Document

7800 POWR-GARD™ Industrial Fuse Products Index

Product Innovation

Innovative concepts such as the award winning JTD_ID Class J Indicator™ fuse, the smallest time delay 60 amp CCMR Class CD fuse, and the 600V AC/DC LDC Class L fuse are recent products that are rapidly launching Littelfuse into global electrical circuit protection leadership. Superior electrical, electronic and automotive products, along with the addition of bolt-in and cartridge style medium voltage fuses further solidify Littelfuse's position as the world leader in circuit protection.

In this section you can find all of Littelfuse's POWR-GARD™ Products including POWR-PRO® Fuses, General Purpose Fuses, Midget and Electronic Fuses, Medium Voltage Fuses, Telecom Products, Special Purpose Fuses, Blocks and Holders etc.

7828 LLSRK_ID Series Indicator™ POWR-PRO®

LLSRK_ID

- **Voltage Rating:** 600 VAC • 300 VDC
- **Interrupting Rating:** 300,000 AC • 20,000 DC amperes
- **Ampere Range:** 1/10 - 600 amperes
- **Dual-Element, Time-Delay**

APPLICATIONS: UL Class RK1

All general-purpose circuits; Motors; Transformers; Solenoids; Fluorescent lighting; All system components with high in-rush currents

Document

7801 KLPC Series POWR-PRO®

KLPC

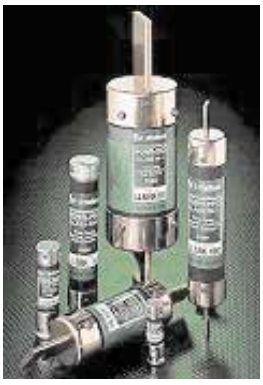
- **Voltage Rating:** 600 VAC • 480 VDC
- **Interrupting Rating:** 300,000 AC • 20,000 DC amperes
- **Ampere Range:** 200 - 6000 amperes
- **Time-Delay**

APPLICATIONS: UL Class L

Service switches; Switchboard mains and feeders; Bolted pressure contact switches; Motor control center mains; Large motor branch circuits; UL Listed series-rated protection for molded case circuit breaker panelboards and loadcenters. (See panelboard manufacturers' literature for recommended fuse rating.); Primary and secondary protection for transformers; Protection of power circuit breakers

7802 LLNRK / LLSRK Series POWR-PRO®

LLNRK / LLSRK



- **Voltage Rating:** 250/600 VAC • 125/300 VDC
- **Interrupting Rating:** 300,000 AC • 20,000 DC amperes
- **Ampere Range:** 1/10 - 600 amperes
- **Dual-Element, Time-Delay**

APPLICATIONS: UL Class RK1

All general-purpose circuits; Motors; Transformers; Solenoids; Fluorescent lighting; All system components with high in-rush currents

7803 JTD_ID Series Indicator™ POWR-PRO®

JTD_ID

- **Voltage Rating:** 600 VAC
- **Interrupting Rating:** 300,000 AC amperes
- **Ampere Range:** 8/10 - 600 amperes
- **Time-Delay**

APPLICATIONS: UL Class J

Fused combination motor controllers to provide IEC Type II (no damage) motor branch-circuit short-circuit and ground fault protection; Motor control centers; Transformer protection; Protection for UL Listed series-rated molded case circuit breaker panels; General purpose circuits - mains, feeders and branch circuits - especially when space is at a premium

7804 CCMR Series POWR-PRO®

CCMR

- **Voltage Rating:** 600 VAC • 250-500 VDC
- **Interrupting Rating:** 300,000 AC • 20,000 DC amperes
- **Ampere Range:** 2/10 - 60 amperes
- **Dual-Element, Time-Delay**

APPLICATIONS: UL Class CC

CCMR series fuses are specifically designed to withstand sustained starting currents of small motors; Provide short-circuit protection for motor branch circuits; Use with IEC- and NEMA-rated motor controllers and contactors; General purpose circuits up to 60 amps

