

## Control Circuit and Load Protection



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# Circuit Protection Portfolio



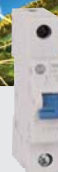
## 1489-M Circuit Breakers

Approved for branch circuit protection in the United States and Canada, and certified as Miniature Circuit Breakers for IEC applications.



## 1492-SP Supplementary Protectors

Overcurrent protection for equipment where branch circuit protection is already provided, or is not required. Also Miniature Circuit Breakers as defined by IEC Standards.



## 188 Regional Circuit Breakers

Protective devices applied at the equipment level. Regional certifications only. Available for purchase only in China, Singapore, and Europe.



## 1492-RCD

### Residual Current Devices

By detecting small leakage currents and disconnecting all ungrounded connectors quickly, RCDs can prevent injury to exposed personnel and damage to equipment.

Rockwell Automation offers a wide range of Allen-Bradley circuit protection products designed for a variety of applications.

## Miniature Circuit Breakers, Supplementary Protectors, and Residual Current Devices

| Product     | Certifications |       |     |    |     |     | Poles |     |   |   |     |   |  |  | Trip |   |   |  |     |     |     |   |     |     |     |   |     |
|-------------|----------------|-------|-----|----|-----|-----|-------|-----|---|---|-----|---|--|--|------|---|---|--|-----|-----|-----|---|-----|-----|-----|---|-----|
|             | cULus          | cURus | CSA | CE | VDE | CCC | 1     | 1+N | 2 | 3 | 3+N | 4 |  |  | B    | C | D |  | 0.2 | 0.5 | 0.8 | 1 | 1.2 | 1.5 | 1.6 | 2 | 2.5 |
| 1489-M      | ●              |       | ●   | ●  | ●   | ●   | ●     |     | ● | ● |     |   |  |  |      | ● | ● |  |     | ●   |     |   |     | ●   | ●   |   |     |
| 1492-SP     | ★              | ●     | ●   | ●  | ●   | ●   | ●     | ♣   | ● | ● | ♣   |   |  |  | ●    | ● | ● |  | ●   | ●   |     | ● |     |     | ●   | ● |     |
| 188         |                |       |     | ●  | ●   | ●   | ●     | ●   | ● | ● | ●   | ● |  |  | ●    | ● | ● |  | ●   |     | ●   |   |     |     |     | ● |     |
| 1492-RCD    |                | ●     | ●   | ●  | ●   | ●   |       |     | ● |   |     | ● |  |  |      |   |   |  |     |     |     |   |     |     |     |   |     |
| 1492-MC     | ●              |       | ●   |    |     |     | ●     |     | ● | ● |     |   |  |  |      |   |   |  |     |     |     |   |     |     |     |   |     |
| 1492-GH,-GS | ●              |       | ●   | ●  |     |     | ●     |     | ● | ● |     |   |  |  |      |   |   |  | ●   | ●   | ●   | ● | ●   | ●   | ●   | ● | ●   |

★ 1492-SP supplementary protectors are UL Recognized only.

♣ 1+N and 3+N devices are not cULus or CSA certified.

## Electronic Circuit Protectors

| Product | Certifications |    |      |       | Circuits |     | Output Current Rating [A] |   |   |   |   |    |     |      |  |  |
|---------|----------------|----|------|-------|----------|-----|---------------------------|---|---|---|---|----|-----|------|--|--|
|         | cULus          | CE | C1D2 | NECC2 | 4        | 2x2 | 1                         | 2 | 3 | 4 | 6 | 10 | 3/6 | 6/12 |  |  |
| 1692    | ●              | ●  | ●    | ●     | ●        | ●   | ●                         | ● | ● | ● | ● | ●  | ●   | ●    |  |  |



### 1692 Electronic Circuit Protectors

Protection for secondary circuits of 24V DC switched mode power supplies. These modules monitor both supply voltage and load currents, and can be monitored and controlled locally and remotely.



### 1492-MC Circuit Breakers and Ground Fault Protectors

Thermal magnetic circuit protection and sensing thresholds for personnel and equipment protection.



