## Series Included

### Open Board

<table>
<thead>
<tr>
<th>Component</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLC1</td>
<td>129</td>
</tr>
<tr>
<td>LLC2</td>
<td>130</td>
</tr>
</tbody>
</table>

### Octal Plug-in

<table>
<thead>
<tr>
<th>Component</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLC4</td>
<td>131</td>
</tr>
<tr>
<td>LLC5</td>
<td>132</td>
</tr>
</tbody>
</table>

### Low Level Cut Off

<table>
<thead>
<tr>
<th>Component</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLC6</td>
<td>133</td>
</tr>
<tr>
<td>LLC8</td>
<td>134</td>
</tr>
</tbody>
</table>

### Alternating Relays

<table>
<thead>
<tr>
<th>Component</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARP</td>
<td>135</td>
</tr>
</tbody>
</table>
The LLC1 Series is a single probe conductive liquid level control designed for OEM equipment and commercial applications. This unit may be ordered with selectable or fixed fill or drain operation. A time delay (1-60s) prevents rapid cycling of the output relay. On adjustable units, the sensitivity adjustment allows accurate level sensing while ignoring foaming agents and floating debris. Isolated AC voltage is provided at the probe to prevent electrolysis. A trickle current of less than 1mA determines the presence or absence of liquid between the probe and common. The LLC1 Series printed circuit board is conformal coated to resist moisture and corrosion.

For more information see:
Appendix B, page 167, Figure 26 for dimensional drawing.
Appendix C, page 170, Figure 23 for connection diagram.

Features:
- Single probe level control for conductive liquids
- Isolated AC voltage on the probes
- Adjustable or fixed sensing up to 250KΩ
- Fill or drain operation available
- 24, 120, or 230VAC models are available
- Isolated, 10A, SPDT & non-isolated, SPST output contacts

Auxiliary Products:
- Quick connect to screw adaptor:
  P/N: P1015-18
- Electrode: P/N: PHST-38QTN
- Threaded probe (24°): P/N: LLP-24
- Female quick connect:
  P/N: P1015-13 (AWG 10/12)
  P/N: P1015-64 (AWG 14/16)
  P/N: P1015-14 (AWG 18/22)

Available Models:
- LLC14A1AX
- LLC14B60AX
- LLC14A5AX
- LLC16A25AX
- LLC14A7AX
- LLC16A3AX
- LLC14B15AX
- LLC16B60A
- LLC14B1AX

If desired part number is not listed, please call us to see if it is technically possible to build.

Order Table:

<table>
<thead>
<tr>
<th>LLC1</th>
<th>X</th>
<th>Input</th>
<th>X</th>
<th>Operation</th>
<th>X</th>
<th>Time Delay</th>
<th>X</th>
<th>Sense Resistance</th>
<th>X</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-2 - 24VAC</td>
<td></td>
<td>- A - Drain</td>
<td></td>
<td>Fixed: Specify 1-60s in 1s increments</td>
<td></td>
<td>A - Adjustable</td>
<td></td>
<td>Blank - Surface mount</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 - 120VAC</td>
<td></td>
<td>- B - Fill</td>
<td></td>
<td></td>
<td></td>
<td>- Fixed (Specify fixed resistance (1-250) in 1KΩ increments.)</td>
<td></td>
<td>- 0.5 in. nylon standoffs (three)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 - 230VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specifications

