainless steel
  - Seal: Loctite #271
  - Body / Fitting: 303 Stainless steel
  - O-Ring: Buna N Standard (Special material available upon request)
  - Standard Thread: 1/8-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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*Exceeding sensor capacity may cause shift in set point

CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

J205LG
NEMA 4 High Pressure Low Set Point Pressure Switch

OVERVIEW
The Whitman Controls J205LG NEMA 4 High Pressure Low Set Point Pressure Switches are among our most versatile offering, affording the end user an extensive operating environment and a wide range of set point optionality. These switches can be exposed to high pressure without compromising integrity or switch functionality. The J205LG is the NEMA 4 rated weather-proof, liquid-resistant version of the J205G, suitable for outside applications or in areas of condensing humidity. Uses include gas bottle change switches and oil or water supply control. They are frequently used in pump and reservoir applications. The internals are stainless steel with a diaphragm o-ring that is available in numerous compounds such as Buna (standard), Viton, Neoprene and Kalrez.

KEY FEATURES
- Overpressure feature, allowing the switch to be subject to high pressure without compromising integrity
- Weather-proof and liquid-resistant
- Set point options: Factory set to customer specification, non-adjustable
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability
- Wide range of set point optionality
- NEMA 4 Rated

SPECIFICATIONS
- Set Point Range: 0.80 to 800 PSIG
- Max System Pressure: 5,000 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Diaphragm
- Weight: 4.0 oz (approx.)
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  Diaphragm: 316 Stainless steel
  Seal: Loctite #271
  Body / Fitting: 303 Stainless steel
  O-Ring: Buna N Standard, special materials available upon request
  Standard Thread: ½-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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<th>MAXIMUM SYSTEM PRESSURE*</th>
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<td>± 40.0</td>
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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

P605
High Pressure High Set Point High Accuracy Pressure Switch

OVERVIEW
The Whitman Controls P605 High Pressure High Set Point High Accuracy Pressure Switches are a line of severe application controls that can withstand massive pressure spikes from hydraulic systems. These switches can see pressure spikes to 9,000 psig without compromising switch integrity or functionality. They also afford the end user higher set points to complement more severe environments and low set point repeatability. The P605 switches feature adjustable Military or DIN electrical connectors plus numerous fitting options to meet any custom design.

KEY FEATURES
- Higher set points to complement more severe environments
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability
- Extremely durable with the ability to withstand pressure spikes to 9,000 psig

SPECIFICATIONS
- Set Point Range: 200 to 6,000 PSIG
- Max System Pressure: 9,000 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Piston
- Weight: 7.0 oz (varies slightly with electrical interface selection)
- Cycling: Not to exceed 20 CPM
- Wetted Parts:
  Limp Diaphragm: Kapton
  Seal: Loctite #271
  O-Ring: Viton standard, Teflon available
  Adapter / Fitting: 303 Stainless steel
  Standard Thread: ¼-18 NPT male
  Optional Threads: ½-27 NPT male, 7/16-20 UNF male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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<th>MAXIMUM SYSTEM PRESSURE*</th>
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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

P605L
NEMA 4 High Pressure High Set Point High Accuracy Pressure Switch

OVERVIEW
The Whitman Controls P605L NEMA 4 High Pressure High Set Point High Accuracy Pressure Switches are a line of severe application controls that can withstand massive pressure spikes from hydraulic systems. These switches can see pressure spikes to 9,000 psig without comprising switch integrity or functionality. They also afford the end user higher set points to complement more severe environments and low set point repeatability. The P605L is the NEMA 4 rated weather-proof, liquid-resistant version of the P605, suitable for outside applications or in areas of condensing humidity. The P605L switches feature adjustable Military or DIN electrical connectors plus numerous fitting options to meet any custom design.

KEY FEATURES
- Extremely durable - can withstand pressure spikes to 9,000 psig
- Higher set points to complement more severe environments
- NEMA 4 Rated
- Weather-proof and liquid resistant
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperatures
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- Set Point Range: 200 to 6,000 PSIG
- Max System Pressure: 9,000 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Piston
- Weight: 7.0 oz (varies slightly with electrical interface selection)
- Cycling: Not to exceed 20 CPM
- Wetted Parts:
  Limp Diaphragm: Kapton
  Seal: Loctite #271
  O-Ring: Viton standard, Teflon available
  Adapter / Fitting: 303 Stainless steel
  Standard Thread: ¼-18 NP male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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<td>± 50.0</td>
<td>400.0 - 1500.0</td>
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<tr>
<td>3</td>
<td>9000</td>
<td>± 300.0</td>
<td>2750.0 - 5000.0</td>
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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

J705
High Pressure High Set Point Pressure Switch

OVERVIEW
The Whitman Controls J705 High Pressure High Set Point Pressure Switches are among our most durable products, affording the end user higher set points to complement more severe environments without sacrificing set point repeatability. These switches are designed for use with various oils, waters, and assorted gases, and are resilient against impeller spikes from pumps. These switches can see pressure spikes to 9,000 psig without comprising switch integrity or functionality. They are available with several internal o-ring options, assorted fittings and electrical connectors to meet any custom application.

KEY FEATURES
• Extremely resilient with the ability to withstand pressure spikes to 9,000 psig
• High durability with higher set points to complement more severe environments
• Set point options: Factory set, field adjustable, or a combination
• Extensive operating temperature range
• Wide range of electrical interfaces available
• SPDT or SPST availability

SPECIFICATIONS
• Set Point Range: 500 to 6,000 PSIG
• Max System Pressure: 9,000 PSIG
• Temperature Range: -65°F to +225°F (-54°C to +107°C)
• Amps: 5 Amps Max
• Sensor Element: Piston
• Weight: 4.0 oz (varies slightly with electrical interface selection)
• Cycling: Not to exceed 20 CPM
• Wetted Parts:
  Piston: 17-4 PH
  O-Ring: Buna N standard, special materials available upon request
  Fitting: 303 Stainless steel
  Standard Thread: ¼-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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<td>± 300.0</td>
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</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Pressure Switches

J705L
NEMA 4 Economical High Pressure High Set Point Pressure Switch

OVERVIEW
The Whitman Controls J705L NEMA 4 Economical High Pressure High Set Point Pressure Switches are among our most durable switches, with the ability to withstand significant pressure spikes while affording the end user high set point optionality. These are the weather-proof, liquid-resistant version of the J705 suitable for outside applications or in areas of condensing humidity. These switches are designed for use with various Oils, Water and assorted gases. They are good with Impeller Spikes from pumps. They are available with several internal o-ring options, assorted fittings and electrical connectors.

KEY FEATURES
- Extremely resilient with the ability to withstand pressure spikes to 9,000 psig
- High durability with high set point options
- NEMA 4 Rated
- Weather-proof and liquid-resistant
- Set point options: Factory set to customer specification, non-adjustable
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
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<tr>
<td>3</td>
<td>3000</td>
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<td>2500</td>
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<td></td>
<td>± 150.0</td>
<td>3000</td>
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<td>± 45.0</td>
<td>600</td>
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</tr>
<tr>
<td></td>
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<td>± 300.0</td>
<td>6000</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

SPECIFICATIONS
- Set Point Range: 200 to 6,000 PSIG
- Max System Pressure: 9,000 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Piston
- Weight: 4.0 oz (varies slightly with electrical interface selection)
- Cycling: Not to exceed 20 CPM
- Wetted Parts: Piston: 17-4 PH
- O-Ring: Buna N standard, special materials available upon request
- Fitting: 303 Stainless steel
- Standard Thread: ⅛-27 NPT male
We offer an extensive selection of vacuum switches affording the end-user maximum versatility in a wide range of operating environments. Our preset switches are set at the factory to the specifications and parameters to fit our customers’ requirements. Our field adjustable switches allow our customers the flexibility of easily setting the switch parameters in the field as driven by the needs of the project.

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Vacuum Switches

Vacuum Switch Selection Guide

The below chart gives an overview of our vacuum switch product catalog at Whitman, and the functionality of each of our switches. Depending on your desired set point, and maximum system pressure, you will find a switch that will meet your specific needs and exceed your expectations.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>P88V / P88C</th>
<th>P100V</th>
<th>P117V / P117LV</th>
<th>W117V / W117LV</th>
<th>P119V</th>
<th>J205V / J205LV</th>
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### Steps Required for Identifying the Right Vacuum Switch for your Application:

**Step 1:** Identify the Maximum System Pressure on your Application

**Step 2:** Identify your Set Point and if on “Increasing” or “Decreasing” vacuum

**Step 3:** Select a Sensor Code that applies to the Maximum System Pressure and Set Point Range desired for your application – Reference Table A on the corresponding Switch Page

**Step 4:** Determine your Set Point Option: C-set (Customer set, field adjustable), K-set (Factory pre-set to customer specifications, field adjustable), F-set (Factory set, non-adjustable)

**Step 5:** Select your Electrical Amperage and Contact Selection – Reference Electrical Switch Tables

**Step 6:** Select your Electrical Interface – Reference Electrical Interface Options

**Step 7:** Select your Wire Length if longer than 12” (Standard) is desired

**Step 8:** Confirm Wetted Materials are compatible with Fluid and Environment

**Step 9:** Select Additional Options – Reference Additional Options or Consult Factory

Please refer to our website at [www.whitmancontrols.com](http://www.whitmancontrols.com) for additional information or contact our engineering department at engineering@whitmancontrols.com.

Limitation of Application Liability:
Whitman Controls Corporation assumes the buyer to be expert in the intended application of Whitman Controls’ products. Whitman Controls claims no special expertise in the application of its products in the buyer’s equipment. Whitman Controls accepts no responsibility for the buyer’s selection and use of Whitman Controls products. Buyer’s interpretation and implementation of application suggestions and recommendations by Whitman Controls, general or specific, transmitted verbally or in writing, published or unpublished, is strictly at the buyer’s own risk.

Terms and Conditions:
All sales FOB Bristol, CT prepaid and added to the invoice. All prices net. Prices and specifications are subject to change without notice. Terms with established credit are net 30 days. Returns will not be accepted without a return authorization number issued by Whitman Controls. A 30% restocking fee will be charged on all items returned unless merchandise shipped was due to a Whitman Controls error.

International Terms and Conditions:
All sales FOB Bristol, CT. Payment prepaid in U.S. Dollars, on a U.S. Bank or by electronic transfer to a Whitman Controls banking institution.

Three Year Limited Warranty

The proven quality and reliability of Whitman Controls Corporation Pressure, Vacuum, Liquid Level, and Temperature Switches are backed by our 3 Year Limited Warranty when used in normal operation. Our complete warranty statement is provided with all quotations or is available on request.
### All Pressure, Vacuum and Compound Switch Models Except P88, P90, P95

<table>
<thead>
<tr>
<th>Part Number Construction</th>
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<tbody>
<tr>
<td><strong>Model Number</strong></td>
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<tr>
<td><strong>Sensor Code</strong></td>
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<td><strong>Set Point Options</strong></td>
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<tr>
<td><strong>Electrical Amperage</strong></td>
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<tr>
<td><strong>Additional Options</strong></td>
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<td><strong>Special Wire Length</strong></td>
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<td><strong>Electrical Interface Options</strong></td>
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<td><strong>Contact Selection</strong></td>
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### P88 Pressure, Vacuum, Compound Switches

<table>
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<td><strong>Electrical Interface Options</strong></td>
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<td><strong>Electrical Amperage</strong></td>
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<td><strong>Set Point Options</strong></td>
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</table>
Vacuum Switches

P88V
Economical Vacuum Switch

OVERVIEW
The Whitman Controls P88V Economical Vacuum switches are typically used in applications where reliable switch control supersedes accuracy of set point. These switches can be used in dry indoor applications or placed within an enclosure. Controlling on and off functions for fans and pumps where one may need a wide differential to prevent over-cycling is an ideal application use for the P88V.

