

FUSED COORDINATION PANELBOARD

Branch Circuit Protection

SOLUTIONS GUIDE



MERSEN

Introducing Mersen's Fused Coordination Panelboard

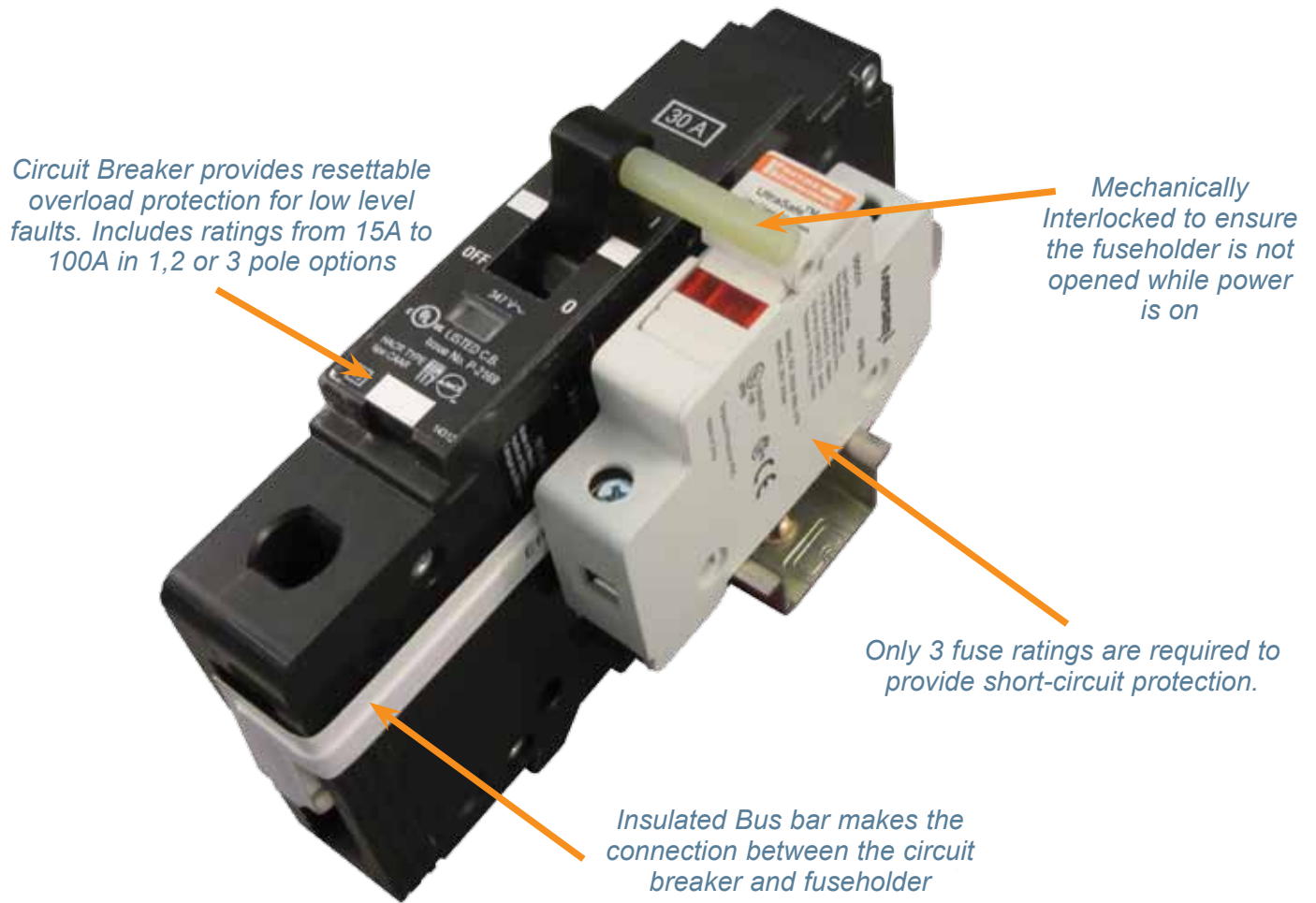
Selective Coordination is required in several locations as defined in the National Electrical Code (NEC). Mersen's Fused Coordination Panelboard (MFCP) can simplify the process in achieving code compliance for designers. These panels are provided with a default short circuit current rating (SCCR) of 200kA and provide overcurrent protection through a combination of a circuit breaker and a fuse. The circuit breaker is designed to operate on overloads up to 2 times their rating and the fuse over 2 times up to 200kA.

