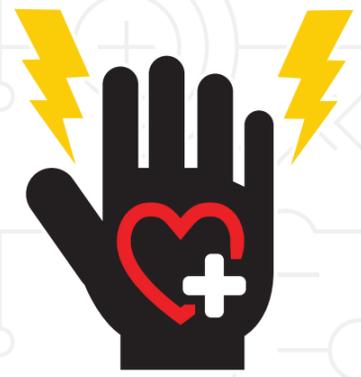


# ELECTRICAL SAFETY

## Keep Safety, Not Currents, Close to the Heart

At Littelfuse, we value safety for people as well as protection for equipment. We created this infographic to help close some electrical safety knowledge gaps that our recent poll uncovered. Because, at the heart of it all, nothing is more important than safety.



### Switch Out Hazards

Prevent hazards by eliminating them. The Hierarchy of Controls shows that **ELIMINATION** is the most effective. When elimination isn't possible, consider **SUBSTITUTION** of certain equipment to reduce the hazard. Evaluate technology such as protection relays and fuses to **CONTROL** the hazard. Make sure all processes enforce safe practices, and finally, wear your **PPE** as the last line of defense.



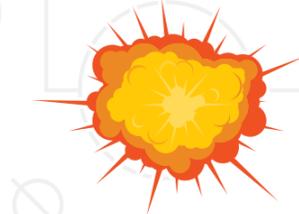
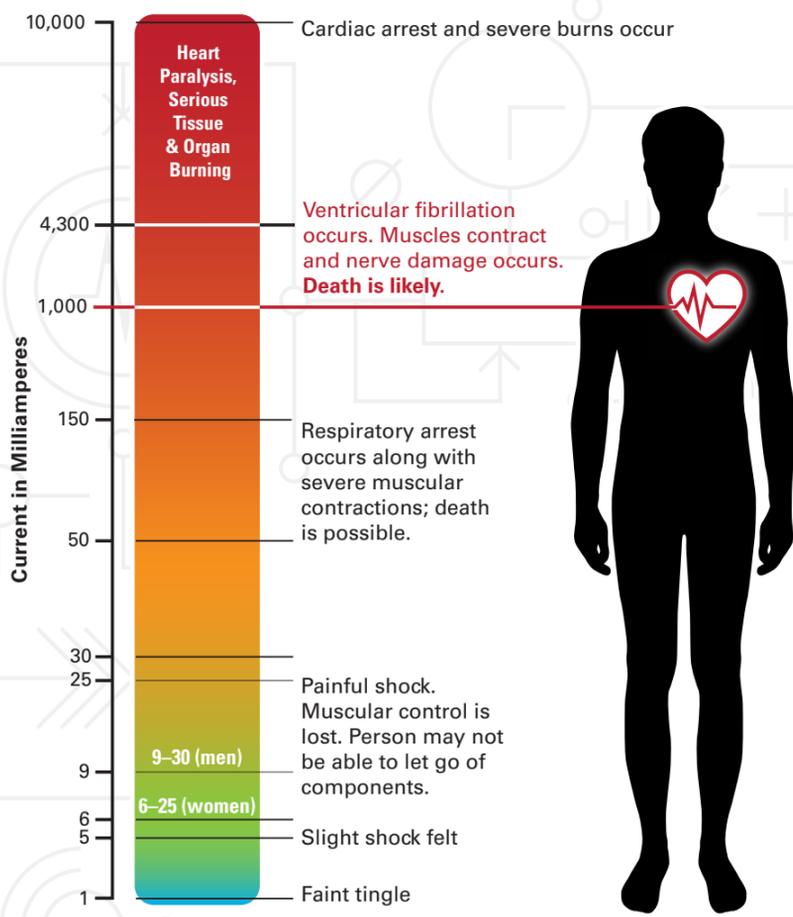
### Current-Limiting Fuses Limit Arc-Flash Incident Energy

Current-limiting fuses can also be considered as **SUBSTITUTION** when fuses are upgraded to designs that reduce incident energy due to current-limiting performance.