### 1492-GH, -GS High-density Supplementary Protectors

Thermal magnetic circuit breakers with a high density design useful when DIN Rail space is a premium.



### 1492-FB Fuse Holders

Designed for use in many OEM applications. Provides safe and convenient installation of Midget, Class CC, and Class J fuses.

- Test equipment
- Automotive systems
- Controller I/O points
- Power supplies

- Relay and contractor coils
- Medical equipment
- Control instrumentation

- Transformers
- Computers
- Solenoids

| Rated Current [A] |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |
|-------------------|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 3                 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 13 | 15 | 16 | 20 | 25 | 30 | 32 | 35 | 40 | 45 | 50 | 55 | 60 | 63 | 70 | 80 | 90 | 100 |
| ●                 | ● | ● | ● | ● | ● | ●  |    | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  |    | ●  |    | ●  | ●  |    |    |    |     |
| ●                 | ● | ● | ● | ● | ● | ●  |    | ●  | ●  | ●  | ●  | ●  | ●  | ●  |    | ●  |    | ●  |    |    | ●  |    |    |    |     |
| ●                 | ● |   | ● |   | ● | ●  |    | ●  |    | ●  | ●  | ●  |    | ●  |    | ●  |    | ●  |    |    | ●  |    |    |    |     |
|                   |   |   |   |   |   |    |    |    |    |    |    | ●  |    |    |    | ●  |    |    |    |    | ●  |    | ●  |    |     |
|                   |   |   |   |   |   | ●  |    |    | ●  |    | ●  | ●  | ●  |    | ●  | ●  | ●  | ●  | ●  | ●  |    | ●  | ●  | ●  | ●   |
| ●                 | ● | ● | ● | ● | ● | ●  | ●  |    | ●  | ●  | ●  | ●  |    |    |    |    |    |    |    |    |    |    |    |    |     |

Typical North America Current Ratings: 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 10, 15, 20, 25, 30, 40, 50, 60, 63 A.

Typical IEC Current Ratings: 0.5, 1, 1.6, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63 A.

## Fuse Holders

| Product | Certifications |     |    | Poles |   |   | Indication |   |    | Fuse Types |     |     |     |
|---------|----------------|-----|----|-------|---|---|------------|---|----|------------|-----|-----|-----|
|         | cULus          | CSA | CE | 1     | 2 | 3 | none       | L | D1 | M30        | C30 | J30 | J60 |
| 1492-FB | ●              | ●   | ●  | ●     | ● | ● | ●          | ● | ●  | ●          | ●   | ●   | ●   |

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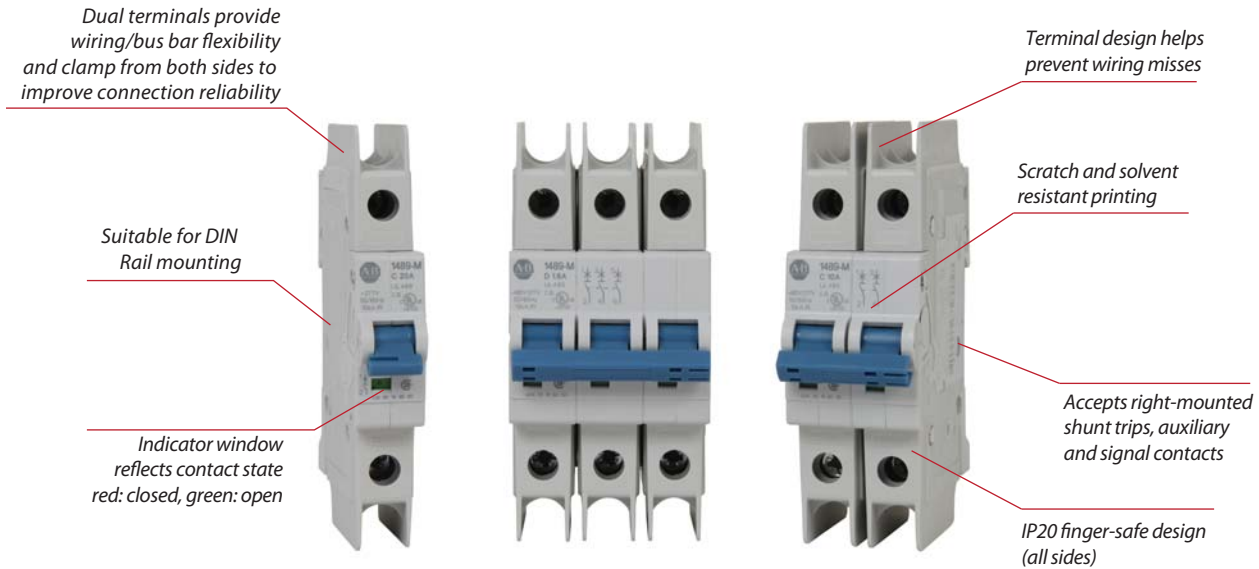


