



**Tier 460 Motor SPD: 50kA T45 Series Surge Protective Device  
With a Contactor and Active Monitoring & Control**



**Why Install Surge Protection with Dedicated Motor Protection?**

Transient impulses can significantly impact your facility's power quality, easily disrupting or damaging your process or equipment. While it's 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.

**Why Install a Tier 460 Contactor Auto Disconnect and Restart Controller?**

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

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

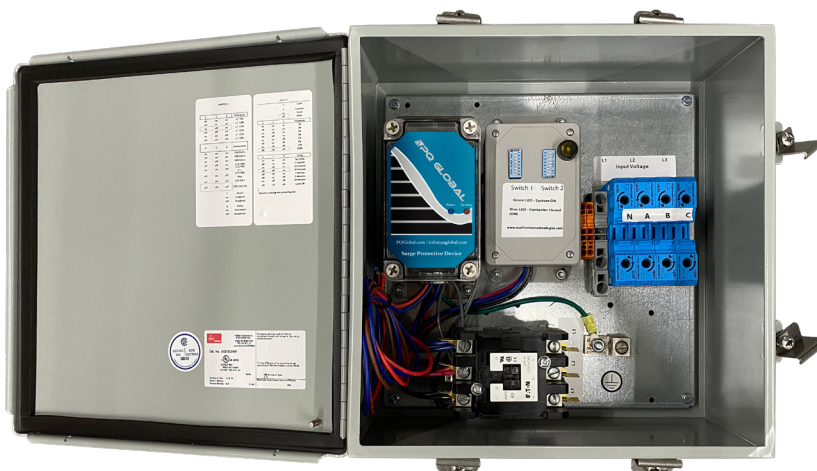
**Features:**

**Surge**

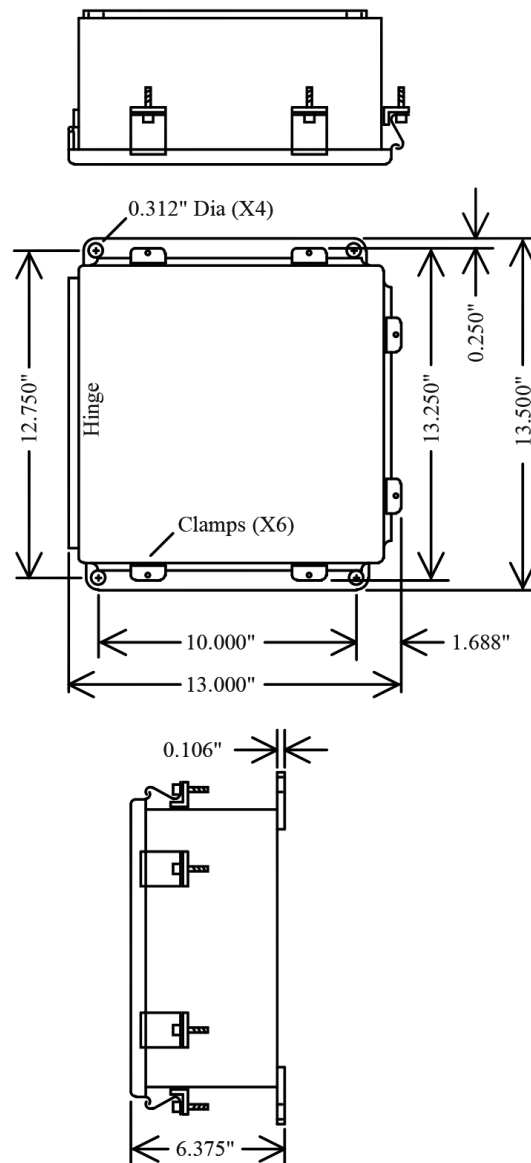
- Thermally Protected MOVs
- Surge Levels Available:  
25 kA/Mode, 50kA/Phase
- ANSI/UL 1449 4th Edition, cUL
- Sine Wave Tracking: Type 2
- Surge Impulse Rated and Tested