7805 IDSR Series Indicator™ POWR-PRO®

IDSR

- **Voltage Rating:** 600 VAC • 600 VDC
- **Interrupting Rating:** 300,000 AC • 20,000 DC amperes
- **Ampere Range:** 1/10 - 600 amperes
- **Time-Delay**

APPLICATIONS: UL Class RK5

All general-purpose circuits; Motors; Transformers; Solenoids; Fluorescent lighting; All system components with high inrush currents

7806 LDC Series POWR-PRO®

LDC

- **Voltage Rating:** 600 VAC • 600 VDC
- **Interrupting Rating:** 200,000 AC • 50,000 DC amperes
- **Ampere Range:** 150 - 2000 amperes
- **Time-Delay**

APPLICATIONS: UL Class L

UPS protection, especially for large battery circuits; DC distribution; DC variable speed drives; Protection of crane rail circuits and other large DC equipment such as electrical power shovels, ship and dock cranes, etc.; Mass transit systems, including new light rail applications; General-purpose AC/DC circuits for mains, feeders, and branch circuits

Document 7807

KLLU Series • General Purpose

KLLU

- **Voltage Rating:** 600 VAC
- **Interrupting Rating:** 200,000 amperes
- **Ampere Range:** 601 - 4000 amperes
- **Time-Delay**

APPLICATIONS: UL Class L

Service switches; Switchboard mains and feeders; Bolted pressure contact switches; Motor control center mains; Large motor branch circuits; UL Listed series-rated protection for molded case circuit breaker panelboards and loadcenters. See panelboard manufacturers' literature for recommended fuse rating.

Document 7808

FLNR_ID / FLSR_ID Series Indicator™

FLNR_ID / FLSR_ID

- **Voltage Rating:** 250/600 VAC • 125/300 VDC
- **Interrupting Rating:** 300,000 AC • 20,000 DC amperes
- **Ampere Range:** 1/10 - 600 amperes
- **Dual Element, Time-Delay**

APPLICATIONS: UL Class RK5

Service entrance switches; Switchboard main and feeder switches; Motor control center mains and motor branch circuits; Individual fused combination motor controllers; Distribution panelboards; Industrial control panels; Protection of fully-rated panelboards and loadcenters; All general purpose circuits

7809 FLNR / FLSR Series • General Purpose

FLNR / FLSR

- **Voltage Rating:** 250/600 VAC • 125/300 VDC
- **Interrupting Rating:** 200,000 AC • 20,000 DC amperes
- **Ampere Range:** 1/10 - 600 amperes
- **Dual-Element, Time-Delay**

APPLICATIONS: UL Class RK5

Service entrance switches; Switchboard main and feeder switches; Motor control center mains and motor branch circuits; Individual fused combination motor controllers; Distribution panelboards; Industrial control panels; Protection of fully-rated panelboards and loadcenters; All general purpose circuits

7810 KLNR / KLSR Series • General Purpose

KLNR / KLSR

- **Voltage Rating:** 250/600 VAC • 125-300 VDC
- **Interrupting Rating:** 200,000 AC • 20,000 DC amperes
- **Ampere Range:** 1 - 600 amperes
- **Fast-Acting**

APPLICATIONS: UL Class RK1

Resistance heaters; Lighting circuits; Non-inductive loads; Molded case circuit breaker load centers and panelboards have increased interrupting ratings when "series rated" with Littelfuse KLNR/KLSR Class RK1 fuses. Refer to panelboard manufacturer's literature for UL Listed combination of fuses and panelboards. Series ratings up to 200,000 amp. are available.

7811 NLN / NLS Series • General Purpose

NLN / NLS

- **Voltage Rating:** 250/600 VAC • 250-600 VDC
- **Interrupting Rating:** 50,000 AC amperes • DC see further infos
- **Ampere Range:** 1 - 600 amperes
- **One-Time Fuse, Fast-Acting**

APPLICATIONS: UL Class K5

General purpose residential and commercial circuits with little or no motor load; Resistive heating loads.

