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<th>LITTelfuse PRODUCT &amp; PART NUMBER</th>
<th>BENEFITS</th>
<th>FEATURES</th>
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<td><strong>VOLTAGE MONITORS</strong></td>
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<tr>
<td>Three-Phase Voltage Monitors 460</td>
<td>Protects compressors and blower motors from adverse voltage conditions that can cause damage to the motor windings.</td>
<td>- Universal range from 190 to 480 V ac or 475 to 600 V ac and 50/60 Hz&lt;br&gt;- Transient protection meets IEE and IEC standards&lt;br&gt;- Four adjustment pots provide versatility for a variety of applications&lt;br&gt;- Adjustable trip delay and restart delay&lt;br&gt;- Standard surface or DIN-rail mountable</td>
<td>Diversified: SLU100ASD&lt;br&gt;Time Mark: Series 158&lt;br&gt;ICM Controls: ICM 401 for up to 480 V ac&lt;br&gt;Macromatic: PMDU&lt;br&gt;Agastat: PMA series&lt;br&gt;Crouzet: UFR2 series&lt;br&gt;Electronics: PVC400AR</td>
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<td>Three-Phase Voltage Monitors 250A</td>
<td>Protects compressors and blower motors from adverse voltage conditions that can cause damage to the motor windings.</td>
<td>- Protection from low and high voltage, unbalance, single-phase, and reverse-phase conditions&lt;br&gt;- LED diagnostics is quick visual indicator for cause of trip&lt;br&gt;- Adjustable trip delay to prevent nuisance tripping&lt;br&gt;- DPDT relay output</td>
<td>A-1 Components: EAC-800 series&lt;br&gt;Diversified: SLA*, SLC*, SLM*&lt;br&gt;R-K Electronics: PVCL&lt;br&gt;Time Mark: Series 2842, 2944&lt;br&gt;Watsco: EAC-800</td>
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<td>Three-Phase Voltage Monitors 455</td>
<td>Provides all the same voltage/phase protection as the 460 model, but with three added advantages listed in the features section.</td>
<td>- Second set of voltage inputs for monitoring voltage on the load-side of the motor contactor to detect contact failure&lt;br&gt;- Keeps history of the past 20 fault causes&lt;br&gt;- Wirelessly download and view fault history</td>
<td>ICM Controls: ICM450, ICM400&lt;br&gt;A-1 Components: EAC-8001&lt;br&gt;Watsco: EAC-8001</td>
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<td>Three-Phase Voltage Monitors 201A</td>
<td>Protects compressors and blower motors from adverse voltage conditions that can cause damage to the motor windings regardless of size.</td>
<td>- Protection for low voltage, voltage unbalance, phase reversal, and harmful power line conditions.&lt;br&gt;- Optional high-voltage monitoring</td>
<td>Time Mark: 253, 257B&lt;br&gt;Macromatic: PMFU-FA8</td>
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<td><strong>LOAD/CURRENT SENSORS</strong></td>
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<td>Self-Powered GO/NO GO Ac Current Sensors LSRX-C, LSRX</td>
<td>The LSRX/LSRX-C series is designed to energize the output contact whenever 4.5 Amps or greater is present. Used commonly as an ac current proof relay to indicate if a motor is operating.</td>
<td>- Self-powered&lt;br&gt;- Quick-connect terminals reduce installation time&lt;br&gt;- Built-in current sensor eliminates the need for a stand alone current transformer</td>
<td>Diversified: CMG-0100-20, CMG-0100-24, CMG-0100-28, CMG-0100-32, CMG-0100-36, CMG-0200-20, CMG-0200-24, CMG-0200-28, CMG-0200-32, CMG-0200-36</td>
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<td><strong>AC CURRENT TRANSDUCERS</strong></td>
<td>Varies the effective resistance of its output in direct proportion to the current flowing in the conductor it is monitoring.</td>
<td>- Monitors 0 to 20 A&lt;br&gt;- Loop powered from 10 to 30 V dc&lt;br&gt;- Linear output from 4 to 20 mA</td>
<td>AcuAMP ACT050-42L-S (split core 0 to 50 A)&lt;br&gt;Hawkeye H721HC (0 to 30 A)</td>
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<td>Type 2 Surge Protection Devices SPD2</td>
<td>Positioned at the power distribution or branch circuit location, it safeguards components from power fluctuations or surges by limiting the fault current to a load or the unit being protected to prevent equipment damage or downtime.</td>
<td>- Capability to clamp and withstand high-energy transients to prevent disruption, downtime, and degradation or damage to equipment&lt;br&gt;- Thermal protection to eliminate catastrophic failure&lt;br&gt;- UL Recognized and IEC Compliant in one part number to reduce inventory and support global usage&lt;br&gt;- DIN-rail mounted and compact footprint to increase panel design flexibility&lt;br&gt;- An SPD type and voltage-coded plug to prevent module from being placed in wrong base, eliminating the risk of improper protection</td>
<td>ABB: OVR T2 80…9 P TS QS, OVR T2 40…5 P TS QS&lt;br&gt;Bourns: 1250, 1420&lt;br&gt;Citec: DS40, DS40VG, DS70R&lt;br&gt;DEHN: DEHNguard M, DEHNguard S&lt;br&gt;Phoenix Contact: VALVETRAB-SEC-T2&lt;br&gt;Raycap: ProTec T2</td>
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<tr>
<td><strong>COMPETITOR PART NUMBERS</strong></td>
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<td>Other available voltage monitors commonly used for HVAC applications are 201A-9, 460, 460-575, 460-14, 250A, 202, 455, and 460-200-SP</td>
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### BENEFITS