KEY FEATURES
- Consistent switch control
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range

SPECIFICATIONS
- Set point Range: 6.0 to 28.0 inHg
- Max System Vacuum: 29.9 InHg
- Temperature Range: -31°F to +185°F (-35°C to +85°C)
- Amps: 1 - 15 Amps
- Sensor Element: Diaphragm
- Weight: 7.4 oz
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  Diaphragm: Buna N and Brass
  Seal: Loctite #271
  Body with Fitting: Zinc alloy, chromate finish
  Standard Thread: ¼-18 NPT Male
  Optional Thread: ¼-18 BSPT male, ⅛-27 NPT male

CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM / PRESSURE</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
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<tr>
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<td>Inches Hg / PSIG</td>
<td>Inches Hg</td>
<td>Inches Hg</td>
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<tr>
<td>1</td>
<td>29.9 / 600</td>
<td>± 1.2</td>
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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
P100V
High Accuracy Low Vacuum Environment Vacuum Switch

OVERVIEW
The Whitman Controls P100V High Accuracy Low Vacuum Environment Vacuum switches are ideal in low vacuum applications where precision of setpoint must be high and repeatability low. These switches are commonly used in natural gas well heads, natural gas generator sets, and air applications like forced draft blowers. The P100V can be used both in dry indoor applications or within an enclosure.

KEY FEATURES
- Highly accurate setpoints and repeatability
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- Set Point Range: 5.4 to 150 In. H₂O (0.4 to 11.0 InHg)
- Max System Vacuum: 149.5 In. H₂O, 11.0 InHg
- Temperature Range: -65°F to +190°F (-54°C to +88°C)
- Amps: 5 Amps Max
- Sensor Element: Diaphragm
- Weight: 7.8oz (varies slightly with electrical interface selection)
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  Diaphragm: Buna N with 316 stainless steel reinforcing
  Seal: Loctite #271
  Body: Anodized aluminum
  Standard Thread: ¼-27 NPT male, other fittings available in quantities

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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<table>
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<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM</th>
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<th>SET POINT RANGE</th>
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<td>Inches H₂O</td>
<td>Inches H₂O</td>
</tr>
<tr>
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<td>± 0.06</td>
<td>0.4 - 9.9</td>
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<td>149.5</td>
<td>± 0.8</td>
<td>0.5 - 11.0</td>
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*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Vacuum Switches

P117V
Stainless Steel Miniature Vacuum Switch

OVERVIEW
The Whitman Controls P117V Stainless Steel Miniature Vacuum switches are sharp, highly-versatile devices that can be used in hundreds of OEM and routine mechanical applications. There are numerous fitting and electrical connection options available.

KEY FEATURES
- Miniature size
- Stainless steel body
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- Set Point Range: 1.6 to 28.2 InHg
- Max System Pressure: 0 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Capsule
- Weight: 3oz (varies with electrical interface selection)
- Cycling: 3H/5H – Not to exceed 60 CPM, 10H – Not to exceed 20 CPM
- Wetted Parts:
  - Capsule: 17-7 PH
  - Seal: Loctite #271
  - Fitting: 303 Stainless steel
  - Standard Thread: ½-27 NPT male
  - Optional Threads: ¼-18 NPT male, 7/16-20 UNF male

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Vacuum Switches

P117LV
NEMA 4 Stainless Steel Vacuum Switch

OVERVIEW
The Whitman Controls P117LV NEMA 4 Stainless Steel Vacuum Switches are the weather-proof, liquid-resistant version of the P117V. The NEMA 4 rating makes these rugged switches suitable for outside applications or in areas of condensing humidity. Unlike the P117V, the P117LV set point is factory set to customer specification and is non-adjustable. Numerous fitting options are available.

KEY FEATURES
• Miniature size
• Stainless steel body
• NEMA 4 Rated
• Set point options: Factory set, field adjustable, or a combination
• Extensive operating temperature range
• Wide range of electrical interfaces available
• SPDT or SPST availability

SPECIFICATIONS
• Set Point Range: 1.6 to 28.2 InHg
• Max System Pressure: 0 PSIG
• Temperature Range: -65°F to +225°F (-54°C to +107°C)
• Amps: 5 Amps Max
• Sensor Element: Capsule
• Weight: 3oz (varies slightly with electrical interface selection)
• Cycling: 3H/5H – Not to exceed 60 CPM, 10H – Not to exceed 20 CPM
• Wetted Parts:
  Capsule: 17-7 PH
  Fitting: 303 Stainless steel
  Standard Thread: ⅛ -27 NPT male
  Optional Threads: ¼ -18 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

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<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
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<td>Inches Hg</td>
<td>Inches Hg</td>
<td>DECREASING INCHES Hg</td>
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<td>3H</td>
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<td>± 1.2</td>
<td>1.6 - 27.0</td>
</tr>
<tr>
<td>5H</td>
<td>29.9</td>
<td>± 2.0</td>
<td>4.0 - 24.8</td>
</tr>
<tr>
<td>10H</td>
<td>29.9</td>
<td>± 4.0</td>
<td>6.0 - 21.5</td>
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</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
**W117V**

**Ultra Pure Stainless Steel Vacuum Switch**

**OVERVIEW**
The Whitman Controls W117V Ultra Pure Stainless Steel Vacuum Switches have all welded stainless steel interiors which are Helium leak checked to pass 4 x 10^-9 Std CC/Sec. These switches are used in silicon wafer ovens, numerous medical devices, and other applications where even the slightest impurities are not tolerated. There are a number of fitting options available featuring the ¼” VCR Male and many interface options to fit any application.

**KEY FEATURES**
- High purity
- Welded stainless steel body and interiors, helium leak checked
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

**SPECIFICATIONS**
- **Set Point Range:** 1.6 to 28.2 InHg
- **Max System Pressure:** 0 PSIG
- **Temperature Range:** -65°F to +225°F (-54°C to +107°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Electric beam welded, helium leak tested (4 x 10^-9 Std cc/sec)
- **Weight:** 3oz (varies slightly with electrical interface selection)
- **Cycling:** 3H/5H – Not to exceed 60 CPM, 10H – Not to exceed 20 CPM
- **Wetted Parts:**
  - Capsule: 17-7 PH, electron beam welded
  - Fitting: 303 Stainless steel
  - Standard Thread: ⅛-27 NPT male
  - Optional Threads: ¼ VCR male, ¼-18 NPT male

**SENSOR CODE AND PERFORMANCE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM*</th>
<th>SET POINT REPEATABILITY</th>
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<td>3H</td>
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<td>± 2.0</td>
</tr>
<tr>
<td>10H</td>
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<td>± 4.0</td>
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</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Vacuum Switches

W117LV
NEMA 4 Ultra Pure Stainless Steel Vacuum Switch

OVERVIEW
The Whitman Controls W117LV NEMA 4 Rated Ultra Pure Stainless Steel Vacuum Switches have all welded stainless steel interiors which are Helium leak checked to pass 4 x 10^-9 Std cc/sec. These are the weather-proof, liquid-resistant version of the W117V suitable for outside applications or in areas of condensing humidity. These switches are used in Silicon Wafer Ovens, Medical Applications and where any impurities are not tolerated. There are numerous fitting options available featuring the ¼” VCR Male. Unlike the W117V, the W117 LV set point is factory set to customer specification and is non-adjustable.

KEY FEATURES
- NEMA 4 Rated
- High purity
- Stainless steel body and interior, helium leak checked
- Weather-proof and liquid-resistant
- Set point options: Factory set to customer specification, non-adjustable
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- **Set Point Range:** 1.6 to 28.2 InHg
- **Max System Pressure:** 0 PSIG
- **Temperature Range:** -65°F to +225°F (-54°C to +107°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Electric beam welded, helium leak tested (4 x 10^-9 Std cc/sec)
- **Weight:** 3oz (varies slightly with electrical interface selection)
- **Wetted Parts:** Capsule: 17-7 PH, electron beam welded
  Fitting: 303 Stainless steel
  Standard Thread: ⅛-27 NPT male
  Optional Threads: ¼ VCR male, ¼-18 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM*</th>
<th>SET POINT REPEATABILITY (Inches Hg)</th>
<th>SET POINT RANGE</th>
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</thead>
<tbody>
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<td></td>
<td>Inches Hg</td>
<td>±</td>
<td>DECREASING</td>
</tr>
<tr>
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<td></td>
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<td>INCHES Hg</td>
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<tr>
<td>3H</td>
<td>29.9</td>
<td>± 1.2</td>
<td>1.6 - 27.0</td>
</tr>
<tr>
<td>5H</td>
<td>29.9</td>
<td>± 2.0</td>
<td>4.0 - 24.8</td>
</tr>
<tr>
<td>10H</td>
<td>29.9</td>
<td>± 4.0</td>
<td>6.0 - 21.5</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Vacuum Switches

P119V
Zinc Diecast Body Vacuum Switch

OVERVIEW
The Whitman Controls P119V Zinc Diecast Body Vacuum Switches are the inexpensive version of the P117V and recommended for indoor OEM use. It is commonly used in the medical field and as a safety switch in numerous applications. The compact nature of these switches make them ideal for tight spaces. They are available with a cast in ¼” NPT fitting as an option. There are also several electrical interface options available.

KEY FEATURES
- Zinc Diecast Body
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

SPECIFICATIONS
- **Set Point Range:** 1.6 to 28.2 InHg
- **Max System Pressure:** 0 PSIG
- **Temperature Range:** -65°F to +225°F (-54°C to +107°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Capsule
- **Weight:** 2.0 oz (varies slightly with electrical interface selection)
- **Cycling:** 3H/5H – Not to exceed 60 CPM, 10H – Not to exceed 20 CPM
- **Wetted Parts:**
  - Capsule: 17-7 PH
  - Seal: Loctite #271
  - Body with Fitting: Round body – Zamac 3, chromate finish
  - Hex body – ZA8, chromate finish
  - Standard Thread: ½-27 NPT male
  - Optional Threads: ¼-18 NPT male (Hex body only)

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches Hg</td>
<td>Inches Hg</td>
<td>DECREASING INCHES Hg</td>
</tr>
<tr>
<td><strong>Table A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3H</td>
<td>29.9</td>
<td>± 1.2</td>
<td>1.6 - 27.0</td>
</tr>
<tr>
<td>5H</td>
<td>29.9</td>
<td>± 2.0</td>
<td>4.0 - 24.8</td>
</tr>
<tr>
<td>10H</td>
<td>29.9</td>
<td>± 4.0</td>
<td>6.0 - 21.5</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point

CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
J205V
J205V High Pressure Vacuum Set Point Vacuum Switch

OVERVIEW
The Whitman Controls J205V High Pressure Vacuum Set Point Vacuum Switches are among our most versatile offering, affording the end user an extensive operating environment and a wide range of set point optionality. These switches can be exposed to 5,000 psig without compromising integrity or vacuum set point. Uses include gas bottle change switches and oil or water supply control. They are frequently used in pump and reservoir applications. The internals are stainless steel with a diaphragm o-ring that is available in numerous compounds.