ECONOMICAL
For use in applications where lowest initial cost is the major consideration.

7812 RLN / RLS Series • General Purpose

RLN / RLS

- **Voltage Rating:** 250/600 VAC
- **Interrupting Rating:** 10,000 AC amperes
- **Ampere Range:** 1 - 600 amperes
- **Renewable Fuse**

APPLICATIONS: UL Class H

Littelfuse RLN/RLS series renewable fuses are a quality product traditionally used to provide low cost protection. However, the possibility to improperly renew them has almost eliminated their use in new applications. Littelfuse recommends using the POWR-PRO® IDSR Indicator™ fuses or general purpose FLNR fuses.

7813 JLS Series • General Purpose

JLS

- **Voltage Rating:** 600 VAC
- **Interrupting Rating:** 200,000 amperes
- **Ampere Range:** 1 - 600 amperes
- **Fast-Acting**

APPLICATIONS: UL Class J

General purpose circuits with little or no motor load. Resistive loads, such as resistance electric heat. Loads requiring fast-acting overload protection, such as equipment containing solid-state devices.

7814 JLLN / JLLS Series POWR-T™

JLLN / JLLS

- **Voltage Rating:** 300/600 VAC • 125/300 VDC
- **Interrupting Rating:** 200,000 AC • 20,000 DC amperes
- **Ampere Range:** 1 - 2000 amperes
- **Fast-Acting**

APPLICATIONS: UL Class T

Protection of individual electric services and meters. Main switches containing Class T fuses may be used to provide compact protection for meter stacks. Molded case circuit breaker load centers and panelboards have increased interrupting ratings when "series rated" with Littelfuse Class T fuses. Refer to panelboard manufacturers' literature for UL Listed combination of fuses and panelboards. Series ratings up to 200,000 amperes are available.

Document 7815

SLC Series • General Purpose

SLC

- **Voltage Rating:** 480 VAC
- **Interrupting Rating:** 100,000 amperes
- **Ampere Range:** 1/2 - 60 amperes
- **Medium Time-Delay**

APPLICATIONS: UL Class G

The unique design of Littelfuse's compact SLC series Class G fuses provide size rejection to insure correct fuse replacement.
These low-cost, space-saving fuses are recommended for use with both non-inductive and inductive loads with limited inrush currents.

Document 7816

KLDR / KLKR Series • General Purpose

KLDR / KLKR

- **Voltage Rating:** 600 VAC • 300 VDC
- **Interrupting Rating:** 200,000 AC • 20,000 DC amperes
- **Ampere Range:** 1/10 - 30 amperes
- **Time-Delay (KLDR), Fast-Acting (KLKR)**

APPLICATIONS: UL Class CC

KLDR series, time-delay fuses designed to withstand the high magnetizing inrush of transformers – Small transformer protection (control power transformers).
KLKR series, fast-acting fuses used for protection of equipment containing solid-state devices or other electronic components requiring fast response on overloads – General purpose protection of equipment requiring fast overload protection.
Please refer to CCMR series Class CC fuses for motor protection.

7817 Plug Fuses Series • General Purpose

PLUG Fuses

- **Voltage Rating:** 125 VAC
- **Ampere Range:** 1/4 - 30 amperes
- **Fast-Acting or Time-Delay**

APPLICATIONS: Edison Base & Type S

SOO/TOO – Dual element time-delay fuses. Designed for motor and motor branch-circuit protection; also suitable for all gereral purpose circuits.

SLO/TLO – Medium time-delay fuses. Recommended for general purpose branch-circuit protection.

WOO – Non-delay fuses. Suited for incandescent lighting, resistance heating, and general purpose circuits with no motor load.

7818 Midget Fuses

Midget Fuses

- **Voltage Rating:** 125-600 VAC • DC available
- **Interrupting Rating:** 10,000 - 200,000 AC • 10,000 DC amp. available
- **Ampere Range:** 1/10 - 30 amperes
- **Fast-Acting or Time-Delay available**

APPLICATIONS:

Littelfuse has currentlay ten series of midget fuses that provide supplementary protection in such applications as: control circuits, street lighting, computers, DC circuits, solenoids, multimeters, small motors, and transformers. Available in fast-acting and time-delay versions in a variety of voltage, ampere, and interrupting ratings.
For further informations about Midget Fuses please refer to the document indicated above.

