## BUSSMANN SERIES

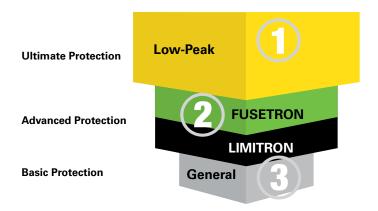
Low-Peak<sup>™</sup> Upgrade program

# Enhance safety and reliability while reducing fuse inventory



## Upgrade and save with the Low-Peak Upgrade program

## Low-Peak Upgrade program



Eaton provides the easiest and fastest way to select and specify the right fuse. By grouping Bussmann® series low voltage fuses into three tiers of protection, and four fuse families within those tiers, we've sped up specification and selection, and made replacement easy.

Leveraging our Ultimate Protection fuses, the Bussmann series Low-Peak<sup>™</sup> Upgrade program couples the industry's most advanced circuit protection with our extensive technical knowledge to deliver enhanced safety, improved system reliability and simplified inventory.

With just three simple steps, it's easier than ever to improve your circuit protection while efficiently reducing your fuse inventory SKUs and cost. What's more, you'll save time and increase productivity - all by using Bussmann series Low-Peak fuses.



## Benefits of the Low-Peak Upgrade program

#### Enhanced safety

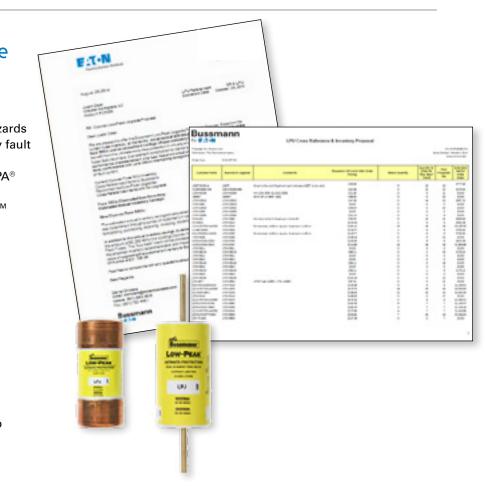
- · Superior current-limitation reduces arc flash hazards
- Interrupting ratings up to 300kA for virtually any fault conditions
- Help achieve code compliance with OSHA<sup>®</sup>, NFPA<sup>®</sup> and IEEE<sup>®</sup>
- Finger-safe design with the Class CF CUBEFuse<sup>™</sup>

#### Improved system reliability

- Type 2 "No damage\*" motor starter protection reduces downtime
- Optional fuse indication\*\* to help speed troubleshooting
- Easily meet selective coordination requirements with 2:1 amp ratio with any Low-Peak fuse.

#### Simplified inventory

 One Low-Peak fuse can replace multiple fuses in a variety of applications, reducing the need to stock multiple fuses



#### Three simple steps to Ultimate protection

Throughout the Low-Peak Upgrade process, you will have a dedicated team that includes a Bussmann series product authorized distributor and a Bussmann series product sales representative. Together, they will walk you through the three steps of the program, making it as easy and effortless for you as possible.

### How it works



### Audit

First, our team visits your facility and conducts a physical inventory of your fuses. We gather all the data we'll need to analyze and prepare our summary reports. This includes the part number, description, manufacturer, quantity on hand and bin location. If you already have a list of your inventory with this information, simply submit that to our team and we'll handle it from there. However, it is important to physically verify what is in your storeroom for the best results. Once the data is gathered, it is submitted to our in-house team of experts for analysis.



#### Analyze

Next, our team conducts a thorough analysis of your inventory using our proprietary software. After careful examination, we produce a detailed consolidation and inventory summary report. The report includes the SKU reduction and estimated savings, a recommended inventory list and a quote for the purchase of new Bussmann series Low-Peak fuses, including options when applicable.



#### Implement

After review of the recommended consolidation and inventory report, the final step to achieve ultimate protection while realizing cost savings is to implement the proposed inventory plan. Simply place a purchase order with your authorized Bussmann series product distributor. We even offer a one-time buy back credit for your existing inventory. When the order arrives, our team will collect your old inventory and dispose of it in an environmentallyfriendly manner.

We will then work with you to schedule and conduct training for your facility. In addition to training on our Bussmann series Low-Peak fuses, we are happy to cover other topics related to circuit protection and electrical safety that may be beneficial to you and your employees.