Control
Type ................................................. ON/OFF (single level) resistance sensor with built-in time delay to prevent rapid cycling
Sense Voltage ...................................... Low voltage AC between probe & common. Isolated from input & output
Sense Resistance .................................. Fixed or adjustable to 250KΩ
Sense Resistance Tolerance ...................... Adjustable - guaranteed range
Time Delay
Range .............................................. Fixed 1 - 60s in 1s increments
Input
Voltage ............................................. 24, 120, or 230VAC
Tolerance ........................................... ±15% - 20% for 24VAC, ±10% - 20% for 120 & 230VAC
AC Line Frequency .................................. 50/60 Hz
Output
Type ................................................. Electromechanical relay
Form ............................................... Non-isolated, SPST & isolated, SPDT contacts
Rating ............................................. 10A resistive @ 120/240V AC & 28VDC; 1/3 hp @ 120/240V AC
Life .................................................. Mechanical - 1 x 10⁷; Electrical - 1 x 10⁶
The LLC2 Series is a dual-probe conductive liquid level control designed for OEM equipment and commercial appliance applications. Models are available for fill or drain operation. Transformer isolated 12VAC is provided at the probes to prevent electrolysis. A tricklec current of less than 1mA determines the presence or absence of liquid between the probes and common. On adjustable units, the sensitivity adjustment allows accurate level sensing while ignoring foaming agents and floating debris. The LLC2 Series printed circuit board is conformal coated to resist moisture and corrosion.

For more information see: Appendix B, page 167, Figure 27 for dimensional drawing, Appendix C, page 170, Figure 27 for connection diagram.

### Operation

**Drain (Pump-Down Mode):** When the liquid level rises and touches the high probe, the output relay energizes and remains energized until the liquid level falls below the low probe. The output relay then de-energizes and remains de-energized until the liquid again touches the high probe.

**Fill (Pump-Up Mode):** When the liquid level falls below the low probe, the output relay energizes and remains energized until the liquid level rises and touches the high probe. The output relay then de-energizes and remains de-energized until the liquid level again falls below the low probe.

### Features:
- Dual probe level control for conductive liquids
- Transformer isolated AC voltage on the probes
- Adjustable or fixed sensing up to 100KΩ
- Terminal block or quick connect terminals
- Fill or drain operation available
- 24, 120, or 230VAC models are available
- Isolated, 10A, SPDT output contacts

### Auxiliary Products:
- Quick connect to screw adaptor: P/N: P1015-18
- Electrode: P/N: PHST-38QTN
- Threaded probe (24") P/N: LLP-24
- Female quick connect: P/N: P1015-13 (AWG 10/12) P/N: P1015-64 (AWG 14/16) P/N: P1015-14 (AWG 18/22)

### Available Models:
- LLC24A2AN
- LLC24A2F50N
- LLC24B2F50N
- LLC26A1F25C

If desired part number is not listed, please call us to see if it is technically possible to build.

### Order Table:

<table>
<thead>
<tr>
<th>LLC2</th>
<th>X Input</th>
<th>X Operation</th>
<th>X Termination</th>
<th>X Sense Resistance</th>
<th>X Mounting Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-2 - 24VAC</td>
<td>A - Drain</td>
<td>-1 - 0.25 Quick Connect</td>
<td>A - Adjustable to 100KΩ</td>
<td>N - 1/0.25 in. Duplex male quick connect terminals</td>
</tr>
<tr>
<td>B</td>
<td>-4 - 120VAC</td>
<td>B - Fill</td>
<td>-2 - Terminal Block</td>
<td>F - Fixed (Specify fixed resistance 1-100 in 1KΩ increments.)</td>
<td>C - Terminal blocks for up to #14 AWG (2.5 mm) wire</td>
</tr>
<tr>
<td>C</td>
<td>-6 - 230VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Control</th>
<th>Type: Resistance sensing for high &amp; low level detection of conductive liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Sense Voltage: 12VAC at probe terminals</td>
</tr>
<tr>
<td>Tolerance</td>
<td>Sense Resistance: Fixed or adjustable to 100KΩ</td>
</tr>
<tr>
<td></td>
<td>Adjustable: guaranteed range</td>
</tr>
<tr>
<td>Fixed: ±10%</td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Voltage: 24, 120, or 230VAC</td>
</tr>
<tr>
<td>Tolerance: -15% - 20%</td>
<td>20% - 10%</td>
</tr>
<tr>
<td></td>
<td>120 &amp; 230VAC: 50/60 Hz</td>
</tr>
<tr>
<td>AC Line Frequency:</td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>Type: Electromechanical relay</td>
</tr>
<tr>
<td>Form:</td>
<td>Isolated, SPDT</td>
</tr>
<tr>
<td>Rating: 10A resistive @ 120/240VAC &amp; 28VDC; 1/3 hp @ 120/240VAC</td>
<td></td>
</tr>
<tr>
<td>Life: Mechanical - 1 x 10⁷, Electrical - 1 x 10⁷</td>
<td></td>
</tr>
<tr>
<td>Protection</td>
<td>Isolation Voltage: ≥ 1500V RMS between input, output, &amp; probe</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Mounting: Surface mount with two or four #6 (M3.5 x 0.6) screws</td>
</tr>
</tbody>
</table>

