

Control Circuit and Load Protection



LISTEN.
THINK.
SOLVE.™

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			Rating [A]									
	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 cURus or CSA certified.

Electronic Circuit Protectors

Product	Certifications				Circuits		Output Current Rating [A]							
	cULus	CE	C1D2	NEC C2	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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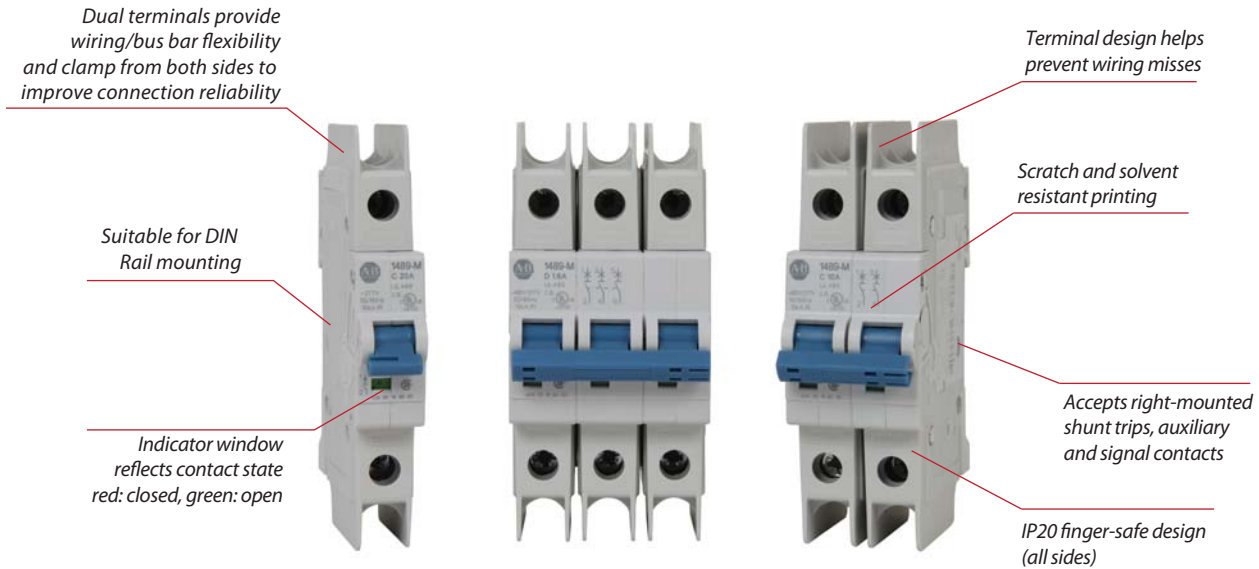


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For the full line of Allen-Bradley Circuit Protection products, please visit:
<http://literature.rockwellautomation.com>
and search for Publication 1492-SG122.

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

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

a

Voltage Type	
Code	Description
M	AC Circuit Breaker

b

Poles	
Code	Description
1	1-Pole
2	2-Pole
3	3-Pole

c



Trip Curve	
Code	Trip Curve
C	Trip Curve C
D	Trip Curve D

d

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


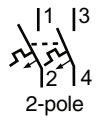
Product Selection

1-Pole Circuit Breakers

Photo/Wiring Diagram	UL/CSA Max. Voltage	IEC/EN Max. Voltage	Continuous Current Rating (I_n) [A]	Trip Curve C Inductive 5...10 I_n Cat. No.	Trip Curve D Highly Inductive 10...20 I_n Cat. No.
  1-pole	277V AC, 48V DC	230V AC	0.5	1489-M1C005	1489-M1D005
			1	1489-M1C010	1489-M1D010
			1.6	1489-M1C016	1489-M1D016
			2	1489-M1C020	1489-M1D020
			3	1489-M1C030	1489-M1D030
			4	1489-M1C040	1489-M1D040
			5	1489-M1C050	1489-M1D050
			6	1489-M1C060	1489-M1D060
			7	1489-M1C070	1489-M1D070
			8	1489-M1C080	1489-M1D080
			10	1489-M1C100	1489-M1D100
			13	1489-M1C130	1489-M1D130
			15	1489-M1C150	1489-M1D150
			16	1489-M1C160	1489-M1D160
			20	1489-M1C200	1489-M1D200
	25	1489-M1C250	1489-M1D250		
	30	1489-M1C300	1489-M1D300		
	32	1489-M1C320	1489-M1D320		
	35	1489-M1C350	1489-M1D350		
		C Curve: 277V AC, 48V DC D Curve: 240V AC, 48V DC		40	1489-M1C400
	240V AC, 48V DC		50	1489-M1C500	1489-M1D500
			60	1489-M1C600	1489-M1D600
			63	1489-M1C630	1489-M1D630

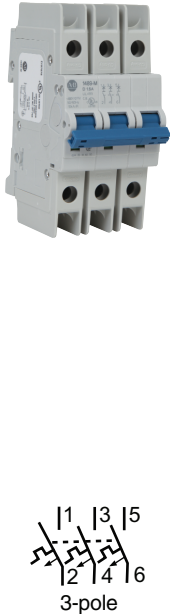
Product Selection

2-Pole Circuit Breakers

Photo/Wiring Diagram	UL/CSA Max. Voltage	IEC/EN Max. Voltage	Continuous Current Rating (I_n) [A]	Trip Curve C Inductive 5...10 I_n Cat. No.	Trip Curve D Highly Inductive 10...20 I_n Cat. No.
 	480Y/277V AC, 96V DC	400V AC	0.5	1489-M2C005	1489-M2D005
			1	1489-M2C010	1489-M2D010
			1.6	1489-M2C016	1489-M2D016
			2	1489-M2C020	1489-M2D020
			3	1489-M2C030	1489-M2D030
			4	1489-M2C040	1489-M2D040
			5	1489-M2C050	1489-M2D050
			6	1489-M2C060	1489-M2D060
			7	1489-M2C070	1489-M2D070
			8	1489-M2C080	1489-M2D080
			10	1489-M2C100	1489-M2D100
			13	1489-M2C130	1489-M2D130
			15	1489-M2C150	1489-M2D150
			16	1489-M2C160	1489-M2D160
			20	1489-M2C200	1489-M2D200
	25	1489-M2C250	1489-M2D250		
	30	1489-M2C300	1489-M2D300		
	32	1489-M2C320	1489-M2D320		
	35	1489-M2C350	1489-M2D350		
		C Curve: 480Y/277V AC, 96V DC D Curve: 240V AC, 96V DC		40	1489-M2C400
	240V AC, 96V DC		50	1489-M2C500	1489-M2D500
			60	1489-M2C600	1489-M2D600
			63	1489-M2C630	1489-M2D630

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 Inductive 5...10 I_n Cat. No.	Trip Curve D Highly Inductive 10...20 I_n Cat. No.
	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 D Curve: 240V AC		40	1489-M3C400
	240V AC		50	1489-M3C500	1489-M3D500
			60	1489-M3C600	1489-M3D600
			63	1489-M3C630	1489-M3D630

Specifications

Electrical Ratings					
Poles	1, 2, 3				
Tripping characteristics	C, D				
Rated current (I_n)	0.5...63 A				
Rated frequency [f]	50/60 Hz				
Rated insulation voltage U_i per IEC/EN 60664-1	250V AC (phase to ground) 440V AC (phase to phase)				
Overvoltage category	III				
Pollution degree	3				
Data per UL/CSA					
Rated voltage	AC	1-pole	C Curve	0.5...40 A	277V AC
				50...63 A	240V AC
		D Curve		0.5...35 A	277V AC
				40...63 A	240V AC
	2-, 3-pole	C Curve		0.5...40 A	480Y/277V AC
				50...63 A	240V AC
		D Curve		0.5...35 A	480Y/277V AC
				40...63 A	240V AC
DC	1-pole			48V DC	
	2-pole			96V DC (2-pole in series)	
Rated interrupting capacity per UL 489				10 kA	
Reference temperature for tripping characteristics				40 °C	
Electrical endurance				6,000 operations (AC and DC); 1 cycle (1s - ON, 9s - OFF)	
Data per IEC/EN 60947-2					
Rated operational voltage (U_e)	1-pole		230V AC		
	2-, 3-pole		400 V AC		
Highest supply or utilization voltage (U_{max})	AC	1-pole	253/440V AC		
		2-, 3-pole	440V AC		
	DC ★	1-pole	48V DC		
		2-pole	96V DC		
Min. operating voltage				12V AC, 12V DC	
Rated ultimate short-circuit breaking capacity (I_{CU})				15 kA	
Rated service short-circuit breaking capacity (I_{CS})				≤40 A: 11.25 kA >40 A: 7.5 kA	
Rated impulse withstand voltage U_{imp} . (1.2/50μs)				4 kV (test voltage 6.2kV at sea level, 5kV at 2,000m)	
Dielectric test voltage				2 kV (50/60Hz, 1 min.)	
Reference temperature for tripping characteristics				30 °C	
Electrical endurance				$I_n < 30A$:20,000 ops.(AC) $I_n \geq 30A$:10,000 ops. (AC) 1,000 ops. (DC)	
1 cycle (2s - ON, 13s - OFF, $I_n \leq 32A$),					
1 cycle (2s - ON, 28s - OFF, $I_n > 32A$)					

★ Self-declared IEC DC ratings.

