

RED indicates NEW information



# Low Voltage Supplementary Fuses

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## Holdings & Blocks for Low Voltage Supplementary Fuses

### Limiters

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|-----------------------------------|------------------------|------|
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### Holdings

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### Blocks

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### Limiter Blocks - ANN & ANL

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CH Series



Safety J™ Series



Modular Type



H250 Series



H600 Series



J600 Series



JP Series



BH Series



4164 & 4164-FR

### 1 1/2" X 1 1/2" Fuses

| Catalog Number     | Volts               | Page |
|--------------------|---------------------|------|
| BAF . . . . .      | 250V . . . . .      | 47   |
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| KLM . . . . .      | 600Vac/dc . . . . . | 47   |
| DCM . . . . .      | 600Vac/dc . . . . . | 47   |
| Solar PV . . . . . | 250V . . . . .      | 48   |
| FNM . . . . .      | 250V . . . . .      | 49   |
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### Holdings

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### Blocks

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- 3723, 3742 and 3743 multi-pole add-on fuse blocks . . . . . 290



OPM-NG-SC3



OPM-1038R &  
OPM-1038RSW



CH Series



HPG



HPC-D



HPM



HPS



HPF



HEB Series



HEX & HEY  
Series



NDNF1-WH



BM Series

## Holders & Blocks for Low Voltage Supplementary Fuses

### $\frac{13}{32}$ " X 1 $\frac{3}{8}$ " Fuses

| Catalog Numbers | Volts      | Page |
|-----------------|------------|------|
| BBS .....       | 600V ..... | 50   |
| KTQ .....       | 600V ..... | 50   |

#### Holder

- HPS-L Panel mount holder .....286

#### Blocks

- BM Series, panel/DIN rail with adapters .....274
- 3723, 3742 and 3743 multi-pole add-on fuse blocks .....290



HPS-L



BM Series

Low Voltage  
Supplementary  
Fuses

### Pin Indicating Fuses

| $\frac{1}{4}$ " X 1 $\frac{1}{4}$ " Fuse Catalog Numbers | Volts       | Page |
|----------------------------------------------------------|-------------|------|
| GBA $\frac{1}{4}$ " X 1 $\frac{1}{4}$ " .....            | .125V ..... | 51   |
| GLD $\frac{1}{4}$ " X 1 $\frac{1}{4}$ " .....            | .125V ..... | 51   |
| MIC $\frac{13}{32}$ " X 1 $\frac{1}{2}$ " .....          | .250V ..... | 51   |
| MIN $\frac{13}{32}$ " X 1 $\frac{1}{2}$ " .....          | .250V ..... | 51   |
| FNA $\frac{13}{32}$ " X 1 $\frac{1}{2}$ " .....          | .250V ..... | 51   |
| MIS $\frac{13}{32}$ " X 2" .....                         | 600V .....  | 52   |
| KAZ $\frac{13}{32}$ " X 2" .....                         | 600V .....  | 52   |



HLD



HK Series

#### Holders

- $\frac{1}{4}$ " X 1  $\frac{1}{4}$ ": HLD Panel mount visual indication .....285
- $\frac{1}{4}$ " X 1  $\frac{1}{4}$ ": HK Series Panel mount lamp indicating .....285

#### Blocks

- $\frac{1}{4}$ " X 1  $\frac{1}{4}$ ": Series 8000 for visual indication .....288
- $\frac{13}{32}$ " X 1  $\frac{1}{2}$ ": 1-Pole signal block cat. # 3839 (not shown in catalog)\*
- $\frac{13}{32}$ " X 2": 1-Pole signal block cat. # 2778 (not shown in catalog)\*
- $\frac{13}{32}$ " X 2": 2-Pole signal block cat. # 2837 (not shown in catalog)\*
- $\frac{13}{32}$ " X 2": 3-Pole signal block cat. # 2838 (not shown in catalog)\*

\*Call our customer satisfaction team at 636-527-3877 for more information.



Series 8000

### Automotive Blade-type Fuses

| Catalog Numbers | Volts       | Page |
|-----------------|-------------|------|
| ATC .....       | 32Vdc ..... | 55   |
| ATM .....       | 32Vdc ..... | 55   |
| MAX .....       | 32Vdc ..... | 55   |

#### Holders

- ATC: HHC, HHD, HHF, HHG & ATC-FHID In-line holders .....56
- ATM: HHL, HHM & ATC-FHID In-line holders .....56
- MAX: HHX In-line holders .....56



HHC, HHD, HHF & HHG



HHL & HHM



HHX

### In-Line Rejecting and Non-Rejecting Fuses

| Catalog Number               | Volts      | Page |
|------------------------------|------------|------|
| GLQ rejecting fuse .....     | 300V ..... | 53   |
| GMQ rejecting fuse .....     | 300V ..... | 53   |
| GLR non-rejecting fuse ..... | 300V ..... | 54   |
| GMF non-rejecting fuse ..... | 300V ..... | 54   |
| GRF non-rejecting fuse ..... | 300V ..... | 54   |

#### Holders

- GLQ & GMQ: HLQ Rejection holder .....53
- GLR, GMF & GRF: HLR & HLR-2A non-rejection holders .....54



HLQ³ Fuse Holders



HLR Fuse Holder

## Cable Limiters & Welder Limiters

### K Series

#### Specifications

**Description:** Cable limiters.

#### Ratings:

Volts — 600Vac  
IR — 200,000A RMS Sym.  
@ 600Vac

#### Agency Information: UL

Listing: KDM, KDR, KDP and KFM, KCM, KCM-B and KCR.

#### Features and Benefits

- Sizes and ratings available to meet many applications.

#### Typical Applications

- Protecting low voltage distribution and service entrance cables against short-circuit currents.

#### Catalog Numbers

##### Copper Cable Limiter — 600 Volts

| Catalog Number           | Cable Size | Catalog Number                              | Cable Size |
|--------------------------|------------|---------------------------------------------|------------|
| <b>Tubular Terminals</b> |            |                                             |            |
| KCY                      | #4         | KCF                                         | 4/0        |
| KCZ                      | #3         | KCH                                         | 250 MCM    |
| KCA                      | #2         | KCJ <sup>1, 2</sup>                         | 350 MCM    |
| KCB                      | #1         | KCM <sup>1, 2, 3</sup> , KCM-B <sup>3</sup> | 500 MCM    |
| KCC                      | 1/0        | KCV                                         | 600 MCM    |
| KCD <sup>1, 2</sup>      | 2/0        | KCR <sup>1, 2</sup>                         | 750 MCM    |
| KCE                      | 3/0        | KCS                                         | 1000 MCM   |

##### Tubular Terminal and Offset Bolt-Type Terminal

|     |     |                        |         |
|-----|-----|------------------------|---------|
| KQV | #12 | KDD <sup>2</sup>       | 2/0     |
| KQT | #10 | KDE                    | 3/0     |
| KFZ | #8  | KDF                    | 4/0     |
| KIG | #6  | KDH                    | 250 MCM |
| KDY | #4  | KDJ <sup>1, 2</sup>    | 350 MCM |
| KDA | #2  | KDM <sup>1, 2, 3</sup> | 500 MCM |
| KDB | #1  | KDU                    | 600 MCM |
| KDC | 1/0 | KDR <sup>1, 2</sup>    | 750 MCM |

##### Compression Connector Rod and Tubular Terminals

|       |         |                  |         |
|-------|---------|------------------|---------|
| KEX   | 4/0     | KQO              | 350 MCM |
| KFH-A | 250 MCM | KDT <sup>3</sup> | 500 MCM |

##### \*Center Bolt-Type Terminal and Off-Set Bolt-Type Terminal

|                  |         |                  |         |
|------------------|---------|------------------|---------|
| KPF              | 4/0     | KDP <sup>1</sup> | 500 MCM |
| KFT <sup>1</sup> | 250 MCM | KFM <sup>1</sup> | 750 MCM |
| KEW <sup>1</sup> | 350 MCM |                  |         |

<sup>1</sup>Copper or aluminum cable; sizes of all other limiters pertain to copper only.