| Termination | 0.25 in. (6.35 mm) duplex male quick connect terminals |
| Terminal blocks for up to #14 AWG (2.5 mm) wire |
| Dimensions (Open Board) | 4 x 3 x 2 in. (101.6 x 76.2 x 50.8 mm) |
| Environmental | Operating / Storage Temperature: -20° to 55°C / -40° to 80°C |
| Coating: Printed circuit board is conformal coated to resist moisture and corrosion |
| Weight: ≥ 9 oz (255 g) |

### Coatings

- Printed circuit board is conformal coated to resist moisture and corrosion.

### Mechanical

- Mounting: Surface mount with two or four #6 (M3.5 x 0.6) screws

### Accessories

- Female quick connect:
  - P/N: P1015-18
  - Threaded probe (24") P/N: LLP-24
- Female quick connect to screw adaptor:
  - P/N: P1015-13 (AWG 10/12)
  - P/N: P1015-64 (AWG 14/16)
  - P/N: P1015-14 (AWG 18/22)

### Application Notes

- Available Models:
  - LLC24A2AN
  - LLC24A2F50N
  - LLC24B2F50N
  - LLC26A1F25C

- If desired part number is not listed, please call us to see if it is technically possible to build.
The LLC4 combines resistance sensing circuitry with solid-state timing to provide single probe level maintenance. On adjustable units, the sensitivity adjustment allows accurate level sensing while ignoring foaming agents and floating debris. Isolated pulsed DC is provided at the probe to prevent electrolysis. A trickle current of less than 1mA determines the presence or absence of conductive liquid between the probe and common. The LLC4 Series can be used with many types of low voltage (resistance changing) transducers to perform other control functions like temperature limit control, photo limit control, condensation sensing, and ice sensing.

For more information see:
Appendix B, page 166, Figure 19 for dimensional drawing.
Appendix C, page 170, Figure 24 for connection diagram.

Order Table:

| Control | ON/OFF (single level) resistance sensor with built-in time delay to prevent rapid cycling |
| Sensing Voltage | Pulsed DC at probe terminals |
| Sensing Resistance Tolerance | Adjustable: 1K ±50Ω at low end; 250K ±25% at high end |
| Factory fixed: ±1% or 500Ω, whichever is greater |

| Input | Voltage | 24, 120, or 230VAC |
| Tolerance | ±15%, ±20% |
| 120 & 230VAC | ±20%, ±10% |
| AC Line Frequency | 50/60 Hz |

| Output | Type | Electromechanical relay |
| Form | Isolated, SPDT |
| Rating | 4A resistive @ 240VAC; 1/10 hp @ 240VAC |

Specifications

| LLC4 | X | X | X | X |
| Control | Operation | Time Delay | Sense Resistance |
| Type | - Drain | Specify fixed delay | - Adjustable (1-250K) |
| - Fill | 1-60s in 1s increments | fixed resistance (1-250) | in 1KΩ increments. |

| Available Models: |
| LLC42A10A | LLC44A60A |
| LLC42A1A | LLC44B1F250 |
| LLC42B15A | LLC44B20A |
| LLC44A10A | LLC44B2A |
| LLC44A1A | LLC44B30A |
| LLC44A2A | LLC44B4A |
| LLC44A4 | LLC44B5A |
| LLC44A5A | LLC44B5F100 |

If desired part number is not listed, please call us to see if it is technically possible to build.

