مؤسسة الخطوط الكهربائية للتجارة
ELECTROLINES

# Fuses

**Power Fuses**

**Midget, Miniature & PC Mount Fuses**

**Medium Voltage Fuses**

**Special Purpose Fuses**

**Gould Shawmut**
**Bussmann**
**General Electric**
**Elsa Electroline Manufacturing**

**Electrolines Est.**
P. O. Box. 942 Yanbu Saudi Arabia Tel: +966 4 3225418 Fax: +966 4 3222213 Al-Jubail: Tel: +966 3 3632967 Fax: +966 3 3612967

# Fuses

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ELECTROLINES

**GOULD SHAWMUT**

## Fuse Quick Selector

| APPLICATION | RECOMMENDED FUSE |
|---|---|
| **Loads Requiring "No-Damage" Protection** | Amp-trap 2000® fuses sized for IEC Type 2 protection: Class J – AJT, Class L – A4BQ, Class RK1 – A2D (250V), A6D (600V), Class CC – ATDR, ATQR |
| **Mains, Feeders, Branch Circuits**<br>Low Voltage - Above 600A<br>600A and less<br>Medium Voltage | Class L – A4BQ, A4BY, A4BT<br>Class J or Class RK1 – AJT, A4J, A2D/A6D, A2K/A6K<br>"E" Rated – A055 (5kV), A155 (15kV) |
| **Motors**<br>Low Voltage - Above 600A<br>600A and less<br>Medium Voltage<br>Small Motors | Class L – A4BQ, A4BY, A4BT<br>Class J – AJT, Class RK1– A2D (250V), A6D (600V) or<br>Class RK5 – TR (250V), TRS (600V)<br>"R" Rated – A240R (2.4kV), A480R (4.8kV), A072 (7.2kV)<br>Class CC – ATDR |
| **Transformers**<br>Low Voltage - Above 600A<br>600A and less<br>Medium Voltage<br>Control Transformers | Class L - A4BY, A4BT<br>Class J - AJT or Class RK5 – TR 250V), TRS (600V)<br>"E" Rated – A055 (5kV), A155 (15kV)<br>Class CC – ATQR |
| **Semiconductor Protection** | Amp-trap® Form 101 Fuses, 130 to 1200V, 1 to 6000A |
| **Electronic Circuit Protection** | Midget Miniature, Micro and PC Mount Fuses |
| **Control Circuits** | Class CC and Midget Fuses |
| **Welders** | Welder Protectors – A4BX (Type 150) – Class K Dims.<br>A4BX (Type 150J) – Class J Dims. |
| **Service Cable** | Cable Protectors – CP–C- (For Copper Cable)<br>CP–A- (For Aluminum Cable) |
| **General Circuits**<br>(Lighting, Resistance Heating, etc.) | Class J – AJT, A4J<br>Class RK1 – A2D, A2K (250V) : A6D, A6K (600V)<br>Class RK5 – TR (250V); TRS (600V)<br>Class K [50,000A I.R.] – OT (250V), OTS (600V)<br>Class H [10,000A I.R.] – NRN, CRN (250V)<br>Canadian, RF (Renewable)<br>NRS, CRS (600V) Canadian,<br>RFS (Renewable) |

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# Product Guide

## Amp-trap 2000® Fuses

***AMP-TRAP ® 2000***

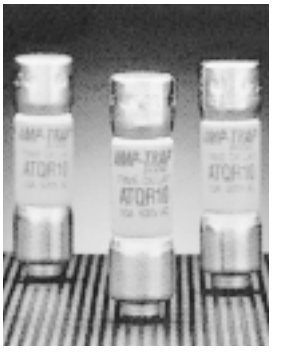
**Class J Time Delay**
**1 to 600A**
**600V AC**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**
Motor, motor controller, control transformer, and circuit breaker back-up protection. Space saving dimensions. Very current limiting.

***AMP-TRAP ® 2000***

**Class L Time Delay**
**601 to 6000A**
**600V AC, 500V DC**
**4 Second Delay**
**UL Listed**
**200kA I.R., 600V AC**
**100kA I.R., 500V DC**
**Current Limiting**
The most current-limiting Class L fuse available today. For increased protection of AC and DC equipment.

***AMP-TRAP ® 2000***

**Class RK1 Time Delay**
**1/10 to 600A**
**250V AC or 600V AC**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**
Motor controller and motor overcurrent protection. Very current limiting.



***AMP-TRAP ® 2000***

**Class CC Time Delay**
**1-1/2" x 13/32"**
**UL Listed**
**CSA Certified**
**200kA I.R.**

**ATDR**
1/4 to 30A
For motor protection

**ATQR**
1/8 to 10A
For transformer protection

## Power Fuses

**TRI-ONIC**

**Class RK5 Time Delay**
**1/10 to 600A**
**250V AC or 600V AC**
**UL Listed**
**CSA Certified**
**DC Rated**
**200kA I.R.**
Motor overcurrent, motor controller and transformer protection.

**AMP-TRAP®**

**Class J Fast Acting**
**1 to 600A**
**600V AC**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**
Feeder circuit, panelboard, and circuit breaker back-up protection. Space saving dimensions. Very current limiting.

**AMP-TRAP®**

**Class L**
**601 to 6000A**
**600V AC**
**4 Second Delay**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**
Service entrance, feeder circuit, transformer, and circuit breaker back-up protection.

**AMP-TRAP®**

**Class L**
**601 to 2000A**
**600V AC, 200kA I.R.**
**10 Second Delay**
**UL Listed**
**CSA Certified**
**500V DC, 100kA I.R.**
Motor, motor controller, and transformer protection. Also suitable for DC application.

# Fuses

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## Power Fuses

### AMP-TRAP®

**Class T Fast Acting**
**1 to 1200A,**
**300V - A3T**
**1 to 800A,**
**600V - A6T**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**

Loadcenter, metering center, panel-board, and circuit breaker back-up protection. Very current limiting. Small physical size.

### AMP-TRAP®

**Class RK1 Fast Acting**
**1 to 600A**
**250V AC or**
**600V AC**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**

Feeder circuit, panelboard, and circuit breaker back-up protection. Very current limiting.

### AMP-TRAP®

**Class G**
**1/2 to 60A**
**480V AC**
**100kA I.R.**
**UL Listed**
**CSA Certified**
**Current Limiting**

With time delay (above 5A) and 480 volt rating, AG fits a wider variety of branch circuit protection to lighting, heating and appliances

### AMP-TRAP®

**Class CC**
**1-1/2" x 13/32"**
**1/10 to 30A**
**600V AC**
**UL Listed**
**CSA Certified**
**200kA I.R.**
**Current Limiting**

The smallest dimension fuse suitable for branch circuit protection.

## Power Fuses

### ONE-TIME

**Class K5 General Purpose**
**1 to 600A**
**250V AC or**
**600V AC**
**UL Listed**
**CSA Certified**
**50kA I.R.**
**Energy Limiting**

Lowest cost protection for circuits serving heating, lighting, and other non-motor loads

### RENEWABLE

**Class H General Purpose**
**1 to 600A**
**250V AC or 600V AC**
**UL Listed**
**CSA Certified**
**10kA I.R.**

Has renewable links. Provides general purpose protection. For non-motor loads.

## Midget, Miniature & PC Mount Fuses

### AMP-TRAP®

**Midget Dimensions**
**1-1/2" x 13/32"**

**ATQ Time Delay**
1/10 to 30A, 500V AC

**ATM Fast Acting**
1/10 to 50A, 600V AC, 500V DC

**A6Y-2B Fast Acting**
1/4 to 3 A, 600V AC
3-2/10 to 15A, 500V AC
Supplementary overcurrent protection.

### MIDGET FUSES

**Midget Dimensions**
**1-1/2" x 13/32"**

**TRM Time Delay**
1 to 30A, 250V AC

**OTM Fast Acting**
1 to 30A, 250V AC

**GGU Fast Acting (Glass/Ceramic body)**
3 to 30A, 125V AC

**GFN Time Delay, Pin Indicating**
1/10 to 30A
32 thru 250V AC

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# Fuses

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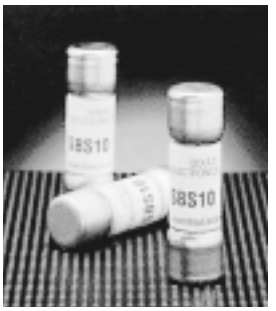
## Midget, Miniature & PC Mount Fuses



### SBS

**General Purpose**
**1-3/8" x 13/32"**
**2/10 to 30A**
**600V AC**
**100,000A I.R.**
**UL Listed**
**CSA Certified**
SBS is the only fuse in its size to have a full 600V AC rating.

### MINIATURE FUSES

**Dimensions:**
**5 x 20mm, 1" x 1/4"**
**and 1-1/4" x 1/4"**
**Glass Body**
**Ceramic Body**
**1/16 to 30A**
**32 thru 250V AC**
**Time delay or fast acting**
**Optional axial leads**
**Many are UL Listed or CSA Certified**
Supplementary protection in electrical and electronic circuits.

### PC MOUNT FUSES

**Direct Mount PC Board Fuses**

**PCF Fast Acting Fuses**
1 to 30A, 600V AC, 500V DC
**PCS Semiconductor Protection Fuses**
5 to 30A, 600V AC/DC
**PCT Time Delay Fuses**
1 to 30A, 500V AC
**UL Recognized Components**

## Semiconductor Fuses

### AMP-TRAP®

**Form 101**
**1/2 to 6000A**
**130V to 1200V**
**Many are UL Recognized Components**
**Current Limiting**
Extremely fast acting. Low $I^2t$ provides protection for semiconductors and electronic equipment.

## Semiconductor Fuses

### AMP-TRAP®

**Series Q**
**U.S. and European Dimension Fuse Links**
**Current Limiting**
**200kA Breaking Capacity**
**A-70C Series**
Sizes 1, 2, 3; 700V AC
**A-100C Series**
Sizes 1, 2, 3; 1000V AC
**A-66C Series**
Sizes 00, 1, 2, 3; 660V AC
For semiconductor protection. UL Component Recognized, DIN sizes.

## Medium Voltage Fuses

### AMP-TRAP®

**E Rated Current Limiting**
**5E to 900E**
**5.5kV and 15.5kV**
**UL Listed**
Protection for medium voltage transformers.

### AMP-TRAP®

**E Rated**
**For Potential Transformers**
**Current Limiting**
**1/2E to 5E**
**2.4, 4.8, 5.0 and 7.2kV**
**50kA I.R.**
Primary protection for potential transformers.

### AMP-TRAP®

**R Rated Current Limiting**
**2R to 36R**
**2.4, 4.8 and 7.2kV**
Short circuit protection for medium voltage motors and controllers.

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# Fuses

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## International Fuses

### EURO/IEC FUSES

**Cylindrical Fuses**
"gF", "gl-gG" & "aM" Types
250/380/400/500/690V AC
0.16 to 125A ratings

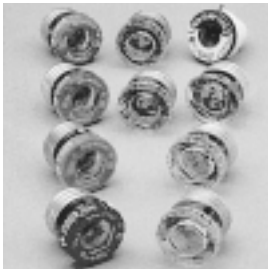
**Screw Cap Fuses**
DO Type - 380V AC
D Type - 500V AC
2 to 100A ratings

**NH Dimension Fuses**
"gl-gL-gG", and "aM" Types
500 and 690V AC
4 to 1250A ratings

### CANADIAN FUSES

Class C, CA, CB
HRCII-Misc.
NRN/NRS, CRN/CRS

## Special Purpose Fuses



### PLUG FUSES

**Edison Base and Type S**
**3 to 30A**
**125V AC to Ground**
**UL Listed**
**10kA I.R.**
Choice of types:
- Thermal time delay
- Standard time delay
- Non-time delay
- "P" type
- "D" type

## Special Purpose Fuses

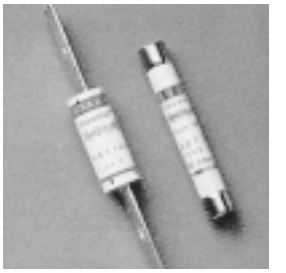
### AMP-TRAP®

**Cable protectors**
**600V AC**
**For Sizes**
**#2AWG to 750kcmil**
**200kA I.R.**
**Current Limiting**
Protect runs of multiple conductor cables by selectively isolating faulted cables. Available for copper and aluminum cable.

### AMP-TRAP®

**Welder Protectors**
**100 to 600A**
**600V AC**
**200kA I.R.**
**Current Limiting**

Short circuit protection for electric welders. Class K and Class J dimensions.



### AMP-TRAP®

**Form 600**

**1 to 600A**
**250V AC or DC**
**600V AC or 500V DC**

**650-1200A**
**600V AC**
**200kA I.R.**
**Energy Limiting**
Special purpose fuse for AC and DC applications.

## Circuit Protection Accessories

### BOX COVERS

For plug fuses. Fit standard boxes. Galvanized Steel. Rated 125V AC, UL Listed. Inexpensive protection for motor circuits. Popular types available for up to 3/4 HP motors.

### FUSE REDUCERS

Wide choice for 30A to 400A Class H, J, K & R fuses to fit 250 or 600V clips.

### FUSE PULLERS

Nylon or plastic for 30 to 600A fuses.