<sup>2</sup>UL Listed (File E90818).

<sup>3</sup>Available with shrink tube "V" suffix.

<sup>4</sup>Available with molded rubber boots. Add "-B" to end of part number.

### Accessories

Boots can be purchased separately.

For KCM Boot-KCM

For KDM Boot-KDM

Installation tools can be purchased separately from Thomas and Betts

• Crimp Tool: TBM-14M

• Die: 15506 KDM/15515 KDR

### 64000 & 68000 Series

#### Specifications

**Description:** Welder limiters.

#### Ratings:

Volts — 600Vac (or less)  
IR — 200,000A RMS Sym.

#### Features and Benefits

- Current-limiting devices designed specially for use on welder circuits only
- Time-current characteristics are designed to hold on the intermittent overloading encountered in welder operation, while providing short-circuit protection to the circuit and equipment
- Welder limiters have excess current capacity in the operating range as needed for this type of service

#### Typical Applications

- Welder circuits
- Because welder limiters have special characteristics, they are not intended for application on general-use circuits

#### Catalog Numbers

| Catalog Numbers | Fuse Holder Type | Nominal Amp Rating |
|-----------------|------------------|--------------------|
| 68150           | Class H          | 150                |
| 68200           | Class H          | 200                |
| 68300           | Class H          | 300                |
| 68400           | Class H          | 400                |
| 68600           | Class H          | 600                |
| 64200           | Class J          | 200                |
| 64300           | Class J          | 300                |
| 64400           | Class J          | 400                |
| 64600           | Class J          | 600                |

#### Recommended Fuse Blocks For 68000 & 64000 Series limiters

- See page 44



## 1 $\frac{3}{32}$ " x 1 $\frac{1}{2}$ " Fast-acting Fuses

### BAF

#### Specifications

**Class:** Supplemental

**Description:** Fast-acting supplementary fuse.

**Dimensions:** 1 $\frac{3}{32}$ " x 1 $\frac{1}{2}$ " (10.3 x 38.1mm).

#### Ratings:

Volts — 250Vac (or less)

Amps —  $\frac{1}{10}$ -30A

IR — 10kA @ 125Vac ( $\frac{1}{10}$ -30A)

— 35A ( $\frac{1}{10}$ -1A @ 250Vac)

— 100A (1 $\frac{1}{2}$ -3A @ 250Vac)

— 200A (4-10A @ 250Vac)

— 750A (12A- 15A @ 250Vac)

— 200A (20-30A @ 250Vac)

**Agency Information:** CE, Std. 248-14, UL 0-15/250V, Guide JDYX, File E19180 CSA Certified, 0-15/250V, Class 1422-01, File 53787.

#### Features and Benefits

- Low cost supplemental protection of 125V and 250V non-inductive circuits.
- Upgrade with LP-CC product to reduce SKU investment and minimize potential arc-flash hazards. (and minimize potential for misapplying fuse.)

#### Typical Applications

- General Purpose Circuits
- Lighting Circuit Protection
- Meter Circuits

#### Catalog Numbers (Amps)

|                       |                      |        |
|-----------------------|----------------------|--------|
| BAF- $\frac{1}{10}$   | BAF-2                | BAF-8  |
| BAF- $\frac{1}{4}$    | BAF-2- $\frac{1}{2}$ | BAF-9  |
| BAF- $\frac{1}{2}$    | BAF-3                | BAF-10 |
| BAF- $\frac{3}{10}$   | BAF-4                | BAF-12 |
| BAF- $\frac{3}{10}$   | BAF-5                | BAF-15 |
| BAF-1                 | BAF-6                | BAF-20 |
| BAF-1- $\frac{1}{2}$  | BAF-6- $\frac{1}{4}$ | BAF-25 |
| BAF-1- $\frac{1}{10}$ | BAF-7                | BAF-30 |

\*All have interrupting rating of 10,000A at 125V.

For superior electrical protection, Cooper Bussmann recommends upgrading BAF and fuse applications to Low-Peak LP-CC fuses See page 17.

Data Sheet: 2011 (0-30)

### KTK

#### Specifications

**Class:** Supplemental

**Description:** Fast-acting supplementary fuse.

**Dimensions:** 1 $\frac{3}{32}$ " x 1 $\frac{1}{2}$ " (10.3 x 38.1mm).

#### Ratings:

Volts — 600Vac (or less)

Amps —  $\frac{1}{10}$ -30A

IR — 100kA RMS Sym. (UL)

**Agency Information:** CE, Std. 248-14, UL Listed, Guide JDYX, File E19180.

#### Features and Benefits

- Low cost supplemental protection of 600V or less non-inductive circuits.
- Upgrade with LP-CC product to reduce SKU investment and minimize potential arc-flash hazards.

#### Typical Applications

- Control Circuits
- Lighting Circuit Protection
- Meter Circuits

#### Catalog Numbers (Amps)

600Vac - UL Listed and CSA

|                     |                      |                      |         |         |
|---------------------|----------------------|----------------------|---------|---------|
| KTK- $\frac{1}{10}$ | KTK- $\frac{1}{4}$   | KTK-4                | KTK-12  | KTK-50* |
| KTK- $\frac{1}{8}$  | KTK-1                | KTK-5                | KTK-15  |         |
| KTK- $\frac{1}{10}$ | KTK-1- $\frac{1}{4}$ | KTK-6                | KTK-20  |         |
| KTK- $\frac{1}{4}$  | KTK-1- $\frac{1}{2}$ | KTK-7                | KTK-25  |         |
| KTK- $\frac{3}{10}$ | KTK-2                | KTK-7- $\frac{1}{2}$ | KTK-30  |         |
| KTK- $\frac{1}{10}$ | KTK-2- $\frac{1}{2}$ | KTK-8                | KTK-35* |         |
| KTK- $\frac{1}{2}$  | KTK-3                | KTK-9                | KTK-40* |         |
| KTK- $\frac{1}{10}$ | KTK-3- $\frac{1}{2}$ | KTK-10               | KTK-45* |         |

\*Rated for no more than 24A continuous.

For superior electrical protection, Cooper Bussmann recommends upgrading KTK fuse applications to Low-Peak LP-CC fuses See page 17.

Data Sheet: 1011

### DCM & KLM

#### Specifications

**Class:**

Supplemental

#### Description:

Full range, fast-acting, DC midget fuse.

#### Dimensions:

1 $\frac{3}{32}$ " x 1 $\frac{1}{2}$ " (10.3 X 38.1mm).

#### Ratings:

Volts — 600Vac/dc

Amps —  $\frac{1}{10}$ -30A

IR — 100kA AC

— 50kA DC

**Agency Information:** CE, UL Listed: STD. 248-14, (FILE #E19180, GUIDE #JDYX), CSA Certified, C22.2 NO. 248. 14 (CLASS #1422-01, FILE #53787).

#### Features and Benefits

- Full range, fast-acting, 600Vac/dc midget fuse.
- Minimum interrupting rating or 200% rated current at 600Vdc.

#### Typical Applications

- DC Control Circuits Requiring Fast-Acting Fuses.
- Solar power energy sources.