Mechanical Data		
Housing	Insulation group II, RAL 7035	
Indicator window	red ON/green OFF	
Protection degree per EN 60529	IP20, IP40 in enclosure with cover	
Mechanical endurance	20,000 operations	
Shock resistance per IEC/EN 60068-2-27	25 g - 2 shocks - 13 ms	
Vibration resistance per IEC/EN 60068-2-6	5g - 20 cycles at 5...150...5 Hz with load 0.8 In	
Environmental		
Environmental conditions (damp heat) per IEC/EN 60068-2-30	28 cycles with 55°C/90-96% and 25°C/95-100%	
Ambient temperature ★	-25...+55 °C	
Storage temperature	-40...+70 °C	
Installation		
Terminal	Dual terminal	
Cross-section of conductors♣ – solid, stranded (front/back terminal slot)	mm ²	35/35 mm ²
	AWG	18...4/18...10 AWG
Cross-section of conductors – flexible	mm ²	25/10 mm ²
Multi-wire rating per UL, CSA	AWG	1 wire, 18...4 AWG
	AWG	2 wires‡, 18...10 AWG
Cross-section of bus bars (back terminal slot)	mm ²	10 mm ²
	N·m	2.8 N·m
Tightening torque	in·lb	AWG 18...16: 8.85 in·lb, AWG 14...10: 17.7 in·lb, AWG 8...4:39.8 in·lb
Screwdriver	No. 2 Pozidrive	
Mounting	DIN Rail (EN 60715, 35 mm) with fast clip	
Mounting position	Any	
Supply	Optional	
Approximate Dimensions and Weight		
Pole dimensions (H x D x W)	111 x 69 x 17.5 mm (4.37 x 2.72 x .69")	
Pole weight	125 g (4.4 oz.)	
Combination with Auxiliary Elements		
Auxiliary contact	Yes	
Signal contact	Yes	
Shunt trip	Yes	

♣ 35 mm self-declared, not included in IEC/EN approval.

★ Refer to the ambient temperature derating tables.

‡ Wires must be of like size and stranding. Only one wire per terminal slot.

Power Loss Due to Current

Rated Current [A]	Power Loss Per Pole [W]	Rated Current [A]	Power Loss Per Pole [W]
0.5	1.4	15	2.4
1	1.4	16	2.5
1.6	1.8	20	2.5
2	1.8	25	3.2
3	1.6	30	3.5
4	1.8	32	3.7
5	1.9	35	4.1
6	2.0	40	4.5
7	1.1	50	4.5
8	1.5	60	4.9
10	2.1	63	5.4
13	2.3	—	—

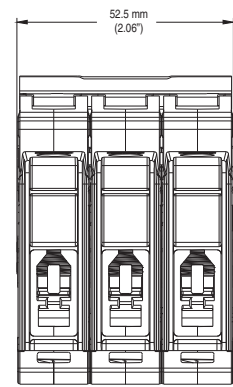
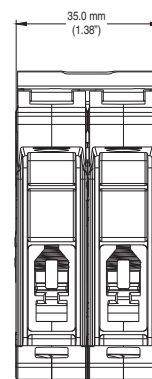
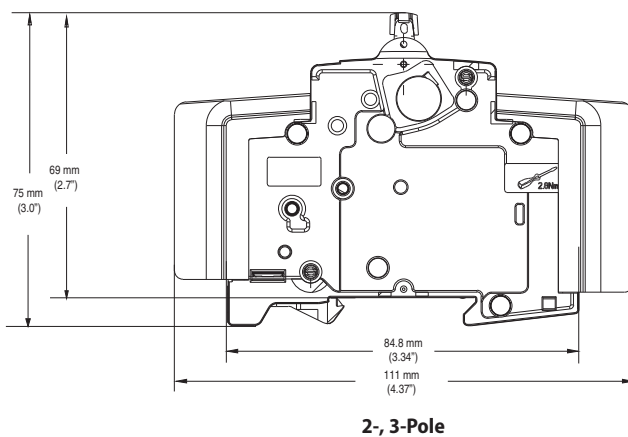
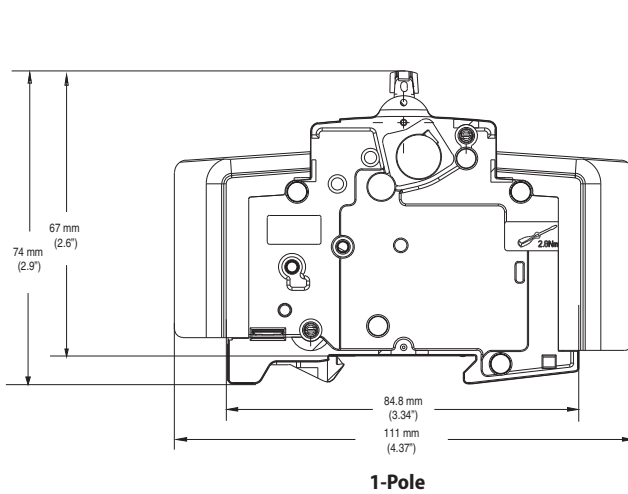
Zero-stack Derating

The installation of several miniature circuit breaker side by side with rated current on all poles requires a correction factor to the rated current (not required if spacers are used).

No. of Adjacent Devices	Factor
1	1
2,3	0.9
4,5	0.8
≥ 6	0.75

Approximate Dimensions

Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



Application Information

Circuit Voltage

The Bulletin 1489-M circuit breakers are rated by voltage class. Applications should not exceed the listed voltage and current range.

Circuit Frequency

The Bulletin 1489-M circuit breakers may be applied to frequencies of 50 Hz and 60 Hz without derating. For applications above 60 Hz, contact Rockwell Automation with specific application information for the derating of the circuit breakers.

Available Short Circuit Current

The Bulletin 1489-M circuit breakers should only be applied in those applications in which the available short-circuit (or fault) current is less than or equal to 10 kA (US/Canada) and 15 kA (IEC).

Tripping Characteristics

The trip curve characteristics are shown on the following pages. The trip bands shown for each breaker represent current tripping limits for a circuit breaker and are within the limits established by UL.

The standard tripping characteristic for Bulletin 1489-M is Type C. Type C has a magnetic trip activated at 5-10 times the rated current of the circuit breaker. The reference temperature for the thermal tripping characteristics is 30 °C. The Type C characteristic will suit most applications.

In rare occurrences when the Type C characteristic does not fully meet the application, Type D magnetic trip characteristic is available, allowing for transients approximately twice as high as the standard Type C.

For a specific current at 30 °C, a circuit breaker will open ("clear the circuit") automatically at some total time that will be within the minimum and maximum time shown on the curves. For example, a one-pole, 15 A, Bulletin 1489-M circuit breaker trips in not less than 1 s and not more than 200 s on a 30 A current. Because the UL standard defines this time spread, users should not specify exact tripping time. The lower current portion of the curves (upper left) depicts the time to trip due to thermal action and reflect overload protection of the wire and connect load. The higher current portion of the curves (lower right) depicts the trip due to magnetic action of the circuit breaker and reflects protection due to short circuit level currents.

Application Considerations

The following is a discussion of application considerations related to North American applications. When applying product to IEC regional requirements, follow IEC practices and guidelines.

The selection of a specific ampere rating for a specific application is dependent on the type of load and duty cycle and is governed by the National Electrical Code (Canadian Electrical Code) and UL/CSA. In general, the codes require that overcurrent protection is at the current supply and at points where wire sizes are reduced. In addition, the codes state that conductors be protected according to their current carrying capacity. There are specific situations that require application consideration, such as motor circuit, and guidelines for the selection for transformer protection.

The Bulletin 1489-M circuit breakers are "non-100% rated" as defined by UL 489, para 7.1.4.2. As such, the circuit breaker's rating should be loaded to no more than 80% if used with continuous loads.

Line and load may be reversed. The Bulletin 1489-M circuit breaker may be bottom fed.

Branch Circuits

Bulletin 1489-M circuit breakers may be used to protect branch circuits. A branch circuit is the wiring portion of a system extending beyond the final overcurrent device protecting the circuit. Guidelines established in NEC, CEC, UL, and CSA should be used to determine the specific device. For example:

Motor Branch Circuit

Bulletin 1489-M circuit breakers are not horsepower rated because they are able to safely interrupt currents far in excess of the locked rotor value for a selected motor. This ability is recognized in the codes and standards and is also established by the UL and CSA tests described in UL 489 and CSA C22.2 No. 5 standards.

The size of a Bulletin 1489-M circuit breaker should be determined following the guidelines for an Inverse Time Circuit Breaker.

References: NEC 430.51 and UL 489. Also see CEC and appropriate Canadian Standards.

Transformer Protection

Bulletin 1489-M circuit breakers may be used for transformer protection following the guidelines established.

References: NEC 450 and UL 489. Also see CEC and appropriate Canadian Standards.

Heater Load, Lighting, and Other Load Protection
Bulletin 1489-M circuit breakers may be used for protection of heater loads, lighting loads, and other loads following the guidelines established.

References: NEC Article 31 and UL 508A. Also see CEC and appropriate Canadian Standards.

SWD Rating

The Bulletin 1489-M breakers (0.5 ... 20 A) are rated as Switch Duty (SWD) and as such may be applied to switch fluorescent lighting loads up to their current and voltage maximum.

Coordinated Overcurrent Protection

Where an orderly shutdown is required to minimize the hazards to personnel and equipment, a system of coordination based upon the faulted or overloaded circuit is isolated by selective operation of only the overcurrent protective device closest to the overcurrent condition. The user should select devices that meet this requirement.

References: NEC 240.12. Also see CEC.

HACR Rating

Bulletin 1489-M Circuit Breakers are rated as Heating, Air Conditioning and Refrigeration circuit breakers as defined by UL 489, paragraph 6.7 and may be used in this type of application.

Current Limiting

Bulletin 1489-M Circuit Breakers are rated as current limiting circuit breakers as defined by UL 489, paragraph 8.6.