KEY FEATURES
• Vacuum set points with overpressure feature, allowing the switch to be subject to high pressure without compromising integrity
• Set point options: Factory set, field adjustable, or a combination
• Extensive operating temperature range
• Wide range of electrical interfaces available
• SPDT or SPST availability
• Wide range of set point optionality

SPECIFICATIONS
• Set Point Range: 1.6 to 28.2 inHg
• Proof Pressure: 5,000 PSIG
• Temperature Range: -65°F to +225°F (-54°C to +107°C)
• Amps: 5 Amps Max
• Sensor Element: Diaphragm
• Weight: 4.0 oz (varies slightly with electrical interface selection)
• Cycling: Not to exceed 100 CPM
• Wetted Parts:
  Diaphragm: 316 Stainless steel
  Seal: Loctite #271
  Body / Fitting: 303 Stainless steel
  O-Ring: Buna N Standard (Special material available upon request)
  Standard Thread: 1/8-27 NPT male
  Optional Threads: 1/4 VCR male, ¼-18 NPT male, 7/16-20 UNF male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SET POINT</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches Hg</td>
<td>PSIG</td>
<td>Inches Hg</td>
<td>DECREASING Inches Hg</td>
</tr>
<tr>
<td>1S</td>
<td>29.9</td>
<td>5000</td>
<td>± 1.6</td>
<td>1.6 - 22.5</td>
</tr>
<tr>
<td>10S</td>
<td>29.9</td>
<td>5000</td>
<td>± 8.0</td>
<td>8.0 - 21.8</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
J205LV
J205LV NEMA 4 High Pressure Vacuum Set Point Vacuum Switch

OVERVIEW
The Whitman Controls J205LV NEMA 4 High Pressure Vacuum Set Point Vacuum Switches are among our most versatile offering, affording the end user an extensive operating environment and a wide range of set point optionality. These switches can be exposed to 5,000 psig without compromising integrity or vacuum set point. The J205LV is the NEMA 4 rated weather-proof, liquid-resistant version of the J205G, suitable for outside applications or in areas of condensing humidity. Uses include gas bottle change switches and oil or water supply control. They are frequently used in pump and reservoir applications. The internals are stainless steel with a diaphragm o-ring that is available in numerous compounds.

KEY FEATURES
- NEMA 4 Rated
- Vacuum set points with overpressure feature, allowing the switch to be subject to high pressure without compromising integrity
- Weather-proof and liquid-resistant
- Set point options: Factory set to customer specification, non-adjustable
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability
- Wide range of set point optionality

SPECIFICATIONS
- Set Point Range: 1.6 to 28.2 InHg
- Proof Pressure: 5,000 PSIG
- Temperature Range: -65°F to +225°F (-54°C to +107°C)
- Amps: 5 Amps Max
- Sensor Element: Diaphragm
- Weight: 4.0 oz (approx.)
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  Diaphragm: 316 Stainless steel
  Seal: Loctite #271
  Body / Fitting: 303 Stainless steel
  O-Ring: Buna N Standard, special materials available upon request
  Standard Thread: ¼-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SET POINT</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches Hg</td>
<td>PSIG</td>
<td>Inches Hg</td>
<td>DECREASING Inches Hg</td>
</tr>
<tr>
<td>1S</td>
<td>29.9</td>
<td>5000</td>
<td>± 1.6</td>
<td>1.6 - 22.5</td>
</tr>
<tr>
<td>10S</td>
<td>29.9</td>
<td>5000</td>
<td>± 8.0</td>
<td>8.0 - 21.8</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Our selection of compound switches are suitable for applications where the end-user is looking for highly accurate switch control across positive or negative pressure environments. Our preset switches are set at the factory to the specifications and parameters to fit our customers’ requirements. Our field adjustable switches allow our customers the flexibility of easily setting the switch parameters in the field as driven by the needs of the project.

**P88C**  Economical Compound Switch .......................................................... 35

**P100C**  High Accuracy Compound Switch ..................................................... 36
Compound Switches

P88C
Economical Compound Switch

OVERVIEW
The Whitman Controls P88C Economical Compound switches are typically used in applications where reliable switch control supersedes accuracy of set point. These switches can be used in dry indoor applications or placed within an enclosure. Controlling on and off functions for fans and pumps where one may need a wide differential to prevent over-cycling is an ideal application use for the P88.

KEY FEATURES
- Consistent switch control
- Versatile with the ability to operate in positive and negative pressure ranges
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range

SPECIFICATIONS
- Set Point Range: 1 to 500 PSIG Gage and 6 to 28 In Hg Vacuum
- Max System Pressure: 600 PSIG
- Temperature Range: -31°F to +185°F (-35°C to +85°C)
- Amps: 1-15 Amps Max
- Sensor Element: Diaphragm
- Weight: 7.0 oz
- Cycling: Not to exceed 100 CPM
- Wetted Parts:
  Limp Diaphragm: Buna N and Brass
  Seal: Loctite #271
  Body with Fitting: Zinc alloy, chromate finish
  Optional Thread: ¼-18 BSPT male, ½-27 NPT male

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>SET POINT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches Hg / PSIG</td>
<td>Inches Hg / PSIG</td>
<td>Inches Hg / PSIG</td>
</tr>
<tr>
<td>2</td>
<td>29.9 / 600</td>
<td>± 1.2 / ± 0.15</td>
<td>28.0 InHg to 3.5 PSIG</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
The Whitman Controls P100C High Accuracy Compound Switches are ideal in applications where precision of setpoint must be high and repeatability low. These switches are commonly used in natural gas well heads, natural gas generator sets, and air applications like forced draft blowers. The P100C can be used both in dry indoor applications or within an enclosure.

**KEY FEATURES**
- Highly accurate setpoints and repeatability
- Versatile with the ability to operate in positive and negative pressure ranges
- Set point options: Factory set, field adjustable, or a combination
- Extensive operating temperature range
- Wide range of electrical interfaces available
- SPDT or SPST availability

**SPECIFICATIONS**
- **Set Point Range:** Vacuum to 6,000 PSIG Gage
- **Max System Pressure:** 15 PSIG
- **Temperature Range:** -65°F to +190°F (-54°C to +88°C)
- **Amps:** 5 Amps Max
- **Sensor Element:** Diaphragm
- **Weight:** 7.8oz (varies slightly with electrical interface selection)
- **Cycling:** Not to exceed 20 CPM
- **Wetted Parts:** Diaphragm: Buna N with 316 stainless steel reinforcing Sealing Compound: Loctite #271 Body: Anodized aluminum Standard Thread: ¥-27 NPT male

**SENSOR CODE AND PERFORMANCE CHARACTERISTICS**

**Table A**

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM VACUUM</th>
<th>SET POINT REPEATABILITY</th>
<th>DECREASING</th>
<th>SET POINT RANGE</th>
<th>INCREASING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSIG</td>
<td>Inches Hg</td>
<td>Inches H₂O</td>
<td>PSIG</td>
<td>Inches Hg</td>
</tr>
<tr>
<td>1</td>
<td>15.0</td>
<td>-</td>
<td>± 0.03</td>
<td>-</td>
<td>± 0.03</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>30.54</td>
<td>-</td>
<td>± 0.06</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>415.2</td>
<td>-</td>
<td>-</td>
</tr>
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</table>

**Table B**

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>DECREASING</th>
<th>SET POINT RANGE</th>
<th>INCREASING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSIG</td>
<td>Inches Hg</td>
<td>Inches H₂O</td>
<td>PSIG</td>
<td>Inches Hg</td>
</tr>
<tr>
<td>1</td>
<td>15.0</td>
<td>-</td>
<td>± 0.03</td>
<td>-</td>
<td>± 0.03</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>30.54</td>
<td>-</td>
<td>± 0.06</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>415.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point

**CAUTION:** Customer Media and environment must be compatible with construction materials as outlined above
DIFFERENTIAL PRESSURE SWITCHES

Our P845 Differential Pressure Switch can operate across a wide variety of media while providing differential setpoints to 250 PSID and withstanding maximum differential pressure up to 2,000 PSID.

P845  Differential Pressure Switch
OVERVIEW
The Whitman Controls P845 Differential Pressure Switches are rugged and versatile, with excellent by-pass characteristics and the ability to handle a wide variety of media to 6,000 PSIG and set point ranges to 250 PSID. These switches are NEMA 4 rated and can tolerate submersion. They are commonly used across oil and water filter heads to detect when a filter element needs changing. It may be mounted in any orientation and is capable of carrying light to moderate mechanical shock and vibratory loads.

KEY FEATURES
• Rugged and versatile with the ability to handle a wide variety of media
• Resistant to moderate mechanical shock and vibratory loads
• Set point options: Customer or Factory set, both field adjustable
• Extensive operating temperature range
• Wide range of electrical interfaces available
• SPDT or SPST availability

SPECIFICATIONS
• Set point range: 2 - 250 PSID
• Max Differential Pressure: 2,000 PSID
• Max System Pressure: 6,000 PSIG
• Proof Pressure: 9,000 PSIG
• Temperature Range: -65°F to +225°F (-54°C to +107°C)
• Amps: ¼ Amps Max
• Sensor Element: Piston
• Weight: 8.5 oz (approx.)
• Cycling: Not to exceed 100 CPM
• Wetted Parts: Spring: Steel Body & Piston: Anodized aluminum Seal: Buna Sealing Compound: Loctite $271 Fitting: Anodized aluminum, ¼-18 NPT Female

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>SENSOR CODE</th>
<th>MAXIMUM SYSTEM PRESSURE*</th>
<th>SET POINT REPEATABILITY</th>
<th>DECREASING PSID</th>
<th>INCREASING PSID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSIG</td>
<td>PSIG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>6000</td>
<td>± 2.0</td>
<td>2.0 - 7.0</td>
<td>7.0 - 13.0</td>
</tr>
<tr>
<td>2</td>
<td>6000</td>
<td>± 4.0</td>
<td>5.0 - 16.0</td>
<td>13.0 - 25.0</td>
</tr>
<tr>
<td>3</td>
<td>6000</td>
<td>± 8.0</td>
<td>10.0 - 21.0</td>
<td>25.0 - 45.0</td>
</tr>
<tr>
<td>4</td>
<td>6000</td>
<td>± 16.0</td>
<td>20.0 - 80.0</td>
<td>35.0 - 160.0</td>
</tr>
<tr>
<td>5</td>
<td>6000</td>
<td>± 32.0</td>
<td>35.0 - 120.0</td>
<td>120.0 - 250.0</td>
</tr>
</tbody>
</table>

*Exceeding sensor capacity may cause shift in set point
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Our Liquid Level switches come in a number of sizes and materials for use in a variety of industrial applications and other end-user solutions. Every switch is sealed with our patented “Red Seal” potting, affording submersibility to a NEMA 6 rating.