Feature	Benefit
UL 67 Listed panelboard with a default short-circuit current rating of 200kA	Easily comply with NEC 110.10 as most systems will be below 200kA
Combination rated circuit breaker and fuse for branch circuit protection	Fuses will open only on short-circuits—Circuit Breaker can easily be reset on common overloads
Class CC and Class J fuses for Branch short-circuit protection	Standard fuse classes that are commonly stocked by distributors
Maximum of 3 fuse sizes	Typically already in inventory
Selective Coordination between upstream and branch fuses when ratios are maintained	Simple selective coordination without short-circuit current study—Meets requirements of NEC
FingerSafe fuseholders	No exposed live components for increased safety
Interlocked branch circuit fuseholder and circuit breaker	Ensures that the fuse is disconnected on both line/load before removal
Standard 20 inch wide panel	Meets existing space requirements of other commercial available panelboards
Surface & flush mount 20, 32, 42 branch circuits NEMA 1, 12 and 3R Feed-Through lugs Surge Protection MLO, Main Switch (with or without fuses) Service entrance rated	Increased flexible options to meet specific application requirements
Visible blades on main disconnect without removing covers	Visual verification of disconnect operation
Cover interlocked with main disconnect	Ensures that power is disconnected before cover can be removed
UL listed up to 600VAC	Meets most common North American voltages
Main lug only, non-fused main disconnect or fused main disconnect up to 400A	Provides designers with options
Optional open fuse indication	Easy identification of open branch fuses
Optional integral surge protection	Easily provide surge protection for critical branch circuits



Branch Circuit Protection

Overloads are the most common over current condition and MFCP's innovative combination branch circuit protection provides resettable overload protection up to 2 times the circuit rating while still providing true class CC and J protection for your critical loads on high current faults. The kits below provide everything needed for expansion of an existing panel.



Part number	Poles	Current rating	Fuse (included)
MFCP-K-15-1	1	15A	ATDR30
MFCP-K-15-2	2		
MFCP-K-15-3	3		
MFCP-K-20-1	1	20A	
MFCP-K-20-2	2		
MFCP-K-20-3	3		
MFCP-K-25-1	1	25A	
MFCP-K-25-2	2		
MFCP-K-25-3	3		
MFCP-K-30-1	1	30A	
MFCP-K-30-2	2		
MFCP-K-30-3	3		

Part number	Poles	Current rating	Fuse (included)
MFCP-K-35-1	1	35A	AJT60
MFCP-K-35-2	2		
MFCP-K-35-3	3		
MFCP-K-40-1	1	40A	
MFCP-K-40-2	2		
MFCP-K-40-3	3		
MFCP-K-50-1	1	50A	
MFCP-K-50-2	2		
MFCP-K-50-3	3		
MFCP-K-60-1	1	60A	
MFCP-K-60-2	2		
MFCP-K-60-3	3		

Please contact the factory for 100A branch circuits.

