

# UL489 or UL1077? What are your Circuit Protection Requirements?

**An understanding of circuit types and circuit protection products is critical to ensure their proper application.**  
See NEC Sections 100, 430 and 409 for definitions.

**The proper sizing of an overcurrent protection device is the responsibility of the customer and should be determined using the application standards of the NEC (National Electric Code), CEC (Canadian Electrical Code) or other applicable standards. Per fine print note of 2008 NEC Section 100 "A current in excess of rating may be accommodated by certain equipment and conductors for a given set of conditions. Therefore, the rules for overcurrent protection are specific for particular situations."**

## UL489

### Branch Protection



## UL1077

### Supplementary Protection



### What You Need to Know and Look For In Specifications

Certifications – Standards – Acceptance

## UL489

### Branch Protection

- UL 489 Listed or Recognized
- CSA C22.2 No. 5
- International ratings available depending on breaker type

## UL1077

### Supplementary Protection

- UL Recognized under UL1077
- CSA 22.2 No. 285
- IEC 60947-2 or IEC 898

### Function

- Opens automatically on Overload and Short Circuit when properly applied within its ratings
- Protects wire and cable against Overload and Short Circuit

- Opens automatically on Overload and Short Circuit
- Provides additional equipment protection where branch circuit protection is already provided or not required
- Not suitable for the protection of branch circuit conductors

### Applications

- Branch circuit protection in control panels, panelboards, switchboards and motor control centers
- Motor overload and motor short circuit protection (UL489 Recognized motor circuit protectors) for control panels and motor control centers

- Used within appliances or other electrical equipment such as control circuits, control power transformers, relays, PLC I/O points and lighting circuits
- Ideal replacement for fuses that are applied as supplementary protection

### Features

- Bolted down or DIN-rail mounted
- External handle mechanisms available
- Field mounted accessories
- Stand alone branch circuit protection
- Various levels of protection (curve type)
- High voltage and interruption levels (up to 100 kAIC @ 480V)

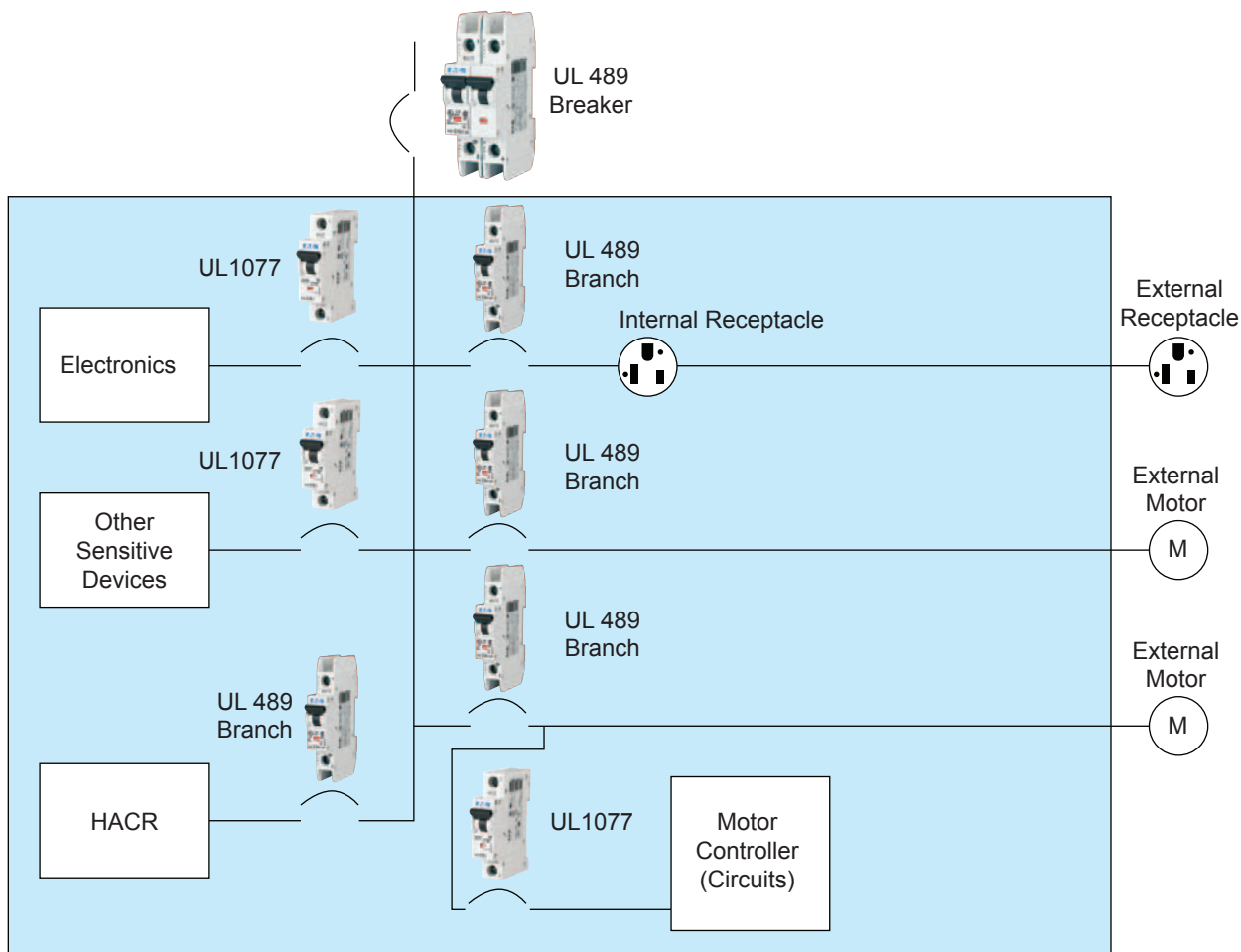
- DIN-Rail mounted
- Field mounted accessories
- Various levels of protection (curve type)
- 10 kAIC @ 240 VAC
- 10 kAIC @ 277 VAC and 5 kAIC @ 480VAC
- 10 kAIC @ 48VDC

kAIC = thousands of Amps interrupt capacity

### Summary

**A Supplementary Protector can't be used for Branch Circuit Protection.**  
**Understanding the difference between Branch Circuit Protection and Supplementary Protection helps to ensure their proper use.**

# UL 1077 Supplementary Protectors and UL 489 Circuit Breakers Application Guidelines



Example of UL 489 and UL 1077 Application

## UL489 circuit breakers

Used for branch circuit protection, internal/external receptacles, external motors and HACR equipment (heating, air conditioning and refrigeration).

## UL1077 supplementary protectors

Used for overcurrent protection within appliances or electrical equipment, where branch circuit protection is already provided or not required.

**Note:** UL489 devices can be used in place of UL1077; UL1077 devices cannot be used in place of UL489.