7819 Electronic Fuses and Automotive Fuses

Electronic & Automotive

- **Voltage Rating:** 32 - 250 VAC • DC available
- **Interrupting Rating:** 35 - 10,000 amperes (Electronic Fuses)
- **Ampere Range:** 1/100 - 35 amperes • 1 - 80 amp. (Automotive)
- **Fast-Acting or Time-Delay**

APPLICATIONS:

Littelfuse supplies numerous Slo-Blo, fast-acting, current limiting, and indicating fuses, used in a variety of electrical, electronic, and communications equipment to provide superior protection.

For further informations about the most popular Electronic Fuses and Automotive Fuses please refer to the document indicated above or request for infos.

7820 Medium Voltage Fuses

Medium Voltage Fuses

- **Voltage Rating:** 2400/4800/7200/14400 Volts

APPLICATIONS: "E" and "R" rated

Littelfuse now offers a complete selection of "E" and "R" rated medium voltage fuses for the protection of transformers, potential transformers, feeders, and motor circuits. Single, double, and triple barrel designs are available to cover a wide range of current, voltage, and interrupting ratings. Conventional ferrule type, clip lock, and bolt-in mounting configurations are now available for virtually any application. Hermetically sealed fuses for use in hazardous environments are also offered.

For further informations about Medium Voltage Fuses please refer to the document indicated above or request for further informations.

7826 Telecommunications Products

Telecom Products

- **Voltage Rating:** 170 VDC
- **Interrupting Rating:** 100,000 amperes
- **Ampere Range:**
  - **L17T**: 70 - 1200 amperes
  - **TLN**: 1 - 600 amperes
  - **TLS**: 1 - 70 amperes
- **Current Limiting**

Recognized Fuses and Holders

LTFD 6001 Series Telecommunications Holders shown

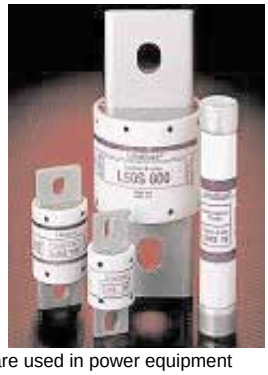
APPLICATIONS:

Specifically designed for the protection of Telecommunications circuits.

For further informations about Telecommunications Products please refer to the document indicated above or request for further informations.

7821 Semiconductor Fuses

Semiconductor Fuses



- **Voltage Rating:** 150-700 VAC • DC available
- **Interrupting Rating:** 200,000 AC • 20,000 DC amperes
- **Ampere Range:** 1 - 1000 amperes
- **Very Fast-Acting**

APPLICATIONS:

Designed specifically for supplementary protection of semiconducting devices such as silicon controlled rectifiers (SCR's), diodes, thyristors, triacs, transistors, and similar solid-state devices. These devices are used in power equipment including variable speed drives, power rectifiers, UPS systems, DC power supplies, and in a wide range of electronic equipment. May be used wherever extremely fast-acting, current-limiting fuses with no time delay are required.

Document 7822

CNL / CNN Series • Limiter Fuses

CNL / CNN

- **Voltage Rating:**
  32 VDC (CNL)
  48 VDC • 75 VAC (CNN)
- **Interrupting Rating:**
  2,500 amperes
- **Ampere Range:**
  10 - 800 amperes
- **Fast-Acting (CNL), Very Fast-Acting (CNN)**

APPLICATIONS: Limiter Fuses

CNL fast-acting and CNN very fast-acting fuses are recommended for use on battery-operated lift-trucks and other low voltage battery-operated equipment.

