



Engineered Solutions

SYSTEMS CUSTOM
ENGINEERED TO YOUR
SPECIFICATIONS

Your problem: You need to achieve code compliance and protect critical power operations with selective coordination. You need a UL Listed industrial control panel that offers remote load-break disconnection capability to emergency circuits.

Our solution: Mersen offers a fully customizable Fused Coordination Panelboard that can simplify the process of achieving code compliance for designers. Mersen's Fusible Shunt Trip Switch has an array of available options that allow for maximum functionality to be built into a single compact panel. The products are custom built to your exact specifications.

Want more information fast? For more technical or application-specific information, please call our Engineered Products experts at 978-465-4853 or visit our website at ep.mersen.com.

- Fused Coordination Panelboards ES 2
- Fusible Shunt Trip Switch . . . ES 4

ES

Fused Coordination Panelboards

ENGINEERED SOLUTIONS

MEET CODE REQUIREMENTS WITH MERSEN'S FUSED COORDINATION PANELBOARDS (MFCP)

The next generation of Fused Coordination Panelboards is here with coordinated protection between overloads and short circuits. Mersen's Fused Coordination Panelboard (MFCP) does not require fuse replacement on common overload conditions and branch circuits can simply be reset. Mersen's Amp-Trap 2000® class CC and class J fuses ensure minimal fuse let-thru energies and makes it easy to provide system coordination with our easy 2:1 coordination ratios for short circuits. Mersen's fused selective coordination panelboard is a UL67 listed panelboard that utilizes our commonly available class CC and J fuses.



FEATURES:

Branch Circuit Protection:

- UL Fuse/Circuit Breaker combination
- Resettable overload protection
- True class J and CC protection

Only Three Branch Fuse Sizes:

- 15A to 30A → ATDR30
- 35A to 60A → AJT60
- 70A to 100A → AJT100

Width:

- 20" wide

Main Options:

- Main Lug Only (MLO)
- Main non-fused switch
- Main non-fused switch with fuses
- Up to 42 Branch Circuits per Panel

Main Bus:

- Standard silver-plated copper, with optional tin-plated aluminum

Enclosures:

- NEMA 1, 12, 3R

Optional Features:

- UL 1449 Listed surge protection devices (required per NEC 700.8)
- Blown fuse indication (30A, 60A)

Mersen fused coordination panelboards are custom designed products. For catalog number selection please consult factory.

RATINGS:

- **Volts:** 120/208V, 3Ø, 4-wire; 120/240V, 1Ø, 3-wire; 277/480V, 3Ø, 4-wire; 347/600V, 3Ø, 4-wire
- **Amps:** Main Bus Ampacity ranges from 250A to 400A
- **Number of Circuits:** Up to 2 circuits
- **SCCR:** 200kA@600V

APPROVALS:

- UL 67 Listed Panelboard
- UL 50 Listed Enclosure
- Meets NEC® selective coordination code requirements for the following power systems:
 - 700.8 (Emergency)
 - 700.27 (Legally Required Standby)
 - 708.54 (Critical Operations)

STANDARD PANEL HIGHLIGHTS

- Easy selectivity ratios with upstream fuses
- Voltage: 120/208, 120/240, 277/480, 347/600
- Main Bus: 250A or 400A
- Main Disconnect: MLO, Fused Main or Non-Fused Main
- SCCR: 200kA
- Surge Protection (SPD) optional
- Up to 42 branch circuits per panel
- Standard 20" wide
- Feed through lugs optional
- Surface mount
- Uses commonly available class CC & J fuses

MAIN

- Up to 400A Fused Main Disconnect
- Allows for panel isolation
- Lockout provision
- Visible contacts
- Interlocked with cover

AJT AMP-TRAP 2000® FUSES MAIN FUSE

- Time Delay
- 2:1 coordination ratio
- 600VAC interrupting rating 200kA

BRANCH CIRCUITS

- Circuit breaker opens overloads up to 2 times circuit rating
- ATDR, AJT fuses open short circuit currents
- Fuseholder interlocked to prevent opening while energized
- Circuits up through 100A 1, 2 & 3 pole
- True Class J and CC protection

