



# ELECTRICAL PROTECTION SOLUTIONS FOR COMMERCIAL CONSTRUCTION



# MERSEN HAS OVER 130 YEARS OF EXPERIENCE IN THE ELECTRICAL PROTECTION INDUSTRY, ENSURING THE SAFETY AND RELIABILITY OF A FACILITY'S MOST CRITICAL SYSTEMS

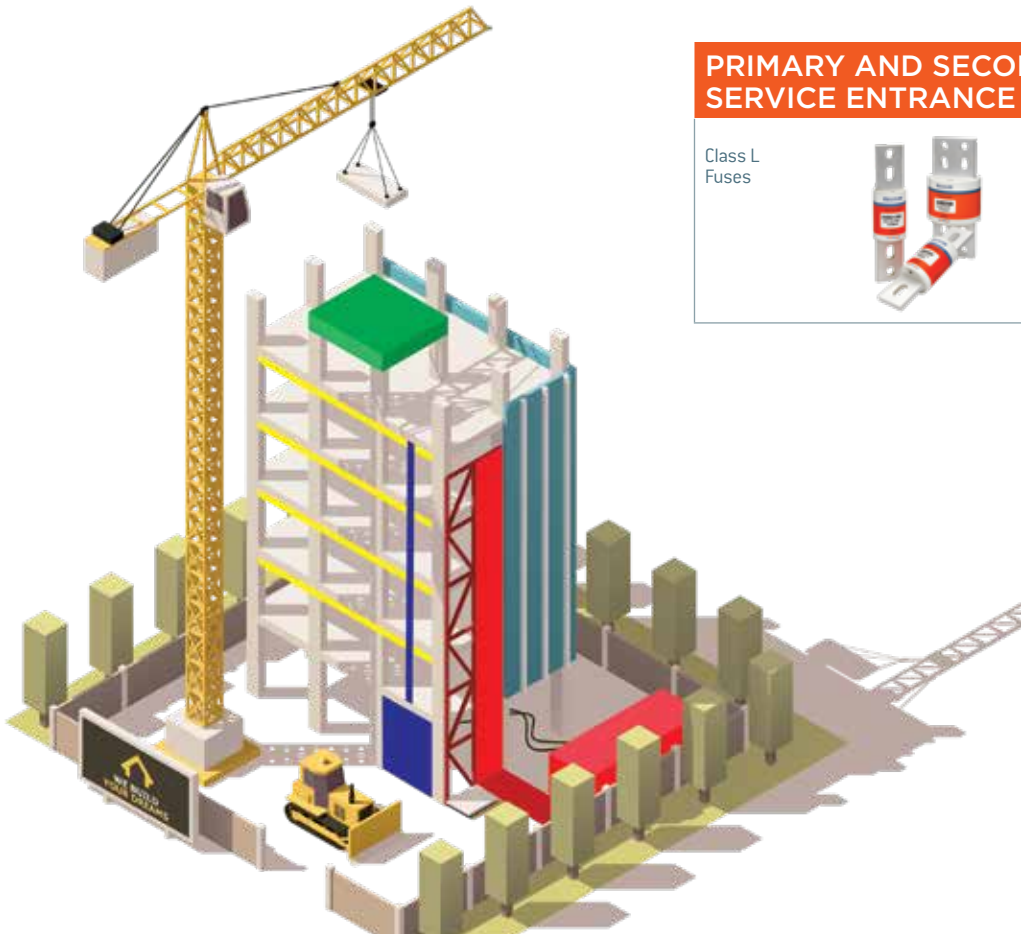
Mersen's overcurrent and overvoltage protection products are designed to meet the demands of new construction projects and safety code requirements, modernize aging infrastructure, and protect equipment, data, and most importantly, people.

