



Tier 460 Motor SPD

Shunt Trip Controller

400 Series Surge Protective Device

With Active Monitoring & Control

Tier 460 M3 Modular Terminal Block



Features:

Surge

- Thermally Protected MOV
- Surge Levels Available:
50 kA/Mode, 100kA/ Phase to
150 kA/Mode, 300kA/ 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
- User Selectable Controls:
- +/- 5, 7.5, 10, 15, 20, 25% Over/Under Voltage Trip Settings

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 with surge protection, 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 Shunt Trip Controller?

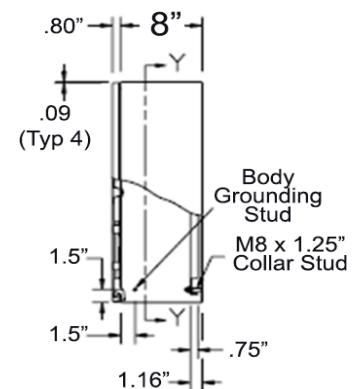
Shunt Trip Controller Devices will protect a motor, or an entire system, from power quality events. It runs an onboard surge protection device in parallel with an onboard shunt trip controller. The shunt trip controller will send a signal, at predetermined levels, to a shunt trip breaker located on a panel, or at the system or motor, and force it to disconnect the load. Please note, shunt trips require a manual reset after a disconnection event.

Available for 120V or 240V breakers.

Innovative Solutions for Clean, Reliable Power



Connection Type	Shunt Trip is Parallel
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
Shunt Trip Breaker Voltage Levels	120V or 240V
Shunt Trip Separate Supply Voltage	24V, 120V, or 277V
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/ Over Voltage + activation LED, Phase loss, Phase Imbalance
Enclosure	NEMA 4, 12, &13 Rated (16 Gauge 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
Weight	40lbs
50 - 150 kA/Mode Case Size	16.00" x 16.00" x 8.00"
50 - 150 kA/Mode Mounting	14.50" x 14.50"
Selectable Over/Under Voltage Trigger Levels	+/- 5%, 7.5%, 10%, 15%, 20%, 25%
Warranty	SPD: 10 years





Tier 460 Motor SPD

Shunt Trip Controller

400 Series Surge Protective Device

With Active Monitoring & Control

Tier 460 M3 Modular Terminal Block

Table A: Voltage & Source Configuration

Model Code	Voltage	Source Configuration
000(N/S/Y/D)	N/A	N=Single, S=Split, Y= 3 Phs Wye, D=3 Phs Delta
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)

For Contactor Only Select 000 and one letter for your contactor phase

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 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 D: Contactor Current or Shunt Trip Supply Voltage

Model Code	Contactor Current	Supply Voltage
3	30 Amp	120 Volt
6	60 Amp	120 Volt
9	90 Amp	120 Volt
A	None	24 Volt
B	None	120 Volt
C	None	277 Volt
S	Custom	Custom

Tier 460 Motor Protection Series, 460 Family Ordering Information:

Example Model Number: T46120Y075ALM32CB

Positions: 1-3	Positions: 4-7	Positions: 8-10	Position: 11	Position: 12	Position: 13	Position: 14	Position: 15	Position: 16	Position: 17
Product Family	Voltage/ Phase Configuration	Surge Capacity	Surge Protected Modes	Connection Type	Enclosure Type	Enclosure Size	UL Type	Options	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 L = Terminal Block D = Disconnect R = Line Cord Receptacle	P=NEMA 4X; Polycarbonate M=NEMA 4; Steel	See Table C	1=UL Type 1 2=UL Type 2 N= No Surge	S = Standard /No Options C = Surge Center	See Table D