- Liquid Level Information .......................................................... 40
- Liquid Level Switch Selection Guide ........................................ 41
- L10  Vertical Brass Buna Temperature-Level Switch ................. 42
- L20/L25 Side Mounted Stainless Steel Liquid Level Switch ....... 43
- L20/L25 Side Mounted CPVC Plastic Liquid Level Switch ...... 44
- L20/L25 Side Mounted Kynar Plastic Liquid Level Switch ....... 45
- L20/L25 Side Mounted Polypropylene Liquid Level Switch ... 46
- L30  Vertical Multi-Station Stainless Steel Liquid Level Switch ... 47
- L30  Vertical Multi-Station Brass Buna Liquid Level Switch ... 48
- L31  Heavy Duty Vertical Multi-Station Stainless Steel Liquid Level Switch ......................................................... 49
- L40  Vertical Mount 1” Cylinder Stainless Steel Liquid Level Switch .. 50
- L40  Vertical Mount 1” Sphere Stainless Steel Liquid Level Switch ................................................................. 51
- L40  Vertical Mount Brass / Buna Liquid Level Switch .......... 52
- L40  Vertical Mount CPVC Plastic Liquid Level Switch ......... 53
- L40  Vertical Mount Kynar Plastic Liquid Level Switch ........ 54
- L40  Vertical Mount Polypropylene Liquid Level Switch ....... 55
- L54/L55 Bent Stem Side Mount Stainless Steel Liquid Level Switch ...... 56
- L60  Heavy Duty Vertical Mount 2” Sphere Stainless Steel Liquid Level Switch ...................................................... 57
- L60  Heavy Duty Vertical Mount Brass / Buna Liquid Level Switch .... 58
- L70  Mini Polypropylene Vertical Mount Liquid Level Switch .......... 59
The Whitman Controls full line of quality liquid level switches are factory sealed with our Red Seal potting compound, allowing submersibility to a NEMA 6 rating. Every switch meets our high quality standards and rigorous internal testing requirements, providing the end user confidence in the performance of our offering. Our ISO 9001 Certified Quality Management System combined with extensive experience in related products, means greater assurance that Whitman Liquid Level Switches will deliver accuracy and reliability year after year. The National Sanitation Foundation (N.S.F.) has approved our line of liquid level switches for use in food, food handling, potable water, beverage dispensing, and sanitary system components and equipment.

Dry Reed Switch Information
The dry reed switch in our liquid level switches is a single pole single throw (SPST) device that may run either normally open (NO) or normally closed (NC) by reversing the float or the mounting of the switch.

### Electrical Ratings – Max Resistive Load AC and DC Except As Noted:

<table>
<thead>
<tr>
<th>CONTACT RATING</th>
<th>VOLTS</th>
<th>AMPS AC</th>
<th>AMPS DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 VA</td>
<td>0-25</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>150 VAC RMS</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 VDC</td>
<td></td>
<td>0.25</td>
</tr>
</tbody>
</table>

Installation Instructions:
While our Red Seal liquid level switches are rugged, care should be given to the tightening of the switches during installation. Here are some simple reminders that will make this process easy and damage free:

**Note:** Over tightening will damage the threads and cause a leak. Threads damaged by over tightening will not be covered by our Warranty.

1. During installation, use care in tightening the connection.
2. Using an appropriate wrench, turn the switch to approximately ½ to ¾ turn past “hand tight.”
3. This connection can be subjected to a pressure equal to the crush pressure of the float.

Three Year Limited Warranty
The proven quality and reliability of Whitman Controls Corporation Pressure, Vacuum, Liquid Level, and Temperature Switches are backed by our 3 Year Limited Warranty when used in normal operation. Our complete warranty statement is provided with all quotations or is available on request.
Liquid Level Switch Selection Guide

The chart below gives an overview of our liquid level switch product catalog at Whitman, and the functionality of each of our levels. Depending on your minimum liquid specific gravity, wetted materials, temperature range, and maximum system pressure, you will find a switch that will meet your specific needs and exceed your expectations.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Liquid Switch Model Number</th>
<th>Min. Liquid Specific Gravity</th>
<th>Wetted Materials</th>
<th>Liquid Temperature Range</th>
<th>Max. System Pressure (PSIG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L10 Temp-Level</td>
<td>0.75</td>
<td>Brass, Buna, 316 S.S.</td>
<td>-40°F to +180°F (+230°F in oil)</td>
<td>160</td>
</tr>
<tr>
<td>L20 / L25 Side Mounted S.S.</td>
<td>0.85</td>
<td>316 Stainless Steel</td>
<td>-40°F to +257°F</td>
<td>500</td>
</tr>
<tr>
<td>L20 / L25 Side Mounted CPVC Plastic</td>
<td>0.90</td>
<td>CPVC Plastic</td>
<td>-40°F to +180°F</td>
<td>100</td>
</tr>
<tr>
<td>L20 / L25 Side Mounted Kynar Plastic</td>
<td>1.00</td>
<td>Kynar Plastic</td>
<td>-40°F to +180°F</td>
<td>100</td>
</tr>
<tr>
<td>L20 / L25 Side Mounted Polypropylene</td>
<td>0.70</td>
<td>Polypropylene</td>
<td>-40°F to +180°F</td>
<td>100</td>
</tr>
<tr>
<td>L30 S.S. Multi-Level</td>
<td>0.85</td>
<td>316L Stainless Steel</td>
<td>-40°F to +300°F</td>
<td>975</td>
</tr>
<tr>
<td>L30 Brass / Buna Multi-Level</td>
<td>0.70</td>
<td>Brass stem, Buna float</td>
<td>-40°F to +180°F (+230°F in oil)</td>
<td>160</td>
</tr>
<tr>
<td>L31 S.S. Heavy Duty Multi-Level</td>
<td>0.85</td>
<td>316L Stainless Steel</td>
<td>-40°F to +300°F</td>
<td>975</td>
</tr>
<tr>
<td>L40 Vertical Mount 1” Cylinder S.S.</td>
<td>0.90</td>
<td>316L Stainless Steel</td>
<td>-40°F to +300°F</td>
<td>900</td>
</tr>
<tr>
<td>L40 Vertical Mount 1” Sphere S.S.</td>
<td>0.85</td>
<td>316L Stainless Steel</td>
<td>-40°F to +300°F</td>
<td>1,000</td>
</tr>
<tr>
<td>L40 Vertical Mount Brass / Buna</td>
<td>0.70</td>
<td>Brass stem, Buna float, 316 S.S.</td>
<td>-40°F to +300°F (230°F in oil)</td>
<td>160</td>
</tr>
<tr>
<td>L40 Vertical Mount CPVC Plastic</td>
<td>0.85</td>
<td>CPVC Plastic</td>
<td>-40°F to +180°F</td>
<td>100</td>
</tr>
<tr>
<td>L40 Vertical Mount Kynar Plastic</td>
<td>1.00</td>
<td>Kynar Plastic</td>
<td>-40°F to +180°F</td>
<td>100</td>
</tr>
<tr>
<td>L40 Vertical Mount Polypropylene</td>
<td>0.70</td>
<td>Polypropylene</td>
<td>-40°F to +180°F</td>
<td>100</td>
</tr>
<tr>
<td>L54 / L55 Bent Stem Side Mount S.S.</td>
<td>0.90</td>
<td>316L Stainless Steel</td>
<td>-40°F to +300°F</td>
<td>900</td>
</tr>
<tr>
<td>L60 Vertical Mount 2” Sphere S.S.</td>
<td>0.80</td>
<td>316L Stainless Steel</td>
<td>-40°F to +300°F</td>
<td>975</td>
</tr>
<tr>
<td>L60 Vertical Mount Brass / Buna</td>
<td>0.75</td>
<td>Brass stem, Buna float, 316 S.S.</td>
<td>-40°F to +180°F (+230°F in oil)</td>
<td>160</td>
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<tr>
<td>L70 Mini Polypropylene Vertical Mount</td>
<td>0.77</td>
<td>Polypropylene, Buna</td>
<td>-40°F to +176°F</td>
<td>100</td>
</tr>
</tbody>
</table>

### Steps Required for Identifying the Right Liquid Level Switch for your Application:

**Step 1:** Determine your Liquid Specific Gravity – Ratio of Mass of liquid to mass of equal volume of water

**Step 2:** Select a float material that is compatible with your Liquid

**Step 3:** Identify your Maximum System Pressure

**Step 4:** Select an Optimal Mounting Orientation – Horizontal/Side Mounted, Vertical / Top Mounted, Multi-Level

**Step 6:** Determine your ideal Fitting

**Step 7:** Select any Additional Options

Please refer to our website at [www.whitmancontrols.com](http://www.whitmancontrols.com) for additional information or contact our engineering department at engineering@whitmancontrols.com.

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All sales FOB Bristol, CT. Payment prepaid in U.S. Dollars, on a U.S. Bank or by electronic transfer to a Whitman Controls banking institution.
L10
Vertical Brass Buna Temperature-Level Switch

OVERVIEW
The Whitman Controls L10 Series Vertical Mount Brass Buna Temperature-Level Switches are highly versatile, providing the end-user the ability to control both temperature and liquid level within an application. These switches can be used to set off high/low temperature alarms along with a number of other functions. The buna float can be used in numerous liquids and can survive up to 230°F in oil. The internal thermostats are available from 100°F to 225°F in 25°F increments, with special temperatures available for O.E.M. customers. There are numerous wiring combinations and other options available to afford the end-user extreme functionality.

KEY FEATURES
- Highly versatile with temperature and liquid level control
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Minimum Liquid Specific Gravity: 0.75
- Liquid Temperature range: -40°F to +180°F (-40°F to +230°F in oil)
- Temperature Settings: +100°F to +225°F in 25°F increments
- Repeatability: +/- 5°F
- Max System Pressure: 160 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)
- Wetted Materials: Brass stem, buna float

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L10 Series</th>
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<tbody>
<tr>
<td>Fitting</td>
<td>1/4” NPT, 5/8” Hex</td>
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<tr>
<td>Wetted Materials</td>
<td>Brass, Buna, 316 SS</td>
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<tr>
<td>Electrical Ratings:</td>
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<td>Level Switch:</td>
<td>50 Volt Amps, 1/4 A at 150 VAC</td>
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<tr>
<td>Temp Switch:</td>
<td>8 Amps at 12 VDC, 2.6 Amps at 120 VAC</td>
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<tr>
<td>Temperature Range</td>
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<tr>
<td>Minimum Liquid Specific Gravity</td>
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<tr>
<td>Crush Pressure</td>
<td>160 PSIG</td>
</tr>
<tr>
<td>Lead Wires</td>
<td>20 AWG 24” PVC</td>
</tr>
</tbody>
</table>

*Response time is approximately 1°F/second and may vary by media and conditions
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

PART NUMBER CONSTRUCTION:

LXX - O6 - C3 - 15 - NX - XX

O = Level N/O
C = Level N/C
B = Temp N/O
C = Temp N/C

11 = 4 Wire Temp N/O
12 = 4 Wire Temp N/C
13 = 3 Wire Temp N/O
14 = 3 Wire Temp N/C
15 = 2 Wire Temp N/O Series
16 = 2 Wire Temp N/C Series
17 = 2 Wire Temp N/O Parallel
18 = 2 Wire Temp N/C Parallel

2 = 100°F
3 = 125°F
4 = 150°F
5 = 175°F
6 = 200°F
7 = 225°F
8 = SPECIAL
## OVERVIEW

The Whitman Controls L20 / L25 Series Side Mounted 316L Stainless Steel Liquid Level Switches are commonly used in potable water, hot water, various acids, and in solvents. The side mount provides added versatility, allowing the switch to be used as a high or low level indicator, and stainless steel body provides use up to 500 PSI. These are most often used in many O.E.M. and various other custom industrial applications. These are available with several options as specified by the user.

## KEY FEATURES

- Whitman Red Seal potting submersible to a NEMA 6 rating
- 316 / 316L Stainless steel stem and float
- Side mounted
- Extensive operating temperature range
- SPST availability

## SPECIFICATIONS

- **Wetted Materials:** 316 / 316L Stainless Steel
- **Minimum Liquid Specific Gravity:** 0.85
- **Liquid Temperature range:** -40°F to +300°F
- **Max System Pressure:** 500 PSIG
- **Electrical Switch Rating:** 50 VA
- **Weight:** 5oz (approx.)