DIMENSIONS (STANDARD NEMA 1 ENCLOSURES)

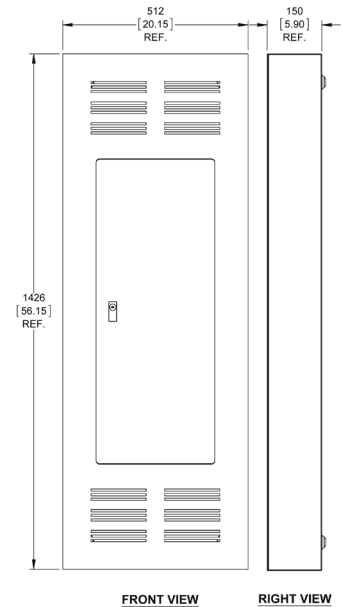
For standard panels:

Width = 20 inches Depth = 6 inches

Height varies depending on number of circuits and main options.

NEMA 1 ENCLOSURE SPECIFICATIONS

- Tub: Galvanized unpainted steel. One endwall is provided with knockouts, and the other endwall is blank.
- Door: Equipped directory card, flush mount lock
- Trim and Door Finish: ANSI 49 grey baked enamel electrodeposited over cleaned, phosphatized steel



HIGHER RATED PANELS AND BRANCHES

For panels with circuits requiring ratings greater than 100A, Mersen offers a 38" wide panel with fusible switches for over-current protection. These panels can house up to two 20-circuit MFCP panels within it, in addition to fusible switches of up to 600A in various combinations.



- Main Bus Ratings: 600A, 800A, 1200A
- Main Device Ratings: MLO, Fused main disconnect of 600A, or 800A
- Fusible Branch Device Ratings*: 200A, 400A, 600A

*Branch ratings can be fused at standard fuse size increments in between these ratings and meet 2:1 coordination ratios.



Fusible Shunt Trip Switch

Industrial Control Panel

ENGINEERED SOLUTIONS

EMERGENCY SAFETY EQUIPMENT



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 feature control transformers (fusing both primary and secondary sides), a fire safety interface relay with a fire alarm voltage monitoring relay, and mechanically interlocked auxiliary contacts. Use of Mersen's Amp-Trap 2000® AJT¹ 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.

APPLICATIONS:

- Elevator controls
- Building emergency systems
- Data processing rooms

RATINGS:

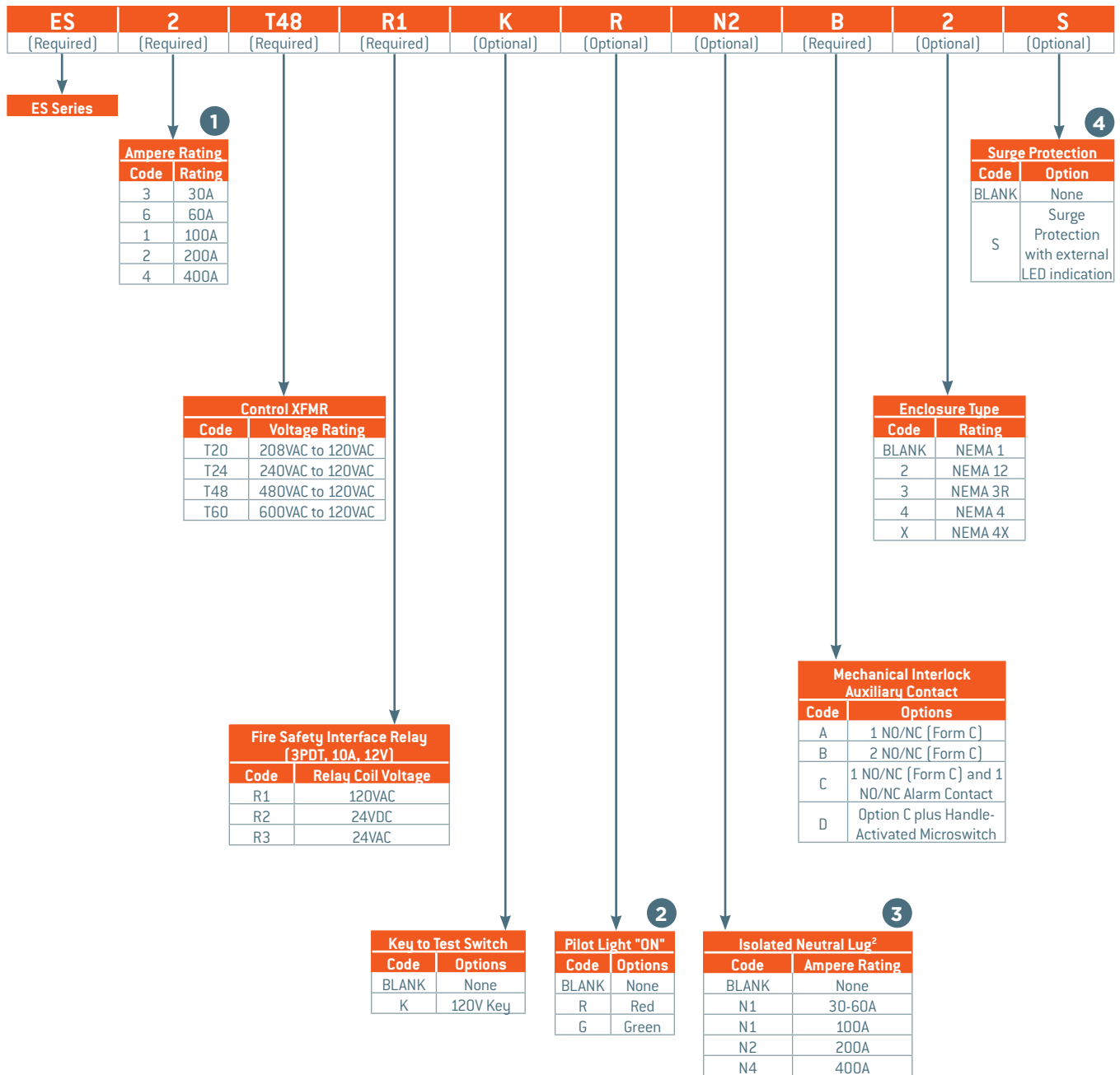
- **Volts:** 208VAC, 240VAC, 480VAC, 600VAC. DC ratings available; consult factory.
- **Amps:** 30A, 60A, 100A, 200A, 400A
- **SCCR:** Varies depending on system voltage and ampere rating. See table on following page.

APPROVALS:

- cUL 508A Listed Industrial Control Panel, File E233863

ES

ES SERIES - FUSIBLE SHUNT TRIP DISCONNECT SWITCH



PART SELECTION AND ORDERING NOTES

- 1** The ampere rating determines the fuse holder size and range of fuse sizes that may be installed. AJT fuses are sold separately, as they are to be sized to the elevator's motor rating
- 2** Fire Alarm Voltage Monitoring Relay included in all Mersen offerings. No additional part suffixes required. (Competitor Options F1 and F3)
- 3** Neutral lug rating should be greater than or equal to the switch ampere rating. For 200% lug over sizing, select next higher rating. N4 is suitable for 200% over sizing at 400A.
- 4** When "-S" option is selected, Mersen "Surge-Trap® Pluggable" TPMOV® with microswitch and front panel LED indication is installed. Voltage selection determines nominal voltage rating of TPMOV; with 75kA surge capacity.