**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 selectable reset time. Includes: No delay, 5s, 10s, 30s, 1m, 5m, 10m, No restart



General Technical Specifications	
Connection Type	Contactor is Series
Voltage, Phase Configuration	120/240 Split Phase, (3W+G) 120/208V Three Phase Wye, (4W+G)* (127/220V Three Phase Wye, (4W+G))* (220/380V Three Phase Wye, (4W+G))** 277/480V Three Phase Wye (4W+G)** 240V Three Phase Delta (3W+G) 480V Three Phase Delta, (3W+G)
Maximum Continuous Operating Voltage	120V, 150 VAC (125%); 127V, 150 VAC (118%); 220V, 320 VAC (145%); 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, 60, or 90 Amp (120V Supply Voltage)
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
Nominal Discharge Current (In)	10 kA
Connection	Terminal Block, Rotary Disconnect, Line-Cord, or Wire Lead
Status Indication	Blue/Red LEDs, Form C, Audible Alarm w/ disable switch
Monitoring	Under Voltage/ Over Voltage + activation LED, Phase loss, Phase Imbalance
Enclosure	NEMA 4, 12, & 13 Rated (16 Gauge Steel)
50 Ohm EMI/RFI Attenuation	-50 db max(Type 2), -45db max(Type 1); from 10 kHz to 100MHz. The system provides up to 120dB insertion loss from 100 kHz to 100 MHz when used in a coordinated facility system.
Response Time	<0.5 nanoseconds
Operating Temperature	-40°C to +75°C
Operating Humidity	0% to 95% non-condensing
Weight	40 lbs
50 kA/Phase Case Size	13.500" x 13.000" x 6.375"
50 kA/Phase Mounting	12.75" x 10.00"
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, 10m, No Restart
Warranty	SPD: 10 years





## Voltage & Phase Configuration Code

**120S** = 120/240V Split Phase (3W+G)- Fig 1  
**120Y** = 120/208V 3 Phase Wye, (4W+G)\* - Fig 2  
**127Y** = 127/220V 3 Phase Wye, (4W+G)\* - Fig 2  
**220Y** = 220/380V 3 Phase Wye, (4W+G)\*\* - Fig 2  
**277Y** = 277/480V 3 Phase Wye (4W+G)\*\* - Fig 2  
**240D** = 240V 3 Phase Delta (3W+G) - Fig 3  
**480D** = 480V 3 Phase Delta, (3W+G) - Fig 3  
**480H** = 480V 3 Phase Delta Hi-Leg (3W+G) - Fig 4

## Connection Type

**W** - Wire Lead  
**L** - Terminal Block  
**D** - Rotary Disconnect  
**R** - Line Cord Receptacle

## UL 1449 Location Type

**1** - Type 1  
**2** - Type 2

## Contactor Current

**3** - 30 Amp  
**6** - 60 Amp  
**9** - 90 Amp  
**S** - Custom\*

\*For custom sizes, place:  
 "- ###" at the end of the product number  
 Example for 200A contactor:  
 T46120Y025ALM22SM-200

\*This is a 120/208V unit, and can be used in  
 127/220V applications

\*\*This is a 277/480V unit, and can be used in  
 220/380V applications

You may place the order as either part number.

## Example Product number:

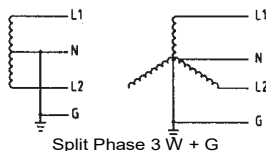
Filled in:

T46 120Y 025 A L M2 2 S 3 M

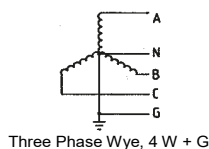
Complete:

T46120Y025ALM22S3M

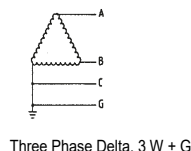
**Fig. 1**



**Fig. 2**



**Fig. 3**



**Fig. 4**