### How it works

#### FAQ?

#### How much does this program cost?

We are confident that our Bussmann series Low-Peak fuses will help you achieve ultimate protection while reducing your inventory. For this reason, we offer this service free of charge.

#### How long does the process take?

Once your inventory is physically counted and submitted to our team, the development of the reports generally takes 5 business days. In some cases, up to 10 business days are required due to needing more information, setting up correct pricing or properly formatting data. We'll let you know if this is the case and keep you informed.

#### What will I receive?

When we've completed our analysis, we will provide a consolidation report that includes:

- · Number of SKUs eligible for upgrade and elimination
- Percentage of inventory reduction
- · Estimated annual savings
- · Quote to purchase new Bussmann series Low-Peak fuses
- One-time buy back credit in exchange for existing
  inventory
- Detailed recommended inventory list

When the Low-Peak Upgrade program is implemented, we provide training on our Bussmann series Low-Peak fuses and any other circuit protection topic needed as well as convenient cross reference materials for your storeroom.

#### What happens to my existing inventory?

After you place your order and receive your new Low-Peak fuses and move forward with implementation, we will extend a one-time buy back credit for your existing inventory. Our team will even come pick up the old inventory and recycle it appropriately.

#### How do I get started?

Reach out to your local Bussmann series product sales representative or authorized distributor – or call us at 855-BUSSMANN

(1-855-287-7626). For more information, visit www. cooperbussmann.com/lowpeakupgrade.

#### Case study

A power plant used various types and sizes of fuses in their facilities panelboards, motor control centers and control panels. Over the years, they had accumulated a mixed inventory and stocked over 236 different fuse SKUs.

After completing the Bussmann series Low-Peak Upgrade program and implementing the proposed consolidation, the customer eliminated 55 fuses from inventory. At \$125\* per line item, this amount to an annual savings of \$6,875 and a 23% reduction in fuse inventory.

Additionally, the customer took advantage of our buy-back program to remove their old inventory.

\* Estimated cost savings based on the cost of forecasting, purchasing, receiving, invoicing, stocking and shipping inventory.

#### Industries served

Bussmann series Low-Peak Upgrade program is ideal for a variety of industries, including:

- · Automotive
- · Commercial
- Education
- Food and beverage
- Government
- · Healthcare
- Industrial manufacturing
- · Mineral and mining
- · Machine building
- Oil and gas
- · Pulp and paper
- · Water/wastewater

#### Why the Low-Peak Upgrade is so effective

The Bussmann series Low-Peak Upgrade program enhances safety, improves system reliability and reduces inventory. The program is so effective at doing so because of the benefits

#### **Enhance safety**

- Superior current-limitation feature minimizes incident energy associated with an arc flash. This helps to reduce arc flash hazards to their lowest levels possible. Replacing fuses with Bussmann series Low-Peak fuses helps a safety electrical system.
- UL<sup>®</sup> Listed interrupting rating up to 300kA allows the fuse to safely interrupt a circuit under the worst fault conditions.
- Finger-safe design of the Class CF CUBEFuse offers protection against shock hazards.
- Compliance with safety standards such as NFPA 70E, NEC<sup>®</sup> 110.16, IEEE<sup>®</sup> 1584, OSHA 29 CFR<sup>®</sup> 1910 and 1926 and UL 508E helps minimizes risk to employees.

#### **Reduce inventory**

Bussmann series Low-Peak fuses are available in Class CC, CF, J, L and RK1, so there is a fuse to meet the vast majority of 600V overcurrent protection needs. They are extremely versatile; one fuse can be used for multiple applications, which reduces the number of SKUs that need to be in stock by up to 33%. This saves time and money associated with ordering and stocking fuses. The estimated annual savings is calculated at \$125 per SKU eliminated.

of our Low-Peak fuse portfolio. These fuses offer the most advanced circuit protection in the industry. In fact, they offer 50% more protection than any other listed fuse.\*