Highlights	
<ul style="list-style-type: none"> Shunt trip switch – allows for tripping of the main line power via remote signal Fused switch – provides high current-limitation and short circuit withstand 	<ul style="list-style-type: none"> Padlockable handle – allows panel to be locked with switch in the off position ensuring load side power isolation during servicing

Optional Features	
<ul style="list-style-type: none"> Primary Voltage (208, 240, 480 or 600 VAC) Fire safety relay for control interface (3PDT Relay, choice of Coil Voltage: 120 VAC, 24 VDC or 24VAC) Oil-tight key switch to test 2 position selector switch Oil-tight power enabled indicator light (choice of colors: red, green) Isolated neutral lug – 100%. Oversized 200% for excessive Non-Linear loads 	<ul style="list-style-type: none"> Auxiliary and alarm contacts are both Form C contacts. The auxiliary contacts change state when the switch is in the on position. Alarm contacts change state when the switch is in the tripped position. The alarm contact is located in place of the second auxiliary contact NEMA 12, 3R, 4 or 4X enclosure available DC Shunt Trip Switch Version Available – Consult Factory

Dimensions and Optional Neutral Lug Sizes				
Ampere Rating (A)	30, 60, 100		200	400
Dimensions	H x W x D		H x W x D	H x W x D
NEMA Rating	NEMA 1	NEMA 3R, 4, 4X, 12	NEMA 1, 3R, 4, 4X, 12	NEMA 1, 3R, 4, 4X, 12
Voltage ▼	Figure 1	Figure 2	Figure 2	Figure 2
208 VAC 3φ	24.4 x 16.3 x 8.7	24 x 20 x 8	30 x 24 x 8	36 x 30 x 8
240 VAC 3φ	24.4 x 16.3 x 8.7	24 x 20 x 8	30 x 24 x 8	36 x 30 x 8
480 VAC 3φ	24.4 x 16.3 x 8.7	24 x 20 x 8	30 x 24 x 8	36 x 30 x 8
600 VAC 3φ	24.4 x 16.3 x 8.7	24 x 20 x 8	30 x 24 x 8	36 x 30 x 8
Neutral Lug Size	2/0 - #14	2/0 - #14	350 - #6	2 x 500 - #4

Figure 1

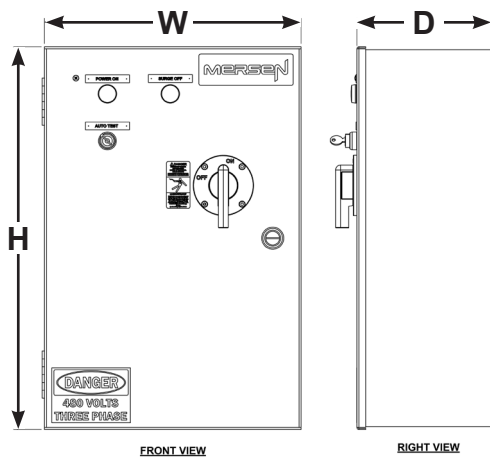
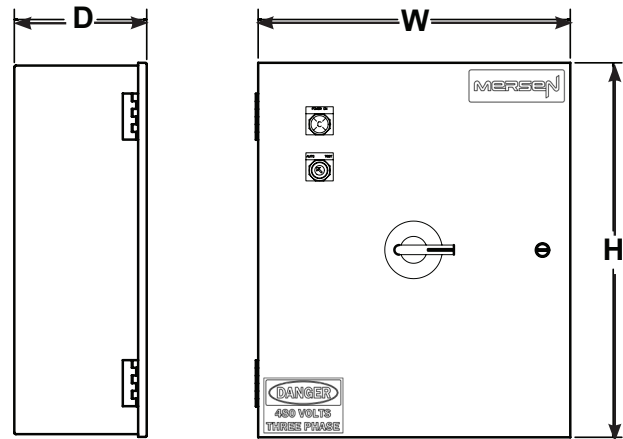


Figure 2



Short-Circuit Current Ratings (BASED ON UL489 STANDARDS)			
AMP	RMS SYMMETRICAL AMPERES (kA)		
	UL A.I.R.		
	VOLTS (AC)		
	240	480	600
30	65	25	18
60	65	25	18
100	65	25	18
200	65	35	22
400	65	35	25