

REA



Arc Protection Relay System

Provides Arc Flash Mitigation Protection

The best arc flash mitigation protection of any system today
ABB SafeGear combined with the REA relay provides the
best possible protection for equipment and people.



- Using fiber optic sensing, REA detects arc faults in less than 2.5 milliseconds—at the speed of light—tripping the breaker and minimizing an arc flash incident
- Reduces arc energy by up to 80% in many applications—reducing risk of personal injury and property damage
- Helps users meet and exceed the new safety standards on both new and existing switchgear:
 - NFPA 70E-2004
 - IEEE Standard 1584
 - NFPA 70-2005
 - OSHA 29 CFR Part 1910
- Self-testing fiber optic sensors insure maximum system reliability



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- The REA Arc Protection System utilizes a patented fiber-optic sensor technology that instantaneously detects light from an arc.
- A tough unshielded fiber optic cable runs throughout the switchgear compartments and detects the intense light from a developing arc.
- Even ground arc faults, with current levels below normal load current, are detected because of the intense light. If an arc occurs, it is seen by the relay through the fiber optic cable and the relay high speed solid state outputs signal “trip” to the designated circuit breakers.
- For protection against false tripping, the unit is also equipped with a current sensor so you have the choice of choosing light only, or light and current for best performance.

Arc Flash Accidents

Arc Flash characteristics:

- An arc arises when at least part of the current passes through a dielectric, usually air
- Maximum peak power up to 40 MW
- Arc temperature up to five times the surface temperature of the sun (20 000°C)
- Light intensity more than 2000 times that of normal office light
- Volumetric expansion approximately 40,000 times



25%
Without Operator



10%
With Operator in front of a closed door



65%
With Operator working in the switchgear



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As the pioneer and most experienced manufacturer of arc-resistant switchgear in the USA, only ABB can combine safety and performance that translate into peace of mind for those who specify, recommend, and operate electrical equipment.

Call your ABB representative for more details or for a complete presentation on REA Arc Protection Relay Systems.