- Healthcare
- Education
- Retail
- Stadiums
- Hospitality and Leisure Facilities
- Industrial and Warehouses
- Commercial office and mixed-use buildings
- Airports, rail and infrastructure facilities










**WITH A CHANGING REGULATORY LANDSCAPE, MERSEN PROVIDES SOLUTIONS FOR CONTRACTORS AND CUSTOMERS TO MEET BUILDING SPECS & MANY DIFFERENT CODE & SAFETY STANDARDS**





**PRIMARY AND SECONDARY SERVICE ENTRANCE**

<p>Class L Fuses</p> 	<p>Medium Voltage Fuses</p> 
	<p>Cable Protectors</p> 
	<p>Surge Protective Devices</p> 
	<p>MFCP Feeder Panel</p> 

**HVAC (HEATING, VENTILATION, AND AIR CONDITIONING)**

<p>Class J Fuses</p> 	<p>Class CC Fuses</p> 	<p>UltraSafe™ Fuse Holders</p> 	<p>Surge Protective Devices</p> 
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**DATA/LIGHTING CONTROL**

<p>Surge Protective Devices</p> 	<p>Class CC Fuses</p> 	<p>Class J Fuses</p> 	<p>UltraSafe™ Fuse Holders</p> 
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**EMERGENCY CIRCUITS**

<p>Multi-Unit Fusible Shunt Trip Panel</p> 	<p>Fusible Shunt Trip Switch</p> 	<p>Surge Protective Devices</p> 	<p>Class RK1 and J Fuses</p> 
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# MERSEN'S FUSED COORDINATION PANELBOARD

Achieving selective coordination typically requires a costly short circuit and coordination study and costly electronic circuit breakers with time consuming commissioning and testing. However, with the Mersen Fused Coordination Panelboard (MFCP), coordination can easily be achieved. The MFCP utilizes Amp-Trap 2000® AJT and ATDR fuses in combination with a breaker for each branch circuit.

To achieve selective coordination with these branch circuits, simply maintain a 2:1 ratio between the ampere ratings of branch and upstream fuses. Many circuit breakers in upstream equipment will also coordinate easily with downstream fuses. By localizing a fault to the nearest overcurrent device, selective coordination prevents unnecessary power outages to adjacent circuits. Fuses provide the most easiest and most effective way to achieve selective coordination.

Additionally, the MFCP's innovative combination branch circuit protection provides resettable overload protection up to 2 times the circuit rating while still providing true fuse protection for your critical loads during high current faults. This means that for an overload or low magnitude fault, the fuse will not operate, making system restoration quicker and easier. The fuse is still there in cases where it is needed, providing current limiting protection with interrupting and short circuit current rating (SCCR) of 200kA. This level of SCCR allows the panel to be installed anywhere in virtually any building system.

MFCP branch circuit protection devices can be ordered for addition or replacement within a panel, in ratings up to 60A.



## Options and Features:

- Main Lug Only or Switches
- Surge Protection
- Feedthrough and Sub-Feed Lugs
- Multiple Trim, Door and End Wall configurations
- 20, 32, or 42 branch circuits

## Approvals:

- UL67 Panelboard
- UL489/UL248 Breaker/Fuse Combination
- UL98 Main Switch

[Download Mersen's Fused Coordination Panelboard brochure](#)