Features:
- Single probe level control for conductive liquids
- Adjustable or fixed sensing up to 250 KΩ
- Selectable or fixed fill or drain operation available
- 24, 120, or 230VAC models are available
- Isolated pulsed DC on the probes
- Isolated, 4A, SPDT output contacts

Auxiliary Products:
- Electrode: P/N: PHST-38QTN
- Threaded probe (24") : P/N: LLP-24
- Panel mount kit: P/N: BZI
- 8-pin socket: P/N: NDS-8
- Hold-down clips (sold in pairs): P/N: PSC8 (NDS-8)

Appendix C, page 170, Figure 24 for connection diagram.
Appendix B, page 166, Figure 19 for dimensional drawing.

For more information, see if it is technically possible to build.
The LLC5 provides dual probe conductive liquid level control in a convenient octal plug-in package. Models are available for fixed fill or drain operation. Isolated, pulsed DC voltage on the probes prevents electrolytic plating. Less than 1 mA of current is used to sense the presence of conductive liquid between the probes and common. On adjustable units, the sensitivity adjustment eliminates false tripping caused by floating debris and foaming agents.

For more information see:
Appendix B, page 167, Figure 29 for dimensional drawing.
Appendix C, page 170, Figure 28 for connection diagram.

### Operation

**Drain (Pump-Down Mode):** When the liquid level rises and touches the high level probe, the output relay and LED energize and remain energized until the liquid level falls below the low level probe. The output relay and LED de-energize and remain de-energized until the liquid rises and touches the high level probe.

**Fill (Pump-Up Mode):** When the liquid level falls below the low level probe, the output relay and LED energize and remain energized until the liquid rises and touches the high level probe. The output relay and LED de-energize and remain de-energized until the liquid level again falls below the low level probe.

### Features:

- Dual probe level control for conductive liquids
- Onboard knob or fixed sensing up to 100KΩ
- Fill or drain operation available
- Select standard or diagnostic LED operation
- Diagnostic LED operation reduces adjustment & troubleshooting time
- 24, 120, or 230VAC models are available
- Isolated, 5A, SPDT output contacts

### Auxiliary Products:

- Panel mount kit: P/N: BZ1
- Octal 8-pin socket: P/N: NDS-8
- Hold-down clips (sold in pairs): P/N: PSC8 (NDS-8)
- Electrode: P/N: PHST-38QTN
- Threaded probe (24") P/N: LLP-24

### Available Models:

<table>
<thead>
<tr>
<th>LLC5</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Operation</td>
<td>Sense Resistance</td>
<td>Connection</td>
<td>LED Operation</td>
</tr>
<tr>
<td>–2 - 24VAC</td>
<td>A - Drain</td>
<td>A - Adjustable</td>
<td>Blank - Standard</td>
<td>Blank - Standard LED operation</td>
</tr>
<tr>
<td>–4 - 120VAC</td>
<td>F - Fixed (Specify fixed resistance 1-100 in 1KΩ increments.)</td>
<td>F - Fixed</td>
<td>Blank - Standard LED operation</td>
<td>Blank - Standard LED operation with diagnostics</td>
</tr>
<tr>
<td>–6 - 230VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

- **Control:** Resistance sensing for high & low level detection of conductive liquids
- **Sensing Voltage:** Pulsed DC at probe terminals
- **Sensing Resistance Tolerance:** Adjustable: 1K ±50Ω at low end; 100KΩ ±25%, 0% at high end
- **Factory fixed:** ±10% or 500Ω whichever is greater
- **Response Time:** Debounce time delay <1s
- **Input Voltage:** 24, 120, or 230VAC
- **Tolerance:** –15%, +20%
- **AC Line Frequency:** 50/60 Hz
- **Output Type:** Electromechanical relay
- **Form:** Isolated, SPDT
- **Rating:** 5A resistive @ 240VAC
- **Protection:** 1/10 hp @ 240VAC
- **Isolation Voltage:** ≥ 1500V RMS between input, output, & probe
- **Mechanical Mounting:** Plug-in socket
- **Dimensions:** 3.01 x 2.39 x 1.78 in. (76.5 x 60.7 x 45.2 mm)
- **Termination:** Octal 8-pin plug-in
- **Environmental Operating / Storage Temperature:** –20° to 60°C / –40° to 80°C
- **Weight:** ≅ 6 oz (170 g)