#### Catalog Numbers (Amps) - DCM

|                     |                      |        |        |
|---------------------|----------------------|--------|--------|
| DCM- $\frac{1}{10}$ | DCM-1                | DCM-5  | DCM-15 |
| DCM- $\frac{1}{8}$  | DCM-1- $\frac{1}{4}$ | DCM-6  | DCM-20 |
| DCM- $\frac{1}{10}$ | DCM-1- $\frac{1}{2}$ | DCM-7  | DCM-25 |
| DCM- $\frac{1}{4}$  | DCM-2                | DCM-8  | DCM-30 |
| DCM- $\frac{3}{10}$ | DCM-2- $\frac{1}{2}$ | DCM-9  |        |
| DCM- $\frac{1}{2}$  | DCM-3                | DCM-10 |        |
| DCM- $\frac{1}{4}$  | DCM-4                | DCM-12 |        |

#### Catalog Numbers (Amps) - KLM

|                     |                      |        |        |
|---------------------|----------------------|--------|--------|
| KLM- $\frac{1}{10}$ | KLM- $\frac{1}{4}$   | KLM-5  | KLM-20 |
| KLM- $\frac{1}{8}$  | KLM-1                | KLM-6  | KLM-25 |
| KLM- $\frac{1}{10}$ | KLM-1- $\frac{1}{2}$ | KLM-8  | KLM-30 |
| KLM- $\frac{1}{4}$  | KLM-2                | KLM-10 |        |
| KLM- $\frac{3}{10}$ | KLM-3                | KLM-12 |        |
| KLM- $\frac{1}{2}$  | KLM-4                | KLM-15 |        |

Data Sheet: DCM 2038 KLM 2020

Recommended fuse blocks/fuse holders for 1 $\frac{3}{32}$ " x 1 $\frac{1}{2}$ " fuses

- See page 44

## Fuses for Solar Panel Applications

### PV

#### Specifications

**Class:** gPV

**Description:** A range of fuses specifically designed for the protection and isolation of photovoltaic strings.

**Dimensions:**  $\frac{13}{32}$ " x  $1\frac{1}{2}$ "  
(10.3 x 38.1mm).

#### Ratings:

Volts — 1000Vdc

Amps — 1-15A

IR — 33kAdc

IR (Min) —  $1.3 \times I_n$

**Agency Information:** UL Pending, CE, IEC 60269.

#### Features and Benefits

- Capable of interrupting low over currents associated with faulted PV strings.
- High DC voltage rating.
- Variety of mounting options for flexibility.

#### Catalog Numbers (Amps)

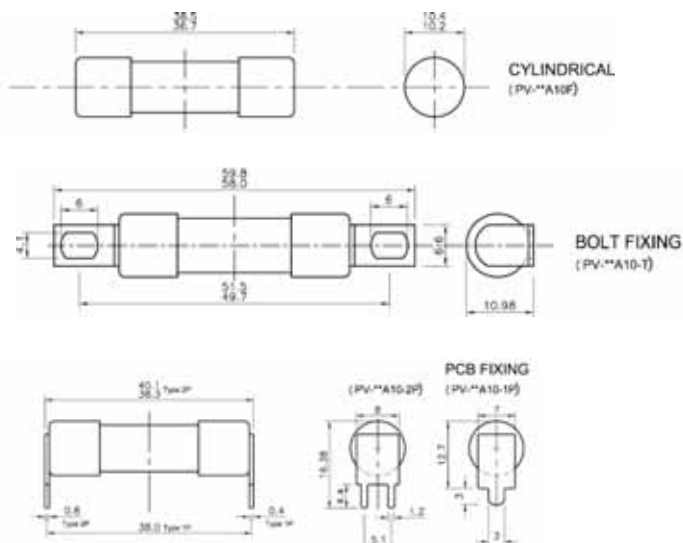
|          |          |          |           |           |
|----------|----------|----------|-----------|-----------|
| PV-1A10F | PV-3A10F | PV-5A10F | PV-8A10F  | PV-12A10F |
| PV-2A10F | PV-4A10F | PV-6A10F | PV-10A10F | PV-15A10F |

For bolt-on tabs, replace 'F' with '-T'

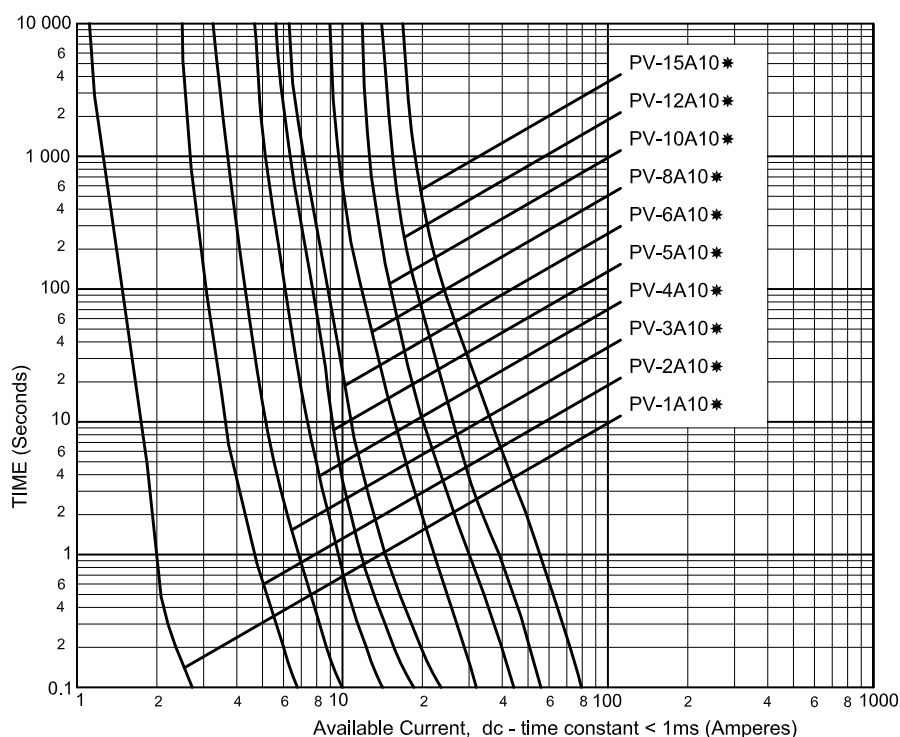
For PCB mounting, replace 'F' with '-1P' or '-2P'



#### Dimensions - (mm)



#### Time-Current Characteristic Curves—Average Melt



## 1 3/32" x 1 1/2" Time-delay Fuses

### FNM

#### Specifications

**Class:** Supplemental

**Description:** Time-delay supplementary fuse.

**Dimensions:** 1 3/32" x 1 1/2"  
(10.3 x 38.1mm).

#### Ratings:

Volts — 250Vac (or less)

Amps — 1/10-30A

- IR — 35A (1/10-1A @ 250Vac)
- 100A (1 1/8-3 1/2A @ 250Vac)
- 200A (4-10A @ 250Vac)
- 10kA (1/10-10A @ 125Vac)
- 10kA (12-30A @ 250Vac)

**Agency Information:** CE, Std. 248-14, UL Listed, 0-30/250Vac; File E19180, Guide JDYX, CSA Certified, 1-30/250Vac; Class 1422-01, File 53787.

#### Features and Benefits

- Low cost supplemental protection of 125V and 250V inductive circuits.

#### Typical Applications

- General Purpose Circuits
- Lighting Circuit Protection
- Meter Circuits
- Upgrading to LP-CC product will reduce SKU investment and minimize potential for misapplying fuse.

