

Limitron® Fast-acting Fuses

Low Voltage Branch Circuit Fuses

KWS-R (600Vac/dc) Class RK1

Specifications

Description: Fast-acting, current-limiting fuse.

Dimensions: See page 15 for Class RK1 dimensions.

Ratings:

Volts — 600Vac (or less); 600Vdc (20-600A)

Amps — 1-600A

IR — 200kA RMS Sym. AC

IR — 100kA DC

Agency Information: CE, Std. 248-12, Class RK1, UL Listed, Guide JDDZ, File E54273.



Features and Benefits

- Current limitation for non-inductive circuits provides Class RK1 current-limiting response to maximum ground fault an short-circuit conditions.
- 200kA interrupting rating provides high ratings at all circuit locations.
- Economical solutions for applications with high available short-circuit current.

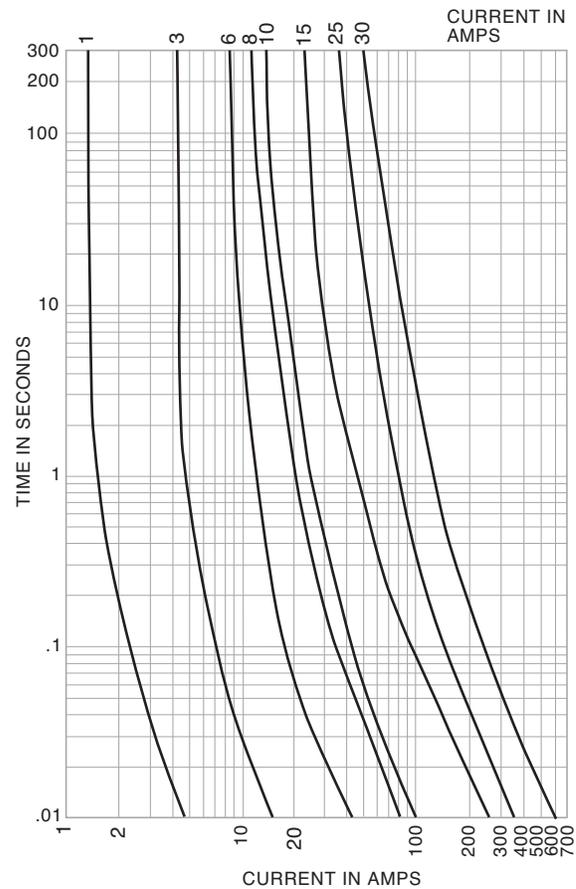
Typical Applications

- Photovoltaic systems
- Inverters
- Panelboards

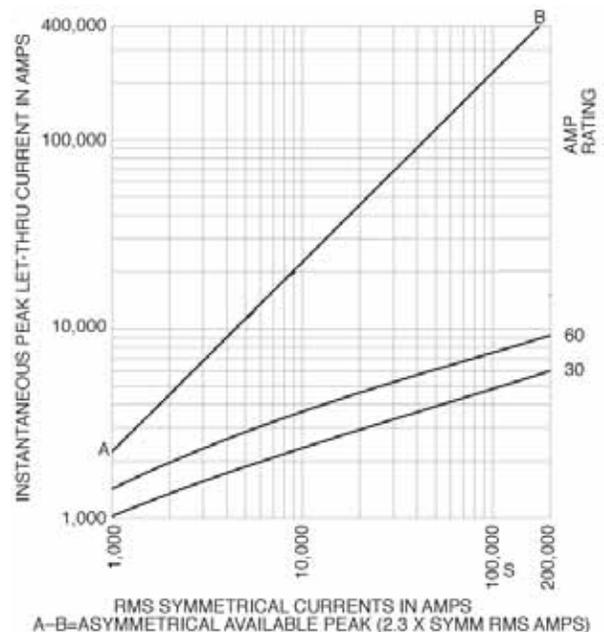
Catalog Numbers (Amps)

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

Time-Current Characteristic Curves—Average Melt



Current Limitation Curves



Recommended Fuse Holders & Blocks For Class RK1 Fuses

- See page 13

Class RK1 Solar Fuses for 600Vdc Circuit Protection

KWS-R Limitron® Fuses Provide Fast-Acting Response to DC Faults

Solar Photovoltaic (PV) systems have, over the last fifty years, evolved into a mature, sustainable and adaptive technology.

This technology is improving as solar cells increase in efficiency and modules attain better aesthetic appearance.

As a result, solar power is gaining more acceptance and is becoming an increasingly cost-effective and clean alternative to conventional energy sources.

The KWS-R (20-60A) fuse provides the necessary level of protection that other fuses in its Class can't.

- **600Vdc Rating**

KWS-R (20-60A) fuses are designed with a maximum operating voltage based on typical solar power systems.

- **Standard Class R Fuse Size**

Easy to apply and install in traditional fuse blocks and holders.

- **Agency Information**

UL Listed and CSA Certified.