### FUSE CLIP CLAMPS

Steel jaws clamp fuses tightly in clips, with a turn of the cap.

### BLOWN FUSE INDICATORS

**Shawmut Trigger®**
**TI-130, TI-600, TI-1500**
Wired in parallel with fuse
**Trigger Actuator®**
Option on many fuses mounts
**AOS**-switches
**Indicators EI-700 and EI-1000**
Fit on square-body fuses brackets, for **AOS**-switches
**Add-On-Switch**
AOS-Q quick connectors
AOS-S screw terminals

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# Fuses

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**GOULD SHAWMUT**

## Fuse Blocks and Holders

### FUSE BLOCKS 250V AND 600V

**Single and Multi-Pole**

Available for class H, J, K, R, CC and Midget fuses. A variety of clips, pole configurations and termination provisions is available. Most are UL Listed, UL Recognized or CSA Certified.

### ULTRASAFE FUSE HOLDERS

**Finger Safe, Modular Fuse Holders**
**Optional Indicators**
**Single- or Multi-pole**

**USCC - For Class CC Fuses**
30A, 600V AC

**USM - For Midget Fuses**
30A, 600V AC

**US3J - For Class J Fuses**
30A, 600V AC

**US6J - For Class J Fuses**
60A, 600V AC

*Let*

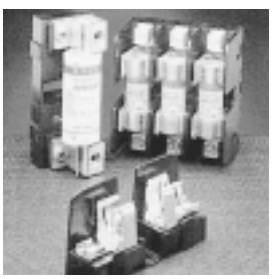
*ELECTROLINES*

*be your*

*Inventry*

*Center*

## Fuse Blocks and Holders



### IN-LINE FUSEHOLDERS

**For 1-1/2" x 13/32" fuses Rated 30A, 600V AC 200kA withstand rating**
**Breakaway feature - standard UL Recognized CSA Certified**

Choice of crimp or screw connectors for solid or stranded copper cable. Rubber boots available.

### GPM SERIES PANEL MOUNT FUSE HOLDERS

**Rated up to 30A, 600V AC**

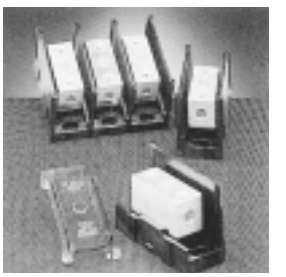
Various sizes accommodate 5mm x 20mm, 1/4" x 1-1/4" or 1-1/2" x 13/32" Midget and Class CC fuses. Front or rear mounting in panel. UL Recognized, CSA Certified.

### DFC DEAD-FRONT FUSE COVERS

**Snap on to Class G, H, J, K, R, CC or Midget Fuses in Fuse Holders Provide Dead-Front Electrical Safety**
**Reusable Optional Open-Fuse Indicator Light**

Ul Listed or Recognized, CSA Certified.

## Power Distribution Blocks



### 600V AC

**Single and Multi-Pole**

Provides convenient means of distributing power for copper and/or aluminum cable. A variety of pole configurations, termination provisions and gauge sizes is available.

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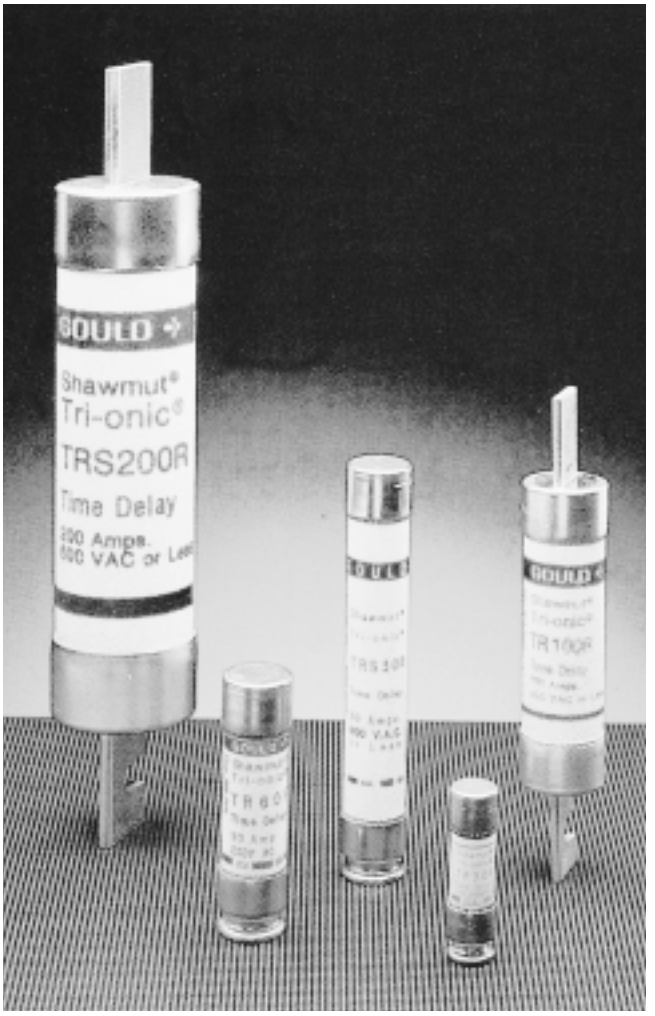
**GOULD SHAWMUT**

**TRI-ONIC®**

# TR & TRS

# TIME DELAY / CLASS RK5




## THE INDUSTRY'S MOST POPULAR FUSE FOR MOTOR CIRCUIT PROTECTION.

Tri-onic® TR and TRS current limiting time delay fuses are engineered for overcurrent protection of motors and transformers, service entrance equipment, feeder and branch circuits. Tri-onic's proven time delay characteristic safely handles harmless starting currents and inrush currents associated with today's motors and transformers.

**Features/Benefits**

- **Time delay** for motor start-ups and transformer inrush currents *without* nuisance opening
- **Current limiting** for low peak let-thru current
- **Rejection-style design** prevents replacement errors (when used with recommended fuse blocks)
- **Easy-to-read imprint label** for quick recognition and replacement
- **Metal-embossed date and catalog number** for traceability and lasting identification
- **Fiberglass body** provides dimensional stability in harsh industrial settings
- **Brass end-caps** (blade-style) for cooler operation and superior performance
- **High-grade** silica filler ensures fast arc quenching and high current limitation

## HIGHLIGHTS:

- Time Delay
- Current limiting
- AC & DC Rated

## APPLICATIONS:

- Motor Circuits
- Mains
- Feeders
- Branch Circuits
- Transformers
- Service Entrance Equipment
- General-purpose protection

**Ratings**

- **TR**
  **AC:** 1/10 to 600A
  250VAC, 200kA I.R.
  **DC:** 1/10 to 2 8/10A
  & 35 to 400A,
  250VDC, 20kA I.R.;
  3 to 30A & 450 to 600A,
  160VDC, 20kA I.R.
- **TRS**
  **AC:** 1/10 to 600A
  600VAC, 200kA I.R.

  **DC:** 1/10 to 12A,
  600VDC, 20kA I.R.;
  70 to 600A,
  600VDC, 100kA I.R.;
  15 to 60A,
  300VDC, 20 kA I.R.

**Approvals**

- UL Listed to Standard 248-12
- CSA Certified to Standard C22.2 No. 248.12
- DC Listed to UL Standard 198L

GOULD SHAWMUT

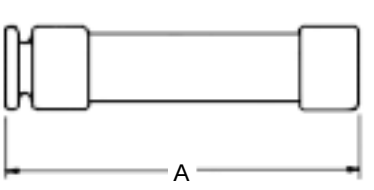
TRI-ONIC®

# TIME DELAY / CLASS RK5 FUSES

# TR & TRS

## Standard Fuse Ampere Ratings, Catalog Numbers

| Ampere Rating | Catalog Number 250V | Catalog Number 600V | Ampere Rating | Catalog Number 250V | Catalog Number 600V | Ampere Rating | Catalog Number 250V | Catalog Number 600V |
|---|---|---|---|---|---|---|---|---|
| 1/10 | TR1/10R | TRS1/10R | 3-1/2 | TR3-1/2R | TRS3-1/2R | 50 | TR50R | TRS50R |
| 15/100 | TR15/100R | TRS15/100R | 4 | TR4R | TRS4R | 60 | TR60R | TRS60R |
| 2/10 | TR2/10R | TRS2/10R | 4-1/2 | TR4-1/2R | TRS4-1/2R | 70 | TR70R | TRS70R |
| 3/10 | TR3/10R | TRS3/10R | 5 | TR5R | TRS5R | 75 | TR75R | TRS75R |
| 4/10 | TR4/10R | TRS4/10R | 5-6/10 | TR5-6/10R | TRS5-6/10R | 80 | TR80R | TRS80R |
| 1/2 | TR1/2R | TRS1/2R | 6 | TR6R | TRS6R | 90 | TR90R | TRS90R |
| 6/10 | TR6/10R | TRS6/10R | 6-1/4 | TR6-1/4R | TRS6-1/4R | 100 | TR100R | TRS100R |
| 8/10 | TR8/10R | TRS8/10R | 7 | TR7R | TRS7R | 110 | TR110R | TRS110R |
| 1 | TR1R | TRS1R | 8 | TR8R | TRS8R | 125 | TR125R | TRS125R |
| 1-1/8 | TR1-1/8R | TR1-1/8R | 9 | TR9R | TRS9R | 150 | TR150R | TRS150R |
| 1-1/4 | TR1-1/4R | TRS1-1/4R | 10 | TR10R | TRS10R | 175 | TR175R | TRS175R |
| 1-4/10 | TR1-4/10R | TRS1-4/10R | 12 | TR12R | TRS12R | 200 | TR200R | TRS200R |
| 1-6/10 | TR1-6/10R | TRS1-6/10R | 15 | TR15R | TRS15R | 225 | TR225R | TRS225R |
| 1-8/10 | TR1-8/10R | TRS1-8/10R | 17-1/2 | TR17-1/2R | TRS17-1/2R | 250 | TR250R | TRS250R |
| 2 | TR2R | TRS2R | 20 | TR20R | TRS20R | 300 | TR300R | TRS300R |
| 2-1/4 | TR2-1/4R | TRS2-1/4R | 25 | TR25R | TRS25R | 350 | TR350R | TRS350R |
| 2-1/2 | TR2-1/2R | TRS2-1/2R | 30 | TR30R | TRS30R | 400 | TR400R | TRS400R |
| 2-8/10 | TR2-8/10R | TRS2-8/10R | 35 | TR35R | TRS35R | 450 | TR450R | TRS450R |
| 3 | TR3R | TRS3R | 40 | TR40R | TRS40R | 500 | TR500R | TRS500R |
| 3-2/10 | TR3-2/10R | TRS3-2/10R | 45 | TR45R | TRS45R | 600 | TR600R | TRS600R |

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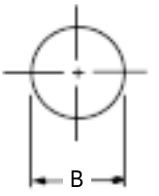
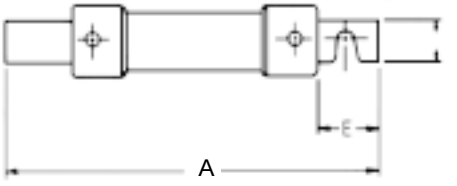
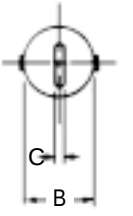



61-600A




## Dimensions

| Ampere Rating | A In. | A mm | B In. | B mm | C In. | C mm | D In. | D mm | E In. | E mm |
|---|---|---|---|---|---|---|---|---|---|---|
| **250V-TR FUSES** | | | | | | | | | | |
| **0-30** | 2 | 51 | 9/16 | 14 | – | – | – | – | – | – |
| **31-60** | 3 | 76 | 13/16 | 21 | – | – | – | – | – | – |
| **61-100** | 5-7/8 | 149 | 1-1/16 | 27 | 1/8 | 3 | 3/4 | 19 | 1 | 25 |
| **101-200** | 7-1/8 | 181 | 1-9/16 | 40 | 3/16 | 5 | 1-1/8 | 28 | 1-3/8 | 35 |
| **201-400** | 8-5/8 | 219 | 2-1/16 | 53 | 1/4 | 6 | 1-5/8 | 41 | 1-7/8 | 48 |
| **401-600** | 10-3/8 | 264 | 2-9/16 | 66 | 1/4 | 6 | 2 | 51 | 2-1/4 | 57 |
| **600V-TRS FUSES** | | | | | | | | | | |
| **0-30** | 5 | 127 | 13/16 | 21 | – | – | – | – | – | – |
| **31-60** | 5-1/2 | 139 | 1-1/16 | 27 | – | – | – | – | – | – |
| **61-100** | 7-7/8 | 200 | 1-5/16 | 34 | 1/8 | 3 | 3/4 | 19 | 1 | 25 |
| **101-200** | 9-5/8 | 244 | 1-13/16 | 46 | 3/16 | 5 | 1-1/8 | 28 | 1-3/8 | 35 |
| **201-400** | 11-5/8 | 295 | 2-9/16 | 66 | 1/4 | 6 | 1-5/8 | 41 | 1-7/8 | 48 |
| **401-600** | 13-3/8 | 340 | 3-1/8 | 80 | 1/4 | 6 | 2 | 51 | 2-1/4 | 57 |

## Recommended Fuse Blocks With Box Connectors For Tri-onic® Class RK5 Fuses

| Fuse Ampere Rating | Catalog Number 250V 1 Pole | 250V 3 Pole | 600V 1 Pole | 600V 3 Pole |
|---|---|---|---|---|
| **0-30** | 20306R | 20308R | 60306R | 60308R |
| **31-60** | 20606R | 20608R | 60606R | 60608R |
| **61-100** | 21036R | 21038R | 61036R | 61038R |
| **101-200** | 22001R | 22003R | 62001R | 62003R |
| **201-400** | 24001R | 24003R | 64001R | 64003R |
| **401-600** | 2631R | 2633R | 6631R | 6633R |

A variety of pole configurations and termination provisions is available.