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0

**CAUTION:** Customer Media and environment must be compatible with construction materials as outlined above

## PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L20 Series</th>
<th>L25 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fitting</strong></td>
<td>1/2” NPT</td>
<td>1/2” BSPT</td>
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<tr>
<td><strong>Wetted Materials</strong></td>
<td>316 SS</td>
<td>316 SS</td>
</tr>
<tr>
<td><strong>Electrical Switch Rating</strong></td>
<td>50 VA</td>
<td>50 VA</td>
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<tr>
<td><strong>Temperature Range</strong></td>
<td>-40°F to +257°F</td>
<td>-40°C to +125°C</td>
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<tr>
<td><strong>Minimum Liquid Specific Gravity</strong></td>
<td>0.85</td>
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<tr>
<td><strong>Crush Pressure</strong></td>
<td>500 PSI</td>
<td>35 BAR</td>
</tr>
<tr>
<td><strong>Part Number</strong></td>
<td>L20-02-S2-02-NO</td>
<td>L25-02-S2-02-NO</td>
</tr>
</tbody>
</table>

1/2” NPT (1/2” BSPT) 7/8” Hex (22 mm Hex)

OVERALL LENGTH: 5 1/2” Nom. (140 mm Nom.)

FLOAT: 11/16” Dia Nom. x 1 13/16” Long Nom.
# L20/L25 Side Mounted CPVC Plastic Liquid Level Switch

## OVERVIEW
The Whitman Controls L20 / L25 Series Side Mounted CPVC Plastic Liquid Level Switches are typically used in water and potable water applications. The side mount provides added versatility, allowing the switch to be used as a high or low level indicator, and plastic body provides use up to 100 PSI. These are most often used in many O.E.M. and various other custom industrial applications. These are available with several options as specified by the user.

### KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- CPVC Plastic
- Side mounted
- Extensive operating temperature range
- SPST availability

### SPECIFICATIONS
- **Wetted Materials:** CPVC Plastic
- **Minimum Liquid Specific Gravity:** 0.90
- **Liquid Temperature range:** -40°F to +180°F
- **Max System Pressure:** 100 PSIG
- **Electrical Switch Rating:** 50 VA
- **Weight:** 5oz (approx.)

### PERFORMANCE CHARACTERISTICS

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<thead>
<tr>
<th></th>
<th>L20 Series</th>
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<tr>
<td><strong>Fitting</strong></td>
<td>1/2&quot; NPT</td>
<td>1/2&quot; BSPT</td>
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<tr>
<td><strong>Wetted Materials</strong></td>
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<td>CPVC</td>
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<td><strong>Electrical Switch Rating</strong></td>
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<td>50 VA</td>
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<tr>
<td><strong>Temperature Range</strong></td>
<td>-40°F to +180°F</td>
<td>-40°C to +82°C</td>
</tr>
<tr>
<td><strong>Minimum Liquid Specific Gravity</strong></td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td><strong>Crush Pressure</strong></td>
<td>100 PSI</td>
<td>7 BAR</td>
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<tr>
<td><strong>Lead Wires</strong></td>
<td>20 AWG 24” PVC</td>
<td>20 AWG 600mm PVC</td>
</tr>
<tr>
<td><strong>Part Number</strong></td>
<td>L20-16-S1-16-NO</td>
<td>L25-16-S1-16-NO</td>
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</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0

**CAUTION:** Customer Media and environment must be compatible with construction materials as outlined above.
Liquid Level Switches

L20/L25
Side Mounted Kynar Plastic Liquid Level Switch

OVERVIEW
The Whitman Controls L20 / L25 Series Side Mounted Kynar Plastic Liquid Level Switches are typically used with solvents and certain bases. The side mount provides added versatility, allowing the switch to be used as a high or low level indicator, and plastic body provides use up to 100 PSI. These are most often used in many O.E.M. and various other custom industrial applications. These are available with several options as specified by the user.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Kynar Plastic
- Side mounted
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Wetted Materials: Kynar Plastic
- Minimum Liquid Specific Gravity: 1.00
- Liquid Temperature range: -40°F to +180°F
- Max System Pressure: 100 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L20 Series</th>
<th>L25 Series</th>
</tr>
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<tbody>
<tr>
<td>Fitting</td>
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<tr>
<td>Wetted Materials</td>
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<td>Kynar</td>
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<td>50 VA</td>
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<tr>
<td>Temperature Range</td>
<td>-40°F to +180°F</td>
<td>-40°C to +82°C</td>
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<tr>
<td>Minimum Liquid Specific Gravity</td>
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<tr>
<td>Crush Pressure</td>
<td>100 PSI</td>
<td>7 BAR</td>
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<tr>
<td>Lead Wires</td>
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<td>20 AWG 600mm PVC</td>
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<td>Part Number</td>
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<td>L25-17-S1-17-NO</td>
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*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
OVERVIEW
The Whitman Controls L20 / L25 Series Side Mounted Polypropylene Liquid Level Switches are among the most versatile and durable of the side-mounted liquid level switch line. The polypropylene wetted material makes the switch highly compatible with numerous liquids from acids, to water, to bases. The side mount provides added versatility, allowing the switch to be used as a high or low level indicator, and plastic body provides use up to 100 PSI. These are most often used in many O.E.M. applications. These are available with several options as specified by the user.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Polypropylene
- Side mounted
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Wetted Materials: Polypropylene
- Minimum Liquid Specific Gravity: .70
- Liquid Temperature range: -40°F to +180°F
- Max System Pressure: 100 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)

<table>
<thead>
<tr>
<th></th>
<th>L20 Series</th>
<th>L25 Series</th>
</tr>
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<tbody>
<tr>
<td>Fitting</td>
<td>1/2” NPT</td>
<td>1/2” BSPT</td>
</tr>
<tr>
<td>Wetted Materials</td>
<td>Polypropylene</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>Electrical Switch Rating</td>
<td>50 VA</td>
<td>50 VA</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +180°F</td>
<td>-40°C to +82°C</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
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<td>0.70</td>
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<tr>
<td>Crush Pressure</td>
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<td>7 BAR</td>
</tr>
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<td>Lead Wires</td>
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<tr>
<td>Part Number</td>
<td>L20-20-S1-20-NO</td>
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*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Liquid Level Switches

L30
Vertical Multi-Station Stainless Steel Liquid Level Switch

OVERVIEW
The Whitman Controls L30 Series Vertical Multi-Station Stainless Steel Liquid Level Switches provide the user with as many as five level control points and up to 48” in overall length. The structure allows these switches to be mounted at the top or bottom of a tank. It can be fully customized to meet various tank sizes and switch requirements, and has assorted reversible polarities and wiring possibilities. These are most commonly found in potable water, hot water, acids, and various solvent applications.

KEY FEATURES
• Whitman Red Seal potting submersible to a NEMA 6 rating
• 316L Stainless Steel
• Up to 5 level control points
• Up to 48” in overall length
• Reversible polarities & wiring possibilities

SPECIFICATIONS
• Wetted Materials: 316L Stainless Steel
• Fitting: 1/8” NPT or 1 1/2” NPT
• Minimum Liquid Specific Gravity: 0.85
• Liquid Temperature range: -40°F to +300°F
• Max System Pressure: 1,000 PSIG
• Electrical Switch Rating: 50 VA
• Weight: Varies based on length and number of floats

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

Please consult factory directly for specification and customization.
Liquid Level Switches

L30
Vertical Multi-Station Brass / Buna Liquid Level Switch

OVERVIEW
The Whitman Controls L30 Series Vertical Multi-Station Brass Buna Liquid Level Switches provide the user with as many as five level control points and up to 48” in overall length. The structure allows these switches to be mounted at the top or bottom of a tank. It can be fully customized to meet various tank sizes and switch requirements, and has assorted reversible polarities and wiring possibilities. These are most commonly used with oil, gasoline, hydraulic oil, and jet fuel. The buna float can be used in oil in temperatures up to 230°F.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Brass Stem and Buna floats
- Up to 5 level control points
- Up to 48” in overall length
- Reversible polarities & wiring possibilities

SPECIFICATIONS
- Wetted Materials: Brass stem, Buna floats
- Fitting: 1/8” NPT or 1 1/2” NPT
- Minimum Liquid Specific Gravity: 0.70
- Liquid Temperature range: -40°F to +180°F (Up to 230°F in oil)
- Max System Pressure: 160 PSIG
- Electrical Switch Rating: 50 VA
- Weight: Varies based on length and number of floats

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

Please consult factory directly for specification and customization.
Liquid Level Switches

L31
Heavy Duty Vertical Multi-Station Stainless Steel Liquid Level Switch

OVERVIEW
The Whitman Controls L31 Series Heavy Duty Vertical Multi-Station Stainless Steel Liquid Level Switches provide the user with as many as six level control points and up to 72” in overall length. The structure allows these switches to be mounted at the top or bottom of a tank. It can be fully customized to meet various tank size and switch requirements, and has assorted reversible polarities and wiring possibilities. These are most commonly found in potable water, hot water, acids, and various solvent applications.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- 316L Stainless Steel
- Up to 7 level control points
- Up to 72” in overall length
- Reversible polarities & wiring possibilities

SPECIFICATIONS
- Wetted Materials: 316 / 316L Stainless Steel
- Fitting: 1/2” NPT, 2” NPT, or 3” 150# Flange
- Minimum Liquid Specific Gravity: 0.85
- Liquid Temperature range: -40°F to +300°F
- Max System Pressure: 975 PSIG
- Electrical Switch Rating: 50 VA
- Weight: Varies based on length and number of floats

Please consult factory directly for specification and customization.

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
The Whitman Controls L40 Series Vertical Mount 1” Cylinder Stainless Steel Liquid Level Switch has both a stainless steel stem and float affording the user high performance and versatility. These levels are most commonly seen in OEM and various other industrial applications. These are used in potable water, hot water, and in various acids and solvents as the Whitman Red Seal potting affords submergibility to a NEMA 6 rating.

**KEY FEATURES**
- Whitman Red Seal potting submersible to a NEMA 6 rating
- 316L Stainless steel stem and float
- Extensive operating temperature range
- SPST availability

**SPECIFICATIONS**
- **Wetted Materials:** 316L Stainless Steel
- **Minimum Liquid Specific Gravity:** 0.90
- **Liquid Temperature range:** -40°F to +300°F
- **Max System Pressure:** 900 PSIG
- **Electrical Switch Rating:** 50 VA
- **Weight:** 5oz (approx.)

**PERFORMANCE CHARACTERISTICS**

<table>
<thead>
<tr>
<th></th>
<th>L40 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
<td>1/8” NPT</td>
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<tr>
<td>Wetted Materials</td>
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<tr>
<td>Electrical Switch Rating</td>
<td>50 VA</td>
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<tr>
<td>Temperature Range</td>
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</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
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</tr>
<tr>
<td>Crush Pressure</td>
<td>900 PSI</td>
</tr>
<tr>
<td>Lead Wires</td>
<td>20 AWG 24” PVC</td>
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<tr>
<td>Part Number</td>
<td>L40-02-C1-02-NO</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above.
Liquid Level Switches

**L40**
Vertical Mount 1” Sphere Stainless Steel Liquid Level Switch

**OVERVIEW**
The Whitman Controls L40 Vertical Mount 1” Sphere Stainless Steel Liquid Level Switches have both a stainless steel stem and float affording the user high performance and versatility. These levels differ from their L40 cylinder cousin in that they feature a 1” sphere float and can withstand a greater crush pressure up to 1,000 PSI (69 BAR). These levels are most commonly seen in OEM and various other industrial applications. These are used in potable water, hot water, and in various acids and solvents as the Whitman Red Seal potting affords submergibility to a NEMA 6 rating.