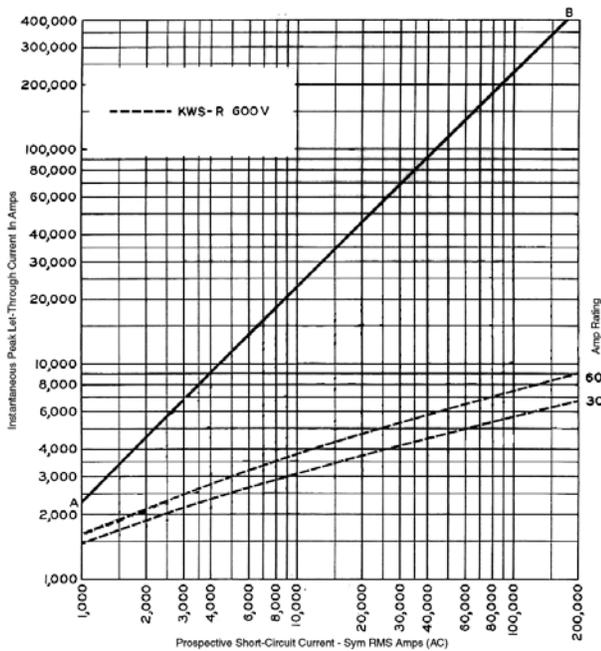
- **Sizes to Meet Many DC Circuit Applications**

20, 25, 30, 40, 50 and 60 amp ratings with 100kA dc interrupting rating.

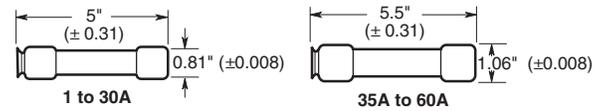


KWS-R Limitron[®] Fuse Specifications

Current Limitation Curves



Dimensions - in

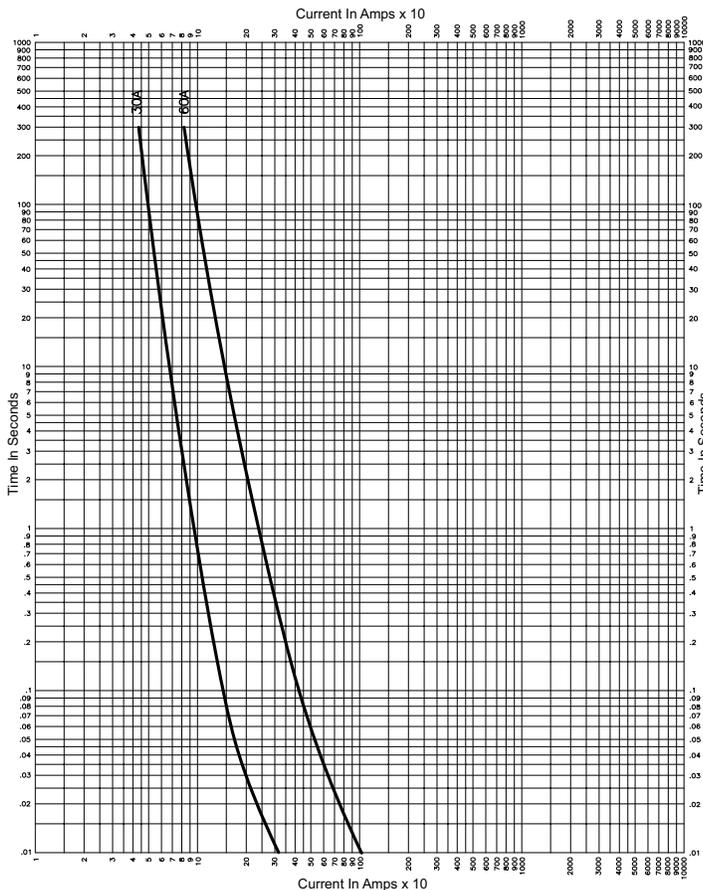


Part Numbers (-amps)

KWS-R-20	KWS-R-30	KWS-R-50
KWS-R-25	KWS-R-40	KWS-R-60

The National Electrical Code[®] defines the maximum circuit current as 125% of the short-circuit current of the PV module (I_{sc}). The conductors and the overcurrent protective device are then sized at 125% of the maximum circuit current or 1.56 x I_{sc}. Additionally, International standards such as BS EN7671 Sec 712 for Solar Photovoltaic (PV) Power Supply systems specify that conductors' current carrying ability must be equal to or greater than 1.25 x I_{sc}STC* at any location. The I_{sc} is published by the PV module manufacturers on data sheets. The I_{sc} is typically only 110-115% of the maximum power current (I_{pm}) of the PV module.

Time-Current Curves



This means that unlike typical grid connected AC systems, the available short-circuit current is limited and the overcurrent protective devices will need to operate effectively on low levels of fault current. For this reason Cooper Bussmann has conducted extensive research and development of fuses that are specifically designed and tested to safely protect PV systems with high DC voltages and low fault currents.

*I_{sc}STC: The electrical data applies under Standard Test Conditions (STC): Radiation 1000 W/m² with a spectrum of AM 1.5 and at cell temperature of 25°C.