The Bulletin 1489-M line features the ability to achieve short circuit interruptions far more effectively than conventional breakers. In conventional circuit breakers, the short circuit interruption time required is approximately one or two half cycles of an AC sine wave. When the contacts open, the resulting arc continues to burn until the current level passes through zero. The arc may re-ignite because of the insufficient width of the contact gap. The current that flows until the arc is extinguished produces a heating effect proportional to the I^2t value (let-through-energy) of the fault current.

The Bulletin 1489-M device is designed to substantially reduce the amount of let-through-current and the resulting let-through-energy that can damage protected components. The Bulletin 1489-M has the ability to interrupt short circuit current within the first half cycle of the fault. Limiting let-through current and energy will protect against the harmful effects of overcurrent and is focused primarily on avoiding excessive heat and mechanical damage.

Both of these factors are proportional to the square of the current. Thermal energy is proportional to the square of the RMS value and magnetic forces are proportional to the square of the peak value. The most effective way to provide protection is to substantially limit let-through-energy. This provides the following advantages:

- Far less damage at the location of the short circuit.
- Fast electric separation of a faulty unit from the system, especially power supplies connected in parallel that are switched off when the voltage of the power bus drops below a certain level.
- Far less wear on the miniature circuit breaker itself. This means more safe interruptions.
- Better protection of all components in the short circuit path.
- Far wider range of selective action when used with an upstream protective device. (No nuisance shut downs from feeder line interruptions, causing a blackout in all connected branches.)

Ambient Temperature Derating

The Bulletin 1489-M circuit breakers are rated in RMS amperes at a 40 °C (104 °F) ambient temperature per UL 489/CSA C22.2 No. 5. This temperature is used as the ambient temperature external to an industrial enclosure. If a circuit breaker is applied in a temperature that exceeds the 40 °C (104 °F) ambient rating, then the circuit breaker should be derated using the table below. For IEC 60947-2 standard, the products carry an ambient rating of 30 °C. Follow standard IEC application considerations for temperature rating in different ambient temperatures.

Note: Application below 0° C is for non-condensing atmosphere. Care should be taken for applications below 0 °C. These devices are not certified to operate correctly in the presence of ice.

Bulletin 1489-M
Temperature Derating, UL
Reference temperature = 40 °C

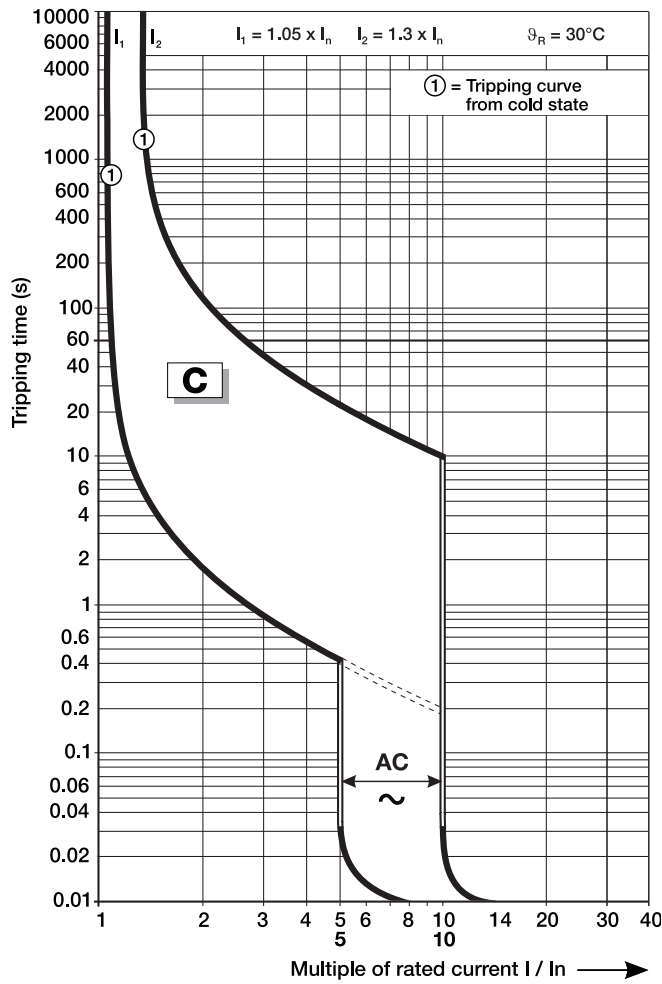
Current Rating [A]	Ambient temperature (°C)									
	-25	-20	-10	0	10	20	30	40	50	55
0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
1	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1	1.0	0.9
1.6	2.0	2.0	1.9	1.8	1.8	1.7	1.7	1.6	1.5	1.5
2	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2	1.9	1.9
3	3.7	3.7	3.6	3.4	3.3	3.2	3.1	3	2.9	2.8
4	5.0	4.9	4.7	4.6	4.4	4.3	4.1	4	3.9	3.8
5	6.2	6.1	5.9	5.7	5.6	5.4	5.2	5	4.8	4.7
6	7.4	7.3	7.1	6.9	6.7	6.4	6.2	6	5.8	5.7
7	8.7	8.6	8.3	8.0	7.8	7.5	7.3	7	6.7	6.6
8	9.9	9.8	9.5	9.2	8.9	8.6	8.3	8	7.7	7.6
10	12.4	12.2	11.9	11.5	11.1	10.7	10.4	10	9.6	9.4
13	16.1	15.9	15.4	14.9	14.4	14.0	13.5	13	12.5	12.3
15	18.6	18.3	17.8	17.2	16.7	16.1	15.6	15	14.4	14.2
16	19.8	19.6	19.0	18.4	17.8	17.2	16.6	16	15.4	15.1
20	24.8	24.4	23.7	23.0	22.2	21.5	20.7	20	19.3	18.9
25	31.0	30.6	29.6	28.7	27.8	26.9	25.9	25	24.1	23.6
30	37.2	36.7	35.6	34.4	33.3	32.2	31.1	30	28.9	28.3
32	39.7	39.1	37.9	36.7	35.6	34.4	33.2	32	30.8	30.2
35	43.4	42.8	41.5	40.2	38.9	37.6	36.3	35	33.7	33.1
40	49.6	48.9	47.4	45.9	44.4	43.0	41.5	40	38.5	37.8
50	62.0	61.1	59.3	57.4	55.6	53.7	51.9	50	48.2	47.2
60	74.4	73.3	71.1	68.9	66.7	64.4	62.2	60	57.8	56.7
63	78.2	77.0	74.7	72.3	70.0	67.7	65.3	63	60.7	59.5

Bulletin 1489-M
Temperature Derating, IEC
Reference temperature = 30 °C

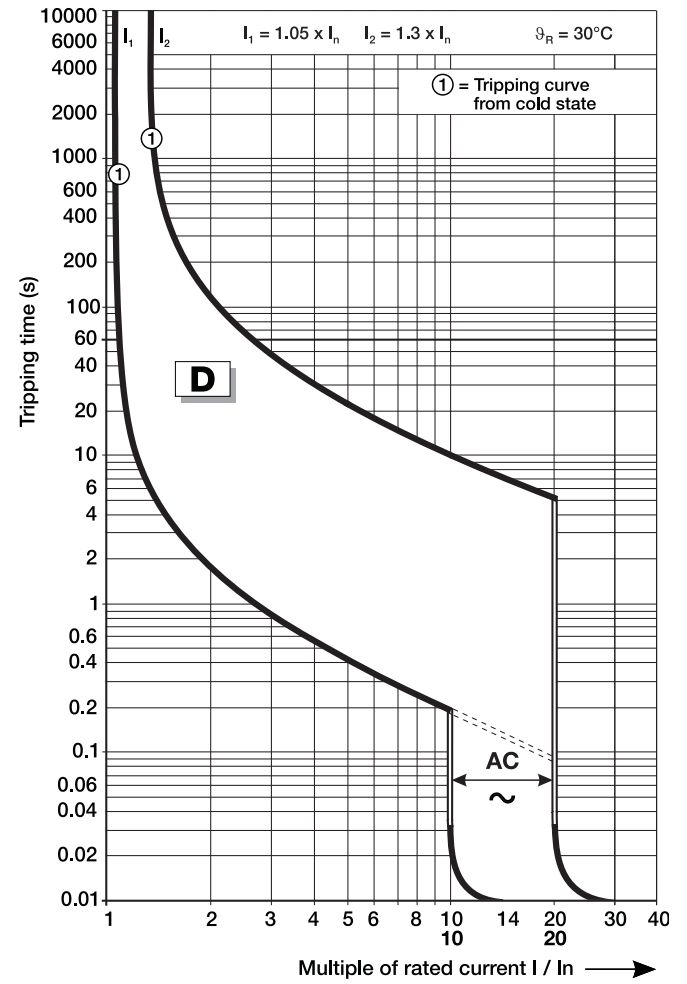
Current Rating [A]	Ambient temperature (°C)									
	-25	-20	-10	0	10	20	30	40	50	55
0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1	1.2	1.2	1.1	1.1	1.1	1.0	1	1.0	0.9	0.9
1.6	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5
2	2.3	2.3	2.2	2.2	2.1	2.1	2	1.9	1.9	1.9
3	3.5	3.5	3.4	3.3	3.2	3.1	3	2.9	2.8	2.8
4	4.7	4.6	4.5	4.4	4.2	4.1	4	3.9	3.8	3.7
5	5.8	5.8	5.6	5.5	5.3	5.2	5	4.9	4.7	4.6
6	7.0	6.9	6.7	6.5	6.4	6.2	6	5.8	5.6	5.6
7	8.2	8.1	7.8	7.6	7.4	7.2	7	6.8	6.6	6.5
8	9.3	9.2	9.0	8.7	8.5	8.2	8	7.8	7.5	7.4
10	11.7	11.5	11.2	10.9	10.6	10.3	10	9.7	9.4	9.3
13	15.1	15.0	14.6	14.2	13.8	13.4	13	12.6	12.2	12.0
15	17.5	17.3	16.8	16.4	15.9	15.5	15	14.6	14.1	13.9
16	18.6	18.4	17.9	17.4	17.0	16.5	16	15.5	15.0	14.8
20	23.3	23.0	22.4	21.8	21.2	20.6	20	19.4	18.8	18.5
25	29.1	28.8	28.0	27.3	26.5	25.8	25	24.3	23.5	23.1
30	35.0	34.5	33.6	32.7	31.8	30.9	30	29.1	28.2	27.8
32	37.3	36.8	35.8	34.9	33.9	33.0	32	31.0	30.1	29.6
35	40.8	40.3	39.2	38.2	37.1	36.1	35	34.0	32.9	32.4
40	46.6	46.0	44.8	43.6	42.4	41.2	40	38.8	37.6	37.0
50	58.3	57.5	56.0	54.5	53.0	51.5	50	48.5	47.0	46.3
60	69.9	69.0	67.2	65.4	63.6	61.8	60	58.2	56.4	55.5
63	73.4	72.5	70.6	68.7	66.8	64.9	63	61.1	59.2	58.3