**KEY FEATURES**
- Whitman Red Seal potting submersible to a NEMA 6 rating
- 316L Stainless steel stem and float
- 1” sphere float
- Extensive operating temperature range
- SPST availability

**SPECIFICATIONS**
- **Wetted Materials:** 316L Stainless Steel
- **Minimum Liquid Specific Gravity:** 0.85
- **Liquid Temperature range:** -40°F to +300°F
- **Max System Pressure:** 1,000 PSIG
- **Electrical Switch Rating:** 50 VA
- **Weight:** 5oz (approx.)
- **Float:** Spherical, 1” Diameter

**PERFORMANCE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>L40 Series</th>
</tr>
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<tbody>
<tr>
<td>Fitting</td>
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<tr>
<td>Wetted Materials</td>
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<td>Electrical Switch Rating</td>
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<td>Temperature Range</td>
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<tr>
<td>Minimum Liquid Specific Gravity</td>
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<tr>
<td>Crush Pressure</td>
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<td>Lead Wires</td>
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<td>Part Number</td>
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</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above*
Liquid Level Switches

L40
Vertical Mount Brass / Buna Liquid Level Switch

OVERVIEW
The Whitman Controls L40 Series Vertical Mount Brass / Buna Liquid Level Switches are most commonly seen in OEM applications and other industrial inputs. The brass stem and buna float makes the switch ideal for oil, gasoline, hydraulic oil, and jet fuel applications, and can survive to 230°F in oil.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Brass stem, Buna float
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Wetted Materials: Brass stem, Buna float, 316 Stainless Steel
- Minimum Liquid Specific Gravity: 0.70
- Liquid Temperature range: -40°F to +300°F (230°F / 110°C in oil)
- Max System Pressure: 160 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)
- Float: Cylindrical, 1” Diameter

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
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<td>Temperature Range</td>
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<td>Minimum Liquid Specific Gravity</td>
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<tr>
<td>Crush Pressure</td>
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*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
** Unit is rated to 230°F / 110°C in oil
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
OVERVIEW
The Whitman Controls L40 Series Vertical Mount CPVC Plastic Liquid Level Switches are light-weight typically used in water and potable water applications. Despite the size and weight, these levels are durable to 100 PSIG and submersible to a NEMA 6 rating. They can be used in numerous O.E.M. and various other industrial applications and are available with numerous options.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- CPVC Plastic
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Wetted Materials: CPVC – Gray
- Minimum Liquid Specific Gravity: 0.85
- Liquid Temperature range: -40°F to +180°F
- Max System Pressure: 100 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Fitting</th>
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<tbody>
<tr>
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<td>Lead Wires</td>
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</tr>
<tr>
<td>Part Number</td>
<td>L40-16-C1-16-NO</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Liquid Level Switches

L40
Vertical Mount Kynar Plastic Liquid Level Switch

OVERVIEW
The Whitman Controls L40 Series Vertical Mount Kynar Plastic Liquid Level Switches are light-weight levels typically used in solvents and certain bases. The switch can be subjected to 100 PSIG and the Whitman Red Seal potting makes the switch submersible to a NEMA 6 rating. They can be applied to numerous O.E.M. and various other industrial applications and are available with a number of options.

KEY FEATURES
• Whitman Red Seal potting submersible to a NEMA 6 rating
• Kynar Plastic
• Extensive operating temperature range
• SPST availability

SPECIFICATIONS
• Wetted Materials: Kynar – White
• Minimum Liquid Specific Gravity: 1.00
• Liquid Temperature range: -40°F to +180°F
• Max System Pressure: 100 PSIG
• Electrical Switch Rating: 50 VA
• Weight: 5oz (approx.)

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>L40 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
</tr>
<tr>
<td>Wetted Materials</td>
</tr>
<tr>
<td>Electrical Switch Rating</td>
</tr>
<tr>
<td>Temperature Range</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
</tr>
<tr>
<td>Crush Pressure</td>
</tr>
<tr>
<td>Lead Wires</td>
</tr>
<tr>
<td>Part Number</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Liquid Level Switches

L40
Vertical Mount Polypropylene Liquid Level Switch

OVERVIEW
The Whitman Controls L40 Series Vertical Mount Polypropylene Plastic Liquid Level Switches are among the most versatile and durable of the vertical liquid level switch line. The polypropylene wetted material makes the switch highly compatible with numerous liquids from acids, to water, to bases. These can be used in numerous O.E.M. and various other industrial applications and are available with numerous options.

KEY FEATURES
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Polypropylene Plastic
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Wetted Materials: Polypropylene – Blue
- Minimum Liquid Specific Gravity: 0.70
- Liquid Temperature range: -40°F to +180°F
- Max System Pressure: 100 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L40 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
<td>1/8” NPT</td>
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<tr>
<td>Wetted Materials</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>Electrical Switch Rating</td>
<td>50 VA</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +180°F</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
<td>0.70</td>
</tr>
<tr>
<td>Crush Pressure</td>
<td>100 PSI</td>
</tr>
<tr>
<td>Lead Wires</td>
<td>20 AWG 24” PVC</td>
</tr>
<tr>
<td>Part Number</td>
<td>L40-20-C1-20-NO</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
Liquid Level Switches

**L54/L55**
Bent Stem Side Mount Stainless Steel Liquid Level Switch

**OVERVIEW**
The Whitman Controls L54 / L55 Series Bent Stem Side Mount Stainless Steel Liquid Level Switches have 3/8”-24 straight thread (L54) or 1/8” NPT thread (L55) fittings allowing for insertion into the sides of topless tanks and for vertical actuation. The stainless steel wetted material in addition to the bent stem provide for maximum versatility and use across numerous applications. They are most commonly used in potable water, acids, and various solvents.

**KEY FEATURES**
- Side mounted with the ability to actuate vertically
- 316L Stainless steel stem and float
- Whitman Red Seal potting submersible to a NEMA VI rating
- Extensive operating temperature range
- SPST availability

**SPECIFICATIONS**
- **Wetted Materials**: 316L Stainless Steel
- **Minimum Liquid Specific Gravity**: 0.90
- **Liquid Temperature range**: -40°F to +300°F
- **Max System Pressure**: 900 PSIG
- **Electrical Switch Rating**: 50 VA
- **Weight**: 5oz (approx.)

**PERFORMANCE CHARACTERISTICS**

<table>
<thead>
<tr>
<th></th>
<th>L54 Series</th>
<th>L55 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
<td>3/8”-24 UNF 2A Thread</td>
<td>1/8” NPT</td>
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<tr>
<td>Wetted Materials</td>
<td>316L SS</td>
<td>316L SS</td>
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<tr>
<td>Electrical Switch Rating</td>
<td>50 VA</td>
<td>50 VA</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +257°F</td>
<td>-40°C to +257°C</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
<td>0.90</td>
<td>0.90</td>
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<tr>
<td>Crush Pressure</td>
<td>400 PSI</td>
<td>400 PSI</td>
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<tr>
<td>Lead Wires</td>
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<td>20 AWG 24” PVC</td>
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<td>Part Number</td>
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<td>L55-02-C1-02-NO</td>
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</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0

**CAUTION:** Customer Media and environment must be compatible with construction materials as outlined above.
Liquid Level Switches

L60
Heavy Duty Vertical Mount 2” Sphere Stainless Steel Liquid Level Switch

OVERVIEW
The Whitman Controls L60 Series Heavy Duty Vertical Mount 2” Sphere Stainless Steel Liquid Level switch consists of a stainless steel stem and float which afford the end user maximum versatility in functionality and operating environment. These levels can withstand system pressure to 975 PSIG (67 BAR) and an extensive temperature operating range. They are commonly used in potable water, hot water, and in various acids and solvents.

KEY FEATURES
• 316L Stainless steel stem and float affording maximum versatility
• Whitman Red Seal potting submersible to a NEMA VI rating
• Extensive operating temperature range
• SPST availability

SPECIFICATIONS
• Wetted Materials: 316L Stainless Steel
• Minimum Liquid Specific Gravity: 0.80
• Liquid Temperature range: -40°F to +300°F
• Max System Pressure: 975 PSIG
• Electrical Switch Rating: 50 VA
• Weight: 5oz (approx.)

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Fitting</th>
<th>L60 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetted Materials</td>
<td>316L SS</td>
</tr>
<tr>
<td>Electrical Switch Rating</td>
<td>50 VA</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +257°F</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
<td>0.80</td>
</tr>
<tr>
<td>Crush Pressure</td>
<td>975 PSI</td>
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<tr>
<td>Lead Wires</td>
<td>20 AWG 24” PVC</td>
</tr>
<tr>
<td>Part Number</td>
<td>L60-02-R2-02-NO</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
OVERVIEW
The Whitman Controls Heavy Duty Vertical Mount Brass / Buna Liquid Level Switch is constructed with a brass stem and buna float, which allows these switches to operate in harsh, high temperature environments relative to its stainless steel cousin. The unit is rated to 230°F / 110°C in oil. The L60 is commonly used in oil, gasoline, hydraulic oil, and jet fuel applications, and can survive up to 230°F in oil.

KEY FEATURES
- Brass stem and buna float
- Whitman Red Seal potting submersible to a NEMA VI rating
- Extensive operating temperature range
- SPST availability

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L60 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
<td>1/4” NPT</td>
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<tr>
<td>Wetted Materials</td>
<td>Brass, Buna, 316 SS</td>
</tr>
<tr>
<td>Electrical Switch Rating</td>
<td>50 VA</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +180°F</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
<td>0.75</td>
</tr>
<tr>
<td>Crush Pressure</td>
<td>160 PSI</td>
</tr>
<tr>
<td>Lead Wires</td>
<td>20 AWG 24” PVC</td>
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<tr>
<td>Part Number</td>
<td>L60-06-C3-15-NO</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above.
Liquid Level Switches

L70
Mini Polypropylene Vertical Mount Liquid Level Switch

OVERVIEW
The Whitman Controls L70 Series Mini Polypropylene Vertical Mount Liquid Level Switches are miniature in size, allowing for use across a wide range of industrial applications. These liquid levels are highly compatible with numerous liquids from acids to waters to bases. They are normally open-only switches for O.E.M. applications and are available with 1/8" NPT and 3/8-16 straight threads.

KEY FEATURES
- Miniature size, allowing for use across a number of applications
- Brass stem and buna float
- Whitman Red Seal potting submersible to a NEMA VI rating
- Polypropylene plus FDA Foaming Agent float
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS
- Wetted Materials: Polypropylene & Buna
- Float: Polypropylene plus FDA Foaming Agent
- Fitting: 1/8" NPT or 3/8-16 UNC Straight
- Minimum Liquid Specific Gravity: 0.77
- Liquid Temperature range: -40°F to +176°F
- Max System Pressure: 100 PSIG
- Electrical Switch Rating: 50 VA Normally Open (N.O.) Dry
- Weight: 1oz (approx.)

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L70-1/8 NPT Series</th>
<th>L70-3/8-16 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
<td>1/8” NPT Pipe Thread</td>
<td>3/8-16 UNC Straight</td>
</tr>
<tr>
<td>Wetted Materials (Stem &amp; O-Ring)</td>
<td>Polypropylene, Buna</td>
<td>Polypropylene, Buna</td>
</tr>
<tr>
<td>Wetted Materials (Float)</td>
<td>Polypropylene, FDA foaming agent</td>
<td>Polypropylene, FDA foaming agent</td>
</tr>
<tr>
<td>Electrical Switch Rating</td>
<td>50 VA Normally Open (N.O.) Dry</td>
<td>50 VA</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +176°F</td>
<td>-40°F to +176°F</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
<td>0.77</td>
<td>0.77</td>
</tr>
<tr>
<td>Crush Pressure</td>
<td>100 PSIG</td>
<td>100 PSIG</td>
</tr>
<tr>
<td>Lead Wires</td>
<td>24 AWG Teflon 24”</td>
<td>24 AWG Teflon 24”</td>
</tr>
</tbody>
</table>

*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above
TEMPERATURE SWITCHES AND THERMOSTATS

Our temperature switches and thermostats are ideal for applications where the end user is looking for highly accurate control across a wide range of operating temperatures. These sensors are adjustable and highly responsive, affording use across a number of OEM processes.