GOULD SHAWMUT

ONE-TIME

# OT/OTN/OTS

# CLASS K-5


## FOR *VERSATILITY AND ECONOMY,* THESE GENERAL PURPOSE FUSES ARE HARD TO BEAT

OT, OTN and OTS general purpose fuses provide low cost protection for feeder and branch circuits serving lighting, heating, and other non-motor loads. OT, OTN and OTS fuses will safely interrupt available short circuit currents up to 50,000 amperes in all ratings.

OT, OTN and OTS fuses are not rejection fuses – care should be taken to ensure that replacement fuses do not have lower interrupting ratings than original fuses.

OTN 15 through 60 satisfy the Canadian electrical code requirement for Type "P", low melting-point, non-time delay fuses.

**Features/Benefits**

- **Easy to read imprint label** for quick recognition and replacement
- **Low cost** for high protection value

## HIGHLIGHTS:

- Versatile
- Lowest cost protection for circuits serving non-inductive loads

## APPLICATIONS:

- Feeders
- Branch Circuits
- Resistive Heating
- Residential and Small Commercial Installations

**Ratings**

- **OT**
  **AC:** 1 to 600A
  250VAC, 50kA I.R.
- **OTN (Canada)**
  **AC:** 15 to 60A
  250VAC, 50kA I.R.
- **OTS**
  **AC:** 1 to 600A
  600VAC, 50kA I.R.

**Approvals**

- UL Listed to Standard 248-9
- CSA Certified to Standard C22.2 No. 248.9*

*The Canadian Electrical Code requires these fuses in ratings 15 through 60A to be of the low melting point design use OTN 15-60.

**GOULD SHAWMUT**

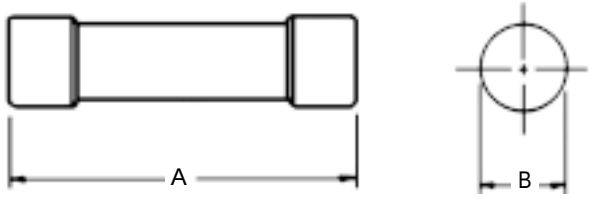
**ONE-TIME**

# GENERAL PURPOSE / CLASS K-5 FUSES OT/OTN/OTS

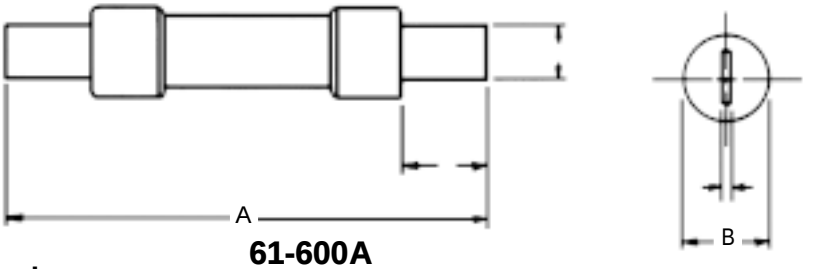
## Standard Fuse Ampere Ratings, Catalog Numbers

| Ampere Rating | Catalog Number | | Ampere Rating | Catalog Number | | Ampere Rating | Catalog Number | |
|---|---|---|---|---|---|---|---|---|
| | 250V | 600V | | 250V | 600V | | 250V | 600V |
| 1 | OT1 | OTS1 | 30 | OT30, OTN30* | OTS30 | 125 | OT125 | OTS125 |
| 2 | OT2 | OTS2 | 35 | OT35, OTN35* | OTS35 | 150 | OT150 | OTS150 |
| 3 | OT3 | OTS3 | 40 | OT40, OTN40* | OTS40 | 175 | OT175 | OTS175 |
| 4 | OT4 | OTS4 | 45 | OT45, OTN45* | OTS45 | 200 | OT200 | OTS200 |
| 5 | OT5 | OTS5 | 50 | OT50, OTN 50* | OTS50 | 225 | OT225 | OTS225 |
| 6 | OT6 | OTS6 | 60 | OT60, OTN60* | OTS60 | 250 | OT250 | OTS250 |
| 7 | OT7 | OTS7 | 65 | OT65 | OTS65 | 300 | OT300 | OTS300 |
| 8 | OT8 | OTS8 | 70 | OT70 | OTS70 | 350 | OT350 | OTS350 |
| 10 | OT10 | OTS10 | 75 | OT75 | OTS75 | 400 | OT400 | OTS400 |
| 12 | OT12 | OTS12 | 80 | OT80 | OTS80 | 450 | OT450 | OTS450 |
| 15 | OT15, OTN15* | OTS15 | 90 | OT90 | OTS90 | 500 | OT500 | OTS500 |
| 20 | OT20, OTN20* | OTS20 | 100 | OT100 | OTS100 | 600 | OT600 | OTS600 |
| 25 | OT25, OTN 25* | OTS25 | 110 | OT110 | OTS110 | | | |

* In Canada




**0-60A**




**61-600A**

## Recommended Fuse Blocks With Box Connectors For One-Time Class K-5 Fuses

| Fuse Ampere Rating | Catalog Number | | | |
|---|---|---|---|---|
| | 250V | | 600V | |
| | 1 Pole | 3 Pole | 1 Pole | 3 Pole |
| **0-30** | 20306 | 20308 | 60306 | 60308 |
| **31-60** | 20606 | 20608 | 60606 | 60608 |
| **61-100** | 21036 | 21038 | 61036 | 61038 |
| **101-200** | 22001 | 22003 | 62001 | 62003 |
| **201-400** | 24001 | 24003 | 64001 | 64003 |
| **401-600** | 2631 | 2633 | 6631 | 6633 |

A variety of pole configurations and termination provisions is available. Refer to the fuse block section of this catalog for details.

## Dimensions

| Ampere Rating | A | | B | | C | | D | | D | |
|---|---|---|---|---|---|---|---|---|---|---|
| | In. | mm | In. | mm | In. | mm | In. | mm | In. | mm |
| **250V-OT, OTN FUSES** | | | | | | | | | | |
| **0-30** | 2 | 51 | 9/16 | 14 | – | – | – | – | – | – |
| **31-60** | 3 | 76 | 13/16 | 21 | – | – | – | – | – | – |
| **61-100** | 5-7/8 | 149 | 1-1/16 | 27 | 1/8 | 3 | 3/4 | 19 | 1 | 25 |
| **101-200** | 7-1/8 | 181 | 1-9/16 | 40 | 3/16 | 5 | 1-1/8 | 28 | 1-3/8 | 35 |
| **201-400** | 8-5/8 | 219 | 2-1/16 | 53 | 1/4 | 6 | 1-5/8 | 41 | 1-7/8 | 48 |
| **401-600** | 10-3/8 | 264 | 2-9/16 | 66 | 1/4 | 6 | 2 | 51 | 2-1/4 | 57 |
| **600V-OTS FUSES** | | | | | | | | | | |
| **0-30** | 5 | 127 | 13/16 | 21 | – | – | – | – | – | – |
| **31-60** | 5-1/2 | 139 | 1-1/16 | 27 | – | – | – | – | – | – |
| **61-100** | 7-7/8 | 200 | 1-5/16 | 34 | 1/8 | 3 | 3/4 | 19 | 1 | 25 |
| **101-200** | 9-5/8 | 244 | 1-13/16 | 46 | 3/16 | 5 | 1-1/8 | 28 | 1-3/8 | 35 |
| **201-400** | 11-5/8 | 295 | 2-9/16 | 66 | 1/4 | 6 | 1-5/8 | 41 | 1-7/8 | 48 |
| **401-600** | 13-3/8 | 340 | 3-1/8 | 80 | 1/4 | 6 | 2 | 51 | 2-1/4 | 57 |

GOULD SHAWMUT

EURO/IEC Fuses & Accessories

# gF, gI-gG, aM


# CYLINDRICAL FUSE-LINKS

## DOMESTIC AND INDUSTRIAL CYLINDRICAL FUSE-LINKS

Gould Shawmut gF, gI-gG and aM fuse-links cover a wide range of physical sizes and ampere ratings for 250, 380*, 400, 500, and 660* volts AC. gF fuse-links are for domestic use. gI-gG and aM fuse-links are for industrial applications. Most ratings are available with an optional indicator. All industrial fuse-links have the option of a built-in striker. All cylindrical fuse-links have ceramic bodies and silver-plated ferrules.

* Fuse-links marked 380V (gF) and 660V (gI-gG-aM) will be re-marked (and safely used at) 400V AC and 690V AC in compliance with changes in IEC Standard 269, but should not be used above 418V AC or 726V AC.

### gF

**FULL RANGE PROTECTION**

- 7 physical sizes from 6.3 x 23mm to 10.3 x 38 mm
- 250 and 380 Volt ratings - 0.5A through 32A
- Most ratings available with indicator
- Meet IEC, NFC, UNE and British standards

### gI-gG

**FULL RANGE PROTECTION**

- 4 physical sizes from 8 x 31 mm to 22 x 58 mm
- 400, 500 and 690 Volt ratings - 0.5A through 125A
- Most ratings available with indicator
- Meet IEC, NFC and UNE standards
- Approved by Lloyds Register of Shipping and Bureau Veritas

### gI-gG

**FULL RANGE PROTECTION**

**Fuse-links with Striker**

- 2 sizes- 14 x 51mm and 22 x 58mm
- 400, 500 and 690 Volt ratings - 4A through 125A
- All ratings include striker
- Meet IEC, NFC and UNE standards
- Approved by Lloyds Register of Shipping and Bureau Veritas

### aM

**SHORT CIRCUIT PROTECTION**

- 4 physical sizes from 8 x 31mm to 22 x 58mm
- 400, 500 and 690 Volt ratings - .16A through 125A
- Most ratings available with indicator
- Meet IEC, NFC and UNE standards
- Approved by Lloyds Register of Shipping and Bureau Veritas

### aM

**SHORT CIRCUIT PROTECTION**

**Fuse-links with Striker**

- 2 sizes- 14 x 51mm and 22 x 58mm
- 400, 500 and 690 Volt ratings - 2A through 125A
- All ratings include striker
- Meet IEC, NFC and UNE standards
- Approved by Lloyds Register of Shipping and Bureau Veritas

GOULD SHAWMUT

## EURO/IEC Fuses & Accessories

# gF

# CYLINDRICAL FUSE-LINKS


10031-G


10235-G


10637-G


10839-G

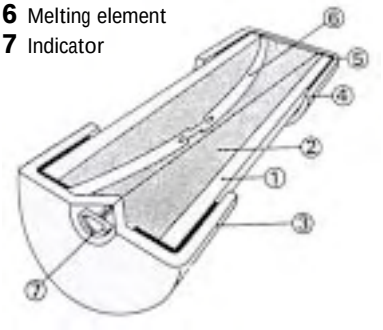

11035-G

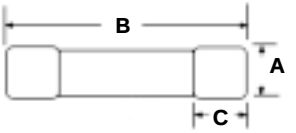

11243-G

### Catalog Numbers, Ratings – gF (Optional Blown-Fuse Indicator)

| SIZE (mm x mm) | RATED In CURRENT (A) | RATED VOLTAGE | CATALOG NUMBER | | INTERRUPTING RATING (A) | STANDARD PACK/CTN. |
|---|---|---|---|---|---|---|
| | | | w/o Indicator | w/Indicator | | |
| 6.3 x 23 | 2 | 250V | 10013-G | – | 6,000 | 10/100 |
| | 4 | | 10019-G | – | | |
| | 6 | | 10023-G | – | | |
| | 10 | | 10031-G | – | | |
| 8.5 x 23 | 2 | 250V | 10213-G | 12213-G | 6,000 | 10/100 |
| | 4 | | 10219-G | 12219-G | | |
| | 6 | | 10223-G | 12223-G | | |
| | 10 | | 10231-G | 12231-G | | |
| | 15 | | 10235-G | 12235-G | | |
| 10.3 x 25.8 | 6 | 250V | 10423-G | 12423-G | 6,000 | 10/100 |
| | 10 | | 10431-G | 12431-G | | |
| | 16 | | 10435-G | 12435-G | | |
| 8/5 x 31.5 | 0.5 | 380V | 10609-G | 12609-G | 20,000 | 10/100 |
| | 1 | | 10611-G | 12611-G | | |
| | 2 | | 10613-G | 12613-G | | |
| | 4 | | 10619-G | 12619-G | | |
| | 6 | | 10623-G | 12623-G | | |
| | 8 | | 10627-G | 12627-G | | |
| | 10 | | 10631-G | 12631-G | | |
| | 12 | | 10633-G | 12633-G | | |
| | 16 | | 10635-G | 12635-G | | |
| | 20 | | 10637-G | 12637-G | | |
| | 25 | | 10639-G | 12639-G | | |
| 10.3 x 31.5 | 16 | 380V | 10835-G | 12835-G | 20,000 | 10/100 |
| | 20 | | 10837-G | 12837-G | | |
| | 25 | | 10839-G | 12839-G | | |
| 8.5 x 36 | 2 | 380V | 11013-G | 13013-G | 20,000 | 10/100 |
| | 4 | | 11019-G | 13019-G | | |
| | 6 | | 11023-G | 13023-G | | |
| | 10 | | 11031-G | 13031-G | | |
| | 16 | | 11035-G | 13035-G | | |
| | 20 | | 11037-G | 13037-G | | |
| | 25 | | 11039-G | 13039-G | | |
| | 32 | | 11043-G | 13043-G | | |
| 10.3 x 38 | 25 | 380V | 11239-G | 13239-G | 20,000 | 10/100 |
| | 32 | | 11243-G | 13243-G | | |