Tripping Characteristics

C Curve










D Curve



Accessories



Right Mount

Photo	Product Description ★‡	Contacts	Standards	Certifications	UL/CSA Max. Current/Voltage	IEC Ratings Current/Voltage	Cat. No.
	Shunt Trip		UL 489 CSA 22.2 No. 5 EN 60947-5-2	UL Listed CSA Certified CE Marked	110...415V AC 110...250V DC	—	1489-AMST1
			UL 489 CSA 22.2 No. 5 EN 60947-5-2	UL Listed CSA Certified CE Marked	12...60V AC/DC	—	1489-AMST2
	Signal Contact	1 N.O./N.C. (1 C.O.) 	UL 489 CSA 22.2 No. 5 EN 60947-5-1 GB 14048.5	UL Listed CSA Certified CE Marked VDE Certified CCC Certified	1A @ 480V AC 2A @ 277V AC 1.5A @ 125V DC 2A @ 60V DC 4A @ 24V DC	2A @ 230V (AC-14) 1A @ 400V (AC-14) 1.5A @ 110V (DC-12) 1A @ 220V (DC-12) 4A @ 24V (DC-13) 2A @ 60V (DC-13)	1489-AMRS3
	Auxiliary Contact	1 N.O./N.C. (1 C.O.) 	UL 489 CSA 22.2 No. 5 EN 60947-5-1 GB 14048.5	UL Listed CSA Certified CE Marked VDE Certified CCC Certified	1A @ 480V AC 2A @ 277V AC 1.5A @ 125V DC 2A @ 60V DC 4A @ 24V DC	2A @ 230V (AC-14) 1A @ 400V (AC-14) 1.5A @ 110V (DC-12) 1A @ 220V (DC-12) 4A @ 24V (DC-13) 2A @ 60V (DC-13)	1489-AMRA3

★ A maximum of one shunt trip, two signal contacts, or two auxiliary contacts may be installed per 1489-M.

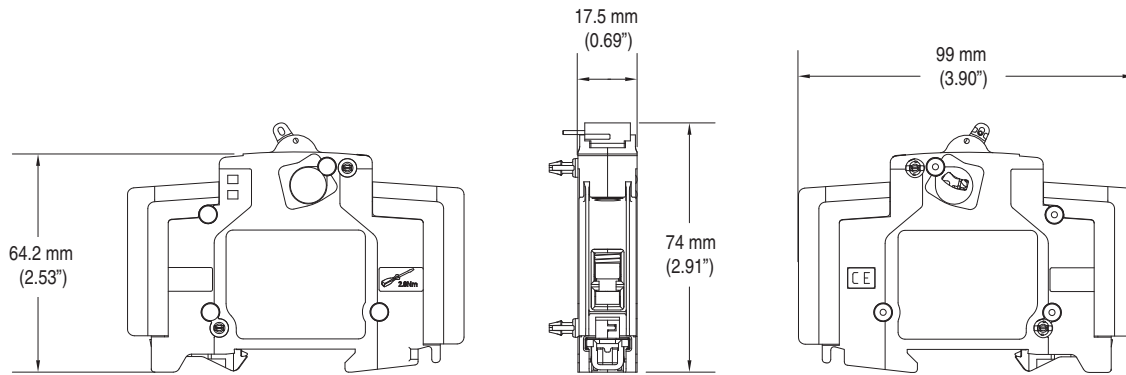
‡ A maximum of three accessories may be installed per 1489-M. The shunt trip must be mounted closest to the 1489-M, then the signal contact, then the auxiliary contact(s). For allowed combinations, and installation instructions please contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Toggle Mount

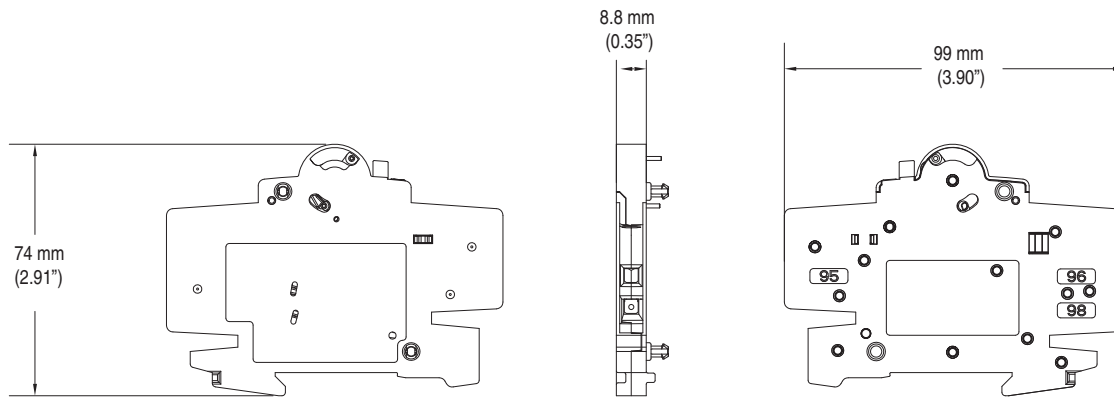
Photo	Product Description	Cat. No.
	Lock-out attachment for 1-pole MCB	189-ALOA1
	Lock-out attachment for multi-pole MCB	189-ALOA2

Accessory Approximate Dimensions

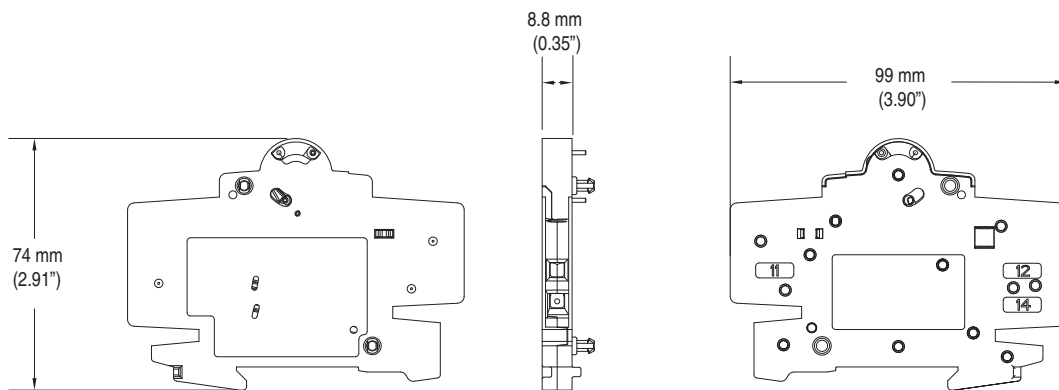
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



1489-AMST1 and 1489-AMST2



1489-AMRS3



1489-AMRA3

Bus Bars

1489-M Bus Bars

Phase	No. of Pins	No. of Circuit Breakers	Pkg Qty.	Cat. No. ★‡
1-Phase	6	6	10	1489-AMCL106
	12	12	10	1489-AMCL112
	18	18	10	1489-AMCL118
2-Phase	6	3	10	1489-AMCL206
	12	6	10	1489-AMCL212
	18	9	10	1489-AMCL218
3-Phase	6	2	10	1489-AMCL306
	12	4	10	1489-AMCL312
	18	6	10	1489-AMCL318