## NATIONAL ELECTRICAL CODE REQUIREMENTS

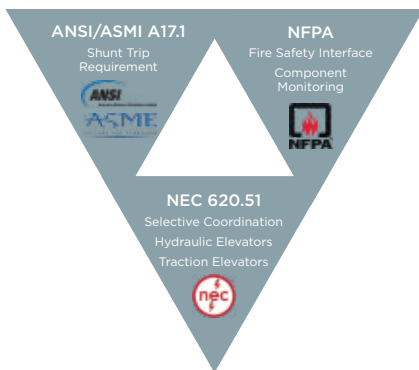
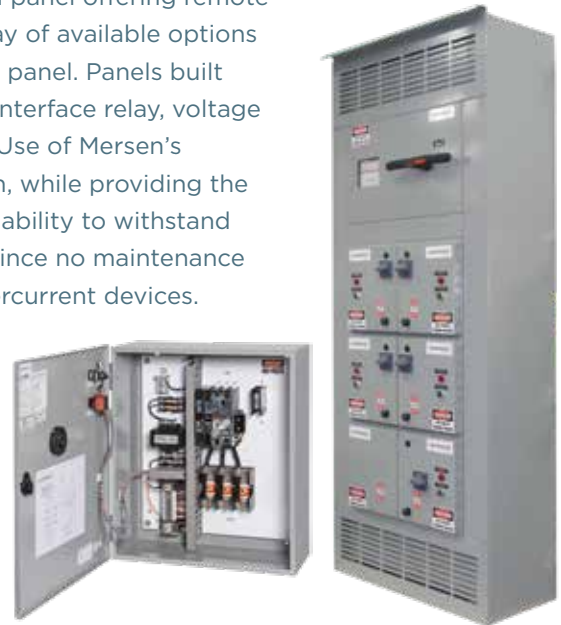
article	description
620.62	Emergency system loads (elevators, escalators, moving sidewalks, etc)
645.27	Information Technology Equipment, Critical Operations Data Systems
695.30	Fire Pumps, Multibuilding Campus-Style Complexes
700.32	Emergency Systems
701.32	Legally Required Standby Systems
708.54	Critical Operations Power Systems (HVAC, Fire Alarms, Security)

# FUSIBLE SHUNT TRIP SWITCH AND MULTI-UNIT FUSIBLE SHUNT TRIP PANEL

Mersen's Fusible Shunt Trip Switch and corresponding Multi-Unit Fusible Shunt Trip Panels are UL Listed industrial control panels offering remote load-break disconnection capability to emergency circuits.

Mersen's **Fusible Shunt Trip Switch** is a UL Listed industrial control panel offering remote load-break disconnection capability to emergency circuits. An array of available options allows for maximum functionality to be built into a single compact panel. Panels built for elevator applications features control circuitry with fire safety interface relay, voltage monitoring relay, and mechanically interlocked auxiliary contacts. Use of Mersen's Amp-Trap 2000® Class J fuses permits easy selective coordination, while providing the panel and its components with superior current limitation and the ability to withstand high fault conditions. AJT fuses provide added system reliability since no maintenance or periodic testing is required as with other electromechanical overcurrent devices.

For large buildings with banks of 2 or more elevators, Mersen now offers a **panel with up to six elevator protection and control modules**. This greatly reduces wiring, installation time, footprint, and commissioning time. Recent code changes to the NEC article 620.51 now require that over voltage protection is installed on elevator circuits; premium and basic integral SPD options further reduce installation time and effort, while giving you flexibility.



## Code Requirements:

There are 3 different codes that must be met when installing elevator control systems. These switches provide a multi-code compliant solution in one factory assembled and tested unit: just connect the wires. Additionally, in the event of a power loss where back-up power is introduced, you now need to meet NEC 620.51.

## Fusible Shunt Trip Switch Ratings:

- **Volts:** 208VAC, 240VAC, 480VAC, 600VAC. Integral SPD is available for each version to meet NEC 620.51E
- **Amps:** 30A, 60A, 100A, 200A, 400A
- **SCCR:** Varies depending on system voltage and ampere rating.

## Approvals:

- cUL 508A Listed Industrial Control Panel, File E233863

## Quick Shipment Models:

When your inspection is approaching and you need your equipment on the jobsite as quickly as possible, Mersen can help. We have a select number of models available for quick shipment.