**1** Ceramic body
**2** Sand
**3** Indicator contact
**4** Lower contact
**5** Contact ring
**6** Melting element
**7** Indicator




### Dimensions

| FUSE SIZE (mm x mm) | A | B | C |
|---|---|---|---|
| 6.3 x 23 | 6.3 | 23 | 5 |
| 8.5 x 23 | 8.5 | 23 | 5 |
| 10.3 x 25.8 | 10.3 | 25.8 | 6.3 |
| 8.5 x 31.5 | 8.5 | 31.5 | 6.3 |
| 10.3 x 31.5 | 10.3 | 31.5 | 10 |
| 8.5 x 36 | 8.5 | 36 | 6.3 |
| 10.3 x 38 | 10.3 | 38 | 10 |

### Blown-Fuse Indicator


BEFORE AFTER

# Fuses

مؤسسة الخطوط الكهربائية للتجارة
ELECTROLINES

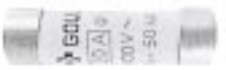
**GOULD SHAWMUT**

## EURO/IEC Fuses & Accessories

# gl-gG

# CYLINDRICAL FUSE-LINKS

### Catalog Numbers, Ratings – gl-gG (Optional Blown-Fuse Indicator)



**15037-G**

**16037-G**

**17039-G**

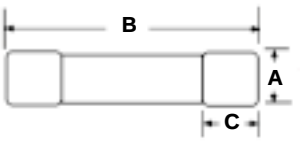
**18059-G**

| SIZE (mm x mm) | RATED In CURRENT (A) | RATED VOLTAGE | CATALOG NUMBER | | INTERRUPTING RATING (A) | STANDARD PACK/CTN. |
|---|---|---|---|---|---|---|
| | | | w/o Indicator | w/Indicator | | |
| 8 x 31 | 1 | 400V | 15011-G | 15211-G | 20,000 | 10/100 |
| | 2 | | 15013-G | 15213-G | | |
| | 4 | | 15019-G | 15219-G | | |
| | 6 | | 15023-G | 15223-G | | |
| | 8 | | 15027-G | 15227-G | | |
| | 10 | | 15031-G | 15231-G | | |
| | 12 | | 15033-G | 15233-G | | |
| | 16 | | 15035-G | 15235-G | | |
| | 20 | | 15037-G | 15237-G | | |
| 10 x 38 | 0.5 | 500V | 16009-G | - | 120,000 | 10/100 |
| | 1 | | 16011-G | - | | |
| | 2 | | 16013-G | 16213-G | | |
| | 4 | | 16019-G | 16219-G | | |
| | 6 | | 16023-G | 16223-G | | |
| | 8 | | 16027-G | 16227-G | | |
| | 10 | | 16031-G | 16231-G | | |
| | 12 | | 16033-G | 16233-G | | |
| | 16 | | 16035-G | 16235-G | | |
| | 20 | | 16037-G | 16237-G | | |
| | 25 | | 16039-G | 16239-G | | |
| | 32 | 400V | 16043-G | 16243-G | | |
| 14 x 51 | 2 | 660V | 17013-G | 17213-G | 80,000 | 10/50 |
| | 4 | | 17019-G | 17219-G | | |
| | 6 | | 17023-G | 17223-G | | |
| | 8 | | 17027-G | 17227-G | | |
| | 10 | | 17031-G | 17231-G | | |
| | 12 | | 17033-G | 17233-G | | |
| | 16 | | 17035-G | 17235-G | | |
| | 20 | | 17037-G | 17237-G | | |
| | 25 | | 17039-G | 17239-G | | |
| | 32 | 500V | 17043-G | 17243-G | 120,000 | |
| | 40 | | 17047-G | 17247-G | | |
| | 50 | 400V | 17051-G | 17251-G | | |
| 22 x 58 | 4 | 660V | 18019-G | 18219-G | 80,000 | 10/50 |
| | 6 | | 18023-G | 18223-G | | |
| | 8 | | 18027-G | 18227-G | | |
| | 10 | | 18031-G | 18231-G | | |
| | 12 | | 18033-G | 18233-G | | |
| | 16 | | 18035-G | 18235-G | | |
| | 20 | | 18037-G | 18237-G | | |
| | 25 | | 18039-G | 18239-G | | |
| | 32 | | 18043-G | 18243-G | | |
| | 40 | | 18047-G | 18247-G | | |
| | 50 | | 18051-G | 18251-G | | |
| | 63 | | 18055-G | 18255-G | | |
| | 80 | | 18059-G | 18259-G | | |
| | 100 | 500V | 18063-G | 18263-G | 120,000 | |
| | 125 | 400V | 18065-G | 18265-G | | |

## Blown-Fuse Indicator

BEFORE

AFTER




## Dimensions

| FUSE SIZE | A | B | C |
|---|---|---|---|
| 8 x 31 | 8.5 | 31.5 | 6.3 |
| 10 x 38 | 10.3 | 38 | 10.5 |
| 14 x 51 | 14.3 | 51 | 13.8 |
| 22 x 58 | 22.2 | 58 | 16.2 |

**Electrolines Est.**
P. O. Box. 942 Yanbu Saudi Arabia Tel: +966 4 3225418 Fax: +966 4 3222213 Al-Jubail: Tel: +966 3 3632967 Fax: +966 3 3612967

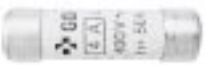
# Fuses

**GOULD SHAWMUT**

## EURO/IEC Fuses & Accessories

# aM

# CYLINDRICAL FUSE-LINKS



**15519-G**

**16535-G**

**17535-C**


**18555-G**

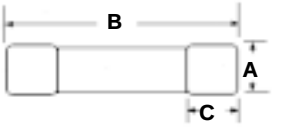
### Catalog Numbers, Ratings – aM (Optional Blown-Fuse Indicator)

| SIZE (mm x mm) | RATED In CURRENT (A) | RATED VOLTAGE | CATALOG NUMBER | | INTERRUPTING RATING (A) | STANDARD PACK/CTN. |
|---|---|---|---|---|---|---|
| | | | w/o Indicator | w/Indicator | | |
| 8 x 31 | 1 | 400V | 15511-G | - | 20,000 | 10/100 |
| | 2 | | 15513-G | - | | |
| | 4 | | 15519-G | - | | |
| | 6 | | 15523-G | - | | |
| | 8 | | 15527-G | - | | |
| | 10 | | 15531-G | - | | |
| 10 x 38 | 0.16 | 500V | 16503-G | - | 120,000 | 10/100 |
| | 0.25 | | 16507-G | - | | |
| | 0.5 | | 16509-G | - | | |
| | 1 | | 16511-G | 16711-G | | |
| | 2 | | 16513-G | 16713-G | | |
| | 4 | | 16519-G | 16719-G | | |
| | 6 | | 16523-G | 16723-G | | |
| | 8 | | 16527-G | 16727-G | | |
| | 10 | | 16531-G | 16731-G | | |
| | 12 | | 16533-G | 16733-G | | |
| | 16 | | 16535-G | 16735-G | | |
| | 20 | | 16537-G | 16737-G | | |
| | 25 | 400V | 16539-G | 16739-G | | |
| 14 x 51 | 0.25 | 660V | 17507-G | - | 80,000 | 10/50 |
| | 0.5 | | 17509-G | - | | |
| | 1 | | 17511-G | 17711-G | | |
| | 2 | | 17513-G | 17713-G | | |
| | 4 | | 17519-G | 17719-G | | |
| | 6 | | 17523-G | 17723-G | | |
| | 8 | | 17527-G | 17727-G | | |
| | 10 | | 17531-G | 17731-G | | |
| | 12 | | 17533-G | 17733-G | | |
| | 16 | | 17535-G | 17735-G | | |
| | 20 | | 17537-G | 17737-G | | |
| | 25 | | 17539-G | 17739-G | | |
| | 32 | 500V | 17543-G | 17743-G | 120,000 | |
| | 40 | | 17547-G | 17747-G | | |
| | 45 | | 17549-G | 17749-G | | |
| | 50 | 400V | 17551-G | 17751-G | | |
| 22 x 58 | 4 | 660V | 18519-G | 18719-G | 80,000 | 10/50 |
| | 6 | | 18523-G | 18723-G | | |
| | 8 | | 18527-G | 18727-G | | |
| | 10 | | 18531-G | 18731-G | | |
| | 12 | | 18533-G | 18733-G | | |
| | 16 | | 18535-G | 18735-G | | |
| | 20 | | 18537-G | 18737-G | | |
| | 25 | | 18539-G | 19739-G | | |
| | 32 | | 18543-G | 18743-G | | |
| | 40 | | 18547-G | 18747-G | | |
| | 50 | | 18551-G | 18751-G | | |
| | 63 | | 18555-G | 18755-G | | |
| | 80 | | 18559-G | 18759-G | | |
| | 100 | 500V | 18563-G | 18763-G | 120,000 | |
| | 125 | 400V | 18565-G | 18765-G | | |

## Blown-Fuse Indicator

BEFORE

AFTER




## Dimensions

| FUSE SIZE | A | B | C |
|---|---|---|---|
| 8 x 31 | 8.5 | 31.5 | 6.3 |
| 10 x 38 | 10.3 | 38 | 10.5 |
| 14 x 51 | 14.3 | 51 | 13.8 |
| 22 x 58 | 22.2 | 58 | 16.2 |

**Electrolines Est.**

**P. O. Box. 942 Yanbu Saudi Arabia Tel: +966 4 3225418 Fax: +966 4 3222213 Al-Jubail: Tel: +966 3 3632967 Fax: +966 3 3612967**

GOULD SHAWMUT

## EURO/IEC Fuses & Accessories

# gl-gL-gG, aM NH DIMENSION KNIFE-BLADE FUSE-LINKS

## NH DIMENSION KNIFE-BLADE FUSE-LINKS, FUSE BASES, AND ACCESSORIES

Gould Shawmut NH Fuse-links, sizes 00, 0, 1, 2, 3 and 4 are rated 500 or 660* Volts AC with breaking capacities of 80kA or 120kA. All fuse-links include an indicator or striker and can accept a microswitch for remote signaling. They all have silver-plated knife blades and ceramic bodies. Accessories include 1, 2, 3 or 4-pole bases, barriers, shields, terminals, microswitch, etc.

Gould Shawmut recently acquired Lindner GmbH, a major supplier of NH fuses. These fuses are now being sold to markets worldwide through the Gould Shawmut distribution network.

* Fuse-links marked 660V will be re-marked (and safely used at) 690V AC in compliance with changes in IEC Standard 269, but should not be used above 726V AC.