For more information see:
Appendix B, page 167, Figure 29 for dimensional drawing.
Appendix C, page 170, Figure 28 for connection diagram.
The LLC6 Series is a plug-in, single-probe conductive liquid level control designed for low liquid level cutoff protection. It offers a factory fixed time delay of 1 - 60s and is available in input voltages of 24, 120, or 230VAC. LED indicator illuminates whenever the LLC6’s 10A, SPDT output relay is energized. Available with automatic/manual reset or a special manual reset with power outage feature, which auto resets the unit when power is restored and the water level is acceptable. 24VAC and 120VAC units are recognized as limit switches under UL53 (230VAC units are UL508) and CSA certified under Standard 14.

For more information see:
Appendix B, page 166, Figure 19 for dimensional drawing.
Appendix C, page 170, Figure 26 for connection diagram.

Order Table:

<table>
<thead>
<tr>
<th>LLC6</th>
<th>X</th>
<th>Input</th>
<th>X</th>
<th>Time Delay (fixed)</th>
<th>X</th>
<th>Sense Resistance</th>
<th>X</th>
<th>Reset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>24V</td>
<td></td>
<td>Specify fixed delay in seconds (J-60) in 1s increments</td>
<td></td>
<td>Fixed (Specify fixed resistance in kilohms (5-250)) in 1K increments</td>
<td></td>
<td>Manual/Automatic Reset</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Power outage manual reset</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specifications

Control
Type: ON/OFF (single level) resistance sensor with built-in time delay to prevent rapid cycling
Sense Voltage: 12VAC nominal at probe terminals
Sense Resistance: Fixed 5K - 250KΩ
Sense Resistance Tolerance: ±10%
Time Delay Range: 1 - 60s in 1s increments
Time Delay Tolerance: ±20%
Repeat Accuracy: ±10%
Time Delay vs Temp & Voltage: ±10%
Power Outage Reset Delay: 5 s

Input
Voltage: 24, 120, or 230VAC
Tolerance: 120 or 230VAC: ±10% to -20%
AC Line Frequency: 50/60 Hz

Output
Type: Electromechanical relay
Form: Non-isolated, SPDT
Rating: 10A resistive @ 240VAC; 1/4 hp @ 125VAC; 1/2 hp @ 250VAC

Protection
Surge: IEEE C62.41-1991 Level A
Isolation Voltage: ≥ 2500V RMS between input & output terminals

Mechanical
Mounting: Plug-in socket
Termination: 11-pin relay type
Dimensions: 2.91 x 2.39 x 1.78 in. (73.9 x 60.7 x 45.2 mm)
Environmental
Operating / Storage Temperature: -40° to 60°C / -40° to 80°C
Humidity: 95% relative, non-condensing
Weight: 7.3 oz (207 g)

Features:
- Designed for low level cutoff protection
- Energized on wet probe
- Fixed time delay of 1 - 60s
- Fixed sense resistance of 5K - 250KΩ
- 24, 120, or 230VAC input voltage available
- Non-isolated, 10A, SPDT output contacts

Auxiliary Products:
- Electrode: P/N: PHST-38QTN
- Threaded probe (24”): P/N: LLP-24
- Panel mount kit: P/N: BZ1
- 11-pin socket: P/N: NDS-11
- Hold-down clips (sold in pairs): P/N: PSC11 (NDS-11)

Available Models:
LLC6210F10M
LLC6210F10P
LLC6410F10M
LLC6410F10P
LLC64210F10M
LLC64210F10P
LLC6610F5M
LLC6610F5P
LLC645F250M

If desired part number is not listed, please call us to see if it is technically possible to build.