#### Catalog Numbers (Amps)

|            |            |            |            |           |        |
|------------|------------|------------|------------|-----------|--------|
| FNM-1/10   | FNM-1/2    | FNM-1-1/2  | FNM-3      | FNM-6     | FNM-15 |
| FNM-1/8    | FNM-3/10   | FNM-1-3/10 | FNM-3-3/10 | FNM-6-3/4 | FNM-20 |
| FNM-15/100 | FNM-3/4    | FNM-1-3/10 | FNM-3-1/2  | FNM-7     | FNM-25 |
| FNM-1/10   | FNM-1      | FNM-2      | FNM-4      | FNM-8     | FNM-30 |
| FNM-1/4    | FNM-1-1/2  | FNM-2-1/4  | FNM-4-1/2  | FNM-9     |        |
| FNM-3/10   | FNM-1-1/4  | FNM-2-1/2  | FNM-5      | FNM-10    |        |
| FNM-1/10   | FNM-1-3/10 | FNM-2-3/10 | FNM-5-3/10 | FNM-12    |        |



### FNQ

#### Specifications

**Class:** Supplemental

**Description:** Time-delay supplementary fuse.

**Dimensions:** 1 3/32" x 1 1/2" (10.3 x 38.1mm).

#### Ratings:

Volts — 500Vac (or less)

Amps — 1/10-30A

IR — 10kA RMS Sym.

**Agency Information:** CE, Std. 248-14, UL Listed, Guide JDYX, File E19180 CSA Certified, Class 1422-01, File 53787.

#### Features and Benefits

- Low cost supplemental protection of transformers and relays at 500V or less.

#### Typical Applications

- Control Transformer 480V Primary Protection
- Lighting Circuit Protection
- Meter Circuits

#### Catalog Numbers (Amps)

|            |           |            |            |        |        |
|------------|-----------|------------|------------|--------|--------|
| FNQ-1/10   | FNQ-1/2   | FNQ-1-1/2  | FNQ-3-1/2  | FNQ-7  | FNQ-20 |
| FNQ-1/8    | FNQ-3/10  | FNQ-1-3/10 | FNQ-4      | FNQ-8  | FNQ-25 |
| FNQ-15/100 | FNQ-3/4   | FNQ-2      | FNQ-4-1/2  | FNQ-9  | FNQ-30 |
| FNQ-1/16   | FNQ-1/10  | FNQ-2-1/4  | FNQ-5      | FNQ-10 |        |
| FNQ-3/10   | FNQ-1     | FNQ-2-1/2  | FNQ-5-3/10 | FNQ-12 |        |
| FNQ-1/4    | FNQ-1-1/2 | FNQ-3      | FNQ-6      | FNQ-14 |        |
| FNQ-3/10   | FNQ-1-3/4 | FNQ-3-3/10 | FNQ-6-3/4  | FNQ-15 |        |



For superior electrical protection, Cooper Bussmann recommends upgrading FNM and FNQ fuse applications to Low-Peak LP-CC fuses See page 17.

#### Recommended fuse blocks and fuse holders for

1 3/32" x 1 1/2" fuses

- See page 44

## $1\frac{3}{32}$ " x $1\frac{3}{8}$ " Fast-acting Fuses

### BBS

#### Specifications

**Class:** Supplemental

**Description:** Fast-acting supplementary fuse.

**Dimensions:**  $1\frac{3}{32}$ " x  $1\frac{3}{8}$ "  
(10.3 x 34.9mm).

**Construction:** Fiber cartridge.

#### Ratings:

Volts — 600Vac ( $\frac{1}{10}$ -5A)  
— 250Vac (6 - 10A)  
— 48Vac (12-30A)

Amps —  $\frac{1}{10}$ -30A

IR — 10kA RMS Sym.

**Agency Information:** CE, Std. 248-14, UL Listed, 0-5A/600V, Guide JDYX, File E19180, CSA Certified, 0-5A/600V, Class 1422-01, File 53787.

#### Features and Benefits

- Low cost supplemental protection of non-inductive circuits
- Reduced interchangeability with other supplemental fuses minimizes misapplication

#### Typical Applications

- Control Circuits
- Lighting Ballasts
- Meter Circuits

#### Catalog Numbers (Amps)

|                     |                       |        |        |
|---------------------|-----------------------|--------|--------|
| BBS- $\frac{1}{10}$ | BBS- $\frac{1}{10}$   | BBS-4  | BBS-15 |
| BBS- $\frac{1}{10}$ | BBS-1                 | BBS-5  | BBS-20 |
| BBS- $\frac{1}{4}$  | BBS-1- $\frac{1}{2}$  | BBS-6  | BBS-25 |
| BBS- $\frac{1}{10}$ | BBS-1- $\frac{1}{10}$ | BBS-7  | BBS-30 |
| BBS- $\frac{1}{2}$  | BBS-1- $\frac{1}{10}$ | BBS-8  |        |
| BBS- $\frac{1}{10}$ | BBS-2                 | BBS-10 |        |
| BBS- $\frac{1}{4}$  | BBS-3                 | BBS-12 |        |



### KTQ

#### Specifications

**Class:** Supplemental

**Description:** Fast-acting supplementary fuse.

**Dimensions:**  $1\frac{3}{32}$ " x  $1\frac{3}{8}$ "  
(10.3 x 34.9mm).

**Construction:** Fiber cartridge.

#### Ratings:

Volts — 600Vac

Amps — 1-6A

IR — 10kA RMS Sym.

**Agency Information:** CE, Std. 248-14, UL Recognized, 4-6A, Guide JDYX2, File E19180.

#### Features and Benefits

- Low cost supplemental protection of non-inductive circuits
- Rated for application in circuits at 600V or less.
- Reduced interchangeability with other supplemental fuses minimizes misapplication

#### Typical Applications

- Control Circuits
- Lighting Ballasts
- Meter Circuits

#### Catalog Numbers (Amps) (600Vac)

|                       |       |       |
|-----------------------|-------|-------|
| KTQ-1                 | KTQ-3 | KTQ-6 |
| KTQ-1- $\frac{1}{10}$ | KTQ-4 |       |
| KTQ-2                 | KTQ-5 |       |





## Pin Indication Fuses

### GBA

#### GLD

##### Specifications

**Class:** Supplemental

**Description:** Fast-acting, pin indication fuse.

**Dimensions:**  $\frac{3}{4}$ " x  $1\frac{1}{4}$ "  
(6.6 x 31.7mm) 3AG.

##### Ratings:

Volts — See Agency Info below

Amps —  $\frac{1}{2}$ -15A

IR — See Agency Info below

**Agency Information:** CE, Std. 248-14, UL Listed, 0-5A/125Vac, 10,000 AIC, Guide JDYX, File E19180, UL Recognized, 6A/125Vac, 1000AIC 8-15A/50Vac/dc, 300 AIC Guide JDYX2, File E19180, CSA Certified: 0-5A/125Vac, 10,000 AIC Class 1422-01, File 53787.

##### Features and Benefits

- Type GBA has a "red" pin indicator providing visual identification of failed circuits, resulting in faster troubleshooting (reduced circuit downtime).
- Type GLD has a plated pin to activate transmitting a electrical signal to indicate the location of opened circuits, resulting in reduced downtime.