[Download Mersen's Fusible Shunt Trip Switch datasheet](#)

## Multi-Unit Fusible Shunt Trip Panel Ratings:

- **Standard Dimensions for all configurations:** 40" x 17" x 96"
- **SCCR:** 65kA
- **Bus Rating:** 1200A
- **SPD kA/mode:** 200kA or 75kA
- **Standard Options:** Voltage monitoring relay, Oil-tight key-to-test 2 position selector switch, and (2) Form C auxiliary contacts per module/branch

## Approvals:

- UL508A, UL489 (Molded case switch)
- UL98 (Main fusible disconnect switch)
- UL50 (Enclosure)
- UL1449 (SPD)

[Download Multi-Unit Fusible Shunt Trip Panel datasheet](#)

# SURGE PROTECTIVE DEVICES

[Download Surge-Trap® UL/CSA Surge Protective Devices brochure](#)



Any facility with motors stopping and starting, light load panels being turned on and off frequently, and other potential power disturbances is at risk for damage caused by a surge spike. Down machines cost time, money, and resources to get back on line. Mersen's Surge-Trap® product line offers a world-class suite of surge protection products designed to protect from harmful and preventable surge damage.

Mersen STX and STZ Series surge protective devices are ideal for new construction bid projects and specifications as well as existing facility retrofits. All are UL 1449 4th Edition Type 1 SPD's for panel mount applications, designed with the industry leading Mersen TPMOV® technology. The STX and STZ families have different options ranging from Form C dry contacts, audible alarm, LED status indication, EMI/RFI filtering, surge counter, and disconnect switch. All devices are NEMA 4X rated for outdoor applications.

### Ratings:

- **Volts (Un):** 120-600VAC
- **Nominal Discharge Current Rating (In):** 20kA
- **Surge Capacity (per phase):** 50, 100, 200, 300, 450kA
- **Short-Circuit Current Rating (SCCR):** 200kA
- **EMI/RFI Filter (STXT & STZ Series):** Up to -50dB from 10kHz to 100MHz

### Approvals:

- ANSI/UL 1449 4th Edition, Type 1 SPD, File E210793
- CSA C22.2, Type 1 SPD
- RoHS Compliant



## NATIONAL ELECTRICAL CODE REQUIREMENTS

article	description
708.2	Critical Operation Power Systems (HVAC, Fire Alarms, Security)
694.7	Wind Electric Systems
700.8	All Emergency Systems Switchboards and Panelboards
620.51	Emergency system loads (elevators, escalators, moving sidewalks, etc)
645.18	Critical Operations Data Systems
670.6	Industrial machinery with safety interlock circuits
695.15	Fire Pump Controllers
230.67	Residential Dwelling Units

# TOOLS AND RESOURCES

## MFCP Configurator:

The MFCP Configurator lets Mersen partners design your own custom-configured Fused Coordination Panelboard by selecting the ratings, features, and options you want via a graphical interface.

## Know the NEC Code:

Every Code cycle, experts at Mersen review the National Electrical Code® for important changes to surge and overcurrent protection and release information to inform and educate the electrical professional. Make sure you are up to date by visiting [KnowTheNECCode.com](http://KnowTheNECCode.com)

## Supporting Documents and Additional Resources:

The following can be found by visiting [ep.mersen.com](http://ep.mersen.com):

- Datasheets
- Brochures
- Installation Guides
- Drawings
- Tech Topics
- Technical Services

## COMPLEMENTARY OFFERINGS

Low Voltage Fuses	Low Voltage Fuse Holders	Medium Voltage Fuses
 A collection of various low voltage fuses, including cylindrical and rectangular types, some with orange and grey labels.	 Several low voltage fuse holders, including a large white unit with multiple slots and a smaller white unit.	 A set of medium voltage fuses, including three tall white cylindrical fuses and a larger black cylindrical fuse with copper terminals.
Enclosed Disconnect Switches	Power Distribution Blocks	STP Series 75kA DIN-Rail SPD
 Two enclosed disconnect switches, one larger and one smaller, both with orange handles and white enclosures.	 A large black power distribution block and a smaller black power distribution block with multiple terminals.	 Several STP Series 75kA DIN-Rail SPD units, including a large white unit and several smaller white units.





MERSEN IS A GLOBAL EXPERT  
IN ELECTRICAL POWER AND  
ADVANCED MATERIALS

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