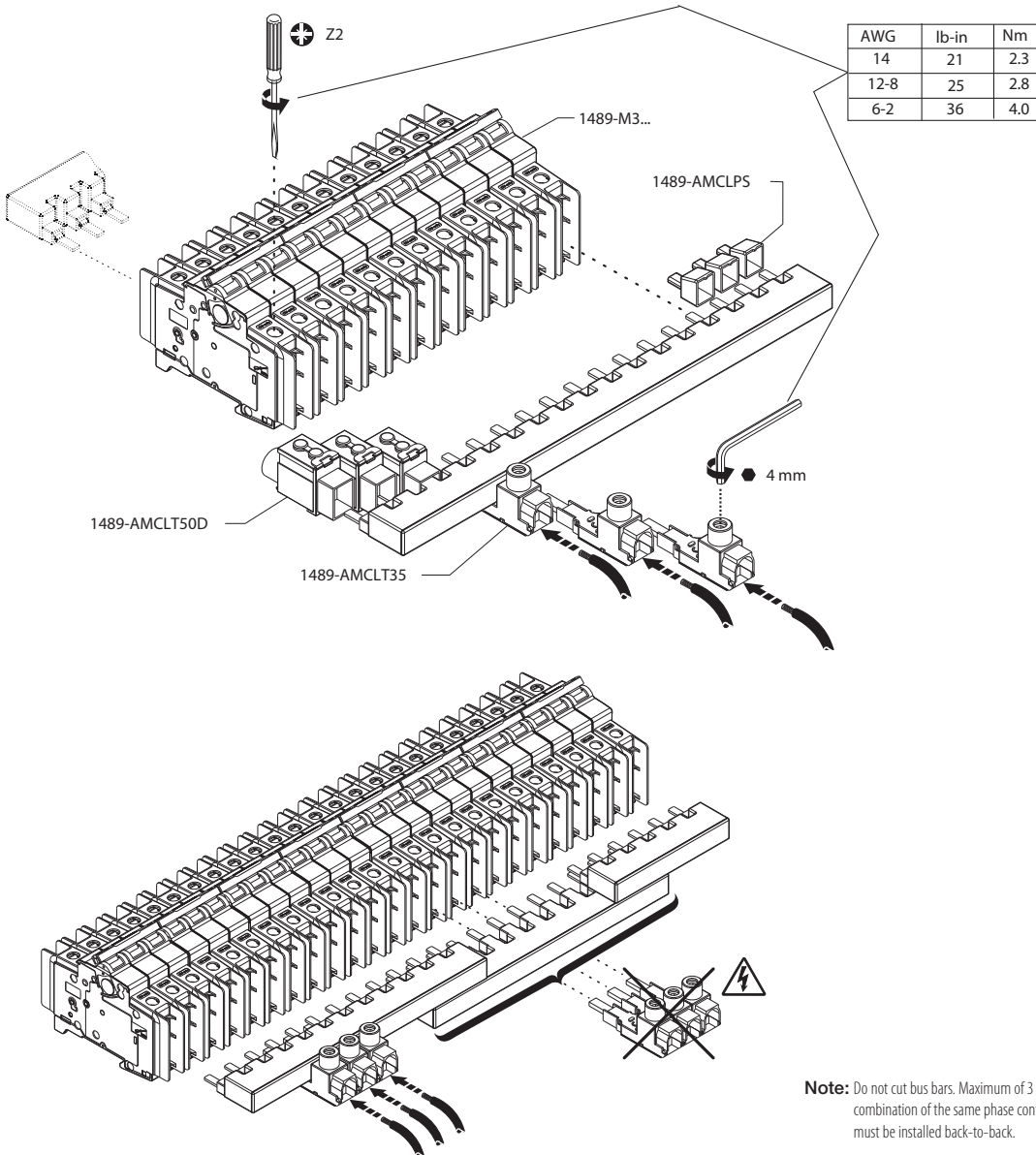
★ cULus, UL 508, EN 60947-1, CE Marked

‡ Maximum of three bus bars allowed

1489-M Bus Bar Accessories

Description	Pkg. Qty.	Cat. No. ★
Terminal Power Feed, 35 mm ²	10	1489-AMCLT35
Dedicated Power Feed, 50 mm ²	10	1489-AMCLT50D
Protective Shroud (for unused pins)	10	1489-AMCLPS

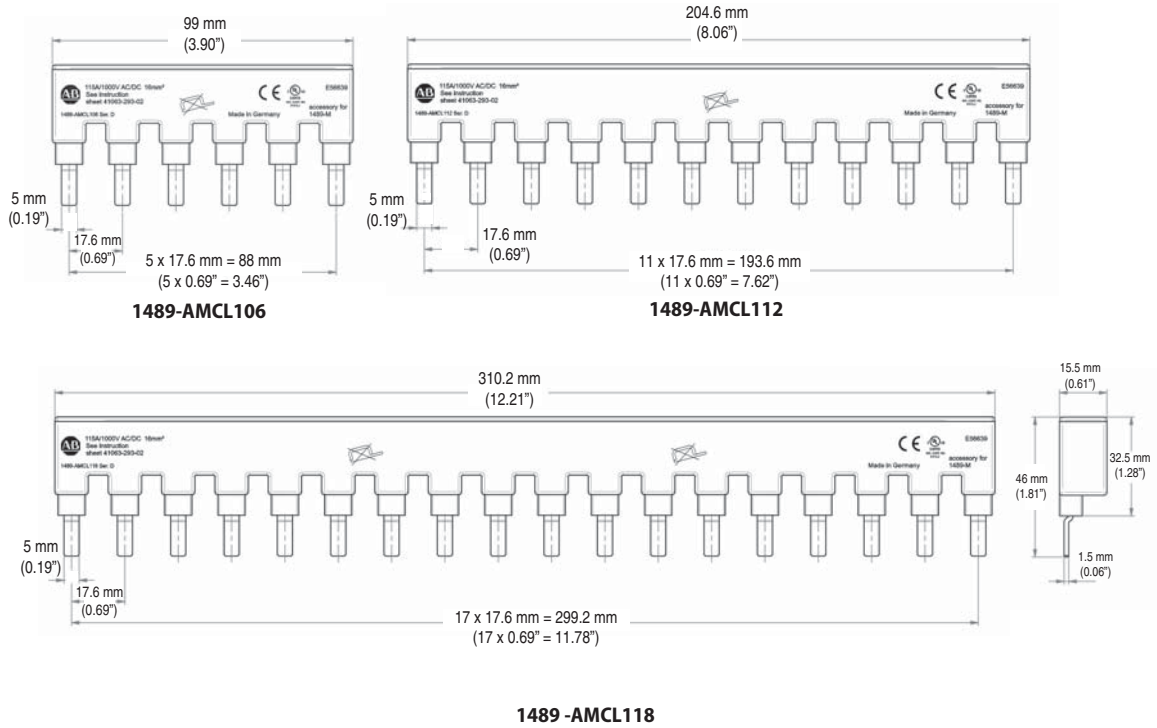
★ cULus, UL 508, EN 60947-1, CE Marked



Bus Bar Approximate Dimensions

Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

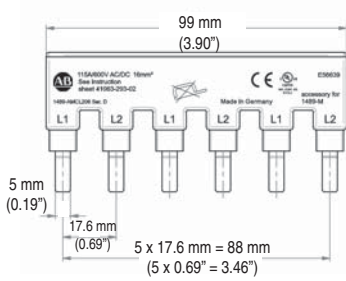
1-Phase Bus Bars



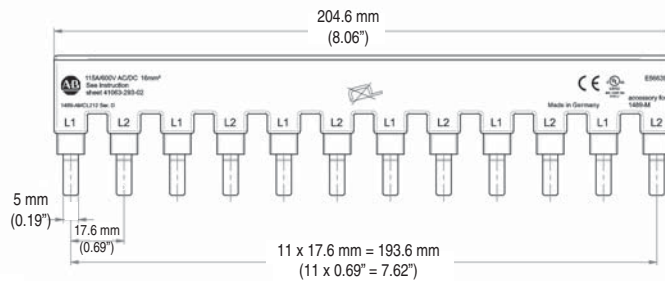
Bus Bar Approximate Dimensions

Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

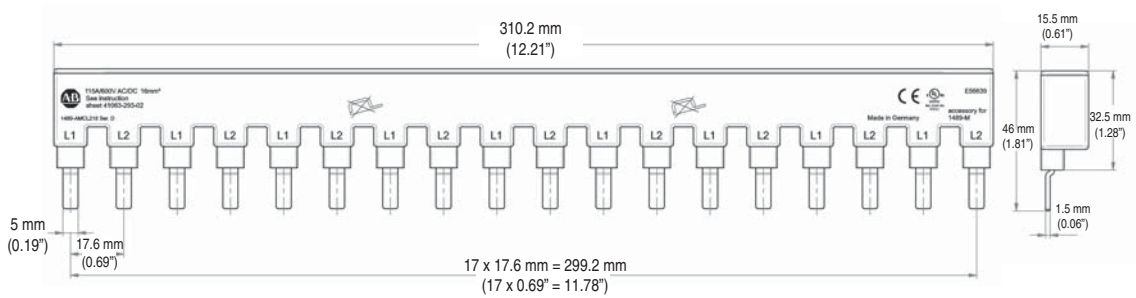
2-Phase Bus Bars



1489-AMCL206



1489-AMCL212

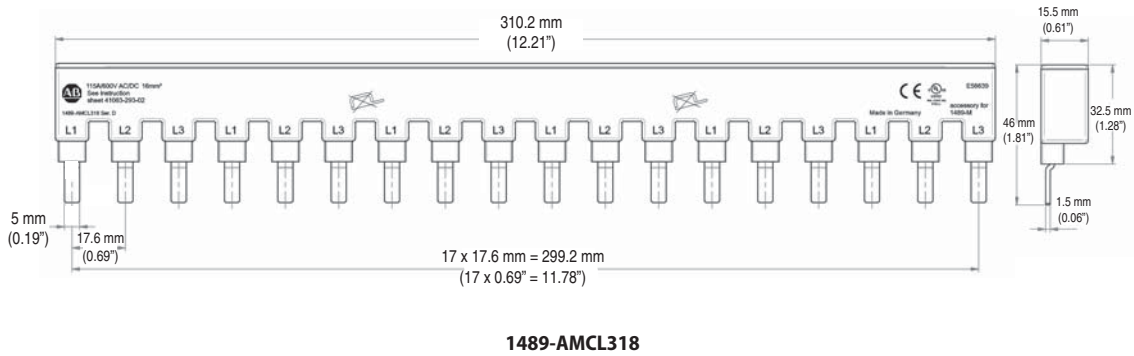
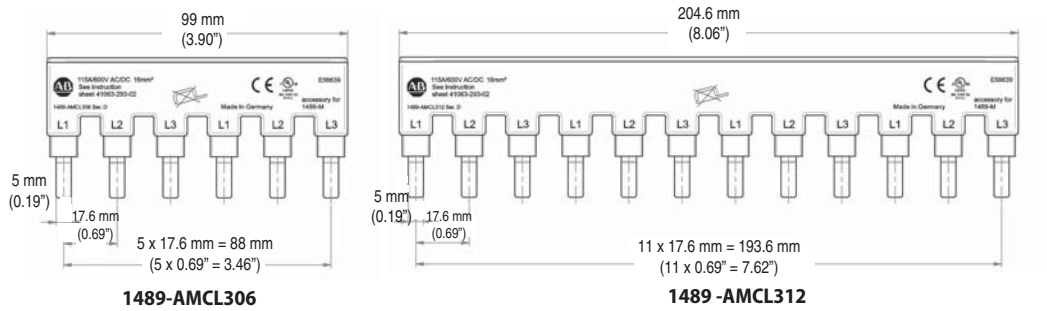


