

Miniature Circuit Breakers

Understanding UL489 & UL1077 Devices

The key to understanding UL 1077 supplementary protection and UL 489 branch protection requirements is to first understand how to identify the products, the applications they can be used for and importance of selecting the correct device in compliance with UL standards and NEC Codes.

- A UL 489 device can be used as branch circuit protection or supplementary protection.
- UL 1077 devices are only acceptable for providing supplementary protection where there is branch circuit protection ahead of it.

UL 489 Circuit Breakers and Branch Circuit Overcurrent Devices

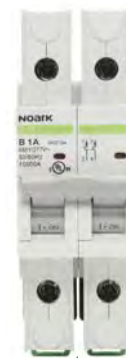
National Electric Code (NEC) defines a branch circuit as the circuit conductors between the final overcurrent device protecting the circuit and the outlets. UL489 opens automatically on overload and short circuit. It also protects wire and cable against overload and short circuit. UL489 circuit breaker used for branch circuit protection.

UL489 Applications:

- Receptacles and branch lighting
- Control Panels
- Load circuits leaving the equipment (external)
- Uninterruptible power supply (UPS)
- Relays
- Heating, ventilation, air conditioning and refrigeration equipment (HVAC/R)
- Variable frequency drives (VFD)

Features:

- DIN rail mountable
- Stand alone Branch Circuit Protection
- External handle mechanisms available
- Field mounted accessories
- Various levels of protection (curves)



UL 489 products have larger dimensions to provide the necessary phase to phase voltage air gap.

UL1077 Supplementary Protectors & Overcurrent Devices

UL1077 Supplementary Protector is a manually re-settable device designed to open the circuit automatically on a predetermined value of time versus current or voltage within an appliance or other electrical equipment. A supplementary protective device is intended to provide limited overcurrent protection for specific applications and utilization equipment such as cabinet lighting and appliances.

Example: only use UL 1077 to protect circuits inside the equipment that do not feed circuits that exit the equipment.

UL1077 Applications:

- Cabinet Lighting
- Appliances
- Control Power Transformers
- Relays
- Control Circuits

Features:

- DIN rail mountable
- Field mounted accessories
- Various levels of protection (curves)



Disclaimer: Proper Sizing of an overcurrent protection device is the responsibility of the customer and should be determined using the application standards of the NEC*, CEC**, or other applicable standards.

*NEC-National Electric Code
 ** CEC-Canadian Electrical Code