Branch Circuit Kit



Highlights

- Easy selectivity ratios with upstream fuses
- Voltage: 120/208, 120/240, 277/480, 347/600
- Main Bus: 250A or 400A,
- MLO, Fused Main or Non-fuse Main disconnect
- SCCR: 200kA
- Surge Protection (SPD) optional
- 20, 32 or 42 branch circuits
- 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 (NEMA 1 Enclosures)

For standard panels:

Width = 20 inches

Depth = 6 inches

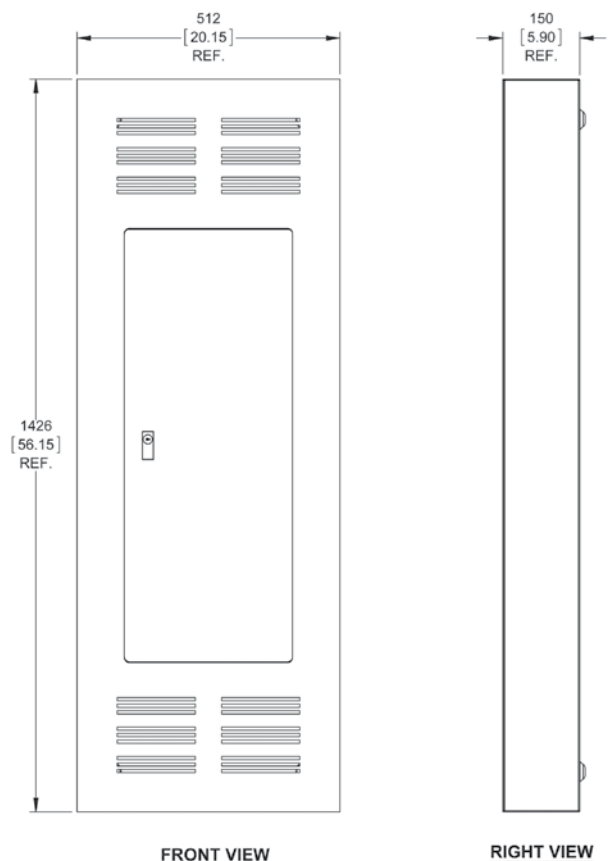
Height varies depending on number of circuits and main options (see table below).

Number of Circuits	Height (Inches)	
	250A-Bus	400A-Bus
20-circuit	44	56
32-circuit	62	74
42-circuit	86	86

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

Example Drawings:



SELECTIVE COORDINATION WITH MERSEN'S FCP

Achieving selective coordination typically requires a costly short circuit current study. However with the Mersen Fused Coordination Panelboard, coordination can easily be determined with upstream Mersen fuses. MFCP utilizes Amp-Trap 2000® ATDR and AJT fuses for branch circuits. Simply maintain a 2:1 ratio with upstream Amp-Trap 2000 fuses and the system will coordinate. Many circuit breakers will coordinate easily with downstream fuses.

A system that is selectively coordinated will ensure that any fault condition is localized to the nearest overcurrent protective device. This increases system reliability and decreases downtime. Selective coordination is desired for all systems but is also mandatory per NEC for critical circuits:

- 620.62 – Elevator Circuits
- 700.27 – Emergency Systems
- 701.18 – Legally Required Standby Systems

By localizing a fault to the nearest overcurrent device selective coordination prevents unnecessarily disconnecting other circuits in the system. An electrical system that utilizes Mersen fuses can simply be selectively coordinated by meeting the minimum amp rating ratios. By adhering to the minimum fuse ratios engineers and installers can save time and money because no complex coordination study is required.



Surge Protection

In 2014, NEC added article 700.8 which requires that a surge protective device must be installed in or on all new emergency system panelboards. NEC defines emergency systems as legally required systems intended to automatically supply illumination, power and systems essential for safety to human life. MFCP helps easily meet this requirement with the optional built-in Surge-Trap pluggable. Surge-Trap utilizes Mersen's patented fail-safe TPMOV technology.



Ordering Details

MFCP is a highly configurable panelboard with many options. Please contact Mersen Technical Services at 978-465-4853 or technicalservice.nby@mersen.com for submittal and bid packages.



3233 W Hunting Park Avenue, Philadelphia PA 19132-1845
(800) 79-ROYAL (215) 221-1200 fax (215) 221-1201
advisors@royalelectric.com www.royalelectric.com

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