**Standards**

- DIN 57636
  NFC 63210-63211
  CEI 269-1-2-2A
  UNE 21103
  VDE 0636-2-1, 2-2
  DIN 43620

**Approvals**

- Lloyd's Register of Shipping Bureau Veritas

## gl-gL-gG

### FULL RANGE PROTECTION

- Sizes 00, 0, 1,2,3,4
- 500 and 660 Volt ratings
  -
  4A through 1250A
- All ratings include indicator
- All equipped for microswitch mounting

## gl-gL-gG

### FULL RANGE PROTECTION

**Fuse-link with Striker**

- Sizes 0, 1, 2, 3
- 500 and 660 Volt ratings
  -
  32A through 630A
- All ratings include striker

## aM

### SHORT CIRCUIT PROTECTION

- Sizes 00, 0, 1, 2, 3
- 500 and 660 Volt ratings
  -
  10A through 630A
- All ratings include indicator
- All equipped for microswitch mounting

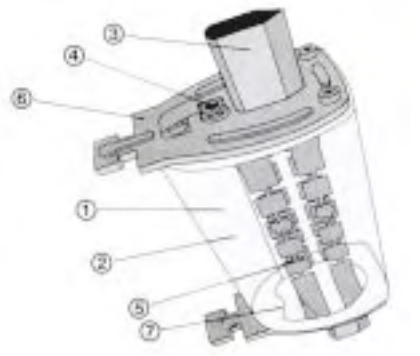
## aM

### SHORT CIRCUIT PROTECTION

**Fuse-link with Striker**

- Sizes 0, 1, 2, 3
- 500 and 660 Volt ratings
  -
  32A through 630A
- All ratings include striker
- Certification
  DIN 57636
  VDE 60269
  NFC 63210, 63211
  IEC 269-1, 2, 2A
  UNE 21103
- Approved by Lloyds Register of Shipping and Bureau Veritas

**1** Ceramic body
**2** Quartz sand
**3** Knife contact
**4** Indicator
**5** Melting element
**6** End plate
**7** Insulating joint

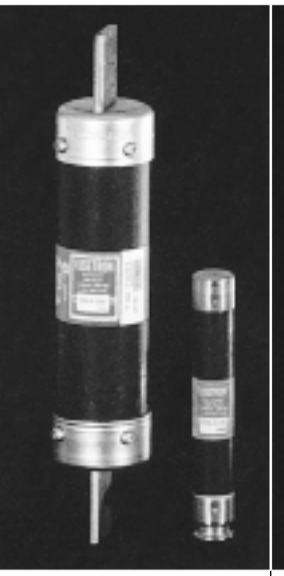



**Electrolines Est.**
P. O. Box. 942 Yanbu Saudi Arabia Tel: +966 4 3225418 Fax: +966 4 3222213 Al-Jubail: Tel: +966 3 3632967 Fax: +966 3 3612967

BUSSMANN

# Low Voltage Power Distribution Fuses




## LOW-PEAK YELLOW™ SYSTEM 300™

(Time-Delay)
KRP-C–SP (600V)
601 to 6000A
300,000AIR
Current Limiting
UL Class L;
CSA-HRC-L (200,000AIR)

The all-purpose silver linked fuse for both overload and short-circuit protection of high capacity systems (mains and large feeders). Time-delay (minimum of four seconds at five times amp rating for close sizing). Pass harmless surge currents of motors, transformers, etc., without overfusing and any sacrifice of short-circuit current limitation. The combination of LOW-PEAK dual-element time-delay fuses and LOW-PEAK KRP-C fuses is recommended as a total system specification. Easily selectively coordinated for blackout protection. Size of upstream LOW-PEAK® fuses need only be twice that of downstream LOW-PEAK® fuses (2:1 ratio). LOW-PEAK® fuses can reduce bus bracing; protect circuit breakers with low interrupting ratings as well as provide excellent overall protection of circuits and loads.

### 600 Volts AC

| | |
|---|---|
| KRP-C-601 SP | KRP-C-1600 SP |
| KRP-C-650 SP | KRP-C-1800 SP |
| KRP-C-700 SP | KRP-C-2000 SP |
| KRP-C-750 SP | KRP-C-2500 SP |
| KRP-C-800 SP | KRP-C-3000 SP |
| KRP-C-900 SP | KRP-C-3500 SP |
| KRP-C-1000 SP | KRP-C-4000 SP |
| KRP-C-1200 SP | KRP-C-4500 SP |
| KRP-C-1350 SP | KRP-C-5000 SP |
| KRP-C-1400 SP | KRP-C-6000 SP |
| KRP-C-1500 SP | |

| | |
|---|---|
| KRP-CL-150 | KRP-CL-400 |
| KRP-CL-250 | KRP-CL-450 |
| KRP-CL-300 | KRP-CL-500 |
| KRP-CL-350 | KRP-CL-600 |

*KRP-CL fuses have a Class L 800 amp case size; and not covered by U.L. Standards.

(Dual-Element, Time-Delay)
LPS-RK–SP (600VAC, 300VDC)
LPN-RK-SP (250VAC, 125VDC)
1/10 TO 600A
300,000AIR
Current Limiting
UL Class RK1;
CSA-HRCI-R (200,000AIR)

High performance; all-purpose fuses. Provide the very high degree of short-circuit limitation of LIMITRON fuses plus the overload protection of FUSETRON fuses in all types of circuits and loads. Can be closely sized to full-load motor currents for reliable motor overload protection as well as backup protection. Close sizing permits the use of smaller and more economical switches. LOW-PEAK fuses are rejection type but fit non-rejection type fuseholders. Thus, can be used to replace Class H, K1, K5, RK5 or other RK1 fuses.

### 250 Volts AC (125 Volts DC)

| | |
|---|---|
| LPN-RK-1/10 SP | LPN-RK-12 SP |
| LPN-RK-2/10 SP | LPN-RK-15 SP |
| LPN-RK-4/10 SP | LPN-RK-17 1/2 SP |
| LPN-RK-1/2 SP | LPN-RK-20 SP |
| LPN-RK-6/10 SP | LPN-RK-25 SP |
| LPN-RK-8/10 SP | LPN-RK-30 SP |
| LPN-RK-1 SP | LPN-RK-35 SP |
| LPN-RK-1 1/8 SP | LPN-RK-40 SP |
| LPN-RK-1 1/4 SP | LPN-RK-45 SP |
| LPN-RK-1 4/10 SP | LPN-RK-50 SP |
| LPN-RK-1 6/10 SP | LPN-RK-60 SP |
| LPN-RK-1 8/10 SP | LPN-RK-70 SP |
| LPN-RK-2 SP | LPN-RK-80 SP |
| LPN-RK-2 1/4 SP | LPN-RK-90 SP |
| LPN-RK-2 1/2 SP | LPN-RK-100 SP |
| LPN-RK-2 8/10 SP | LPN-RK-110 SP |
| LPN-RK-3 SP | LPN-RK-125 SP |
| LPN-RK-3 2/10 SP | LPN-RK-150 SP |
| LPN-RK-3 1/2 SP | LPN-RK-175 SP |
| LPN-RK-4 SP | LPN-RK-200 SP |
| LPN-RK-4 1/2 SP | LPN-RK-225 SP |
| LPN-RK-5 SP | LPN-RK-250 SP |
| LPN-RK-5 6/10 SP | LPN-RK-300 SP |
| LPN-RK-6 SP | LPN-RK-350 SP |
| LPN-RK-6 1/4 SP | LPN-RK-400 SP |
| LPN-RK-7 SP | LPN-RK-450 SP |
| LPN-RK-8 SP | LPN-RK-500 SP |
| LPN-RK-9 SP | LPN-RK-600 SP |
| LPN-RK-10 SP | |

### 600 Volts AC (300 Volts DC)

LPS-RK-(amps as above plus LPS-RK-3/10 SP and LPS-RK-1 1/2 SP)

DC listed to UL198L

(Dual-Element, Time-Delay)
LPJ-SP
1 to 600A
300,000AIR (U.L.)
Current Limiting
UL Class J
CSA-HRCI-J (200,000AIR)

Provides the same high-performance, all purpose protection of Buss RK-1 LOW-PEAK Yellow fuses but is only one-half the size … it's a space saver. Particularly applicable to IEC starter protection. Can be closely sized to full-load motor currents for reliable motor overload protection.

| | |
|---|---|
| LPJ-1 SP | LPJ-25 SP |
| LPJ-1 1/4 SP | LPJ-30 SP |
| LPJ-1 6/10 SP | LPJ-35 SP |
| LPJ-2 SP | LPJ-40 SP |
| LPJ-2 1/4 SP | LPJ-45 SP |
| LPJ-2 1/2 SP | LPJ-50 SP |
| LPJ-2 6/10 SP | LPJ-60 SP |
| LPJ-2 8/10 SP | LPJ-70 SP |
| LPJ-3 SP | LPJ-80 SP |
| LPJ-3 2/10 SP | LPJ-90 SP |
| LPJ-3 1/2 SP | LPJ-100 SP |
| LPJ-4 SP | LPJ-110 SP |
| LPJ-4 1/2 SP | LPJ-125 SP |
| LPJ-5 SP | LPJ-150 SP |
| LPJ-5 6/10 SP | LPJ-175 SP |
| LPJ-6 SP | LPJ-200 SP |
| LPJ-7 SP | LPJ-225 SP |
| LPJ-8 SP | LPJ-250 SP |
| LPJ-9 SP | LPJ-300 SP |
| LPJ-10 SP | LPJ-350 SP |
| LPJ-12 SP | LPJ-400 SP |
| LPJ-15 SP | LPJ-450 SP |
| LPJ-17 1/2 SP | LPJ-500 SP |
| LPJ-20 SP | LPJ-600 SP |

## FUSETRON®

(Dual-Element, Time-Delay)
FRS-R (600VAC, 250VDC)
FRN-R (250VAC, 125VDC)
1/10 to 600A
200,000AIR
Current Limiting
UL Class RK5; CSA-HRCI-R

Time-delay affords the same excellent overload protection of LOW-PEAK fuses of motors and other type loads and circuits having temporary in-rush currents such as caused by transformers and solenoids. FUSETRON fuses permit the use of smaller size and less costly switches. FUSETRON fuses fill rejection type fuseholders and can also be installed in holders for Class H fuses. They can physically and electrically replace Class H, K5, and other Class RK5 fuses.

### 250 Volts AC (125 Volts DC)

| | |
|---|---|
| FRN-R-1/10 | FRN-R-8 |
| FRN-R-1/8* | FRN-R-9 |
| FRN-R-15/100 | FRN-R-10 |
| FRN-R-2/10 | FRN-R-12 |
| FRN-R-1/4 | FRN-R-15 |
| FRN-R-3/10 | FRN-R-17 1/2 |
| FRN-R-4/10 | FRN-R-20 |
| FRN-R-1/2 | FRN-R-25 |
| FRN-R-6/10 | FRN-R-30 |
| FRN-R-8/10 | FRN-R-35 |
| FRN-R-1 | FRN-R-40 |
| FRN-R-1 1/8 | FRN-R-45 |
| FRN-R-1 1/4 | FRN-R-50 |
| FRN-R-1 4/10 | FRN-R-60 |
| FRN-R-1 1/2 | FRN-R-70 |
| FRN-R-1 6/10 | FRN-R-75 |
| FRN-R-1 8/10 | FRN-R-80 |
| FRN-R-2 | FRN-R-90 |
| FRN-R-2 1/4 | FRN-R-100 |
| FRN-R-2 1/2 | FRN-R-110 |
| FRN-R-2 8/10 | FRN-R-125 |
| FRN-R-3 | FRN-R-150 |
| FRN-R-3 2/10 | FRN-R-175 |
| FRN-R-3 1/2 | FRN-R-200 |
| FRN-R-4 | FRN-R-225 |
| FRN-R-4 1/2 | FRN-R-250 |
| FRN-R-5 | FRN-R-300 |
| FRN-R-5 6/10 | FRN-R-350 |
| FRN-R-6 | FRN-R-400 |
| FRN-R-6 1/4 | FRN-R-450 |
| FRN-R-7 | FRN-R-500 |
| FRN-R-7 1/2 | FRN-R-600 |

### 600 Volts AC (250 Volts DC)

FRS-R-(amps as above)

*Available in FRN-R only DC listed to UL 198L

## LIMITRON®

(Fast-Acting)
KTU (600V)
601 to 6000A
Current Limiting
200,000AIR
UL Class L; CSA-HRC-L

Silverlinked fuse. Single-element units with no time-delay. Very fast-acting with a high degree of current limitation; provide excellent component protection. Particularly suited for protection of circuit breakers with lower interrupting ratings, and non-inductive loads such as lighting and heating circuits. Must be over-sized to prevent opening by the temporary harmless over-loads. In motor circuits, must be sized at approximately 300% of motor full-load current and thus will not provide overload protection.

### 600 Volts AC

| | |
|---|---|
| KTU-400‡ | KTU-1600 |
| KTU-600‡ | KTU-1800 |
| KTU-601 | KTU-2000 |
| KTU-650 | KTU-2500 |
| KTU-700 | KTU-3000 |
| KTU-800 | KTU-3500 |
| KTU-1000 | KTU-4000 |
| KTU-1200 | KTU-4500 |
| KTU-1350 | KTU-5000 |
| KTU-1500 | KTU-6000 |

‡Not Class L

## LIMITRON®

(Time-Delay)
KLU (600V)
601 to 4000A
Current Limiting
200,000AIC
UL Class L; CSA-HRC-L

10 seconds delay (minimum) at 500% of amp rating. Not as current limiting as KRP-C or KTU fuses.

### 600 Volts

| | |
|---|---|
| KLU-601 | KLU-1500 |
| KLU-650 | KLU-1600 |
| KLU-700 | KLU-2000 |
| KLU-800 | KLU-2500 |
| KLU-1000 | KLU-3000 |
| KLU-1200 | KLU-4000 |

# Fuses



## BUSSMANN

### LIMITRON®

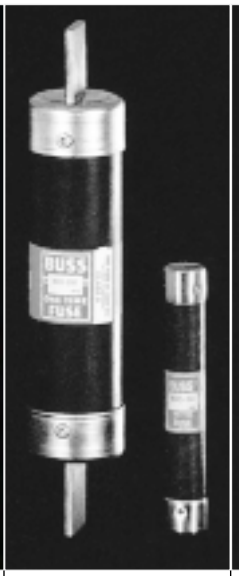
(Fast-Acting)
KTS-R (600V)
KTN-R (250V)
1/10 to 600A
200,000AIR
Current Limiting
UL Class RK1;
CSA-HRC1-R

Single-element, fast-acting fuses with no time delay. The same basic performance of the 601-6000A KTU fast-acting LIMITRON fuses. Provides a high degree of short-circuit current limitation (component protection). Commonly used to protect circuit breakers with lower interrupting ratings. If used in circuits with surge currents (motors, etc.) must be oversized to prevent opening. Incorporate Class R rejection feature. Can be inserted in non-rejection type fuseholders. Thus, can physically and electrically replace fast acting Class H, K1, K5, RK5, and other RK1 fuses.