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For the full line of Allen-Bradley Circuit Protection products, please visit:  
<http://literature.rockwellautomation.com>  
and search for Publication 1492-SG122.

# 1489-M Circuit Breakers



Bulletin 1489-M thermal-magnetic Circuit Breakers are approved for branch circuit protection in the United States and Canada, and are certified as Miniature Circuit Breakers for IEC applications.

These branch protectors are compatible with many accessories to meet diverse application needs, including UL 508 Listed bus bars for convenience in panel assembly, auxiliary contacts, signal contacts and shunt trips for versatility, and lockout attachments for safety during maintenance.

## Features

- Current limiting
- Fast breaking time
- High rated voltage
- Superior shock and vibration resistance to help prevent nuisance tripping
- Dual terminals allow a more secure connection of two wires, or both a wire and bus bar
- Terminal design helps prevent wiring misses by directing wires into the terminal openings, even while tightening
- Reversible line and load connections
- Single and multi-pole toggle mount lock out attachments available for Lockout/Tagout (LOTO)
- RoHS compliant and fully recyclable device
- Suitable for extreme ambient conditions

## 1489-M Circuit Breakers

|                              |                                                                                                                                |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Rated Voltage</b>         | UL/CSA: Max. 480Y/277V AC<br>IEC: $U_n$ 230/400V AC                                                                            |
| <b>Interrupting Capacity</b> | UL/CSA: 10 kA<br>IEC: 15 kA                                                                                                    |
| <b>Current Ratings</b>       | 0.5...63 A                                                                                                                     |
| <b>Poles</b>                 | 1, 2, 3                                                                                                                        |
| <b>Trip Curves</b>           | C, D                                                                                                                           |
| <b>Standards Compliance</b>  | UL 489<br>CSA C22.2 No. 5.1<br>EN 60947-2<br>GB 14048.2                                                                        |
| <b>Certifications</b>        | UL Listed, File No. E197878<br>CSA Certified, File No. 259391<br>CE Marked<br>VDE Certified<br>CCC Certified<br>RoHS Compliant |

# Catalog Number Explanation

**Note:** Examples given in this section are for reference purposes. This basic explanation should not be used for product selection; some combinations may not produce a valid catalog number.

1489 - M 1 C 005

*a* *b* *c* *d*

| <i>a</i>     |                    |
|--------------|--------------------|
| Voltage Type |                    |
| Code         | Description        |
| M            | AC Circuit Breaker |

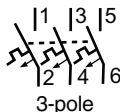
| <i>b</i> |             |
|----------|-------------|
| Poles    |             |
| Code     | Description |
| 1        | 1-Pole      |
| 2        | 2-Pole      |
| 3        | 3-Pole      |

| <i>c</i>   |              |
|------------|--------------|
| Trip Curve |              |
| Code       | Trip Curve   |
| C          | Trip Curve C |
| D          | Trip Curve D |

| <i>d</i>                |             |
|-------------------------|-------------|
| Rated Current ( $I_n$ ) |             |
| Code                    | Current [A] |
| 005                     | 0.5         |
| 010                     | 1           |
| 016                     | 1.6         |
| 020                     | 2           |
| 030                     | 3           |
| 040                     | 4           |
| 050                     | 5           |
| 060                     | 6           |
| 070                     | 7           |
| 080                     | 8           |
| 100                     | 10          |
| 130                     | 13          |
| 150                     | 15          |
| 160                     | 16          |
| 200                     | 20          |
| 250                     | 25          |
| 300                     | 30          |
| 320                     | 32          |
| 350                     | 35          |
| 400                     | 40          |
| 500                     | 50          |
| 600                     | 60          |
| 630                     | 63          |