Appendix C, page 170, Figure 26 for connection diagram.
Appendix B, page 166, Figure 19 for dimensional drawing.
The LLC8 Series is a low cost, single-probe conductive liquid level control designed for low liquid level cutoff protection. It offers a factory fixed time delay of 1 - 60s and is available for input voltages of 24, 120, or 230VAC. LED indicator illuminates whenever the LLC8’s isolated, 10A, SPDT output relay is energized. Sense resistance is fixed from 5K - 250KΩ. Available with manual/automatic reset or a special manual reset with a power outage feature that auto resets the unit when power is restored and the water level is acceptable. 24 and 120VAC units are UL recognized as limit switches under UL353 (230VAC units are UL 508) and CSA certified under Standard 14.

For more information see:
Appendix B, page 167, Figure 28 for dimensional drawing.
Appendix C, page 170, Figure 25 for connection diagram.

**Operation**

- **Automatic Reset (Reset switch not connected):** When liquid rises to low level cutoff probe, output relay and LED indicator energize. When liquid falls below the low level cutoff probe, the output relay and LED indicator de-energize after a fixed time delay.
- **Manual Reset (Reset switch connected):** When the liquid level falls below low level probe, the output relay and LED de-energize after a fixed time delay. When the liquid level rises to low level probe, the output relay and LED indicator remain de-energized until the NC reset switch is opened; then they energize immediately.
- **Power Outage Manual Reset (Reset switch connected):** A power outage causes the output relay and LED indicator to de-energize. Upon restoration of power, if the liquid is touching the low level probe, the output relay and LED indicator will re-energize. If the liquid level is below the low level probe, the output relay and LED indicator remain de-energized until the NC reset switch is opened.

**Order Table:**

<table>
<thead>
<tr>
<th>LLC8</th>
<th>X Input</th>
<th>X Time Delay (fixed)</th>
<th>X Sense Resistance</th>
<th>X Reset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-24VAC</td>
<td>specify fixed delay in seconds (1-60) in 1s increments</td>
<td>specify fixed resistance in kilohms (5-250) in 1K increments</td>
<td>M - Manual/Automatic Reset</td>
</tr>
<tr>
<td></td>
<td>120VAC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>230VAC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

- **Control**
  - Type: Resistance sensing for conductive liquids with time delay
  - Sense Voltage: 12VAC nominal at probe terminals
  - Sense Resistance: Fixed 5k - 250kΩ
  - Sense Resistance Tolerance: ±10%
  - Time Delay:
    - Tolerance: ±20%
    - Repeat Accuracy: ±10%
    - Time Delay vs Temp. & Voltage: ±10%
    - Power Outage Reset Delay: ≤1s
  - Input Voltage: 24, 120, or 230VAC
  - Tolerance: 24VAC = ±15% - 20%
    - 120 or 230VAC = ±20% - 10%
  - AC Line Frequency: 50/60 Hz

- **Output**
  - Type: Electromechanical relay
  - Form: Isolated SPDT
  - Rating: 10A resistive @ 120/240VAC; 1/4 hp @ 125VAC; 1/2 hp @ 250VAC

- **Protection**
  - Surge: IEEE C62.41-1991 Level A
  - Isolation Voltage: ≥ 2500V RMS input to output terminals
  - Mechanical
    - Mounting: 0.5 in. (12.7 mm) x .387 (4.76 mm) dia. nylon standoffs (3)
    - Termination: Electrical: 0.25 in. (6.35 mm) male quick connect terminals
    - Reset Switch & Probe(s): 0.187 x 0.03 in. (4.75 x 0.76 mm) male quick connect terminals