**250 Volts AC**

| | |
|---|---|
| KTN-R-1 | KTN-R-70 |
| KTN-R-2 | KTN-R-80 |
| KTN-R-3 | KTN-R-90 |
| KTN-R-4 | KTN-R-100 |
| KTN-R-5 | KTN-R-110 |
| KTN-R-6 | KTN-R-125 |
| KTN-R-8 | KTN-R-150 |
| KTN-R-10 | KTN-R-175 |
| KTN-R-12 | KTN-R-200 |
| KTN-R-15 | KTN-R-225 |
| KTN-R-20 | KTN-R-250 |
| KTN-R-25 | KTN-R-300 |
| KTN-R-30 | KTN-R-350 |
| KTN-R-35 | KTN-R-400 |
| KTN-R-40 | KTN-R-450 |
| KTN-R-45 | KTN-R-500 |
| KTN-R-50 | KTN-R-650 |
| KTN-R-60 | |

**600 Volts AC** KTS-R-(amps as above)



### ONE-TIME

(General Purpose)
NOS (600V)
NON (250V)
1/10 to 600A
10,000AIR
Non Current Limiting
UL Class H
(K-5—NON-1 to 60;
NOS–5 to 60)

With an interrupting rating of 10,000 amp and generally not considered current limiting, Class H ONE-TIME fuses are used in circuits with low available short-circuit currents. Single-element ONE-TIME fuses do not incorporate time-delay. The K-5 ratings have a 50,000AIR.

**250 Volts AC**

| | |
|---|---|
| NON-1/8* | NON-45 |
| NON-1/2* | NON-50 |
| NON-3/4* | NON-60 |
| NON-1 | NON-70 |
| NON-1 1/2* | NON-80 |
| NON-2 | NON-90 |
| NON-2 1/2* | NON-100 |
| NON-3 | NON-110 |
| NON-4 | NON-125 |
| NON-5 | NON-150 |
| NON-6 | NON-175 |
| NON-7 | NON-200 |
| NON-8 | NON-225 |
| NON-10 | NON-250 |
| NON-12 | NON-300 |
| NON-15 | NON-350 |
| NON-20 | NON-400 |
| NON-25 | NON-450 |
| NON-30 | NON-500 |
| NON-35 | NON-600 |
| NON-40 | |

**600 Volts AC**

NOS-(amps as above)

*Available only as NON

### SUPERLAG®

(General Purpose)
RES (600V)
REN (250V)
1 to 600A
10,000AIR
Non Current Limiting
UL Class H

Time-lag is excellent for a class H fuse; affords slower response to temporary overloads. After opening, SUPERLAG fuse links can be replaced and the fuse reused.

**250 Volts**

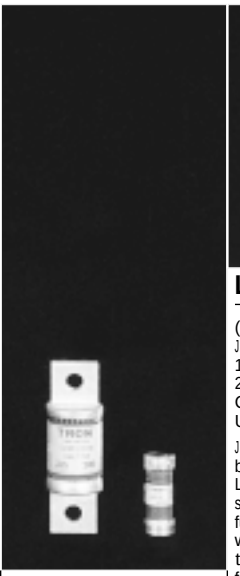
| | |
|---|---|
| REN-1 | REN-70 |
| REN-2 | REN-80 |
| REN-3 | REN-90 |
| REN-4 | REN-100 |
| REN-5 | REN-110 |
| REN-6 | REN-125 |
| REN-8 | REN-150 |
| REN-10 | REN-175 |
| REN-12 | REN-200 |
| REN-15 | REN-225 |
| REN-20 | REN-250 |
| REN-25 | REN-300 |
| REN-30 | REN-350 |
| REN-35 | REN-400 |
| REN-40 | REN-450 |
| REN-45 | REN-500 |
| REN-50 | REN-600 |
| REN-60 | |

**600 Volts AC**

RES-(amps as above)

**RENEWABLE LINKS**

250 Volts–LKN-(amps as above)
600 Volts–LKS-(amps as above)



### T-TRON®

(Fast-Acting)
JJS (600V) 1-800A
JJN (300V) 1-1200A
200,000AIR
Current Limiting
UL Class T; CSA HRCI-T

The space-savers. Counterpart of the KTN-R/KTS-R LIMITRON fuses but only one-third the size; thus, particularly suited for critically restricted space. A single-element fuse; extremely fast-acting. Provide a high degree of current limitation on short-circuits for excellent component protection. Must be oversized in circuits with inrush currents common to motors, transformer, and other inductive components. Commonly applied in electric heat circuits, load centers, disconnect switches, meter stacks, etc. The small size of T-TRON fuses permits them to be installed in panelboards and control centers for system upgrading when existing circuit breakers cannot safely interrupt larger available short-circuit currents.

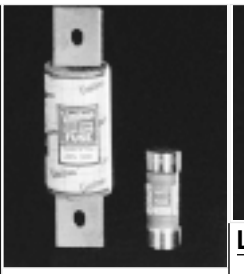
**300 Volts AC**

| | |
|---|---|
| JJN-1 | JJN-110 |
| JJN-2 | JJN-125 |
| JJN-3 | JJN-150 |
| JJN-6 | JJN-175 |
| JJN-10 | JJN-200 |
| JJN-15 | JJN-225 |
| JJN-20 | JJN-250 |
| JJN-30 | JJN-350 |
| JJN-35 | JJN-400 |
| JJN-40 | JJN-450 |
| JJN-45 | JJN-500 |
| JJN-50 | JJN-600 |
| JJN-60 | JJN-700* |
| JJN-70 | JJN-800 |
| JJN-80 | JJN-1000‡ |
| JJN-90 | JJN-1200‡ |
| JJN-100 | |

**600 Volts**

JJS-(amps as above)

*Available as JJN only
‡Consult Customer Service for availability when ordering JJS only.



### LIMITRON®

(Quick-Acting)
JKS (600V)
1 to 600A
200,000AIR
Current Limiting
UL Class J; CSA HRCI-T

JKS LIMITRON fuses are basically the same as RK1 LIMITRON fuses except smaller in physical size. JKS fuses are single-element units with no time-delay and are thus best applied in circuits free of temporary overloads.

**600 Volts AC**

| | |
|---|---|
| JKS-1 | JKS-80 |
| JKS-3 | JKS-90 |
| JKS-4 | JKS-100 |
| JKS-5 | JKS-110 |
| JKS-6 | JKS-125 |
| JKS-10 | JKS-150 |
| JKS-15 | JKS-175 |
| JKS-20 | JKS-200 |
| JKS-25 | JKS-225 |
| JKS-30 | JKS-250 |
| JKS-35 | JKS-300 |
| JKS-40 | JKS-350 |
| JKS-45 | JKS-400 |
| JKS-50 | JKS-450 |
| JKS-60 | JKS-500 |
| JKS-70 | JKS-600 |

### LIMITRON®

(Fast-Acting)
KTK-R (600V)
1/10 to 30A
200,000AIR
Current Limiting
UL Class CC;
CSA HRCI-MISC

U.L. listed for branch circuit protection. A very small, high performance, fast-acting, single-element fuse for protection of branch circuits, motor control circuits, lighting ballasts, control transformers, street lighting fixtures ... A diameter of only 13/32" and a length of 1 1/2" give cost and space savings. A grooved ferrule permits mounting in "rejection" type fuseholders as well as standard non-rejection type holders.

**600 Volts AC**

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

### Type SC

300V
1 to 60A
100,000AIR
Current Limiting; UL Class G
CSA HRCI-MISC

A high performance general-purpose branch circuit fuse for lighting, appliance, and motor branch circuits of 300 volts (or less) to ground. Fuse diameter is 13/32"; lengths vary with ampere rating from 1 5/16 to 2 1/4" (serves as rejection feature to prevent oversizing).

**300 Volts AC**

| | |
|---|---|
| SC-1/2 | SC-15 |
| SC-1 | SC-20 |
| SC-1 1/2 | SC-25 |
| SC-2 | SC-30 |
| SC-3 | SC-35 |
| SC-4 | SC-40 |
| SC-5 | SC-45 |
| SC-6 | SC-50 |
| SC-8 | SC-60 |
| SC-10 | |

### CC-TRON™

(Time-Delay)
FNQ-R (600V)
1/4 to 10A
200,000AIR
Current Limiting
UL Class CC
CSA HRCI-MISC

Ideal for control transformer protection. Meets requirements of NEC 430-72 (b) & (c) and UL 508. Its miniature design and branch circuit rating make it ideal for motor branch circuit and short circuit protection required by NEC 430-52.

**600 Volts AC**

| | |
|---|---|
| FNQ-R-1/4 | FNQ-R-3 |
| FNQ-R-1/2 | FNQ-R-4 |
| FNQ-R-8/10 | FNQ-R-5 |
| FNQ-R-1 | FNQ-R-6 |
| FNQ-R-1 3/10 | FNQ-R-7 1/2 |
| FNQ-R-1 1/2 | FNQ-R-8 |
| FNQ-R-2 | FNQ-R-9 |
| FNQ-R-2 1/2 | FNQ-R-10 |

BUSSMANN

Medium Voltage Fuses; Medium And High Voltage Fuse Links

# Selection Guide

## Selection Guide—Medium Voltage Fuses; Medium And High Voltage Fuse Links

### Motor Circuit Protection

**R-Rated Fuses**

| | | |
|---|---|---|
| **2400 Volt** | | |
| JCK | 2R-24R | Clip Mount |
| JCK-A | 2R-24R | Clip Mount |
| | | W/Hookeye |
| JCH | 2R-24R | Clip Mount |
| | | W/Hookeye; |
| | | Hermetically |
| | | Sealed |
| **4800 Volt** | | |
| JCL | 2R-24R | Clip Mount |
| JCL-A | 2R-24R | Clip Mount |
| | | W/Hookeye |
| JCG | 2R-24R | Clip Mount |
| | | W/Hookeye; |
| | | Hermetically |
| | | Sealed |
| **7200 Volt** | | |
| JCR | 2R-24R | Clip Mount |
| | | W/Hookeye |

### Potential & Small Power Transformers

**E-Rated Fuses**

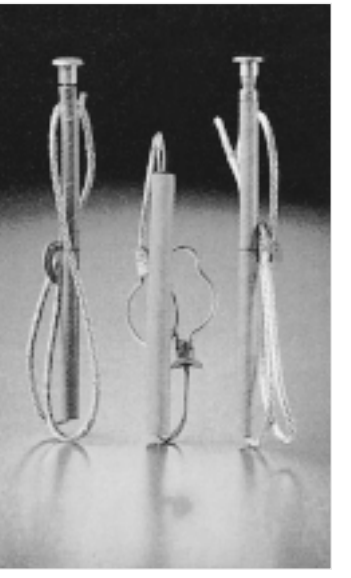
| | | |
|---|---|---|
| **2475 Volt** | | |
| JCD | .25E-4E | Non-Indicating |
| **5500 Volt** | | |
| JCW | .25E-5E | Non-Indicating |
| JCE | .25E-4E | Non-Indicating |
| JCQ | .5E-10E | Indicating |
| **8300 Volt** | | |
| JCI | .5E-10E | Indicating |
| **15,500 Volt** | | |
| JCT | .5E-10E | Indicating |

### Transformer & Feeder Protection

**E-Rated Fuses**

| | | |
|---|---|---|
| **2750 Volt** | | |
| JCX | .5E-750E | Clip Mount |
| **5500 Volt** | | |
| JCY | .5E-400X | Clip Mount |
| JCU | 10E-750E | Clip Mount |
| **8300 Volt** | | |
| JCZ | 15E-200E | Clip Mount |
| JDM | 8E-40E | Clip Mount |
| JDN | 15E-100E | Clip Mount |
| JDZ | 20E-125E | Clip Mount |
| **15,500 Volt** | | |
| JCN | 15E-200X | Clip Mount |
| JDM | 8E-40E | Clip Mount |
| JDN | 15E-100E | Clip Mount |

### Medium & High Voltage Fuse Links



EEI-NEMA Type K & T

High Surge Type H

Type N

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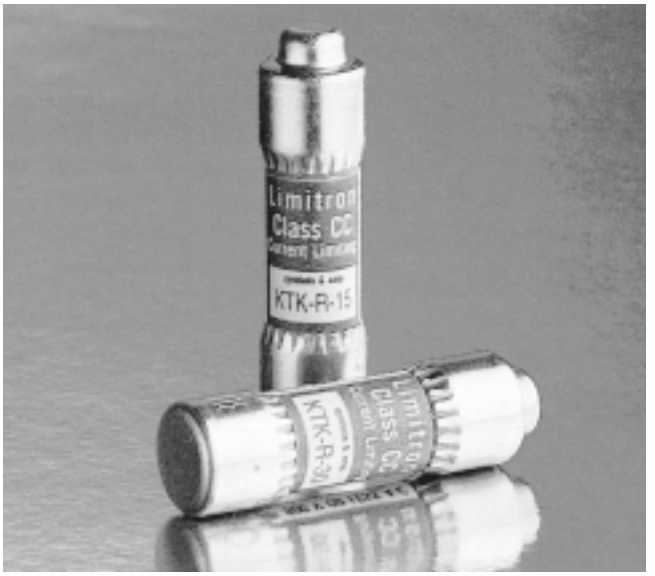
BUSSMANN

Power Distribution Fuses—600 Volts (or less)

# LIMITRON® Fast-Acting—KTK-R

CATALOG SYMBOL KTK-R • FAST-ACTING • 1/10 TO 30 AMPERES • 600 VOLTS (OR LESS) • CURRENT LIMITING • INTERRUPTING RATING–200,000A RMS SYM. • U.L. LISTED (BRANCH CIRCUIT FUSE) CLASS CC




## Application and Sizing

Apply KTK-R fuses on branch circuits where non-time-delay fuse characteristics with current-limiting short-circuit protection is needed. Apply for motor branch circuit protection the same as any non-time-delay fuse. KTK-R fuses are well suited to meet the requirements of the National Electrical Code, Section 430-72 concerning the overcurrent protection of motor control circuits. With some exceptions, this section requires overcurrent protection at the conductor ampacity for control conductors extending beyond the control equipment enclosures.