# Product Selection

## 3-Pole Circuit Breakers

| Photo/Wiring Diagram                                                                                                                                                               | UL/CSA Max. Voltage                       | IEC/EN Max. Voltage | Continuous Current Rating ( $I_n$ ) [A] | Trip Curve C<br>Inductive<br>5...10 $I_n$<br>Cat. No. | Trip Curve D<br>Highly Inductive<br>10...20 $I_n$<br>Cat. No. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------|-----------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|
| <br><br>3-pole | 480Y/277V AC                              | 400V AC             | 0.5                                     | 1489-M3C005                                           | 1489-M3D005                                                   |
|                                                                                                                                                                                    |                                           |                     | 1                                       | 1489-M3C010                                           | 1489-M3D010                                                   |
|                                                                                                                                                                                    |                                           |                     | 1.6                                     | 1489-M3C016                                           | 1489-M3D016                                                   |
|                                                                                                                                                                                    |                                           |                     | 2                                       | 1489-M3C020                                           | 1489-M3D020                                                   |
|                                                                                                                                                                                    |                                           |                     | 3                                       | 1489-M3C030                                           | 1489-M3D030                                                   |
|                                                                                                                                                                                    |                                           |                     | 4                                       | 1489-M3C040                                           | 1489-M3D040                                                   |
|                                                                                                                                                                                    |                                           |                     | 5                                       | 1489-M3C050                                           | 1489-M3D050                                                   |
|                                                                                                                                                                                    |                                           |                     | 6                                       | 1489-M3C060                                           | 1489-M3D060                                                   |
|                                                                                                                                                                                    |                                           |                     | 7                                       | 1489-M3C070                                           | 1489-M3D070                                                   |
|                                                                                                                                                                                    |                                           |                     | 8                                       | 1489-M3C080                                           | 1489-M3D080                                                   |
|                                                                                                                                                                                    |                                           |                     | 10                                      | 1489-M3C100                                           | 1489-M3D100                                                   |
|                                                                                                                                                                                    |                                           |                     | 13                                      | 1489-M3C130                                           | 1489-M3D130                                                   |
|                                                                                                                                                                                    |                                           |                     | 15                                      | 1489-M3C150                                           | 1489-M3D150                                                   |
|                                                                                                                                                                                    |                                           |                     | 16                                      | 1489-M3C160                                           | 1489-M3D160                                                   |
|                                                                                                                                                                                    |                                           |                     | 20                                      | 1489-M3C200                                           | 1489-M3D200                                                   |
|                                                                                                                                                                                    |                                           |                     | 25                                      | 1489-M3C250                                           | 1489-M3D250                                                   |
|                                                                                                                                                                                    |                                           |                     | 30                                      | 1489-M3C300                                           | 1489-M3D300                                                   |
|                                                                                                                                                                                    |                                           |                     | 32                                      | 1489-M3C320                                           | 1489-M3D320                                                   |
|                                                                                                                                                                                    |                                           |                     | 35                                      | 1489-M3C350                                           | 1489-M3D350                                                   |
|                                                                                                                                                                                    | C Curve: 480Y/277V AC<br>D Curve: 240V AC | 40                  | 1489-M3C400                             | 1489-M3D400                                           |                                                               |
|                                                                                                                                                                                    | 240V AC                                   | 50                  | 1489-M3C500                             | 1489-M3D500                                           |                                                               |
|                                                                                                                                                                                    |                                           | 60                  | 1489-M3C600                             | 1489-M3D600                                           |                                                               |
|                                                                                                                                                                                    |                                           | 63                  | 1489-M3C630                             | 1489-M3D630                                           |                                                               |