An Arc Flash is Intense. **Use a High-Quality Arc-Flash Relay** to Quickly Detect and Mitigate the Damaging Effects.

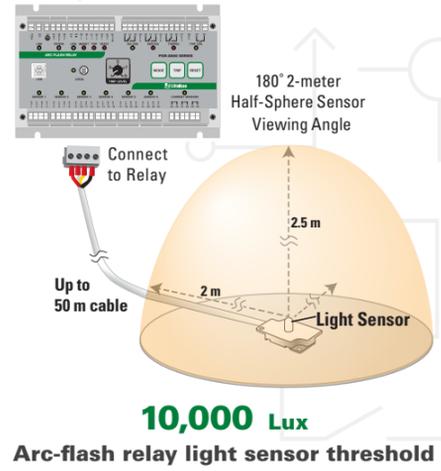
### Physical Effects of 50–60 Hz Current Flowing Through the Body



**1,000,000 Lux**  
Light intensity of an arc flash



**100,000 Lux**  
Light intensity of direct sunlight



### Out-of-Hospital Cardiac Arrests Cause Death Within Minutes

According to OSHA, waiting for emergency responders to provide shock to someone who has gone into cardiac arrest has a **93–95% FATALITY RATE**. However, studies have found that up to **60%** of victims **SURVIVE** when a bystander is able to use a publicly available automated external defibrillator (AED) **within 10 minutes** of the attack. This is why it is important to **establish AWARENESS** of the nearest AED when in workplace and public settings.

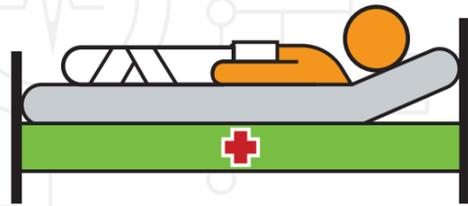


Learn about implementing AED programs in workplaces with resources from the American Heart Association.



Some arc-flash relays also use **current peak analysis** with light to avoid nuisance trips that are triggered by bright lights such as those from welding.

According to NFPA, there are **more than 2,000 people** admitted to intensive care burn units each year because of an **arc-flash incident**.



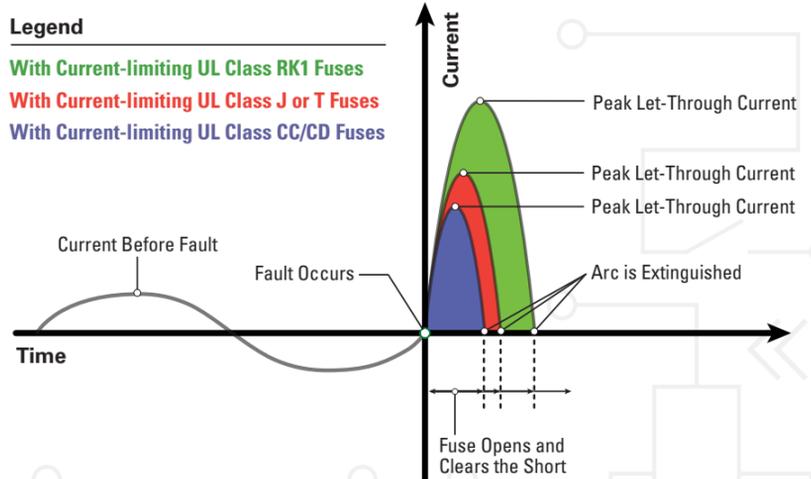
### More Than 95% of Electrical Faults are Line-to-Ground

Ground-fault protection relays ensure the protection against fire and safeguard equipment from line-to-ground fault currents by **ELIMINATING** the means to open all ungrounded conductors of the faulted current.



### Current-Limiting Fuses Minimize the Severity of an Arc-Flash Incident by Lowering the Clearing Time

The quicker the current-limiting fuse opens, the faster the high value fault is interrupted, which further **limits the let-through current**.



Test your safety knowledge. [Take the quiz.](#)

Learn more about how to design safety into plant and facility electrical systems.