##### Typical Applications

- Control Circuits
- Electronic Circuits

##### GLD Catalog Numbers (Amps)

|                      |       |        |
|----------------------|-------|--------|
| GLD- $\frac{1}{2}$   | GLD-2 | GLD-6  |
| GLD- $\frac{3}{4}$   | GLD-3 | GLD-10 |
| GLD-1                | GLD-4 | GLD-12 |
| GLD-1- $\frac{1}{2}$ | GLD-5 | GLD-15 |

##### GBA Catalog Numbers (Amps)

|                      |       |        |
|----------------------|-------|--------|
| GBA- $\frac{1}{2}$   | GBA-2 | GBA-8  |
| GBA- $\frac{3}{4}$   | GBA-3 | GBA-10 |
| GBA-1                | GBA-4 | GBA-15 |
| GBA-1- $\frac{1}{2}$ | GBA-5 |        |

**Recommended fuse blocks/fuse holders for  $\frac{3}{4}$ " x  $1\frac{1}{4}$ " indicating fuses**

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**Data Sheet: 2012**

### MIC & MIN

##### Specifications

**Class:** Supplemental

**Description:** Fast-acting, pin indication fuse.

**Dimensions:**  
 $1\frac{3}{32}$ " x  $1\frac{1}{2}$ " (10.3 x 38.1mm) 5AG.

##### Ratings:

Volts — 250Vac  
(1-15A)  
— 32V (20-30A)

Amps — 1-30A

IR — 35A (1A @250Vac)  
— 100A (2-3A @250Vac)  
— 200A (5-10A @250Vac)  
— 750A (15A @250Vac)  
— 10kA (20-30A @32V)  
— 35A (1A @250Vac)

**Agency Information:** CE, Std. 248-14, MIC—0-15A UL Listed, 125Vac/10kA IR Guide JDYX, File E19180, MIN—1-5A CSA Certified, Class 1422-01, File 53787.

##### Features and Benefits

- Type MIN has a "red" pin indicator providing visual identification of failed circuits, resulting in faster trouble shooting (reduced circuit downtime).
- Type MIC has silver-plated pin transmitting an electrical signal indicating location of a failed circuit, resulting in faster troubleshooting (reduced circuit downtime).

##### Typical Applications

- Control Circuits
- PLC Circuits
- Electronic Circuits

##### MIC Catalog Numbers (Amps)

|       |        |        |
|-------|--------|--------|
| MIC-1 | MIC-5  | MIC-20 |
| MIC-2 | MIC-10 | MIC-25 |
| MIC-3 | MIC-15 | MIC-30 |

##### MIN Catalog Numbers (Amps)

|       |        |        |
|-------|--------|--------|
| MIN-1 | MIN-5  | MIN-20 |
| MIN-2 | MIN-10 | MIN-25 |
| MIN-3 | MIN-15 | MIN-30 |

**Recommended signal block for  $1\frac{3}{32}$ " x  $1\frac{1}{2}$ " indicating fuses**

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**Data Sheet: 2047**

### FNA

##### Specifications

**Class:** Supplemental

**Description:** Time-delay, pin indication fuse.

**Dimensions:**  $1\frac{3}{32}$ " x  $1\frac{1}{2}$ "  
(10.3 x 38.1mm).

##### Ratings:

Volts — 250Vac ( $\frac{1}{10}$ - $\frac{3}{10}$ A)  
— 125Vac (1-15A)  
— 32V (20-30A)

Amps —  $\frac{1}{10}$ -30A

IR — 35A ( $\frac{1}{10}$ - $\frac{3}{10}$ A @ 250Vac)  
— 10kA ( $\frac{1}{10}$ -15A @ 125Vac)  
— 1kA (20-30A @ 32V)

**Agency Information:** CE, Std. 248-14, UL Listed  $\frac{1}{10}$ - $\frac{3}{10}$ A, IR 35A@ 250V, IR 10kA@ 125V, Guide JDYX, File 19180, CSA Certified, 0- $\frac{3}{10}$ A/250V, 1-10A/125V, Class 1422-01, File 53787.

##### Features and Benefits

- FNA has a pin indicator providing visual identification of failed circuits, resulting in reduced circuit downtime.
- Time-delay response allows close sizing on control transformers and relays

##### Typical Applications

- Control Circuits
- Electronic Circuits

##### Catalog Numbers (Amps)

|                        |                       |                       |                      |
|------------------------|-----------------------|-----------------------|----------------------|
| FNA- $\frac{1}{10}$    | FNA- $\frac{1}{10}$   | FNA-2- $\frac{1}{2}$  | FNA-6- $\frac{3}{4}$ |
| FNA- $\frac{1}{8}$     | FNA-1                 | FNA-2- $\frac{3}{10}$ | FNA-7                |
| FNA-1- $\frac{1}{100}$ | FNA-1- $\frac{1}{8}$  | FNA-3                 | FNA-8                |
| FNA- $\frac{1}{10}$    | FNA-1- $\frac{1}{4}$  | FNA-3- $\frac{2}{10}$ | FNA-9                |
| FNA- $\frac{1}{4}$     | FNA-1- $\frac{1}{10}$ | FNA-3- $\frac{1}{2}$  | FNA-10               |
| FNA- $\frac{3}{10}$    | FNA-1- $\frac{1}{2}$  | FNA-4                 | FNA-12*              |
| FNA- $\frac{1}{2}$     | FNA-1- $\frac{3}{10}$ | FNA-4- $\frac{1}{2}$  | FNA-15*              |
| FNA- $\frac{3}{2}$     | FNA-1- $\frac{9}{10}$ | FNA-5                 | FNA-20*              |
| FNA- $\frac{9}{10}$    | FNA-2                 | FNA-5- $\frac{1}{10}$ | FNA-25*              |
| FNA- $\frac{3}{4}$     | FNA-2- $\frac{1}{4}$  | FNA-6                 | FNA-30               |

\*12-30A versions are dual-tube construction

**Recommended signal block for**

**$1\frac{3}{32}$ " x  $1\frac{1}{2}$ " indicating fuses**

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**Data Sheet: 2029**

## Pin Indication Fuse and Actuator, and Limiters

### ANN & ANL Limiters

#### Specifications

**Description:** Circuit limiters.

**ANN:** Very fast-acting limiter.

**ANL:** Time-delay limiter.

**Dimensions:**  $\frac{7}{8}$ " x 3  $\frac{3}{16}$ "  
(22.2 x 81.0mm).

#### Ratings:

##### ANN:

Volts — 125Vac  
— 80Vdc  
Amps — 10-800A  
IR — 2500A @ 125Vac  
— 2700A @ 80Vdc

##### ANL:

Volts — 80Vdc  
Amps — 35-750A  
IR — 2700A @ 80Vdc  
— 6000A @ 32Vdc

#### Agency Information:

**ANN:** 35-400A @ 125Vac, IR=2500A and 500A @ 80Vdc, IR=2700A: UL Recognized Guide JFHR2, File E56412; CSA Certified Class 1422-30, File 53787, CE for 35-400A.

**ANL:** UL Recognized, CSA Certified, 35-750A @ 80Vdc, IR = 2700A, Guide JFHR2, File E56412, Class 1422-30, File 53787, SAE J1171.

#### Features and Benefits

- Fast-acting circuit protection (ANN).
- Time-delay sizing for inductive circuits (ANL).
- Small footprint saves space.
- Window shows limiter status.