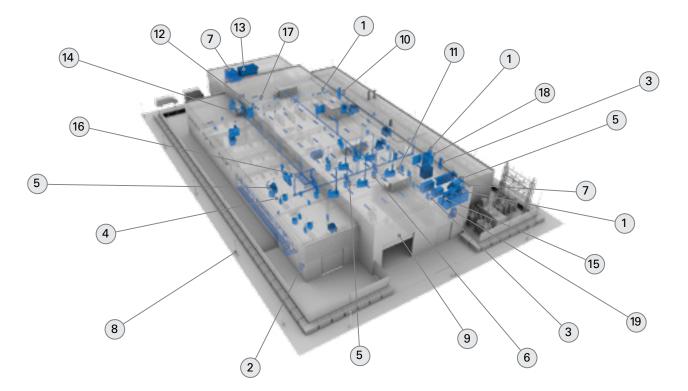
#### Improve system reliability

- Type 2 "No damage" motor starter protection allows the contractor and overloads to be put back in service after a fault without an outage for repair or replacement. Preventing equipment damage helps reduce downtime associated with destructive fault currents.
- Optional fuse indication on Class CF, J and RK1 fuses allows for faster troubleshooting.
- Signature yellow label allows for quick and easy replacement. Each label has been designed with a consistent look and feel with critical information presented in an easyto-read format.
- Superior current-limitation feature helps increase assembly short-circuit current ratings by reducing fault currents and can help comply with NEC 110.10.
- 2:1 amp ratio between upstream and downstream Bussmann series Low-Peak fuses makes selective coordination easy, which helps prevents blackouts. (Selective coordination is required per NEC for emergency systems, legally required standby systems and critical operations power systems.
   Where not required, it is recommended as a desirable design consideration for system reliability and to avoid unnecessary downtime).



 $^{\ast}$  50% higher IR (300kA) than any other Class J, L and R, UL and CSA fuse.

## Fuse selection by application



Indu	strial and commercial applications	Low-Peak
1	Service, feeder and branch circuit protection	
2	Interior lighting	Image: A state of the state
3	Distribution panels	
4	Disconnect switches	
5	Motor/motor control center	
6	Capacitors	
7	Transformers	
8	Outdoor lighting	
9	Emergency lighting	
10	Electric heat	
11	Welding circuits	
12	Plant lighting	
13	HVAC chillers/blowers	✓
14	Forklift battery charging station	
15	Emergency generator	
16	Conveyor system	
17	UPS backup power supplies	✓
18	Switchboards	<ul> <li>✓</li> </ul>
19	Elevator control centers	

### Bussmann series Low-Peak fuse portfolio

#### lass CC fuses

LP-CC time-delay

- Small Class CC size
- Permits space saving branch circuit protection up to 30 amps
- · Current-limiting
- Provides fast response to damaging short-circuits
- 200kA interrupting rating
- Helps ensure future expansion of the electrical system will not obsolete the circuit protection
- · Lighting and heating loads
- Easy to size at just 125% of continuous load
- Easily replaces lower-rated 1-1/2" x 13/32" midget fuses for ultimate protection without the need to change fuse blocks or holders

Typical applications include machinery disconnects, branch circuit breaker panelboard mains and industrial controls.

Please note that the FNQ-R is recommended for the primary of control power transformers.

#### **Class CF CUBEFuse**

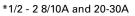
TCF dual-element, time-delay finger-safe

Unique, finger-safe Bussmann series Low-Peak CUBEFuse and fuse holder system provides the same Class J performance and 300kA interrupting rating as the LPJ\_SP.

- Size-rejecting holders
- 30, 60 and 100 amp versions help prevent overfusing Built-in test points
- Permits safe troubleshooting of suspect circuits
- · Lighting and heating loads
- Easy to size at just 125% of continuous load
- · Motor protection and sizing the same as Class J
- Optional indication speeds troubleshooting
- Motor rated Compact Circuit Protector (CCP) disconnect switch
  - · 30, 60 and 100A ratings on 1-, 2- and 3-pole versions

Typical applications include electrical panelboards, machinery disconnects, industrial controls and required finger-safe systems.

Product	Volts	Amps	IR
LP-CC	600Vac 300Vdc* 150Vdc	1/2 - 30A	200kA AC 20kA DC





Product	Volts	Amps	IR
	6001/22		300kA AC (UL)
TCF	600Vac		200kA AC (CSA)
	300Vdc		100kA DC







TCFH N 30, 60, or 100A holders



CCP\_CF 1-, 2-, and 3-pole switched disconnects.