- **Environmental**
  - Operating / Storage Temperature: -40° to 60°C / -40° to 80°F
  - Coating: Printed circuit board is conformal coated to resist moisture & corrosion
  - Humidity: 95% relative, non-condensing
  - Weight: ± 5 oz (141.7 g)

**Features:**
- Designed for low level cutoff protection
- Energized on wet probe
- Fixed time delay 1 - 60s
- Fixed sense resistance of 5K - 250KΩ
- 24, 120, or 230VAC input voltages available
- Isolated, 10A, SPDT output contacts

**Auxiliary Products:**
- Quick connect to screw adapter:
  - P/N: P1015-18
- Electrode: P/N: PHST-38QTN
- Threaded probe (24"):
  - P/N: LLP-24
- Female quick connect:
  - P/N: P1015-13 (AWG 10/12)
  - P/N: P1015-64 (AWG 14/16)
  - P/N: P1015-14 (AWG 18/22)

**Available Models:**
- LLC823F5M
- LLC843F10P
- LLC843F10M
- LLC843F26P
- LLC843F26M
- LLC845F25P
- LLC8610F12M
- LLC843F12M

If desired part number is not listed, please call us to see if it is technically possible to build.
The ARP Series is used in systems where equal run time for two motors is desirable. The selector switch allows selection of alternation of either load for continuous operation. LED’s indicate the status of the output relay. This versatile series may be front panel mounted (BZ1 accessory required) or 35 mm DIN rail mounted with an accessory socket.

For more information see:
Appendix B, page 167, Figure 31 for dimensional drawing.
Appendix C, 170, Figure 29 for connection diagram.

Features:
• Provides equal run time for two motors
• Alternating or electrically locked operation
• Low profile selection switch
• 10A output contacts
• LED status indication
• Industry standard base connection

Approvals:

Auxiliary Products:
• Hold-down clips (sold in pairs):
P/N: PSC8 (NDS-8)
P/N: PSC11 (NDS-11)
• Panel mount kit: P/N: BZ1
• 11-pin socket: P/N: NDS-11
• 8-pin socket: P/N: NDS-8
• DIN rail: P/N: CI03PM

Available Models:
ARP23S
ARP41
ARP41S
ARP42S
ARP43
ARP43S
ARP61S
ARP63
ARP63S
ARP43

If desired part number is not listed, please call us to see if it is technically possible to build.

Order Table:

<table>
<thead>
<tr>
<th>ARP</th>
<th>X</th>
<th>Input</th>
<th>X</th>
<th>Output Form</th>
<th>X</th>
<th>Switch Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-2 - 24VAC</td>
<td>1</td>
<td>SPDT, 8-pin</td>
<td>Blank - No Switch</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1 - 120VAC</td>
<td>2</td>
<td>DPDT, 11-pin</td>
<td>S - Rotary Switch</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-6 - 230VAC</td>
<td>3</td>
<td>DPDT, 8-pin cross wired</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specifications

Input
Voltage .......................................................... 24, 120, or 230VAC
Tolerance 24VAC ........................................... -15% - 20%
.......................... 120 & 230VAC .......................... -20% - 10%
AC Line Frequency ............................................. 50/60Hz

Output
Type ................................................................. Electromechanical relay
Form ................................................................. SPDT, DPDT, or cross wired DPDT
Rating 10A resistive @ 120/240VAC & 28 VDC
.......................... 1/3 hp @ 120/240VAC
Maximum Voltage ................................................. 250VAC
Life ................................................................. Mechanical - 1 x 10^7; Electrical - 1 x 10^6

Protection
Isolation Voltage .................................................. ≥ 1500V RMS input to output
Mechanical
Mounting .......................................................... Plug-in socket
Dimensions ....................................................... 3.2 x 2.39 x 1.78 in. (81.3 x 60.7 x 45.2 mm)
Termination ......................................................... Octal 8-pin or magnal 11-pin
Environmental
Operating / Storage Temperature ................................ -20° to 60°C / -30° to 85°C
Weight ................................................................. = 5.6 oz (159 g)

NOTE: Unit does not have debounce time delay.