T150D  Adjustable Stainless Steel Miniature Temperature Switch .......................... 61
L10    Vertical Brass Buna Temperature-Level Switch .............................................. 62
TP Series  Economical Stainless Steel Temperature Probe Switch .................. 63
T3    Economical Stainless Steel Thermostat .......................................................... 64
OVERVIEW
The Whitman Controls T150D Adjustable Stainless Steel Miniature Temperature Switches provide the end-user with a wide range of functionality without impacting durability. The T150 is designed for use up to 510°F but can withstand temperatures up to 800°F while still protecting the set point and life of the switch. The limit filled, saturated vapor sensor is in direct contact with the temperature-sensing outer shell producing fast response and accurate temperature control. The external setting scale provides full range adjustment and the external lock screw allows for easy adjustment of set point. The stainless steel wetted material affords use in any number of processes from medical to food processing, to oil baths and refrigeration.

KEY FEATURES
- Miniature size
- 9 ranges of adjustability from -45°F to +510°F
- Will withstand over temperatures without affecting set point or life of switch
- External lock screw for easy adjustment of set point
- Vibration resistant
- Direct mount offers thermal isolation between electrical switch and sensor
- Numerous electrical interfaces available

SPECIFICATIONS
- Max System Temperature: 800°F
- Max System Pressure: 1,000 PSI
- Temperature Range: -45°F to +510°F (Up to 230°F in oil)
- Temperature Sensor: Limit filled, saturated vapor sensor
- Switch Body Ambient Temperature Limits: -65°F to +225°F
- Wetted Parts: 316 Stainless Steel

SENSOR CODE AND PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>TABLE A</th>
<th>CODE TEMP RANGE</th>
<th>ADJUSTABLE SET POINT RANGE</th>
<th>REPEATABILITY</th>
<th>MAXIMUM TEMPERATURE*</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>°F</td>
<td>°F</td>
<td>±</td>
<td>°F</td>
</tr>
<tr>
<td>1</td>
<td>-45 to +20</td>
<td>± 1.3</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-15 to +65</td>
<td>± 1.6</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>+25 to +95</td>
<td>± 1.4</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>+80 to +160</td>
<td>± 1.6</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>+130 to +220</td>
<td>± 1.8</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>+180 to +260</td>
<td>± 1.6</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>+240 to +350</td>
<td>± 2.2</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>+345 to +450</td>
<td>± 2.1</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>+390 to +510</td>
<td>± 2.4</td>
<td>800</td>
<td></td>
</tr>
</tbody>
</table>

*Maximum temperature is the temperature the sensing bulb may be subjected to without causing changes in the operating characteristics of the switch.
L10
Vertical Brass Buna Temperature-Level Switch

OVERVIEW
The Whitman Controls L10 Series Vertical Mount Brass Buna Temperature-Level Switches are highly versatile, providing the end-user the ability to control both temperature and liquid level within an application. These switches can be used to set off high/low temperature alarms along with a number of other functions. The buna float can be used in numerous liquids and can survive up to 230°F in oil. The internal thermostats are available from 100°F to 225°F in 25°F increments, with special temperatures available for O.E.M. customers. There are numerous wiring combinations and other options available to afford the end-user extreme functionality.

KEY FEATURES

- Highly versatile with temperature and liquid level control
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS

- Minimum Liquid Specific Gravity: 0.75
- Liquid Temperature Range: -40°F to +180°F (-40°F to +230°F in oil)
- Temperature Settings: +100°F to +225°F in 25°F increments
- Repeatability: +/- 5°F
- Max System Pressure: 160 PSIG
- Electrical Switch Rating: 50 VA
- Weight: 5oz (approx.)
- Wetted Materials: Brass stem, buna float

PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>L10 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting</td>
<td>1/4” NPT, 5/8” Hex</td>
</tr>
<tr>
<td>Wetted Materials</td>
<td>Brass, Buna, 316 SS</td>
</tr>
<tr>
<td>Electrical Ratings:</td>
<td></td>
</tr>
<tr>
<td>Level Switch:</td>
<td>50 Volt Amps, 1/4 A at 150 VAC</td>
</tr>
<tr>
<td>Temp Switch:</td>
<td>8 Amps at 12 VDC, 2.6 Amps at 120 VAC</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40°F to +180°F</td>
</tr>
<tr>
<td>Minimum Liquid Specific Gravity</td>
<td>0.75</td>
</tr>
<tr>
<td>Crush Pressure</td>
<td>160 PSIG</td>
</tr>
<tr>
<td>Lead Wires</td>
<td>20 AWG 24” PVC</td>
</tr>
</tbody>
</table>

*Response time is approximately 1°F/second and may vary by media and conditions
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

PART NUMBER CONSTRUCTION:

LXX - 06 - C3 - 15 - NX - XX
O = Level N/O
B = Temp N/O
C = Level N/C
C = Temp N/C
11 = 4 Wire Temp N/O
12 = 4 Wire Temp N/C
13 = 3 Wire Temp N/O
14 = 3 Wire Temp N/C
15 = 2 Wire Temp N/O Series
16 = 2 Wire Temp N/C Series
17 = 2 Wire Temp N/O Parallel
18 = 2 Wire Temp N/C Parallel
2 = 100°F
3 = 125°F
4 = 150°F
5 = 175°F
6 = 200°F
7 = 225°F
8 = SPECIAL
Temperature Switches

TP SERIES

Economical Stainless Steel Temperature Probe Switch

OVERVIEW
The Whitman Controls TP Series Economical Stainless Steel Temperature Probe Switches are a creep action thermostat / thermal protector switch providing almost no differential between opening and closing temperatures. The switch is designed for use up to 250°F but can withstand temperatures up to 275°F while still protecting the life of the switch. They are available in temperature units from 50°F to 250°F in 25°F increments with special temperatures available for O.E.M. customers. These switches are available wired Normally Closed or Normally Open on increasing temperature. The stainless steel wetted material affords use in any number of processes from medical to food processing, to oil baths and refrigeration. They are all made with ½” NPT Male threads so that they can be screwed directly into almost application.

KEY FEATURES
- 316 Stainless Steel
- Extensive temperature operating range
- Will withstand over temperatures without affecting life of switch

SPECIFICATIONS
- Temperature range: +50°F to +250°F
- Max System Temperature: 275°F
- Max System Pressure: 1,000 PSIG
- Wetted Materials: 316 Stainless Steel

Part Number Construction: TP - XXX - NX
Customer Temp in °F i.e. 075 or 225
NO = Normally Open
NC = Normally Closed
OVERVIEW

The Whitman Controls T3 Economical Stainless Steel Thermostat is a capillary bulb thermostat, with 39” capillary tubes and stainless steel wetted material. These SPDT devices are rated to 10 Amps. The T3 has grown in popularity, frequently used in the medical field and food processing, specifically to control the temperature of foods and various enclosures such as chicken coops. These thermostats are highly versatile and can be panel mounted, affording use across any number of OEM and other industrial applications.

KEY FEATURES

- 316 Stainless Steel
- Capillary bulb thermostat with 39” capillary tubes
- Extensive temperature operating range
- SPDT, rated to 10 Amps

SPECIFICATIONS

- **Wetted Materials:** 316 Stainless Steel
- **Max System Pressure:** 1000 PSIG
- **Temperature range:** +30°F to +190°F
- **Amps:** 10 Amps Max
GENERAL INFORMATION

Electrical Switch Codes .......................................................... 66
Electrical Interface Options .................................................. 67
Fittings, Adapters and Optional Parts .................................... 68
Set point Adjustments & Wiring Instructions ......................... 69
Switch Glossary ..................................................................... 70
Whitman Value ..................................................................... 71
### Electrical Switch Selection Tables

#### ALL MODELS EXCEPT P88, P90 & P95

<table>
<thead>
<tr>
<th>SWITCH CODE</th>
<th>VOLTS AC / DC</th>
<th>AMP RESISTIVE</th>
<th>AMP INDUCTIVE</th>
<th>CONTACT MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1</td>
<td>125 / 30</td>
<td>.1</td>
<td>-</td>
<td>GOLD PLATE</td>
</tr>
<tr>
<td>1</td>
<td>115 / 28</td>
<td>1 / 1</td>
<td>1 / .5</td>
<td>GOLD</td>
</tr>
<tr>
<td>3</td>
<td>125 / 30</td>
<td>3 / 2</td>
<td>-</td>
<td>SILVER</td>
</tr>
<tr>
<td>5</td>
<td>250 / 28</td>
<td>5 / 5</td>
<td>5 / 3</td>
<td>SILVER</td>
</tr>
</tbody>
</table>

Above switches are SPDT, but may be used as SPST.

#### MODELS P90 & P95 ONLY

<table>
<thead>
<tr>
<th>SWITCH CODE</th>
<th>VOLTS</th>
<th>AMP RESISTIVE</th>
<th>HORSE POWER @ 250 VAC</th>
<th>CONTACT MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30 VDC / 125 VAC</td>
<td>1</td>
<td>-</td>
<td>GOLD</td>
</tr>
<tr>
<td>5</td>
<td>30 VDC / 250 VAC</td>
<td>5</td>
<td>-</td>
<td>SILVER</td>
</tr>
<tr>
<td>11</td>
<td>30 VDC / 250 VAC</td>
<td>10</td>
<td>1/4</td>
<td>SILVER</td>
</tr>
</tbody>
</table>

Above switches are SPDT, but may be used as SPST.

#### MODEL P88 ONLY

<table>
<thead>
<tr>
<th>SWITCH CODE</th>
<th>VOLTS</th>
<th>AMP RESISTIVE</th>
<th>HORSE POWER @ 250 VAC</th>
<th>CONTACT MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30 VDC / 125 VAC</td>
<td>1</td>
<td>-</td>
<td>GOLD</td>
</tr>
<tr>
<td>5</td>
<td>250 VAC</td>
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<td>0.1</td>
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<td>10</td>
<td>250 VAC</td>
<td>10</td>
<td>1/3</td>
<td>SILVER</td>
</tr>
<tr>
<td>15</td>
<td>250 VAC</td>
<td>15</td>
<td>1/2</td>
<td>SILVER</td>
</tr>
<tr>
<td>25</td>
<td>250 VAC</td>
<td>25</td>
<td>2</td>
<td>SILVER</td>
</tr>
</tbody>
</table>

Above switches are SPDT but may be used as SPST. 25 Amp switch available on codes 4, 5, & 6 only.

For dry circuitry, i.e. 5VDC-50 mA or less, use gold contact switch (Code .1 or 1). If less than 20mA, performance of electrical switch will be environmentally dependent. If there is some form of contamination (dust, dirt, oil, chemical residue, etc.) at point of contact, the electrical switch could perform intermittently, as there would be insufficient current to burn off any possible contamination.
**Interface Options**

**Optional Electrical Interfaces**

**Available for Models**
P100, P117, P119, J205, P605, J705 and W117

**T**
Standard solder type terminals also accept AMP 60789-2 and 60598-4 Pin Receptacles

**TS**
Three flat bar terminals with #6-32 pan head screws at right angle

**TB**
3 standard 1/4” terminals accept arc-less (or equal) female quick connect terminals

**DN**
DIN Male Plug
“F” Set Only
Except “C”, “K” & “F” Set on P605 Series Units

For L and U Electrical Interfaces

2 or 3 wire pigtail furnished in 12” length
Standard-supplied #20 AWG insulated with polyvinyl chloride – 300 volts.