## Bussmann series Low-Peak fuse portfolio

#### **Class J fuses**

LPJ\_SP dual-element, time-delay

- Protecting low interrupting rating circuit components
   Excellent current limitation allows for protection of downstream circuit breakers and distribution blocks
- · Motor branch circuit protection
  - Sizing as low as 150% of motor full load current provides superior short-circuit protection
- Optional open fuse indication
- · Permits faster troubleshooting for less downtime
- · Lighting and heating loads
- Easy to size at just 125% of continuous load

Typical applications include machinery disconnects, branch circuit breaker panelboard mains and industrial controls.

#### Class L fuses

KRP-C\_SP time-delay

- Minimum 4-second delay at 500% of rated amps
- Permits closer sizing to large motor and transformer loads without nuisance openings caused by high inrush currents
- High interrupting rating
- At 300kA, permits fusing mains and feeders with enough interrupting rating to handle any future expansion of the electrical system
- · Lighting and heating loads
  - Easy to size at just 125% of continuous load

Typical applications include large distribution switchboards, power panelboards and large machinery disconnects.

#### **Class RK1 fuses**

LPN-RK\_SP and LPS-RK\_SP dual-element, time-delay

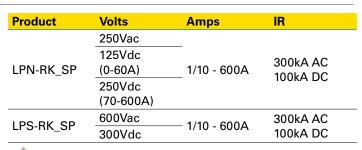
- · Wire and cable protection
- Current let-through is kept below the 1/2 cycle withstand of equivalently sized cables
- · Lighting and heating loads
- Easy to size at just 125% of continuous load
- · Motor starter protection
- Provides Type 2 "No Damage" protection when properly sized. Dual-element permits sizing at only 130% of full load current. Current-limitation cuts
- short-circuit current off before it reaches dangerous levels
- Optional open fuse indication
- Permits faster troubleshooting for less downtime

Typical applications include power panelboards, machinery disconnect switches and motor control centers.

Product	Volts	Amps	IR
LPJ SP	600Vac	1-600A	300kA AC
LFJ_3F	300Vdc	1-600A	100kA DC



Product	Volts	Amps	IR
	600Vac	601-6000A	300kA AC
KRP-C_SP	300Vdc	601-2000A	100kA DC





RoHS

## Additional resources

As the industry leader in circuit protection, we are committed to continually creating innovative solutions. We develop tools,

resources and services that provide multiple ways to enhance safety, efficiency and productivity.



#### Arc flash compliance program and training

Our team helps ensure that your employees are safe from arc flash hazards by performing arc flash analysis, recommending mitigation actions and training your personnel.

Eaton's arc flash compliance program provides a comprehensive safety solution and helps ensure that you meet all of the arc flash requirements for a safe work environment.

Additionally, Eaton's arc flash safety training provides you with information on the potential hazards of working around energized equipment, the standards that address these hazards, and the safe work practices and Personal Protective Equipment (PPE) necessary to protect workers from these hazards.

For more information, please visit Cooperbussmann.com/services.

#### Digital tools provide instant expertise

We offer a broad portfolio of mobile and online tools, making it easy to find the information you need, when you need it.

Mobile applications:

- · FuseFinder Comprehensive cross-reference tool
- FC<sup>2</sup> Available Fault Current Calculator

Online web tools:

- Competitor cross-reference tool Find crosses to nearly every Bussmann series product
- · Available FaultCurrent Calculator Calculate short-circuit current ratings online
- Fuse selection tool Help determine the correct fuse for your application
- · Digital catalogs View product information on-the-go





#### Technical know-how and expert customer support

Call on our industry-leading customer service and technical experts to find solutions for every need.

Field application and sales engineers – Our team of experts has an average of over 20 years industry experience from concept to creation. We work closely with you to help design or upgrade electrical systems.

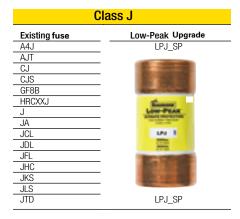
Applications Engineering – For technical questions and specific "how-to" product related information, contact our FUSETECH team to help with step-by-step guidance. Call 1-855-287-7626 or e-mail fusetech@eaton.com.

Customer Satisfaction – The customer satisfaction team will quickly assist with general product inquiries and product ordering information. Call 1-855-BUSSMANN (1-855-287-7626) or e-mail busscustsat@eaton.com.

## Low-Peak fuse cross reference

Eaton's Bussmann series Low-Peak fuses can be used for multiple applications, which enables a consolidation in fuse inventory and a reduction in SKUs. Below, we've shown the Low-Peak Upgrade to some of our most common fuses. The left column represents the part number for the Bussmann series and competitor products. The right column represents the Low-Peak Upgrade. The right column represents the Low-Peak Upgrade. For a much more extensive database of fuses, please consult our online FuseFinder competitor cross-reference at Eaton.com/bussmannseries/FuseFinder.