**Catalog Numbers (Symbol and Ampers)**

| | | | |
|---|---|---|---|
| KTK-R-1/10 | KTK-R-3/4 | KTK-R-3 1/2 | KTK-R-9 |
| KTK-R-1/8 | KTK-R-1 | KTK-R-4 | KTK-R-10 |
| KTK-R-2/10 | KTK-R-1 1/2 | KTK-R-5 | KTK-R-12 |
| KTK-R-1/4 | KTK-R-2 | KTK-R-6 | KTK-R-15 |
| KTK-R-3/10 | KTK-R-2 1/2 | KTK-R-9 | KTK-R-20 |
| KTK-R-1/2 | KTK-R-3 | KTK-R-8 | KTK-R-30 |

Carton quantity—10; Shelf Package—100. Weight Per Carton—3.1 oz.

Power Distribution Fuses—600 Volts (or less)

# SC Time-Lag


## Application

As a 300 volt branch circuit fuse, the Type SC fuse has broad general application. They are ideal for fluorescent fixtures subject to high short-circuit currents—minimize damage caused by faulty ballast; isolate a problem to a single fixture. Fuses can be installed in Buss HPF type fuseholders (recognized by UL for branch circuit protection).

**Fuseholders for SC Fuses**

| Catalog Number | Description Fuse Size | Terminal Type |
|---|---|---|
| HPF-EE | 1-15A | Solder (w/o leads) |
| HPF-F-EE | 1-15A | Leads; 10" #18 copper insul. wire |
| HPF-JJ | 16-20A | Solder (w/o leads) |

**Ampere Ratings—SC Fuses (300 Volts AC)**

| Catalog Number | Ctn. Qty. | Weight* Lbs. | Weight* Kg | Catalog Number | Ctn. Qty. | Weight* Lbs. | Weight* Kg |
|---|---|---|---|---|---|---|---|
| SC-1/2 | 4 | 0.600 | 0.272 | SC-20 | 4 | 0.064 | 0.029 |
| SC-2 | | | | SC-25 | 4 | 0.040 | 0.018 |
| SC-3 | | | | SC-30 | | | |
| SC-4 | | | | SC-35 | 2 | 0.750 | 0.340 |
| SC-5 | | | | SC-40 | | | |
| SC-6 | | | | SC-45 | | | |
| SC-8 | | | | SC-50 | | | |
| SC-10 | | | | SC-60 | | | |
| SC-15 | | | | | | | |

* Weight per carton
†Contact Bussman for DC ratings

**Dimensional Data**

| Fuse | Length | Ferrule |
|---|---|---|
| SC-1 to SC-15 | 1 5/16" | 13/32" |
| SC-20 | 1 13/32" | |
| SC-25 and SC-30 | 1 5/8" | |
| SC-35 and SC-60 | 2 1/4" | |

GENERAL ELECTRIC

**9F60**

GE CURRENT-LIMITING

# POWER FUSE

TYPES EJ-1 AND EJO-1

## TYPE EJ-1 FOR USE INDOORS OR INSIDE AN ENCLOSURE ONLY
## TYPE EJO-1 FOR USE INDOORS OR OUTDOORS

In the selection of current-limiting power fuses for a particular application, it is important to consider all factors affecting the installation. Specifically, it is necessary to know the anticipated load current and the magnetizing inrush currents which will be available. If problems of overloads and the coordination of the fuse and other protective-device operating times are encountered, it will be necessary to exercise caution in the selection of proper fuse ratings to assure a properly coordinated installation. Generally, the following important factors should be fully considered.:

- Current rating
- Voltage rating
- Frequency rating
- Location
- Mounting
- Coordination

Each of these factors, insofar as they characteristically apply to General Electric power fuses, is summarized in Table I.

## CURRENT RATINGS

All General Electric current-limiting power fuses, Types EJ-1 and EJO-1, are general-purpose fuses. (Function Class "g" – ANSI C37.40-3.2.2.2).

### TABLE I
### SUMMARY OF RATINGS OF CURRENT-LIMITING POWER FUSES, TYPES EJ-1 AND EJO-1

| Voltage Ratings kV* | | Continuous Current Ratings Amperes | | Interrupting Ratings 60 Hertz* | |
|---|---|---|---|---|---|
| Nominal | Max | EJ-1 (Indoor) | EJO-1 (Outdoor) | Total Rms Amp (Asymm) | Max 3Ø MVA (Symm) |
| 0.6 | 0.625 | 3E-10E | – | 100,000 | – |
| 2.4 | 2.75 | 1E-200E | | 60,000 | 155 |
| 2.4 | 2..75 | | 1E-200E | 80,000 | 210 |
| 2.4/4.16 | 2.75/4.76 | 250E-450E | – | 80,000 | 210/360 |
| 4.8 | 5.5 | – | 0.5E-200E | 80,000 | 415 |
| 4.8 | 5.5 | 0.5E-25E | – | 100,000 | 515 |
| 4.8 | 5.5 | 0.5E-3E | – | 80,000 | 415 |
| 7.2 | 8.25 | 0.5E-3E | | 80,000 | 620 |
| 7.2 | 8.25 | – | 0.5E-200E | 80,000 | 620 |
| 14.4 | 15.5 | 0.5E-3E | 0.5E-3E | 190,000 | 2950 |
| 14.4 | 15.5 | – | 5E-10E | 130,000 | 2020 |
| 14.4 | 15.5 | – | 15E-100E | 60,000 | 935 |
| 14.4 | 15.0 | 125 | – | 60,000 | 925 |
| 14.4 | 15.0 | 150-175 | – | 50,000 | 780 |
| 23.00 | 25.8 | – | 0.5E-10E | 70,000 | 1740 |
| 23.0 | 25.8 | – | 15E-100E | 40,000 | 1000 |
| 34.5 | 38.0 | – | 1E-10E | 70,000 | 2600 |
| 34.5 | 38.0 | – | 15E-80E | 20,000 | 750 |

*May be applied at 50 Hertz without derating.

The fuse voltage rating, is permitted to exceed the system voltage by any desired value except for limitations imposed by the generated transient voltage. This is important because the unique current-limiting action of the fuse is characterized by the generation of transient (50 to 500 microseconds to peak) arc voltages above normal circuit voltage. The maximum peak arc voltage which can occur on General Electric current-limiting power fuses at fuse-rated short-circuit current is specified in Table II (Table 5 of ANSI Standard C37.46).

## MOUNTINGS

### Fuse Supports

Mountings of the nondisconnecting type are available. They are used generally in voltage transformer circuits or where there is some other disconnecting or isolating device in series with the fuse in the circuit.

### Fuse Disconnecting Switches

These switches are also available and have the feature of serving as disconnecting switches to isolate the equipment which they protect. They are not intended to be used for breaking load or magnetizing current.

**TABLE II**
**MAXIMUM PERMISSIBLE OVERVOLTAGE FOR CURRENT-LIMITING POWER FUSES**

| Nominal System Voltage (kV) | Rated Maximum Voltage (kV) | Maximum Peak Overvoltage (kV) |
|---|---|---|
| 2.4 | 2.75 | 9 |
| 4.8 | 5.5 | 17 |
| 7.2 | 8.25 | 25 |
| 13.8 | 15.0 | 45 |
| 14.4 | 15.5 | 45 |
| 23.0 | 25.8 | 75 |
| 34.5 | 38.0 | 109 |

**9F62**

GENERAL ELECTRIC

# CURRENT-LIMITING FUSES

TYPES EJO-1

In selecting current-limiting power fuses for a particular application, it is important to consider all factors affecting the installation. Thus, it is necessary to consider not only anticipated load current and transformer magnetizing inrush, but also overloads and the characteristics of other protective devices to ensure a properly coordinated installation. Generally, the following important factors should be fully considered:

- Current rating
- Voltage rating
- Frequency rating
- Interrupting rating
- Location
- Coordination

Each of these factors, insofar as it is characteristically applies to General Electric power fuses, is briefly summarized in Table I.

## CURRENT RATINGS

All General Electric Model 9F62 current-limiting power fuses are general purpose fuses (function class “g” – ANSI/IEEE C37.40-3.1-1981).

**TABLE I**
**SUMMARY OF RATINGS OF 9F62 CURRENT-LIMITING POWER FUSES**

| Voltage kV | Continuous Current Ratings Amperes | Interrupting Ratings 60 Hertz | |
|---|---|---|---|
| Max. | EJ-1 (Indoor/Outdoor) | Amperes (rms) Symmetrical | Max. 3ø MVA (symm.)* |
| 2.8 | 25E - 65E | 50,000 | 242 |
| 5.5 | 25E - 450E | 50,000 | 476 |
| 8.3 | 20E - 250E | 50,000 | 718 |
| 15.5 | 20E - 200E | 50,000 | 1342 |

* These symmetrical ratings can be converted to asymmetrical values by multiplying them by 1.6

GENERAL ELECTRIC

## VOLTAGE RATINGS

The maximum peak arc voltage which can occur on General Electric 9F62 current-limiting power fuses at fuse maximum-rated voltage is specified in Table II. Wire-element fuses normally produce arc voltages independent of system voltage. In the 9F62 fuse, however, where arc voltage control is achieved by the use of notched ribbon elements, the maximum peak overvoltage is affected by the system voltage.

## INTERRUPTING RATINGS

The interrupting rating of power fuses should equal or exceed the maximum available short-circuit duty at the point in the system where the fuses are to be installed. Note that the interrupting ratings for 9F62 fuses are expressed in symmetrical amperes as opposed to the asymmetrical amperes interrupting ratings published for the 9F60 fuses. Thus, any comparison between interrupting ratings of the two designs must recognize this difference. Since system fault calculations are usually performed in terms of symmetrical currents, this change in how the fuse interrupting rating is expressed eliminates the need for conversion from asymmetrical to symmetrical values.

## LOCATION

All 9f62 fuses are designed for outdoor use and therefore may also be used either in outdoor enclosures or indoor.

## MOUNTING

### Fuse Supports

Mountings of the nondisconnecting type are available. They are generally used in voltage transformer circuits, or where there is some other disconnecting or isolating device in series with the fuse in the circuit.

When replacing a larger-diameter 9F60 fuse with a smaller-diameter 9F62 fuse, two options are available. Obviously, one option is to change the clips into which the fuse fits. The other option is to purchase a pair of adapters to slip over the ferrules of a 2-inch diameter (C) fuse that allow it to be used in clips intended for 3-inch diameter (D) fuses.

### Fuse Disconnecting Switches

Disconnecting switches that isolate the equipment they protect are also available. They are not intended to be used for breaking load or magnetizing current.

**TABLE II**
**FUSE MAXIMUM PEAK OVERVOLTAGE (ARC VOLTAGE) AT SPECIFIED TEST VOLTAGE**

| Test Voltage | Model | Maximum Arc Voltage | Maximum Arc Voltage Permitted, ANSI |
|---|---|---|---|
| 15.5 kV | FDD200<br>FDD125 | 48 kV | 49 kV |
| 15.5 kV | DDD100<br>DDD080 | 46 kV | 49 kV |
| 15.5 kV | DDD065<br>DDD050 | 43 kV | 49 kV |
| 15.5 kV | DDD030<br>DDD020 | 34 kV | 49 kV |
| 8.3 kV | FCC250<br>FCC175 | 23.5 kV | 26 kV |
| 8.3 kV | DCC150<br>DCC125 | 22 kV | 26 kV |
| 8.3 kV | DCC100<br>DCC065 | 20.5 kV | 26 kV |
| 8.3 kV | HCC050<br>HCC020 | 18.5 kV | 26 kV |
| 5.5 kV | FCB450<br>FCB250 | 16 kV | 18 kV |
| 5.5 kV | DCB200<br>DCB080 | 14.5 kV | 18 kV |
| 5.5 kV | HCB065<br>HCB025 | 13 kV | 18 kV |
| 2.75 kV | HCB065<br>HCB025 | 7.5 kV | 9 kV |

# ELSA- FUSE LINK

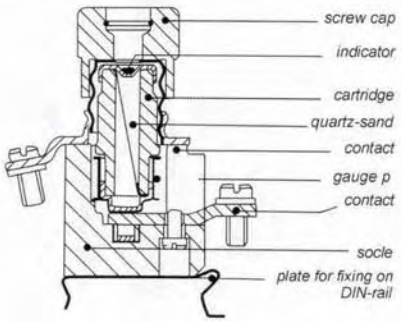
## DO AND D FUSE LINK

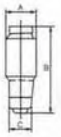
### Application:

This system of Neo D-fuse-links is proper to protect cables and electrical wires at a rated voltage of 380V AC and 250V DC. The fusing-indicators, in several colors, allow to show both the rating and the fusion of the cartridge.