Document 7822

CBO / CCK / CCL Series • Lift-Truck Fuses

CBO / CCK / CCL

- **Voltage Rating:**
  32 VDC (CBO)
  48-130 VDC (CCK)
  125 VDC (CCL)
- **Interrupting Rating:**
  10,000 amperes
- **Ampere Range:**
  1 - 300 amperes
- **Fast-Acting (CBO), Time-Delay (CCK, CCL)**

APPLICATIONS: Lift-Truck Fuses

CBO fast-acting, CCK and CCL dual-element time-delay fuses are recommended for fork-lift trucks and other similar battery-operated equipment.

7823 LFCL Series • Cable Limiters

LFCL

- **Voltage Rating:**
  600 VAC
- **Interrupting Rating:**
  200,000 amperes
- **Cable Size Range:**
  AWG 4/0 - 750 MCM Copper or Aluminum
- **Very Fast-Acting • Current Limiting**

APPLICATIONS: Cable Limiters

POWR-GARD™ Products cable limiters are designed to provide short-circuit protection to cables and reduce insulation damage when faults occur. They supply very fast short-circuit protection for service entrance conductors, between transformer or network bus and busway terminal boxes, and for large feeders with three or more conductors per phase. With a wide variety of terminations and cable ratings available. Littelfuse's cable limiters can be used in almost any application.

7824 FII / FIIC / FIIM Series • British Dimension

FII / FIIC / FIIM

- **Voltage Rating:**
  600 VAC • 250 VDC
- **Interrupting Rating:**
  200,000 AC • 80,000 DC amperes
- **Ampere Range:**
  2 - 600 amperes

APPLICATIONS: British Dimension HRCII-C

HRCII-C fuses are stud-mounted fuses designed to British standard dimensions. They are generally used for motor short circuit protection in dead-front holders, and are normally required to be used in conjunction with a motor running overload device.

7825 LGR / LMF / LHR Series • In-Line Fuses/Holder

LGR / LMF / LHR

- **Voltage Rating:**
  300 VAC
- **Interrupting Rating:**
  10,000 amperes
- **Ampere Range:**
  1/2 - 15 amperes (LGR)
  3/10 - 10 amperes (LMF)
- **Fast-Acting (LGR) • Time-Delay (LMF)**

APPLICATIONS: In-Line Fuses and Holder

The LGR fuses provide increased safety and reliability for fluorescent fixtures, and the LMF fuses are designed to handle transformer inrush currents. The LHR fuse holder is available for use with these fuses, offering complete protection to lighting systems.

7850 LRU Series • Fuse Reducers

LRU

- **Voltage Rating:**
  250/600 VAC
- **Ampere Range:**
  30/60/100/200/400/600 amperes

APPLICATIONS:

Littelfuse fuse reducers allow smaller size fuses to be installed into existing fuse clips. This prevents overfusing. Allows lower ampere-rated fuses to be used in existing fuse clips.
Simple installation. Reduces inventory requirements.
Silver brazed joints for maximum strength.
They are available for Class H/K5, R and J fuses.

7840 Fuse Blocks, Holders and Accessories

Fuse Blocks, Holders

- **Voltage Rating:**
  250/300/480/600/1000 VAC
- **Ampere Range:**
  0 - 600 amperes
- **UL Classes**
  H/K5, R, J, T, G, CC, Midget, Semiconductor

Blocks and Holders Index:

7848 Distribution / Splicer Blocks and Covers

POWR-BLOKS™

- **Voltage Rating:**
  600 VAC
- **Ampere Range:**
  115 - 760 amperes – Based on NEC Table 310-16, using 75°C copper wire
- **Flammability Rating**
  94V-0

APPLICATIONS:

POWR-BLOKS™ power distribution and splicer blocks offer a safe, convenient way of splicing cables, providing a fixed junction tap-off point, or splitting primary power into secondary circuits. Blocks have one or two primary inputs, with up to twelve secondary outputs per pole. The number of poles available ranges from one to four. Typical applications include heating, air conditioning and refrigeration systems, elevator systems, material handling equipment, control panels, motor controls, switchgear, and anywhere power needs to be distributed to more than one load.