1489-AMCL218

Bus Bar Approximate Dimensions

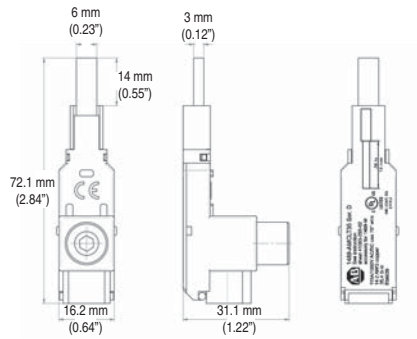
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

3-Phase Bus Bars

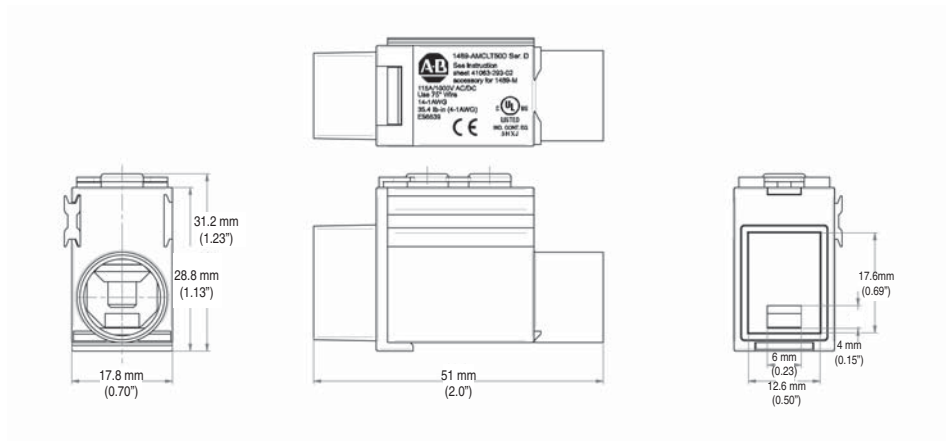


Bus Bar Accessory Approximate Dimensions

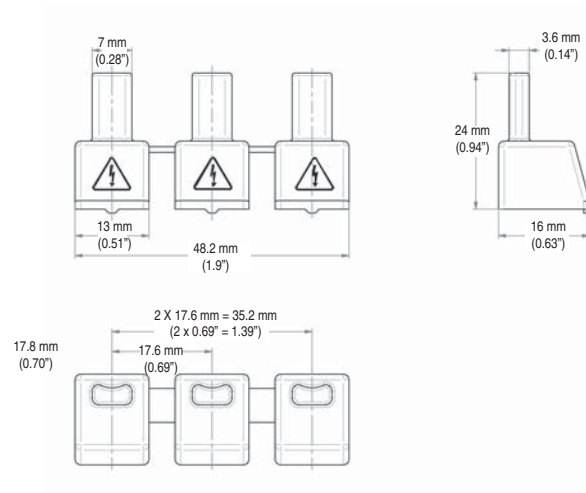
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



1489-AMCLT35

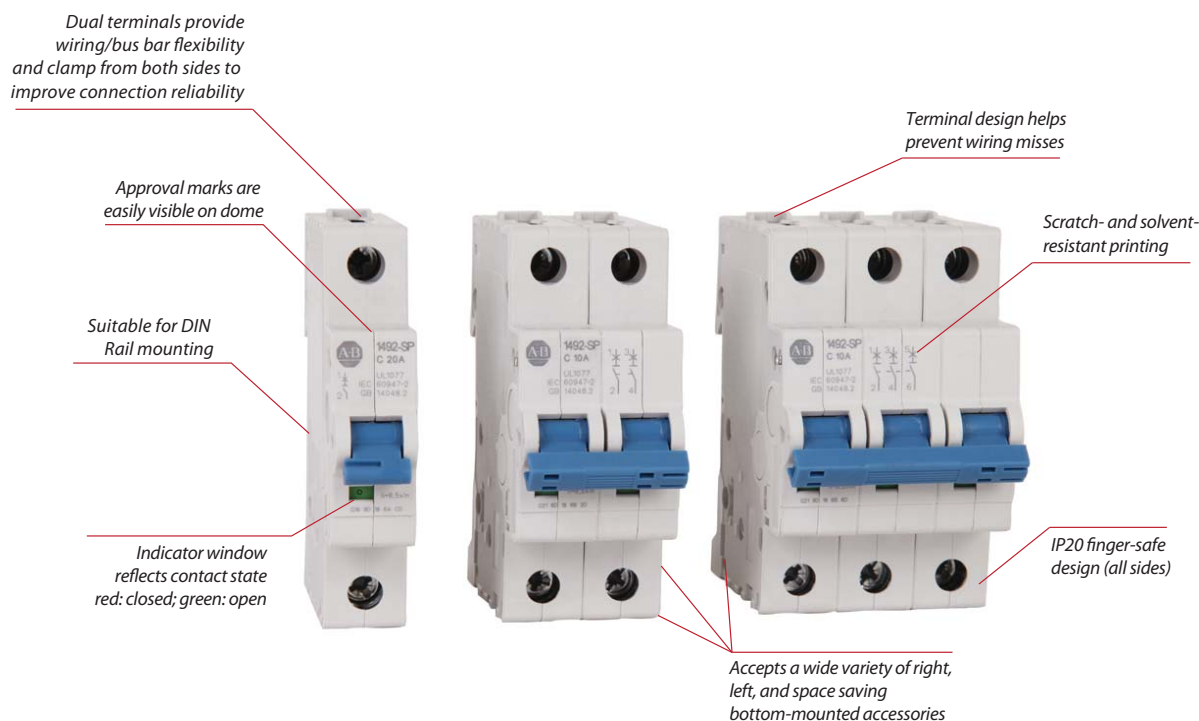


1489-AMCLT50D



1489-AMCLPS

1492-SP Supplementary Protectors



Bulletin 1492-SP thermal magnetic Supplementary Protectors provide overcurrent protection for equipment where branch circuit protection is already provided, or is not required. These devices are also Miniature Circuit Breakers as defined by IEC Standards.

These supplementary protectors are offered as a broad portfolio of pole variants, current ratings, and trip curves to match the appropriate level of protection for your application. They may be used with UL 508 Listed bus bars for convenience in panel assembly, a wide range of left-, right- and space saving bottom-mount accessories, and lock out attachments for safety during maintenance.

Features

- Current limiting
- Fast breaking time
- Existing installations can be easily upgraded to include an auxiliary using the bottom mounted auxiliary contact options, which require no DIN Rail space
- 40 °C calibration temperature (UL/CSA) eliminates need to derate for 508A industrial control panel installations
- Installation of up to six accessories on the same circuit breaker
- Superior shock and vibration resistance to 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

1492-SP Supplementary Protectors

Rated Voltage	UL/CSA: Max. 480Y/277V AC IEC: U_e 230/400V AC
Interrupting Capacity	UL/CSA: 5...10 kA IEC: 15 kA
Current Ratings	0.5...63 A
Poles	1, 2, 3, 1+N, 3+N
Trip Curves	B, C, D
Standards Compliance	UL 1077 CSA C22.2 No. 235 EN 60947-2 GB 14048.2
Certifications	UL Recognized, File No. E65138 ★ CSA Certified, File No. 259391 CE Marked CCC Certified VDE Certified RoHS Compliant

* 1+N and 3+N devices are not UL recognized or CSA certified.

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.