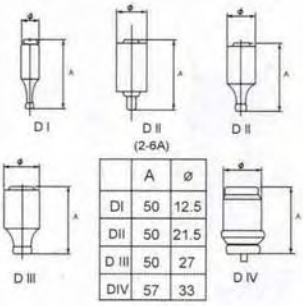
A suitable gauge must be inserted in the base and the whole device is blocked by means of the screw cap. In this way we have got a non-interchangeability of the fuselinks with others of different currents.

| SPECIFICATION |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| SIZE(MM) | D01 | D02 | D03 | D Ⅰ | D Ⅱ | D Ⅲ | D Ⅳ |
| VOLT | 380V | 380V | 380V | 500V | 500V | 500V | 500V |
| 2A | • | • | | | • | | |
| 4A | • | • | | | • | | |
| 6A | • | • | | | • | | |
| 10A | • | • | | | • | | |
| 16A | • | • | | | • | | |
| 20A | • | • | | | | • | |
| 25A | • | • | | | | • | |
| 35A | | | • | | | • | |
| 50A | | | • | | | • | |
| 63A | | | • | | | • | |
| 80A | | | | • | | | • |
| 100A | | | | • | | | • |



| | 001 | 002 | 003 |
|---|---|---|---|
| A | 11 | 15 | 24 |
| B | 36 | 36 | 43 |
| C | 7 | 16 | 22 |




| | A | ø |
|---|---|---|
| DI | 50 | 12.5 |
| DII | 50 | 21.5 |
| D III | 50 | 27 |
| DIV | 57 | 33 |


E16


E27


E33


E33X3

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KALEPOSELEN

# Low Voltage Fuse

ADAPTER

D FUSE

D-CARTRIDGE FUSE

FUSE CAP

H.R.C.FUSE LINK

## Adapter
อแดปเตอร์

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **E27** | A | 2 | 4 | 6 | 10 | 16 | 20 | 25 | **E33** | 35 | 50 | 63 |

## D Fuse

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **E27** | A | 2 | 4 | 6 | 10 | 16 | 20 | 25 | **E33** | 35 | 50 | 63 |

## D-Cartridge Fuse

| Type<br>RT |
|---|
| E27-25A |
| E33-63A |

## Fuse Cap

| Type | |
|---|---|
| Standard | E27 |
| Star Model | E27 |
| Standard | E33 |
| Star Model | E33 |

## H.R.C.Fuse Link

| A |
|---|
| 6 |
| 10 |
| 16 |
| 20 |
| 25 |
| 32 |
| 40 |
| 50 |
| 63 |
| 80 |
| 100 |
| 125 |
| 160 |
| 200 |
| 250 |
| 315 |
| 400 |
| 500 |
| 630 |

KALEPOSELEN

LV. H.R.C. Load Break Switch

| Type | Size | A |
|---|---|---|
| Terminal | 00 | 160 |
| Clamp | | |
| Terminal | 1 | 250 |
| Clamp | | |
| Terminal | 2 | 400 |
| Clamp | | |
| Terminal | 3 | 630 |

Triple Pole Fuse Bases

| Type | Size | A |
|---|---|---|
| Terminal | 00 | 160 |
| Clamp | | |
| Terminal | 1 | 250 |
| Clamp | | |
| Terminal | 2 | 400 |
| Clamp | | |

Single Pole Fuse Bases

| Type | Size | A |
|---|---|---|
| Terminal | 00 | 160 |
| Clamp | | |
| Terminal | 1 | 250 |
| Clamp | | |
| Terminal | 2 | 400 |
| Clamp | | |
| Terminal | 3 | 630 |

Fuse Pulling

| Type | For Fuse Size |
|---|---|
| H.R.C. | 00, 1, 2, 3 |

Fuse Bases

| Type | A |
|---|---|
| E 27 | 25 |
| E 33 | 63 |

Switch Board Fuse

| Type | A |
|---|---|
| E 27 | 25 |
| E 33 | 63 |

Switch Board Fuse

| Type | A |
|---|---|
| E 27 | 25 |
| E 33 | 63 |

Switch Board Fuse

| Type | A | Price |
|---|---|---|
| E 27 | 25 | |
| E 33 | 63 | |

Switch Board Fuse

| Type | A | Price |
|---|---|---|
| E 27 | 25 | |
| E 33 | 63 | |

# ELSA - FUSE LINK

## HRC FUSE



| | | | | | |
|---|---|---|---|---|---|
| NIT | 2A~32A | 100 | 16Kg | 15.5Kg | 32.5 X 17.5 X 32 |
| TIS | 32A~63A | 500 | 28.5 | 27 | 48 X 25.5 X 25.5 |
| TCP | 63A~100A | 300 | 23 | 32 | 46.5 X 25 X 31.5 |
| TE | 125A~200A | 120 | 27 | 25.5 | 53.5 X 30 X 23.5 |
| TBC | 32A~100A | 480 | 28 | 27 | 50 X 28 X 31 |
| TKF | 250A~300A | 90 | 29 | 28 | 50 X 31 X 29.5 |
| TMF | 400A | 60 | 29 | 28 | 37.5 X 31 X 32 |
| 95TY | 50A~315A | 120 | 26 | 24 | 49 X 26 X 22.5 |
| 171TN | 400A | 100 | 29.5 | 27.5 | 47 X 30 X 30 |
| 387TW | 500A~800A | 40 | 26 | 24 | 40 X 29 X 32.5 |
| TM | 400A | 30 | 17 | 16 | 44 X 23 X 28.5 |
| TTM | 500A~630A | 24 | 27 | 26 | 44 X 31 X 42 |
| TCM | 800A | 24 | 27 | 26 | 44 X 31 X 42 |

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# ELSA - FUSE AND BASE

## NT HRC LOW VOLTAGE FUSE AND BASE

NT00C

NT00

NT0

NT1

NT type low voltage H.R.C. fuse features light in weight, small in size, low in power, loss and high in beaking capacity. This product has been widely used in overload and short circuit protection of electric installations.

This product conforms to IEC269 and VDE0636 standards of the rating at the world advanced level.

### Specifications

| Type | Fuse link | | | | Fuse base | | |
|---|---|---|---|---|---|---|---|
| | Rated current(A) | Rated voltage(V) | Rated power loss(W) | Weight (kg) | Type | Rated current(A) | Weight (kg) |
| NT00C NT00 | 2 | 500,600 | 0.41 | 0.15 | sist 101 | 160 | 0.2 |
| | 4 | | 0.81 | | | | |
| | 6 | | 0.62 | | | | |
| | 10 | | 1.08 | | | | |
| | 16 | | 1.60 | | | | |
| | 20 | | 1.81 | | | | |
| | 25 | | 2.31 | | | | |
| | 32 | | 3.07 | | | | |
| | 36 | | 3.17 | | | | |
| | 40 | | 4.05 | | | | |
| | 50 | | 4.25 | | | | |
| | 63 | | 5.7 | | | | |
| | 80 | | 7 | | | | |
| | 100 | | 1.03 | | | | |
| NT0 | 6 | 500,600 | 4.70 | 0.2 | sist 101 | 160 | 0.32 |
| | 10 | 500,600 | 1.42 | | | | |
| | 16 | 500,600 | 2.45 | | | | |
| | 20 | 500,600 | 2.36 | | | | |
| | 35 | 500,600 | 2.7 | | | | |
| | 32 | 500,600 | 3.74 | | | | |
| | 35 | 500,600 | 4.3 | | | | |
| | 40 | 500,600 | 4.7 | | | | |
| | 50 | 500,600 | 5.5 | | | | |
| | 63 | 500,600 | 6.9 | | | | |
| | 80 | 500,600 | 7.6 | | | | |
| | 100 | 500,600 | 8.9 | | | | |
| | 125 | 500 | 10.1 | | | | |
| | 160 | 500 | 15.2 | | | | |

| Type | Fuse link | | | | Fuse base | | |
|---|---|---|---|---|---|---|---|
| | Rated current (A) | Rated voltage (V) | Weight (kg) | Rated power loss(A) | Type | Rated current (A) | Weight (kg) |
| NT1 | 80 | 500 600 | 6.2 | 0.36 | Sist201 | 250 | 0.8 |
| | 100 | 500 600 | 7.5 | | | | |
| | 125 | 500 600 | 10.2 | | | | |
| | 160 | 500 600 | 13 | | | | |
| | 200 | 500 600 | 15.2 | | | | |
| | 224 | 500 | 16.8 | | | | |
| | 250 | 500 | 18.3 | | | | |

**Electrolines Est.**
**P. O. Box. 942 Yanbu Saudi Arabia Tel: +966 4 3225418 Fax: +966 4 3222213 Al-Jubail: Tel: +966 3 3632967 Fax: +966 3 3612967**

# ELSA - FUSE HOLDER

## ST TYPE FUSE HOLDER

ST63-1P

ST63-2P

ST63-4P

Rated Voltage: 220V AC 380V AC
500V AC Rated Current:up to 100A
Standard spcifications: IEC 269
IEC 63211

ST32-1P

ST32-2P

ST32-3P

ST32-4P

ST100-1P

ST100-2P

ST100-3P

ST100-4P

| Size of fuse link | Rated current A | Number of poles | Order No. | Packing Units | Approx weigh/unit kg |
|---|---|---|---|---|---|
| **10X38** | 32 | 1 | 1800101 | 12 | 0.075 |
| | | 1+N | 1800201 | 6 | 0.16 |
| **10X38** | 32 | 2 | 1800202 | 6 | 0.15 |
| **10X38** | 32 | 3 | 1800301 | 4 | 0.225 |
| | | 3+N | 1800401 | 3 | 0.31 |
| **14X51** | 63 | 1 | 1801101 | 6 | 0.18 |
| | | 1+N | 1801201 | 3 | 0.37 |
| **14X51** | 63 | 2 | 1801202 | 3 | 0.36 |
| **14X51** | 63 | 3 | 1801301 | 2 | 0.54 |
| | | 3+N | 1801401 | 2 | 0.73 |
| **22X58** | 100 | 1 | 1802101 | 6 | 0.29 |
| | | 1+N | 1802201 | 3 | 0.60 |
| **22X58** | 100 | 2 | 1802202 | 3 | 0.58 |

| Size of fuse link | Rated current A | Number of poles | Order No. | Packing Units | Approx weigh/unit kg |
|---|---|---|---|---|---|
| **22X58** | 100 | 3 | 1802301 | 2 | 0.88 |
| | | 3+N | 1802401 | 2 | 1.20 |
| **10X38** | 32 | 1+LED | 1800102 | 12 | 0.075 |
| | | 1+N+LED | 1800210 | 6 | 0.16 |
| **10X38** | 32 | 2+LED | 1800211 | 6 | 0.15 |
| **10X38** | 32 | 3+LED | 1800302 | 4 | 0.225 |
| | | 3+N+LED | 1800402 | 3 | 0.31 |
| **14X51** | 63 | 1+LED | 1801102 | 6 | 0.18 |
| | | 1+N+LED | 1801210 | 3 | 0.37 |
| **14X51** | 63 | 2+LED | 1801211 | 3 | 0.36 |
| **14X51** | 63 | 3+LED | 1801302 | 2 | 0.54 |
| | | 3+N+LED | 1801402 | 2 | 0.73 |

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# ELSA- FUSE HOLDER

## FUSE HOLDER


FS-101-1PL


FS-102-2PL


FS-101-1P


FS-102-2P


FS-301-1P,30A


RT20-32-1P


RT-32-1P


WS(RT18)1P ϕ 10x38


RT-14


ST-32 1P


ST-63 1P+N


SN 32A 1P+N


SN 63A 1P+N


SN 63A 3P+N


ST-32 3P+LED


ST-32 4P+LED


NT00/3P


NT00


NH-3X


BJ-60


Cutout-60


BJ-30


Depagne-4P(14x51)


Depagne-2P(14x51)


Beromet


PC200A (NT-1-3P)

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# ELSA- KNIFE SWITCH

F591-20S
2P 20A

F592-30S
2P 30A

F593-60S
2P 60A

F597-100S
2P 100A

F591-20D
2P 20A

F592-30D
2P 30A

F593-60D
2P 60A

F597-100D
2P 100A

F594-20S
3P 20A

F595-30S
3P 30A

F596-60S
3P 60A

F598-100S
3P 100A

F594-20D
3P 20A

F595-30D
3P 30A

F596-60D
3P 60A

F598-100D
3P 100A

# FLUID LEVEL SWITCH

GM-1

XX

ST-70AB

GM-2

GM-3

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