#### Typical Applications

- Fork lifts, Marine, Aviation

#### ANN Catalog Numbers (Amps)

|        |         |         |         |
|--------|---------|---------|---------|
| ANN-10 | ANN-90  | ANN-225 | ANN-400 |
| ANN-35 | ANN-100 | ANN-250 | ANN-500 |
| ANN-40 | ANN-125 | ANN-275 | ANN-600 |
| ANN-50 | ANN-150 | ANN-300 | ANN-700 |
| ANN-60 | ANN-175 | ANN-325 | ANN-800 |
| ANN-80 | ANN-200 | ANN-350 |         |

#### ANL Catalog Numbers (Amps)

|         |         |         |         |
|---------|---------|---------|---------|
| ANL-35  | ANL-125 | ANL-250 | ANL-500 |
| ANL-40  | ANL-130 | ANL-275 | ANL-600 |
| ANL-50  | ANL-150 | ANL-300 | ANL-675 |
| ANL-60  | ANL-175 | ANL-325 | ANL-750 |
| ANL-80  | ANL-200 | ANL-350 |         |
| ANL-100 | ANL-225 | ANL-400 |         |



### MIS

#### Specifications

**Class:** Supplemental

**Description:** Non time-delay pin indication fuse.

**Dimensions:**  $\frac{13}{32}$ " x 2"  
(10.3 x 50.8mm).

#### Ratings:

Volts — 600Vac  
Amps — 1-12A  
IR — 200kA

#### Features and Benefits

- Type MIS has a pin indicator providing visual identification of failed circuits, resulting in faster troubleshooting (reduced circuit downtime).
- Type MIS can be used in circuits rated 600V or less.
- Type MIS has an interrupting rating of 200kA.

#### Typical Applications

- 480V Control Circuits
- PLC Circuits

#### Catalog Numbers (Amps)

|       |       |        |
|-------|-------|--------|
| MIS-1 | MIS-4 | MIS-10 |
| MIS-2 | MIS-5 | MIS-12 |
| MIS-3 | MIS-8 |        |

#### Test Specifications

| Fuse  | Load | Opening Time    |
|-------|------|-----------------|
| All   | 110% | 0 4 hrs. (min.) |
| 1-5A  | 150% | 0 6 min. (max.) |
| 6-12A | 150% | 12 min. (max.)  |

#### Recommended signal block for

$\frac{13}{32}$ " x 2" indicating fuses

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### KAZ

#### Specifications

**Description:** Non-Fuse actuator.

**Dimensions:**  $\frac{13}{32}$ " x 2"  
(10.3 x 50.8mm).

#### Ratings:

Volts — 600Vac  
Amps — N/A  
IR — 200kA

**Agency Information:** CE, UL Listed, Guide JDVS, File E58836.

#### Features and Benefits

- Bussmann signal blocks 2778, 2837 or 2838 with KAZ actuators mounted in parallel with fuses having a rating of 50A or larger to provide blown fuse dropout of shunt-trip fused switches.
- Type KAZ can be used in circuits rated 600V or less.
- Type KAZ has an interrupting rating of 200kA.

#### Typical Applications

- Large, Shunt-Trip Fused Switches
- Fuse Protected Circuits Rated 50A or Larger With Shunt-Trip Devices.



#### Catalog Number: KAZ

#### Recommended signal block for

$\frac{13}{32}$ " x 2" indicating fuses

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Data Sheet: 2021

### 4164 & 4164-FR Limiter Blocks

#### Specifications

**Description:** Limiter fuse blocks for ANL & ANN.

- 4164 furnished with nylon inserted locknuts
- 4164-FR furnished with standard hex nuts

**Dimensions:** Length: 3.38"  
Width: 0.95"  
Height: 1.62"  
Studs center to center: 2.43"



#### Ratings:

Volts — 125Vac  
— 80Vdc  
Amps — 10-800A

**Poles:** 1 - stud terminal

## In-line Size Rejecting Fuses and Fuse Holders

### GLQ

#### Specifications

**Class:** Supplemental

**Description:** Fast-acting, size-rejecting in-line fuse.

**Construction:** Glass tube.

#### Ratings:

Volts — 300Vac (or less)

Amps — 1-10A

IR — 10kA

**Agency Information:** CE, Std. 248-14, UL Listed (Guide JDYX, File E19180), CSA Certified, (Class 1422-01, File 53787).

#### Features and Benefits

- In-Line, fast-acting circuit protection.
- Rejection feature prevents overfusing.

#### Typical Applications

- In-line Lighting Ballast Protection

#### Catalog Numbers (Amps) and Rejection Holders

| Fuse                  | Holder <sup>1, 2</sup> | Fuse   | Holder <sup>1, 2</sup> |
|-----------------------|------------------------|--------|------------------------|
| GLQ-1                 | HLQ-1- $\frac{1}{10}$  | GLQ-3  | HLQ-3- $\frac{3}{10}$  |
| GLQ-1- $\frac{1}{2}$  | HLQ-1- $\frac{1}{10}$  | GLQ-4  | HLQ-5                  |
| GLQ-1- $\frac{9}{10}$ | HLQ-1- $\frac{9}{10}$  | GLQ-5  | HLQ-5                  |
| GLQ-2                 | HLQ-3- $\frac{3}{10}$  | GLQ-9  | HLQ-10                 |
| GLQ-2- $\frac{1}{2}$  | HLQ-3- $\frac{3}{10}$  | GLQ-10 | HLQ-10                 |

- 1) Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 10A, 300Vac.
  - 2) Units can be panel-mounted either in a knockout hole with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042".
- Do not put tension on line (rear) terminal of fuse holder.

Data Sheet: 2033



### GMQ

#### Specifications

**Class:** Supplemental

**Description:** Time-delay, size-rejecting in-line fuse.

**Construction:** Ceramic tube.

#### Ratings:

Volts — 300Vac (or less)

Amps —  $\frac{1}{2}$ -6 $\frac{3}{4}$ A

IR — 10kA

**Agency Information:** CE, Std. 248-14, UL Listed (Guide JDYX, File E19180), CSA Certified, (Class 1422-01, File 53787)

#### Features and Benefits

- In-line, fast-acting circuit protection.
- Rejection feature prevents overfusing.

#### Typical Applications

- In-Line Lighting Ballast Protection

#### Catalog Numbers (Amps) and Rejection Holders

| Fuse                  | Holders <sup>3, 4</sup> | Fuse                  | Holders <sup>3, 4</sup> |
|-----------------------|-------------------------|-----------------------|-------------------------|
| GMQ- $\frac{1}{2}$    | HLQ- $\frac{1}{2}$      | GMQ-2- $\frac{1}{2}$  | HLQ-3- $\frac{3}{10}$   |
| GMQ- $\frac{9}{10}$   | HLQ-1- $\frac{1}{10}$   | GMQ-3                 | HLQ-3- $\frac{3}{10}$   |
| GMQ- $\frac{9}{10}$   | HLQ-1- $\frac{1}{10}$   | GMQ-3- $\frac{3}{10}$ | HLQ-3- $\frac{3}{10}$   |
| GMQ-1                 | HLQ-1- $\frac{1}{10}$   | GMQ-4                 | HLQ-5                   |
| GMQ-1- $\frac{1}{4}$  | HLQ-1- $\frac{1}{10}$   | GMQ-6                 | HLQ-8                   |
| GMQ-1- $\frac{9}{10}$ | HLQ-1- $\frac{1}{10}$   | GMQ-6- $\frac{1}{4}$  |                         |
| GMQ-2                 | HLQ-3- $\frac{3}{10}$   |                       |                         |

- 3) Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 10A, 300Vac.
  - 4) Units can be panel-mounted either in a knockout hole with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042".
- Do not put tension on line (rear) terminal of fuse holder.