1492 - **SPM** **1** **C** **010** - **N**
a *b* *c* *d* *e*

a

Voltage Type	
Code	Description
SPM	AC Supplementary Protector

b

Poles	
Code	Description
1	1-Pole
2	2-Pole
3	3-Pole

c

Trip Curve	
Code	Trip Curve
B	Trip Curve B
C	Trip Curve C
D	Trip Curve D

d



Rated Current (I_n)	
Code	Current [A]
005	0.5
010	1
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
400	40
500	50
630	63

e

+ Neutral (available for 1+N and 3+N configurations)	
Code	Description
	Can be left blank
N	+ Neutral


Product Selection

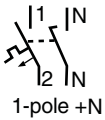
1-Pole Supplementary Protectors

Photo/Wiring Diagram	Continuous Current Rating (I_n) [A]	Trip Curve B Resistive or Slightly Inductive $3 \dots 5 I_n$ Cat. No.	Trip Curve C Inductive $5 \dots 10 I_n$ Cat. No.	Trip Curve D Highly Inductive $10 \dots 20 I_n$ Cat. No.
	0.5	1492-SPM1B005	1492-SPM1C005	1492-SPM1D005
	1	1492-SPM1B010	1492-SPM1C010	1492-SPM1D010
	2	1492-SPM1B020	1492-SPM1C020	1492-SPM1D020
	3	1492-SPM1B030	1492-SPM1C030	1492-SPM1D030
	4	1492-SPM1B040	1492-SPM1C040	1492-SPM1D040
	5	1492-SPM1B050	1492-SPM1C050	1492-SPM1D050
	6	1492-SPM1B060	1492-SPM1C060	1492-SPM1D060
	7	1492-SPM1B070	1492-SPM1C070	1492-SPM1D070
	8	1492-SPM1B080	1492-SPM1C080	1492-SPM1D080
	10	1492-SPM1B100	1492-SPM1C100	1492-SPM1D100
	13	1492-SPM1B130	1492-SPM1C130	1492-SPM1D130
	15	1492-SPM1B150	1492-SPM1C150	1492-SPM1D150
	16	1492-SPM1B160	1492-SPM1C160	1492-SPM1D160
	20	1492-SPM1B200	1492-SPM1C200	1492-SPM1D200
	25	1492-SPM1B250	1492-SPM1C250	1492-SPM1D250
	30	1492-SPM1B300	1492-SPM1C300	1492-SPM1D300
	32	1492-SPM1B320	1492-SPM1C320	1492-SPM1D320
	 1-pole	40	1492-SPM1B400	1492-SPM1C400
50		1492-SPM1B500	1492-SPM1C500	1492-SPM1D500
63		1492-SPM1B630	1492-SPM1C630	1492-SPM1D630

Product Selection

1-Pole + Neutral Supplementary Protectors*


Photo/Wiring Diagram	Continuous Current Rating (I_n) [A]	Trip Curve B Resistive or Slightly Inductive $3...5 I_n$ Cat. No.	Trip Curve C Inductive $5...10 I_n$ Cat. No.	Trip Curve D Highly Inductive $10...20 I_n$ Cat. No.
	0.5	1492-SPM1B005-N	1492-SPM1C005-N	1492-SPM1D005-N
	1	1492-SPM1B010-N	1492-SPM1C010-N	1492-SPM1D010-N
	2	1492-SPM1B020-N	1492-SPM1C020-N	1492-SPM1D020-N
	3	1492-SPM1B030-N	1492-SPM1C030-N	1492-SPM1D030-N
	4	1492-SPM1B040-N	1492-SPM1C040-N	1492-SPM1D040-N
	5	1492-SPM1B050-N	1492-SPM1C050-N	1492-SPM1D050-N
	6	1492-SPM1B060-N	1492-SPM1C060-N	1492-SPM1D060-N
	7	1492-SPM1B070-N	1492-SPM1C070-N	1492-SPM1D070-N
	8	1492-SPM1B080-N	1492-SPM1C080-N	1492-SPM1D080-N
	10	1492-SPM1B100-N	1492-SPM1C100-N	1492-SPM1D100-N
	13	1492-SPM1B130-N	1492-SPM1C130-N	1492-SPM1D130-N
	15	1492-SPM1B150-N	1492-SPM1C150-N	1492-SPM1D150-N
	16	1492-SPM1B160-N	1492-SPM1C160-N	1492-SPM1D160-N
	20	1492-SPM1B200-N	1492-SPM1C200-N	1492-SPM1D200-N
	25	1492-SPM1B250-N	1492-SPM1C250-N	1492-SPM1D250-N
	30	1492-SPM1B300-N	1492-SPM1C300-N	1492-SPM1D300-N
	32	1492-SPM1B320-N	1492-SPM1C320-N	1492-SPM1D320-N
	40	1492-SPM1B400-N	1492-SPM1C400-N	1492-SPM1D400-N
50	1492-SPM1B500-N	1492-SPM1C500-N	1492-SPM1D500-N	
63	1492-SPM1B630-N	1492-SPM1C630-N	1492-SPM1D630-N	



* 1+N configurations are not UL or CSA certified.

Product Selection

2-Pole Supplementary Protectors

Photo/Wiring Diagram	Continuous Current Rating (I_n) [A]	Trip Curve B Resistive or Slightly Inductive $3...5 I_n$ Cat. No.	Trip Curve C Inductive $5...10 I_n$ Cat. No.	Trip Curve D Highly Inductive $10...20 I_n$ Cat. No.
	0.5	1492-SPM2B005	1492-SPM2C005	1492-SPM2D005
	1	1492-SPM2B010	1492-SPM2C010	1492-SPM2D010
	2	1492-SPM2B020	1492-SPM2C020	1492-SPM2D020
	3	1492-SPM2B030	1492-SPM2C030	1492-SPM2D030
	4	1492-SPM2B040	1492-SPM2C040	1492-SPM2D040
	5	1492-SPM2B050	1492-SPM2C050	1492-SPM2D050
	6	1492-SPM2B060	1492-SPM2C060	1492-SPM2D060
	7	1492-SPM2B070	1492-SPM2C070	1492-SPM2D070
	8	1492-SPM2B080	1492-SPM2C080	1492-SPM2D080
	10	1492-SPM2B100	1492-SPM2C100	1492-SPM2D100
	13	1492-SPM2B130	1492-SPM2C130	1492-SPM2D130
	15	1492-SPM2B150	1492-SPM2C150	1492-SPM2D150
	16	1492-SPM2B160	1492-SPM2C160	1492-SPM2D160
	20	1492-SPM2B200	1492-SPM2C200	1492-SPM2D200
	25	1492-SPM2B250	1492-SPM2C250	1492-SPM2D250
	30	1492-SPM2B300	1492-SPM2C300	1492-SPM2D300
	32	1492-SPM2B320	1492-SPM2C320	1492-SPM2D320
40	1492-SPM2B400	1492-SPM2C400	1492-SPM2D400	
50	1492-SPM2B500	1492-SPM2C500	1492-SPM2D500	
63	1492-SPM2B630	1492-SPM2C630	1492-SPM2D630	




Product Selection

3-Pole Supplementary Protectors

Photo/Wiring Diagram	Continuous Current Rating (I_n) [A]	Trip Curve B Resistive or Slightly Inductive $3..5 I_n$ Cat. No.	Trip Curve C Inductive $5..10 I_n$ Cat. No.	Trip Curve D Highly Inductive $10..20 I_n$ Cat. No.
 3-pole	0.5	1492-SPM3B005	1492-SPM3C005	1492-SPM3D005
	1	1492-SPM3B010	1492-SPM3C010	1492-SPM3D010
	2	1492-SPM3B020	1492-SPM3C020	1492-SPM3D020
	3	1492-SPM3B030	1492-SPM3C030	1492-SPM3D030
	4	1492-SPM3B040	1492-SPM3C040	1492-SPM3D040
	5	1492-SPM3B050	1492-SPM3C050	1492-SPM3D050
	6	1492-SPM3B060	1492-SPM3C060	1492-SPM3D060
	7	1492-SPM3B070	1492-SPM3C070	1492-SPM3D070
	8	1492-SPM3B080	1492-SPM3C080	1492-SPM3D080
	10	1492-SPM3B100	1492-SPM3C100	1492-SPM3D100
	13	1492-SPM3B130	1492-SPM3C130	1492-SPM3D130
	15	1492-SPM3B150	1492-SPM3C150	1492-SPM3D150
	16	1492-SPM3B160	1492-SPM3C160	1492-SPM3D160
	20	1492-SPM3B200	1492-SPM3C200	1492-SPM3D200
	25	1492-SPM3B250	1492-SPM3C250	1492-SPM3D250
	30	1492-SPM3B300	1492-SPM3C300	1492-SPM3D300
	32	1492-SPM3B320	1492-SPM3C320	1492-SPM3D320
	40	1492-SPM3B400	1492-SPM3C400	1492-SPM3D400
	50	1492-SPM3B500	1492-SPM3C500	1492-SPM3D500
	63	1492-SPM3B630	1492-SPM3C630	1492-SPM3D630

Product Selection

3-Pole + Neutral Supplementary Protectors*

Photo/Wiring Diagram	Continuous Current Rating (I_n) [A]	Trip Curve B Resistive or Slightly Inductive $3...5 I_n$ Cat. No.	Trip Curve C Inductive $5...10 I_n$ Cat. No.	Trip Curve D Highly Inductive $10...20 I_n$ Cat. No.
	0.5	1492-SPM3B005-N	1492-SPM3C005-N	1492-SPM3D005-N
	1	1492-SPM3B010-N	1492-SPM3C010-N	1492-SPM3D010-N
	2	1492-SPM3B020-N	1492-SPM3C020-N	1492-SPM3D020-N
	3	1492-SPM3B030-N	1492-SPM3C030-N	1492-SPM3D030-N
	4	1492-SPM3B040-N	1492-SPM3C040-N	1492-SPM3D040-N
	5	1492-SPM3B050-N	1492-SPM3C050-N	1492-SPM3D050-N
	6	1492-SPM3B060-N	1492-SPM3C060-N	1492-SPM3D060-N
	7	1492-SPM3B070-N	1492-SPM3C070-N	1492-SPM3D070-N
	8	1492-SPM3B080-N	1492-SPM3C080-N	1492-SPM3D080-N
	10	1492-SPM3B100-N	1492-SPM3C100-N	1492-SPM3D100-N
	13	1492-SPM3B130-N	1492-SPM3C130-N	1492-SPM3D130-N
	15	1492-SPM3B150-N	1492-SPM3C150-N	1492-SPM3D150-N
	16	1492-SPM3B160-N	1492-SPM3C160-N	1492-SPM3D160-N
	20	1492-SPM3B200-N	1492-SPM3C200-N	1492-SPM3D200-N
	25	1492-SPM3B250-N	1492-SPM3C250-N	1492-SPM3D250-N
	30	1492-SPM3B300-N	1492-SPM3C300-N	1492-SPM3D300-N
	32	1492-SPM3B320-N	1492-SPM3C320-N	1492-SPM3D320-N
	40	1492-SPM3B400-N	1492-SPM3C400-N	1492-SPM3D400-N
	50	1492-SPM3B500-N	1492-SPM3C500-N	1492-SPM3D500-N
	63	1492-SPM3B630-N	1492-SPM3C630-N	1492-SPM3D630-N

* 3+N configurations are not UL or CSA certified.

