Southern Tier Technologies

# Tier 460 Motor SPD Contactor Restart

*400 Series Surge Protective Device*

*With Active Monitoring & Control*

25kA/Mode 30 Amp or 60 Amp Model




## Features:

### Surge

- Thermally Protected MOV
- Surge Levels Available
- 25 kA/Mode, 50kA/ Phase
- ANSI/UL 1449 4th Edition, CSA
- Sine Wave Tracking: Type 2
- Surge Impulse Rated and Tested

### Monitoring & Control

- Monitor Under/Over voltage, Phase Loss, Imbalance
- Audible Alarm w/ disable switch, and LED indication
- Active Load Disconnect & Reset
- User Selectable Controls:
- +/- 5, 7.5, 10, 15, 20, 25% Over/Under Voltage Trip Settings
- Auto restart available with user select-able reset time. Includes: No delay, 5s, 10s, 30s, 1m, 5m, 10m, No restart

## *Why Install surge protection with a contactor auto disconnect and reconnect?*

**Transient impulses can significantly impact your facility's power quality, easily disrupting or damaging your process or equipment. And while its important to protect against high-energy events, a more frequent, yet often overlooked power quality concern is the damage caused by a phase loss, a temporary voltage sag or a voltage swell condition. Disconnecting your sensitive loads during these longer duration PQ events, is the easiest way to safeguard important equipment.**

*Innovative Solutions for Clean, Reliable Power*

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## *Why Install surge protection with an auto disconnect feature?*

**The Tier 460 Terminal Block Motor Surge Protection Contactor Restart Device will protect a motor, or an entire system, from power quality events. It runs an onboard surge protection device witha a series onboard contactor. The contactor will disconnect the load at predetermined levels, and will reconnect the load at separate predetermined levels automatically. The onboard SPD remains online while the load is disconnected.**

**This twofold level of protection greatly improves system defenses from power disruption damage.**

**The contactor needs a separate 120V supply.**

| General Technical Specifications | |
|---|---|
| Connection Type | Series |
| Maximum Continuous Operating Voltage | 120V, 150 VAC, 125%; 240V, 320 VAC; 277V, 320 VAC; 480V, 550 VAC; All Others 115% |
| Short Circuit Current Rating (SCCR) | 200kAIC Surge; 22kAIC Contactor |
| Contactor Current Rating | 30 Amp or 60 Amp |
| Protection Modes | All Connected Modes: L-N, L-L, L-G, N-G |
| Operating Frequency Range | 47 - 63 Hz |
| UL 1449 Location Type | Type 1 or Type 2 |
| UL 1449 Nominal Discharge Current (In) | 20 kA |
| Connection | Terminal Block |
| Status Indication | Blue/Red LEDs, Form C, Audible Alarm w/ disable switch |
| Monitoring | Under Voltage/ Overvoltage + activation LED, Phase loss, Phase Imbalance |
| Enclosure | NEMA 4, 12, &13 Rated (Steel) |
| 50 Ohm EMI/RFI Attenuation | 60 /40dB Max |
| Response Time | <0.5 nanoseconds |
| Operating Temperature | -40°C to +75°C |
| Operating Humidity | 0% to 95%  non-condensing |
| Size/Weight | (Height x Width x Depth) |
| 25 kA/Mode Case Size | 12.00” x 12.00” x 6.269”, 22lbs |
| 25 kA/Mode Mount Footprint | 13.500” x 13.000” x 6.375”, 22lbs |
| Selectable Over/Under Voltage Trigger Levels | +/- 5%, 7.5%, 10%, 15%, 20%, 25% |
| Contactor Options for Auto Reset | Selectable resets: No Delay, 5s, 10s, 30s, 1m, 5m, 10 m, No Restart |
| Warranty | SPD: 10 years |