Data Sheet: 2030



**HLQ<sup>3</sup> Fuse Holders**  
for both GLQ & GMQ fuses.

## In-line Non-rejecting Fuses and Fuse Holders

### GLR

#### Specifications

**Class:** Supplemental

**Description:** Fast-acting, non-rejection, in-line fuse.

**Construction:** Glass tube.

#### Ratings:

Volts — 300Vac (or less)

Amps —  $\frac{1}{16}$ -15A

IR — 10kA

**Agency Information:** CE, Std. 248-14, UL Listed, 0-15A/300Vac (Guide JDYX, File E19180), CSA Certified, 0-10A/300V (Class 1422-01, File 53787).

#### Features and Benefits

- In-line, fast-acting circuit protection.

#### Typical Applications

- In-Line Lighting Ballast Protection

#### Catalog Numbers (Amps) and Non-Rejection Holders

| Fuse                 | Holder <sup>1, 2*</sup> | Fuse   | Holder <sup>1, 2*</sup> |
|----------------------|-------------------------|--------|-------------------------|
| GLR- $\frac{1}{16}$  | HLR                     | GLR-5  | HLR                     |
| GLR- $\frac{1}{8}$   | HLR                     | GLR-6  | HLR                     |
| GLR-1                | HLR                     | GLR-7  | HLR                     |
| GLR-1- $\frac{1}{2}$ | HLR                     | GLR-8  | HLR                     |
| GLR-1- $\frac{3}{4}$ | HLR                     | GLR-9  | HLR                     |
| GLR-2                | HLR                     | GLR-10 | HLR                     |
| GLR-3                | HLR                     | GLR-12 | HLR                     |
| GLR-4                | HLR                     | GLR-15 | HLR-2A                  |

1) Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 12A, 300Vac.

2) Units can be panel-mounted either in a knockout hole with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042".

**\* For two leads (one each for line and loadside) order HLR-2A, 15A, 300V**

- An alternative to the HLR fuse holder is the A fuse holder. The A fuse holder comes *WITHOUT* leads. The customer inserts #18 insulated solid copper wire into the line side receptacle as well as into the load side receptacle. It has the same body dimensions, utilizes the same mounting hole, and takes the same mounting clips as the HLR. The A fuse holder is UL Recognized, 10A, 300Vac, Guide IZLT2, File E14853 and CSA Certified, 10A, 300Vac, Class 6225-01, File 47235.
- Do not put tension on line (rear) terminal of fuse holder.

Data Sheet: 2032



HLR-2A Fuse Holder

### GMF

### GRF

#### Specifications

**Class:** Supplemental

**Description:** Time-delay, non-rejection, in-line fuse.

**Construction:** Glass tube.

#### Ratings:

Volts — 300Vac (or less)

Amps —  $\frac{1}{10}$ -10A

IR — 10kA

**Agency Information:** CE, Std. 248-14 0-10A, UL Listed (Guide JDYX, File E19180), CSA Certified, (Class 1422-01, File 53787).

#### Features and Benefits

- In-line, time-delay circuits protection.

#### Typical Applications

- In-Line Lighting Ballast Protection

#### Catalog Numbers (-Amps) and Non-Rejection Holders

| Fuse                 | Holder <sup>3, 4*</sup> | Fuse                  | Holder <sup>3, 4*</sup> |
|----------------------|-------------------------|-----------------------|-------------------------|
| GMF- $\frac{1}{10}$  | HLR                     | GMF-3                 | HLR                     |
| GMF- $\frac{1}{8}$   | HLR                     | GMF-3- $\frac{1}{10}$ | HLR                     |
| GMF- $\frac{1}{4}$   | HLR                     | GMF-4                 | HLR                     |
| GMF- $\frac{3}{8}$   | HLR                     | GMF-5                 | HLR                     |
| GMF-1                | HLR                     | GMF-6- $\frac{1}{4}$  | HLR                     |
| GMF-1- $\frac{1}{4}$ | HLR                     | GMF-10                | HLR                     |
| GMF-1- $\frac{3}{8}$ | HLR                     | GRF-7                 | HLR                     |
| GMF-2                | HLR                     | GRF-8                 | HLR                     |
| GMF-2- $\frac{1}{2}$ | HLR                     | GRF-10                | HLR                     |
| GMF-2- $\frac{3}{4}$ | HLR                     |                       |                         |

3) Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 12A, 300Vac.

4) Units can be panel-mounted either in a knockout hole with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042".

**\*For two leads order HLR-2A, 15A, 300V**

- An alternative to the HLR fuse holder is the A fuse holder. The A fuse holder comes *WITHOUT* leads. The customer inserts #18 insulated solid copper wire into the line side receptacle as well as into the load side receptacle. It has the same body dimensions, utilizes the same mounting hole, and takes the same mounting clips as the HLR. The A fuse holder is UL Recognized, 10A, 300Vac, Guide IZLT2, File E14853 and CSA Certified, 10A, 300Vac, Class 6225-01, File 47235.
- Do not put tension on line (rear) terminal of fuse holder.

Data Sheet: 2031



HLR Fuse Holder

## Automotive Blade-type Fuses

### ATC® fuse



(Actual Size)

#### Specifications

**Description:** Fast-acting blade fuse.

**Construction:** Colored plastic housing with zinc fuse element.

#### Ratings:

Volts — 32Vdc  
Amps — 1-40A  
IR — 1000A

**Agency Information:** UL Recognized, (3-40A) (Guide JFHR2, File E56412), SAE Standard J1284.

#### Features and Benefits

- Color coded plastic housing for easy identification of fuse ratings

#### Typical Applications

- Automotive

#### Catalog Numbers (Amps)

| Catalog No.<br>Non-Indicating | Indicating  | Color      |
|-------------------------------|-------------|------------|
| ATC-1                         |             | Black      |
| ATC-2                         |             | Gray       |
| ATC-3                         | ATC-3ID     | Violet     |
| ATC-4                         |             | Pink       |
| ATC-5                         | ATC-5ID     | Tan        |
| ATC-7-1/2                     | ATC-7-1/2ID | Brown      |
| ATC-10                        | ATC-10ID    | Red        |
| ATC-15                        | ATC-15ID    | Blue       |
| ATC-20                        | ATC-20ID    | Yellow     |
| ATC-25                        | ATC-25ID    | Clear      |
| ATC-30                        | ATC-30ID    | Green      |
| ATC-35                        | ATC-35ID    | Blue-Green |
| ATC-40                        | ATC-40ID    | Orange     |

**Recommended in-line fuse holder for blade type fuses**

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Data Sheet: 2009

### ATM Fuse



(Actual Size)

#### Specifications

**Description:** Fast-acting blade fuse.

**Construction:** Colored plastic housing with zinc fuse element.

#### Ratings:

Volts — 32Vdc  
Amps — 2-30A  
IR — 1000A

#### Features and Benefits

- Color coded plastic housing for easy identification of fuse ratings

#### Typical Applications

- Automotive

#### Catalog Numbers (Amps)

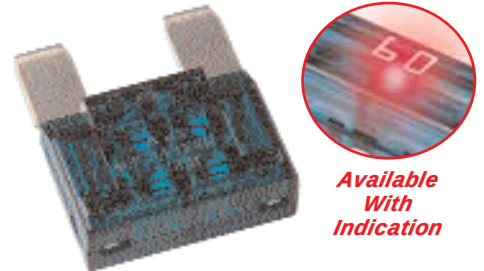
| Part No.<br>Non-Indicating | Indicating  | Low-Profile | Color  |
|----------------------------|-------------|-------------|--------|
| ATM-2                      |             |             | Gray   |
| ATM-3                      | ATM-3ID     |             | Violet |
| ATM-4                      |             |             | Pink   |
| ATM-5                      | ATM-5ID     | ATM-5LP     | Tan    |
| ATM-7-1/2                  | ATM-7-1/2ID | ATM-7-1/2LP | Brown  |
| ATM-10                     | ATM-10ID    | ATM-10LP    | Red    |
| ATM-15                     | ATM-15ID    | ATM-15LP    | Blue   |
| ATM-20                     | ATM-20ID    | ATM-20LP    | Yellow |
| ATM-25                     | ATM-25ID    | ATM-25LP    | Clear  |
| ATM-30                     | ATM-30ID    | ATM-30LP    | Green  |