COLOR CODE:
- Black – Common
- White – N.O.
- Red – N.C.

“M” Interface Quick-Disconnect 3-Pin Connector

This interface is rated as environmentally resisting. It is intended for use where the connector will be subjected to heavy condensation and rapid changes in environmental temperature or pressure. This connector is equivalent to MS3102E-10SL-3P. Applicable to models shown below only.

**“M” Interface**
P117, J705, J205, P605
“F” Set Only Except “C”
“K” and “F” Set on P605

**MS3106E**
Connectors – All Models With “M” Interface

**Interface Options**
Optional Electrical Interfaces Available for Model P88

**TB**
1/4” (TB)
Blade terminals
UL Recognized
CSA Listed

**TS**
Screw Terminal (TB)
UL Listed
(except 25 amp)
CSA Listed
Optional Parts

**Popular Options:**

- **SPECIFIC RESET POINT RANGE** – (Calibrated Switch)
- **PIGTAILS** – Standard, Non-jacketed (“L” Interface)
  - 12” long included in price, longer lengths available
  - 18 AWG, 20 AWG Wire in various colors
- **PIGTAIL WITH PVC JACKET** (“L” Interface)
  - 12” length, longer lengths available
- **UL and/or CSA – Consult Factory**
  - Some product is covered by UL-CSA approval under the following file numbers: UL E 109178 – CSA LR62173 – P88, P117, W117, P119, J205.
  - UL E 123402 – CSA LR87500 – Wiring harness
- **PIN RECEPTACLE – AMP 60598-4 or equal**
  - Three per set (“T” interface)
- **VOLTAGE SPIKE ARRESTOR** – AC/DC Voltage, SPST/SPDT Switches
- **BAR CODING**
- **R/C CIRCUITS FOR CURRENT BELOW 10mA**
- **O-RINGS** (J205, P605, J705 only)
  - Special materials upon request
- **ROLL STAMPING/STENCILING**
- **COMPUTER DIAGNOSIS CAPABILITY**
- **SHRINK TUBING**
- **CONVOLUTED CONDUIT**
- **LABELING**
- **TEFLON TAPE** – Available on NPT Fittings
- **THREAD LOCKER** – Available on all Fittings

**Adapters:**

Models P100, P119 and J705 are available with optional port thread adapters.

- 1/8” NPT to 1/4” NPT
- 1/8” NPT to 7/16-20 SAE
- 1/8” NPT to 9/16-18 SAE

**Fittings:**

Most models can be obtained with a variety of fittings. Some common fittings are shown below. Please specify when ordering.

- 1/8 NPT Fitting (Optional for P605)
- 1/4 NPT Fitting (Optional for P117, P119, J205, W117)
- 7/16-20 Thread Fitting (Optional for P117, J205)
- 1/4” VCR Fitting (Optional for P117, W117, J205)
- 1/2-20 SAE Fitting with Optional O-Ring (Optional zinc diecast for P90) (Optional stainless steel for P95)
Set Point Adjustments and Wiring Instructions

SET POINT ADJUSTMENTS

PRESSURE SWITCHES

PRESSURE SET POINT ADJUSTMENT—JAM NUT STYLE ADJUSTING RING MODELS P100, P117, W117, P119, J205, J705—K OR C SET.

The K & C designs are readily adjustable throughout their prescribed range by loosening the knurled locking ring. Turning the electrical switch clockwise will lower the set point, turning it counterclockwise will increase the set point. When desired set point is reached, the assembly is locked again by tightening the knurled locking ring.

Entire adjustable range may be covered by rotating approximately 250° each side of the mean.

The knurled locking ring requires very little effort to establish a reliable locked position. By placing a wrench on the fitting hex to hold switch body in position, grip the knurled locking ring with pliers and turn counterclockwise to loosen or clockwise to tighten. Only a slight snug is required to lock in position.

VACUUM SET POINT ADJUSTMENT—VACUUM MODELS

To lower set point turn electrical switch counterclockwise. To raise set point turn electrical switch clockwise.

PRESSURE SET POINT ADJUSTMENT—MODEL P605

Slide spring clip cover down past adjusting ring window. Insert .093 inch dia. pin into adjusting ring radial hole. Pushing the pin to the right (counterclockwise) will lower the set point; to the left (clockwise) will raise the set point. Align center of pin holes to the desired pressure. When desired set point is reached, remove pin and slide up the cover to close the adjusting ring window.

PRESSURE SET POINT ADJUSTMENT MODEL P88 K OR C SET

The standard field adjustable versions of the Guardian P/V Model P88 are easily adjusted throughout the prescribed pressure range by aligning the top of the knurled adjusting nut with the desired pressure setting indicated on the adjacent range scale.

PRESSURE SET POINT FOR ADJUSTABLE SWITCHES

All switches are easy to adjust. First, loosen the knurled locking ring. Now, set the sliding gauge pointer to the desired pressure point. Tighten the locking ring and the pressure (vacuum) switch is locked and ready to use.

NOTE: Little effort is required to establish a reliable locked position. If tools are used, place a wrench on the hex nut under the switch to hold the switch body in place; then grip the knurled locking ring with pliers to tighten or loosen as desired.

WIRING INSTRUCTIONS

MODELS P90, P95, P100, P117, P119, J205, J705, P605, W117

MODELS P90, P95, P100, P117, P119, J205, J705, P605, W117
Glossary of Switches

ACCURACY - The limit of deviation from the set point of a pressure or vacuum switch. It is usually defined in either pounds per square inch, or percentage of full scale.

ACTUATION POINT - See SET POINT. ACTUATION VALUE - The difference between the set point and the reset point.

ADJUSTABLE RANGE - The range within which the switch can be set from the lowest to the highest point, usually expressed in PSI, inches of mercury or PSIA.

BUOYANT FORCE - A body submerged in fluid is pushed or buoyed up by a force equal in magnitude to the weight of the displaced fluid. Buoyancy is dependent on both weight and shape of the float.

CRUSH PRESSURE - The maximum pressure to which the floats may be exposed without deformation. Tanks containing liquids are frequently pressurized. Crush pressure varies with the materials of construction, wall thickness, shape and desired density.

DEADBAND - The difference between the increasing and decreasing readings when the switch is operated between set point and reset point.

DIFFERENTIAL - The mechanical motion lost within the electrical switch element while it reverses itself. This is usually greater in high amperage switches than in low amperage switches.

ELECTRICAL RATINGS - The reed switches are specified as VA (Volt Amps) or Watts. See Table A.

ELECTRICAL SWITCHING ELEMENT - Opens or closes an electrical circuit in response to movement from the pressure or vacuum sensing element. Single pole, double throw (SPDT) snap action switches are standard, may be used as single pole, single throw (SPST). NO/NC circuitry is selectable, but it must be specified at order time.

FLOAT - The liquid level sensor, the portion of the level switch that rises and falls with the changes in the level of a liquid. The float contains the magnet used to operate the reed switch. It is made of various materials and densities to achieve a material compatibility and to be able to float in liquids with various specific gravities.

FORM A SWITCH - A single pole single throw electrical switch - the preferred electrical switch for liquid level devices.

FORM C SWITCH - A single pole double throw electrical switch.

HYSTERESIS - The difference in pressure or vacuum switch response to increasing or decreasing pressure or vacuum.

INTERFACE - The surface between two liquids that have different Specific Gravities, e.g. oil floating on water.

INTERFACED - A float whose buoyancy has been adjusted to float at the interface of the two liquids that have different Specific Gravities.

LIQUID LEVEL SWITCH - An electromechanical device that opens or closes an electrical circuit in response to a change in the level of a liquid.

LIQUID LEVEL SWITCH OPERATION - A float containing a permanent magnet riding on the surface of a liquid. The motion of the float is guided by a stem. The stem contain a reed switch that is actuated by the magnet in the float.

MOISTURE PROTECTION - Our liquid level switches are sealed with potting compound. The only path for liquid to the electrical switch would be through the wires. If the wires are terminated in an appropriate manner (e.g. - NEMA VI connectors), the level switch will meet or exceed NEMA VI.

NEMA VI - A device suitable for submersion.

NORMALLY CLOSED SWITCHING ELEMENT - Current flows through the switch until it is broken by a pressure or vacuum change.

NORMALLY OPEN SWITCHING ELEMENT - No current flows through the switch until contact is made by a pressure or vacuum change.

PRESSURE, ABSOLUTE - A pressure scale based on PSIA “0” or a perfect vacuum.

PRESSURE, AMBIENT - The pressure immediately surrounding a pressure switch. It is usually, but not necessarily, atmospheric gauge pressure.

PRESSURE, ATMOSPHERIC - The pressure caused by the actual weight of the earth’s atmosphere. At sea level, atmospheric pressure equals 14.7 psi, 30 inches of mercury, or 408 inches of water, above absolute “0” (“0” PSIA).
Whitman Value

High Quality Switches, Fully Customizable, with an Unrelenting Focus on Superior Service
Whitman Controls has been a leader in the pressure, vacuum, and liquid level switch industry for over 40 years. The Whitman Value is built on our differentiated offering of high quality switches, and the ability to deliver product to EXACT customer specifications in two weeks or less. Off the shelf switches limit an application’s functionality and versatility - Why choose a competitor switch that results in inferior performance? We take into account your application and media environment, as well as all desired specifications to design a switch that will meet performance needs and exceed your expectations. Quality switches, designed to customer specifications in two weeks or less, with an unrelenting focus on superior service - Together they add up to the Whitman Value.

ISO 9001 Certified – We Hold Ourselves, and Our Products, to the Highest Standards
Whitman Controls is ISO 9001:2015 Certified, which gives our customers the confidence that we hold our internal processes, and products, to the highest standards of quality and rigorous testing requirements. You can be confident that the product you receive has met all necessary regulatory requirements and will outperform your desired expectations.

Experience and Knowledge, That’s Invaluable.
Whitman Controls directs its years of design and manufacturing experience toward providing value-added services to our customers. These services can help you lower costs and increase efficiency. Our engineering team will work intimately with you and your team to design a switch that will maximize application performance no matter what the environment. In addition, our exceptional mechanical abilities allow us to perform additional assemblies and deliver more complete tested systems and subassemblies.

We offer the most extensive pressure, vacuum, and liquid level switch offering in the industry. What does this mean for you? The ability to identify a switch that is suited perfectly for your application at a price that doesn’t break your budget. At Whitman, we are constantly evaluating our input prices to identify savings we can pass along directly to the buyer. And we do all of this without sacrificing performance and quality.

Numerous Choices and Additional Options – Have it your Way.
Need additional wire on top of the 12” standard offering? Looking for a 1/4” NPT fitting instead of 1/8” NPT? Need Teflon tape or Loctite Vibraseal on your fitting? These are just a few of the numerous additional options that are available to customers on all our switch offerings. You have a need and we have an answer. All our switches can be customized to meet any end-user requirements.

At the Other End, Whitman Can Handle Wire Harness Assemblies Too.
As a UL and CSA approved harness assembly house, Whitman can do your next level of assembly. With our capabilities we can provide “value-added” benefits top to bottom. Whitman can guarantee leak free subassemblies and can handle a wide variety of switch mounts in customer designed systems. From T’s to elbows, we will purchase and assemble parts and switches to your specifications.

Plus we can do it all at a price that will save you money. Call or email us today and we will give you a quotation on your assembly project.

Quality products, fully customizable, with a commitment to superior service. Together they add up to the Whitman Value.