

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.

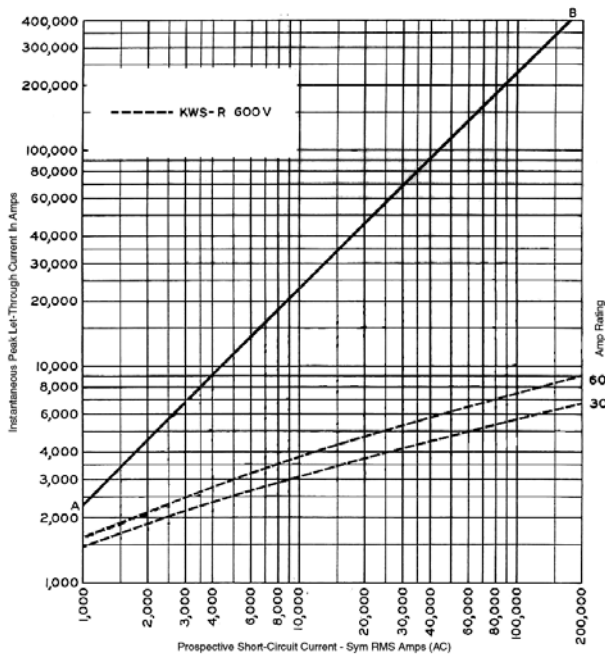
- **Sizes to Meet Many DC Circuit Applications**

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

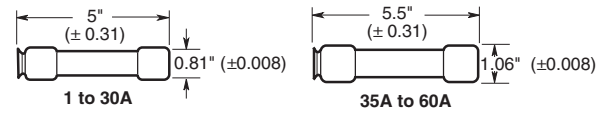


KWS-R Limitron® Fuse Specifications

Current Limitation Curves



Dimensions - in

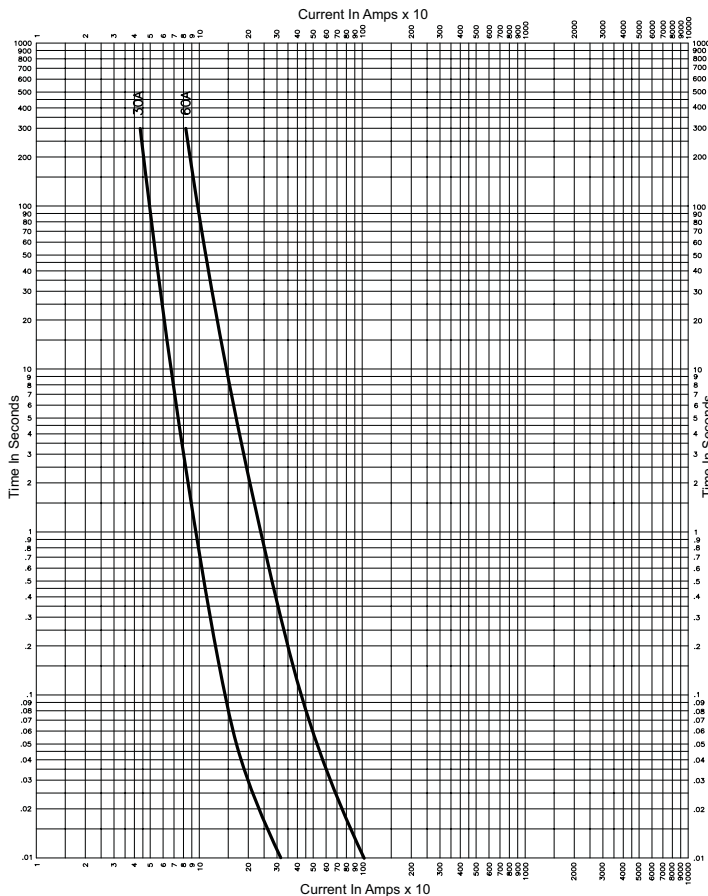


Part Numbers (-amps)

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 (Isc). The conductors and the overcurrent protective device are then sized at 125% of the maximum circuit current or 1.56 x Isc. 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 IscSTC* at any location. The Isc is published by the PV module manufacturers on data sheets. The Isc is typically only 110-115% of the maximum power current (Ipm) 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.

*IscSTC: 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.