250 Volt Class R		<u>600 V</u>	600 Volt Class R		Class CC and Midget	
Existing fuse	Low-Peak Upgrade	Existing fuse	Low-Peak Upgrade	Existing fuse	Low-Peak Upgrade	
2D	LPN-RK_SP	A6D	LPS-RK_SP	A6Y (type 2B)	LP-CC	
2D-R		A6K-R		ABU	_	
?K		A6X (type 1)		AGU	_	
K-R	()	ATS-DE		ATDR	_	
Y (type 1)		CHR		ATM	_	
-DE		CTS-R	1	ATMR	_	
G		DES		ATQ	_	
N-R (type 3)		DES-R		BAF	-	
N-R		DLS	i h	BAN		
N		DLS-R		BLF	Br 1 100	
N		ECS-R		BLN		
N-R		ERS	L L	CCMf?		
N		FLS		CM		
N-R	100	FLS-R		CMF	a de la calendaria de la c	
N	Service and the second	FRS		CNM	-	
N	State Street Bridge	FRS-R	<b>F ()</b>	CNQ	LOW-PEAK	
N-R	PROVIDENCE	FTS-R	<b>1</b> (100)	CTK	UTWATE PROTECTO	
N	AND IN COLUMN TWO IS NOT	GDS	A	CTK-R	GLASS OF FURE	
N-R	and the second se	HA	and the second second	FLM	UNCO I	
N-R	Hennese .	KLS-R	Low-Pear	FLQ	_	
N	LOW-PEAK	KUS-R KOS	And and a second s	FNM	BOONLING SCHOOL	
AC-R	Annual Control of the Annual State	KUS KTS-R	in the second se	FNQ	5877053941	
					-	
	new m3	LES		GGU		
N-R	ESCIVAL	LES-R	100 - 100	HCLR		
DN	2000mde	LES-RK		KLK		
N-R	COMPANY OF THE OWNER.	LKS		KLK-R		
NRK	0	LLS-RK		KTK	-	
N	100 000	LOS-RK		KTK-R	_	
N-RK	100	NLS		MCL	_	
N-RK	1 N	NOS		MEN	_	
LR		NRS		MEQ	_	
N		OTS		MOF	_	
N		RES		MOL	_	
N		RFS	1	OTM	_	
N		RHS		TRM		
N		RLS		6JX	LP-CC	
N		SCLR		*ENO B augreeted an	nimony of control transform	
N	5	TRS			primary of control transform	
N		TRS-R		ATQR		
		656	-	FNQ-R	FNQ-R	
5	<b>U</b>	10KOTS		KLDR		
0		50K0TS	LPS-RK_SP			
KOTN						
KOTN	LPN-RK_SP					



Class L			
Existing fuse	Low-Peak Upgrade		
A4BQ	KRP-C_SP		
A4BT			
A4BY			
A4BY (type 55)			
CLASS L			
CLF			
CLL	Loss Print		
CLU	100 CT		
HRC-L	1001.00 B		
KLLU			
KLPC			
KLU	1		
KTU			
L			
LCL			
LCU	KRP-C_SP		

\_

\_



#### Eaton

1000 Eaton Boulevard Cleveland, OH 44122 United States Eaton.com

Bussmann Division 114 Old State Road Ellisville, MO 63021 United States Eaton.com/bussmannseries

© 2015 Eaton All Rights Reserved Printed in USA Publication No. 3001 November 2015 Eaton, Bussmann, CUBEFuse, and Low-Peak are valuable trademarks of Eaton in the US and other countries. You are not permitted to use the Eaton trademarks without prior written consent of Eaton.

CFR is a registered trademark of the Code of Federal Regulations. IEEE standard is a trademark of the Institute of Electrical and Electronics Engineers, Inc. NEC is a registered trademark of the National Fire Protection Association, Inc. NFPA is a trademark of National Fire Protection Association. OSHA is a trademark of the United States Department of Labor. UL is a registered trademark of the Underwriters Laboratories, Inc. For Eaton's Bussmann series product information, call **1-855-287-7626** or visit: **Eaton.com/bussmannseries** 

Follow us on social media to get the latest product and support information.