**Recommended in-line fuse holder for blade type fuses**

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Data Sheet: 2048

### MAX Maxi-Fuse®



(Actual Size)

#### Specifications

**Description:** Fast-acting blade fuse.

**Construction:** Colored plastic housing with zinc fuse element.

#### Ratings:

Volts — 32Vdc  
Amps — 20-80A  
IR — 1000A

#### Features and Benefits

- Color coded plastic housing for easy identification of fuse ratings

#### Typical Applications

- Automotive

#### Catalog Numbers (Amps)

| Catalog No.<br>Non-Indicating | Indicating | Color  |
|-------------------------------|------------|--------|
| MAX-20                        | MAX-20ID   | Yellow |
| MAX-25                        |            | Gray   |
| MAX-30                        | MAX-30ID   | Green  |
| MAX-35                        |            | Brown  |
| MAX-40                        | MAX-40ID   | Orange |
| MAX-50                        | MAX-50ID   | Red    |
| MAX-60                        | MAX-60ID   | Blue   |
| MAX-70                        | MAX-70ID   | Tan    |
| MAX-80                        | MAX-80ID   | Clear  |
|                               | MAX-100ID  | Purple |

**Recommended in-line fuse holder for blade type fuses**

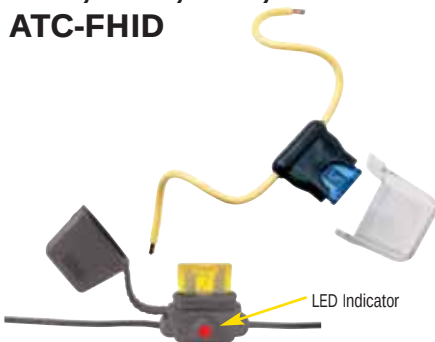
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Data Sheet: 2049



## Automotive Blade-type Fuse Holders

### HHC, HHD, HHF, HHG & ATC-FHID



**easyID™ LED Indicating Holder**

#### Specifications

**Description:** In-line fuse holders for ATC® Blade-Type fuses.

**Dimensions:** See Dimensions illustration.

#### Ratings:

Volts: — 32Vdc

Amps: — 80% continuous of fuse rating. See Catalog Numbers table for individual fuses sizes.

#### Catalog Numbers

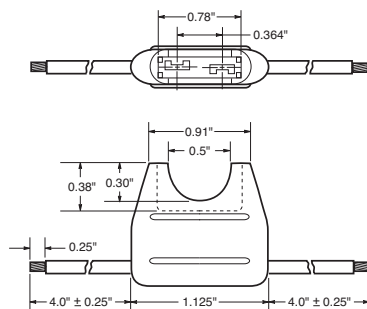
| Catalog Numbers | Fuse Holder Description          | Fuse Amps | Electrical Connection |
|-----------------|----------------------------------|-----------|-----------------------|
| HHC             | Yellow                           | 1-20      | #16 black leadwire    |
| HHD             | Black                            | 1-30      | #12 yellow leadwire   |
| HHD-C           | HHD Cover only                   | —         | Clear polycarbonate   |
| HHF             | Black w/ cover                   | 1-20      | #16 yellow leadwire   |
| HHG             | Black w/ cover                   | 1-30      | #12 yellow leadwire   |
| ATC-FHID        | Indicating Holder Black w/ cover | 1-20      | #16 black leadwire    |

#### Bulk Products (Quantity - 1000 Pieces)

| Catalog Numbers | Fuse Holder Description | Fuse Amps | Electrical Connection |
|-----------------|-------------------------|-----------|-----------------------|
| BK/HHC-R        | Yellow                  | 1-20      | #16 red leadwire      |
| BK/HHF-B        | Black w/ cover          | 1-20      | #16 black leadwire    |

A fuse must be properly and fully inserted into the holder to provide a solid connection. Poor or improper insertion of the fuse can result in failure of the fuse and holder, thus not protecting the device for which it was intended.

#### HHC & HHD Dimensions - in



### HHL, HHM & ATM-FHID



**easyID™ LED Indicating Holder**

#### Specifications

**Description:** In-line fuse holders for ATM Fuses.

#### Ratings:

Volts: — 32Vdc

Amps: — 80% continuous of fuse rating. See Catalog Numbers table for individual fuses sizes.

#### Catalog Numbers

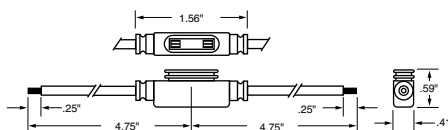
| Catalog Numbers | Fuse Holder Description          | Fuse Amps | Electrical Connection                          |
|-----------------|----------------------------------|-----------|------------------------------------------------|
| HHL             | Black w/ cover                   | 2-20      | #16 black leadwire, 4" length stripped to 1/4" |
| HHL-B           | Black - body only                | 2-20      | #16 black leadwire, 4" length stripped to 1/4" |
| HHM             | Black w/ cover                   | 2-30      | #12 red leadwire, 4" length stripped to 1/4"   |
| HHM-B           | Black - body only                | 2-30      | #12 red leadwire, 4" length stripped to 1/4"   |
| HHM-C           | Black - cover only               | —         | —                                              |
| ATM-FHID        | Indicating Holder Black w/ cover | 1-20      | #16 black leadwire                             |

#### Bulk Products (Quantity - 1000 Pieces)

| Catalog Numbers | Fuse Holder Description | Fuse Amps | Electrical Connection                          |
|-----------------|-------------------------|-----------|------------------------------------------------|
| BK/HHL-R        | Black - w/cover         | 2-20      | #16 red leadwire, 4" length stripped to 1/4"   |
| BK/HHL-B        | Black - body only       | 2-20      | #16 black leadwire, 4" length stripped to 1/4" |

A fuse must be properly and fully inserted into the holder to provide a solid connection. Poor or improper insertion of the fuse can result in failure of the fuse and holder, thus not protecting the device for which it was intended.

#### HHL & HHM Dimensions - in



### HHX



#### Specifications

**Description:** In-line fuse holders for MAXI® Fuses.

#### Ratings:

Volts: — 32Vdc

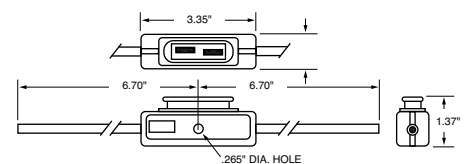
Amps: — 80% continuous of fuse rating. See Catalog Numbers table for individual fuses sizes.

#### Catalog Numbers

| Catalog Numbers | Fuse Holder Description | Fuse Amps | Electrical Connection               |
|-----------------|-------------------------|-----------|-------------------------------------|
| HHX             | Black w/ cover          | 20-60     | #6 red leadwire, 5" with blunt ends |
| HHX-B           | Black - body only       | 20-60     | #6 red leadwire, 5" with blunt ends |
| HHX-C           | Black cover only        | —         | —                                   |

A fuse must be properly and fully inserted into the holder to provide a solid connection. Poor or improper insertion of the fuse can result in failure of the fuse and holder, thus not protecting the device for which it was intended.

#### Dimensions - in



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