LEVER OPERATED CONTROLS

To Open/Close Circuits by Mechanical Movement

**Snap-Action Type 46 (General Purpose NEMA-1)**

Used where positive mercury switch action is desired when the operating lever is moved to a particular position (see Chart C for various circuits available). The mercury switch does not move until the operating arm has moved a definite amount at which time it “snaps” to its alternate position.

**Direct-Action Type 47 (General Purpose NEMA-1)**

Used where greater sensitivity and more over-travel is desired. The mercury switch is mounted on the lever and moves with it. Requires less force and travel than the snap-action type. See Chart C for switch operations.

**Direct Action with Spring Return-Type 47SR**

For same application as Type 47 except this control is equipped with the spring return feature. The mercury switch is mounted on the lever arm with a spring assembly which returns the arm to the “Center” position when force is removed from the lever arm.

**FLOAT CONTROLS**

**For vessels not under pressure Type 40-49**

For use with rods and floats to open/close mercury switches by a change of liquid levels in vessels not under pressure. Example: to start and stop motor operated pumps, or perform other functions in changes of liquid level.

**Type 40 Counter Balanced Snap-Action Movement**

For general applications. The float assembly slides up and down the float rod. When the float rises to the top stop, it moves the operating arm up, and when it drops to the bottom stop, it moves the operating arm down. The mercury switch does not move until the operating arm has moved a definite amount, at which time it “snaps” to its alternate position. For minimum liquid level changes, see Chart C. Enclosure is NEMA-1 general purpose.

**Type 49 Counter Balanced Direct Action**

For use where closer differential in level change is desired between on and off operation. The mercury switch is mounted directly on the operating lever and moves with it. This control requires less operating force than the snap-action type. For minimum liquid level changes, see Chart C. Enclosure is NEMA-1 general purpose.

**Type 49SRC Counter Balanced Direct-Action with Spring Return**

Similar to Type 49 except spring return assembly added to provide for stage operation. The spring return assembly holds the arm in a neutral position (contacts either open or closed) until the float engages upper or lower stop on rod, and actuates control contacts. Can be used for high or low alarm. Enclosure is NEMA-1 general purpose.

**Standard Features**

General Purpose-Types 40, 49, 49SRC: 4-3/4" dia. steel case finished gray enamel. Glass fronted cover. Outlet box has 1/2" knockouts on both sides. Standard with bottom mounting base plate having two 13/64" holes 3" apart. Standard Construction: Furnished with bottom mounting and with lever arm extended to right.

**Type 41 Plunger Type Snap-Action**

For use on closed tanks (cannot be used on pressurized tanks). Rod and floats same as Type 40 except maximum rod length 4 ft. For minimum liquid level change, see Chart C. Standard Construction: Furnished with 1/4" NPT Bottom Connection only. Enclosure is NEMA-1 general purpose. For Weather Resistant NEMA-3 Case, specify Type 41W. When ordering, specify Type No. and Circuit. Example: Type 41 - 156. Can be used for pump operation or day tanks.

**Standard Features**

General Purpose-Types 41, 49, 49SRC: 4-3/4" dia. steel case finished gray enamel. Glass fronted cover. Outlet box has 1/2" knockouts on both sides. Standard with bottom mounting base plate having two 13/64" holes 3" apart. Standard Construction: Furnished with bottom mounting and with lever arm extended to right.
### MODEL CHART – SERIES 40-49

**LEVER ARM OPERATED FLOAT CONTROLS**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>CIRCUIT</th>
<th>DESCRIPTION</th>
<th>CODE</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>2 R6</td>
<td>Series Designator. Counter balance lever arm operated control with adjustable deadband. Minimum deadband approximately 2&quot; (51 mm). Maximum deadband 20 ft. (6 M). Operates with two 2-1/8&quot; x 5-1/2&quot; (54 x 140 mm) diameter brass floats and rod length up to 8 ft; or three 2-1/2&quot; x 5-1/2&quot; (54 x 140 mm) brass floats for 8 to 20 ft (2.44 to 6M) rod. Float (flow type, size and rod length must be specified on order) Has mercury switch with &quot;snap action&quot; movement assembly. General purpose case only.</td>
<td>UL CSA</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>4821 R6</td>
<td>Similar to Type 40 Series, except mercury switch is mounted directly on operating arm providing closer minimum deadband of 7/8&quot; (22 mm).</td>
<td>UL CSA</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>48xx R6</td>
<td>Similar to Type 49 except has spring return to hold lever arm in center (internal) position until the float engages upper or lower stop actuating mercury switch. Circuit 4849 suitable for high and low alarm.</td>
<td>UL CSA</td>
<td></td>
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**CHART A – FLOATS AND RODS FOR SERIES 40, 41 AND 49**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>TYPE</th>
<th>MAX ROD LENGTH</th>
<th>TWO 2 1/8&quot; (54MM) D.D. COPPER OR SS FLOATS</th>
<th>ONE 1 1/2&quot; (38MM) D.D. COPPER OR SS FLOATS</th>
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<tr>
<td>40</td>
<td>5-1/2</td>
<td>20 Ft. (6 M)</td>
<td>2&quot; (51 mm)</td>
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</tr>
<tr>
<td>41</td>
<td>5-1/2</td>
<td>4 Ft. (1.22 M)</td>
<td>4&quot; (102 mm)</td>
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**ORDERING INFORMATION:**

**EXAMPLE:** How to order (see model chart)

- Series Designation: 40 2 R6
- Circuit: 1
- Float Arm and Flange Location: 1

**EXAMPLE:** How to order (see model chart)

- Series Designation: 49 4821 R6
- Circuit: 1
- Float Arm and Flange Location: 1

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### MODEL CHART – SERIES 40-49

**LEVER ARM OPERATED FLOAT CONTROLS**

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**ORDERING INFORMATION:**

**EXAMPLE:** How to order (see model chart)

- Series Designation: 46 2 R6
- Circuit: 1
- Float Arm and Flange Location: 1

**EXAMPLE:** How to order (see model chart)

- Series Designation: 47 4821 R6
- Circuit: 1
- Float Arm and Flange Location: 1

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### ELECTRICAL RATING — ALL TYPES

Standard type 9-51 switch. Each switch AC or DC 10A. 120V., 5A, 240V, Motor Rating 120/240V 3/4 hp. single phase AC 1/3 hp. DC.