Solid state prevents arc and wear over time.

Compact design is ideal for space saving protection.

High short-circuit current rating for overload protection.

Littelfuse Fuses protect your system from overload and short circuit.

Ultra-high short-circuit current rating and excellent current-limitation.

Littelfuse offers a wide variety of UL approved open face, finger safe, and panel mount fuse holders including: LFT series (Class T), LFR series (Class R), LJF series (Class J), as well as L600 30C, LPSC, and 571/572 series for Class CC. Visit our website for a full list of blocks and holders.

Littelfuse also offers a wide array of power distribution blocks. Visit the Littelfuse website to see our full offering.

### FEATURES

- Universal ac/dc operating voltage
- Two terminal series connection with the load
- Solid state prevents arc and wear over time
- Encapsulated to protect against shock vibration

- Compact design is ideal for space saving protection.
- High-interrupting capacity and excellent current-limitation
- Extremely current-limiting
- Superior time-delay and cycling characteristics
- Available with and without indication

- Universal input voltage
- Knob adjustable time delay
- LED indicators provide visual indication of input voltage and relay status

- Delay-on-make and delay-on-break in one unit
- Voltage 24 V ac input voltage
- Solid state prevents arc and wear over time
- Encapsulated to protect against shock vibration

- Dual-element design
- Encapsulated to protect against shock vibration

### COMPETITOR PART NUMBERS

- **Macromatic:** TH-1024U-32
- **Ametek NCC:** QT1-0600-311
- **Diversified and Time Mark:** Several (Contact technical support)

- **Macromatic:** THR-1162-31T, POM
- **Airotronics:** TGML1010A1

- **TRU2:** Diversified: All series of TBD, TBE, TUD-120-4KA, TUE-120-AFA, TUE-120-A
- **Macromatic:** TD-7, TD-8

- **TRU3:** Diversified: TBD-XXX-XXX-D, TBE-XXX-XXX-D, TED-XXX-AKA-XXX, TDE-XXX-AKA-XXX, TDU, 314
- **IDEC:** RTE-PFX, RTE-PSX, RTFL-PFX, RTFL-PSX
- **Macromatic:** TD-7, TD-8
- **ICM Controls:** ICM500 Series

- **Bussmann:** LPC, FNQR, KTKR
- **Mersen:** ATDR, ATQR, ATM, ATM

- **Bussmann:** FRN, FRSR, TR, TRS
- **Mersen:** A3T, A6T

- **Bussmann:** LJ, LJ
- **Mersen:** AJ

- **Bussmann:** LPJ
- **Mersen:** AJT