Compressor Defender™
Power Disturbance Protective Device

Surge/Brownout/Short Cycle Protective Device
The Compressor Defender protects compressors (scroll & reciprocating) and the electronics inside Central Air conditioners and heat pumps from under/over voltage conditions, scroll reversal caused by brief power disruptions, surge events and system short cycling.

Features
- Surge, brownout and short cycle protection with 120, 208 and 240 VAC loads
- Short cycle delay helps extend compressor life
- LED indicators provide real-time status updates for quick and easy troubleshooting
- For use inside condensing units or externally on disconnects
- Complies with ANSI/AHRI Standard 110-2016 Range B for voltage drop protection
- Auto-sense voltage technology 120/208-240 VAC universal input voltage
- Meets ANSI/UL 1449, 4th Edition requirements

Ratings
Input Voltage: 120/208-240 VAC
Single Phase, 60 Hz

Thermostat Relay: Normally Closed Relay, 24 VAC

SPD Type: Type 2 SPD

Control Output Current Rating: 2 A @ 24 VAC, isolated NC contact

Max Continuous Overvoltage (MCOV): L-N/G: 150 V, L-L: 300 V

Voltage Protection Rating (VPR): L-N/G: 700 V, L-L: 1200 V

Nominal Discharge Rating (In): 10 kA

SCCR (Short Circuit Current Rating): 20 kA

Undervoltage Response Time: 5 line cycles*

Power Disruption Response Time: 3 line cycles*

Short Cycle Delay: 3 min

Operating Temp: -40º F to 158º F (-40º C to 70º C)

Enclosure: Type 3 Outdoor

Wire Size: #10 AWG

Shipping Weight: 1.2 lbs

Product Warranty: 3-year limited

Connected Equipment Warranty: 3-year/ $7500

Brownout Pickup Table:

<table>
<thead>
<tr>
<th>Nominal System Voltage</th>
<th>Range B Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 VAC</td>
<td>104 VAC</td>
</tr>
<tr>
<td>208 VAC</td>
<td>180 VAC</td>
</tr>
<tr>
<td>240 VAC</td>
<td>208 VAC</td>
</tr>
</tbody>
</table>

*Typical Response Time
Furnish and install an Intermatic CD1-024R Compressor Defender™. The unit shall protect HVAC Compressors (Scroll & Reciprocating) and the electronics inside central air conditioners, heat pumps, light commercial packaged rooftop units from under/overvoltage conditions, power disruptions, surge events and system short cycling caused from AC power interruptions. The unit shall be capable of opening up to a 2 A @ 24 VAC thermostat connection. The unit shall be compatible with 120, 208 and 240 VAC voltage systems. The unit shall provide Type 2 surge protection with a nominal discharge rating of 10 kA, a short circuit current rating of 20 kA and a voltage protection rating of L-N/G:700 V, L-L:1200 V. The unit shall have a 3-minute short cycle delay. The Compressor Defender™ shall have normally closed operation. If surge or voltage monitoring protection is lost, the unit shall continue normal compressor and thermostat operation without surge protection.

### Diagnosis

<table>
<thead>
<tr>
<th>Condition</th>
<th>Green LED</th>
<th>Red LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surge Protection</td>
<td>ON</td>
<td>-</td>
</tr>
<tr>
<td>No Surge Protection</td>
<td>OFF</td>
<td>-</td>
</tr>
<tr>
<td>Under Voltage</td>
<td>-</td>
<td>Flash</td>
</tr>
<tr>
<td>Short Cycle Protection</td>
<td>Flash</td>
<td>-</td>
</tr>
<tr>
<td>Unit Power Lost</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

**Mounting Inside Panel/Condenser**

- Sheet Metal Screw