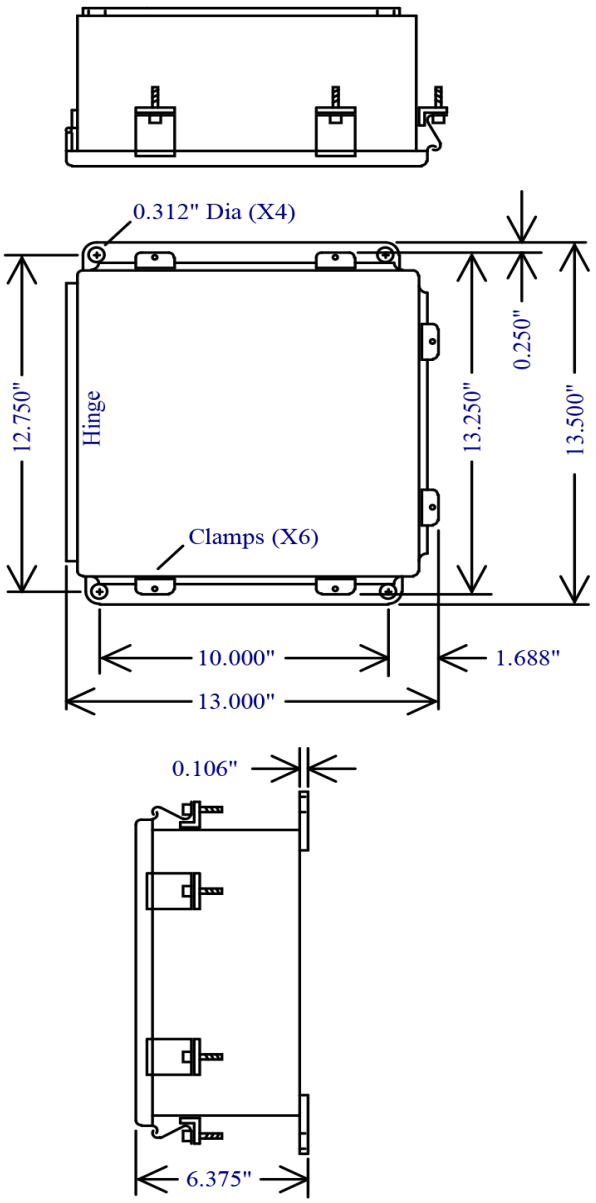


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**Table A: Voltage & Source Configuration**

| Model Code | Voltage | Source Configuration |
|---|---|---|
| 0000 | N/A | N/A |
| 120S | 120/240 | Split Phase, 3W+G (L1, L2, N G) |
| 120N | 120 | Single Phase , 2W+G (L1, N, G) |
| 120Y | 120/208 | Three Phase Wye, 4W+G (L1, L2, L3, N, G) |
| 208N | 208 | Single Phase, 2W+G (L1, L2, G) |
| 240N | 240 | Single Phase, 2W+G (L1, L2, G) |
| 240D | 240 | Three Phase Delta, 3W+G (L1, L2, L3, G) |
| 277Y | 277/480 | Three Phase Wye, 4W+G (L1, L2, L3, N, G) |
| 480D | 480 | Three Phase Delta, 4W+G (L1, L2, L3, N, G) |

**Table B: Surge Current Capacity**

| Model Code | Surge Capacity /Mode | Surge Capacity / Phase |
|---|---|---|
| 000 | None | None |
| 025 | 25 kA | 50kA |
| 050 | 50 kA | 100 kA |
| 075 | 75 kA | 150 kA |
| 100 | 100 kA | 200 kA |
| 125 | 125 kA | 250 kA |
| 150 | 150 kA | 300 kA |

**Table C: Enclosure Size**

| Model Code | Dimensions | Capacity | Enclosure Material | Contactor Current or Shunt Trip Supply Volt |
|---|---|---|---|---|
| 2 | 13.50” x 13.00” x 6.375” | 25kA | Steel | 30 or 60 Amp |
| 5 | 8.695” x 11.25” x 4.000” | 25kA | Polycarbonate | 30 Amp; or 24V or 120V or 277V supply voltage |
| 3 | 16.00” x 16.00” x 8.00” | 50kA-150kA | Steel | 30 or 60 Amp; or 24V or 120V or 277V supply voltage |
| 5 | 8.695” x 11.25” x 4.000” | None | Polycarbonate | 30 Amp Contactor only |

**Table D: Contactor Current or Shunt Trip Supply Voltage**

| Model Code | Contactor Current | Supply Voltage |
|---|---|---|
| 3 | 30 Amp | 120 Volt |
| 6 | 60 Amp | 120 Volt |
| A | None | 24 Volt |
| B | None | 120 Volt |
| C | None | 277 Volt |
| S | Custom | Custom |

**Tier460 Motor Protection Series, 460 Family Ordering Information: Example Model Number: T46120Y025ALM22S3**

| Positions: 1-3 Product Family | Positions: 4-7 Voltage/ Phase Configuration | Positions: 8-10 Surge Capacity | Position: 11 Surge Protected Modes | Position: 12 Connection Type | Position: 13 Enclosure Type | Position: 14 Enclosure Size | Position: 15 UL Type | Position: 16 Options | Position: 17 Contactor Current or Shunt Trip Supply Voltage |
|---|---|---|---|---|---|---|---|---|---|
| T46 = 460 Family | *See Table A* | *See Table B* | A = All connected modes N=No Surge | W = Wire Lead<br>L = Terminal Block<br>D = Disconnect<br>R = Line Cord Receptacle | P=NEMA 4X; Polycarbonate<br>M=NEMA 4; Steel | See Table C | 1=UL Type 1<br>2=UL Type 2<br>N= No Surge | S = Standard /No Options<br>C = Surge Conter | See Table D |

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