Specifications

Electrical Ratings			
Poles	1, 2, 3, 1+N, 3+N		
Tripping characteristics	B, C, D		
Rated current (I_n)	0.5...63 A		
Rated frequency (f)	50/60 Hz		
Rated insulation voltage U_i per IEC/EN 60664-1	250 V AC (phase to ground), 440V AC (phase to phase)		
Overvoltage category	III		
Pollution degree	3		
Data per UL/CSA			
Rated voltage	1-pole	AC	277V AC
		DC	48V DC
	2-pole	AC	480Y/277V AC
		DC	96V DC
	3-pole	AC	480Y/277V AC
	Rated interrupting capacity per UL 1077		≤ 32 A: 10 kA (AC); > 32 A: 5 kA (AC); 0.5...63 A: 10 kA (DC)
Application		Supplementary Protector for general use; application codes: TC1, OL0, SC: U2 (AC), SC: U2 (DC), FW3 \clubsuit	
Reference temperature for tripping characteristics		40 °C	
Electrical endurance		6,000 ops (AC), 6,000 ops. (DC) 1 cycle (1s - ON, 9s - OFF)	
Data per IEC/EN 60947-2			
Rated operational voltage (U_e)	1-pole, 1+N	230V AC	
	2-pole, 3-pole, 3+N	400V AC	
Highest supply or utilization voltage (U_{max})	AC	1-pole, 1+N	253V AC
		2-pole, 3-pole, 3+N	440V AC
	DC \star	1-pole	48V DC
		2-pole	96V DC
Min. operating voltage		12V AC, 12V DC	
Rated ultimate short-circuit breaking capacity (I_{CU})		15 kA	
Rated service short-circuit breaking capacity (I_{CS})		≤ 40 A: 11.25 kA > 40 A: 7.5 kA	
Rated impulse withstand voltage U_{imp} . (1.2/50 μ s)		4 kV (test voltage 6.2kV at sea level, 5kV at 2,000m)	
Dielectric test voltage		2 kV (50/60Hz, 1 min.)	
Reference temperature for tripping characteristics		30 °C	
Electrical endurance		$I_n < 30$ A: 20,000 ops (AC) 1 cycle (2s - ON, 13s - OFF, $I_n \leq 32$ A), $I_n \geq 30$ A: 10,000 ops. (AC) 1 cycle (2s - ON, 28s - OFF, $I_n > 32$ A) 1,000 ops. (DC)	

\star IEC DC ratings self-declared.

\clubsuit 2-pole/3-pole single pole load: TC2.

Mechanical Data	
Housing	Insulation group II, RAL 7035
Indicator window	red ON/green OFF
Protection degree per EN 60529	IP20, IP40 in enclosure with cover
Mechanical endurance	20,000 operations
Shock resistance per IEC/EN 60068-2-27	25 g - 2 shocks - 13 ms
Vibration resistance per IEC/EN 60068-2-6	5g - 20 cycles at 5...150...5 Hz with load 0.8In

Environmental	
Environmental conditions (damp heat) per IEC/EN 60068-2-30	28 cycles with 55°C/90-96% and 25°C/95-100%
Ambient temperature Δ	-25...+55 °C
Storage temperature	-40...+70 °C

Installation		
Terminal	Dual terminal	
Cross-section of conductors \blacklozenge – solid, stranded (front/back terminal slot)	mm ²	35/35 mm ²
	AWG	18...4/18...10 AWG
Cross-section of conductors – flexible (front/back terminal slot)	mm ²	25/10 mm ²
Cross-section of bus bars (back terminal slot)	mm ²	10 mm ²
Tightening torque	N•m	2.8 N•m
	in•lb.	AWG 18...16: 8.85 in•lb. AWG 14...10: 17.7 in•lb. AWG 8...4: 39.8 in•lb.
Screwdriver	No. 2 Pozidrive	
Mounting	DIN rail (EN 60715, 35mm) with fast clip	
Mounting position	Any	
Supply	Optional	

Approximate Dimensions and Weight	
Pole dimension (H x D x W)	88 x 69 x 17.5 mm
Pole weight	115 g (4.1 oz.)

Combination with Auxiliary Elements	
Auxiliary contact	Yes
Signal contact	Yes
Shunt trip	Yes

\blacklozenge 35mm² self-declared, not included in IEC/EN approval.

Δ Refer to the ambient temperature derating tables.

Power Loss Due to Current

Rated Current [A]	Power Loss Per Pole [W]	Rated Current [A]	Power Loss Per Pole [W]
0.5	1.4	13	2.3
1	1.4	15	2.4
2	1.8	16	2.5
3	1.6	20	2.5
4	1.8	25	3.2
5	1.9	30	3.5
6	2.0	32	3.7
7	1.1	40	4.5
8	1.5	50	4.5
10	2.1	63	5.4

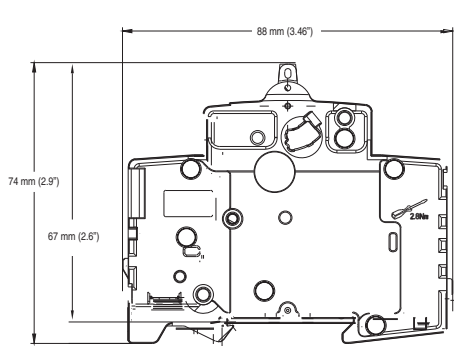
Zero-stack Derating

The installation of several miniature circuit breaker side by side with rated current on all poles requires a correction factor to the rated current (not required if spacers are used).

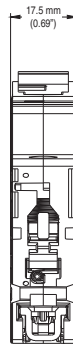
No. of Adjacent Devices	Factor
1	1
2,3	0.9
4,5	0.8
≥ 6	0.75

Approximate Dimensions

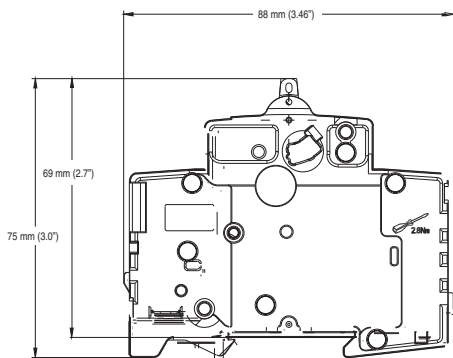
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



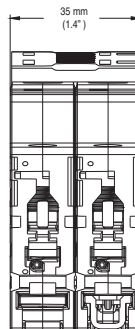
1-Pole



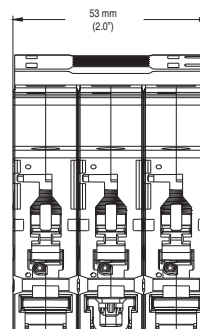
1-Pole



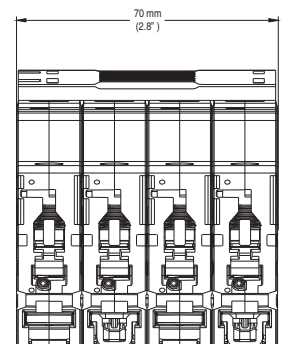
1 Pole + N, 2-, 3-, 3 Pole + N



1 Pole + N, 2-Pole



3-Pole



3-Pole + N

Ambient Temperature Derating

Note: Application below 0° C is for non-condensing atmosphere. Care should be taken for applications below 0 °C. These devices are not certified to operate correctly in the presence of ice.

Bulletin 1492-SP

Temperature Derating, UL

Reference temperature = 40 °C

Current Rating [A]	Ambient temperature (°C)									
	-25	-20	-10	0	10	20	30	40	50	55
0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
1	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1	1.0	0.9
2	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2	1.9	1.9
3	3.7	3.7	3.6	3.4	3.3	3.2	3.1	3	2.9	2.8
4	5.0	4.9	4.7	4.6	4.4	4.3	4.1	4	3.9	3.8
5	6.2	6.1	5.9	5.7	5.6	5.4	5.2	5	4.8	4.7
6	7.4	7.3	7.1	6.9	6.7	6.4	6.2	6	5.8	5.7
7	8.7	8.6	8.3	8.0	7.8	7.5	7.3	7	6.7	6.6
8	9.9	9.8	9.5	9.2	8.9	8.6	8.3	8	7.7	7.6
10	12.4	12.2	11.9	11.5	11.1	10.7	10.4	10	9.6	9.4
13	16.1	15.9	15.4	14.9	14.4	14.0	13.5	13	12.5	12.3
15	18.6	18.3	17.8	17.2	16.7	16.1	15.6	15	14.4	14.2
16	19.8	19.6	19.0	18.4	17.8	17.2	16.6	16	15.4	15.1
20	24.8	24.4	23.7	23.0	22.2	21.5	20.7	20	19.3	18.9
25	31.0	30.6	29.6	28.7	27.8	26.9	25.9	25	24.1	23.6
30	37.2	36.7	35.6	34.4	33.3	32.2	31.1	30	28.9	28.3
32	39.7	39.1	37.9	36.7	35.6	34.4	33.2	32	30.8	30.2
40	49.6	48.9	47.4	45.9	44.4	43.0	41.5	40	38.5	37.8
50	62.0	61.1	59.3	57.4	55.6	53.7	51.9	50	48.2	47.2
63	78.2	77.0	74.7	72.3	70.0	67.7	65.3	63	60.7	59.5

Bulletin 1492-SP

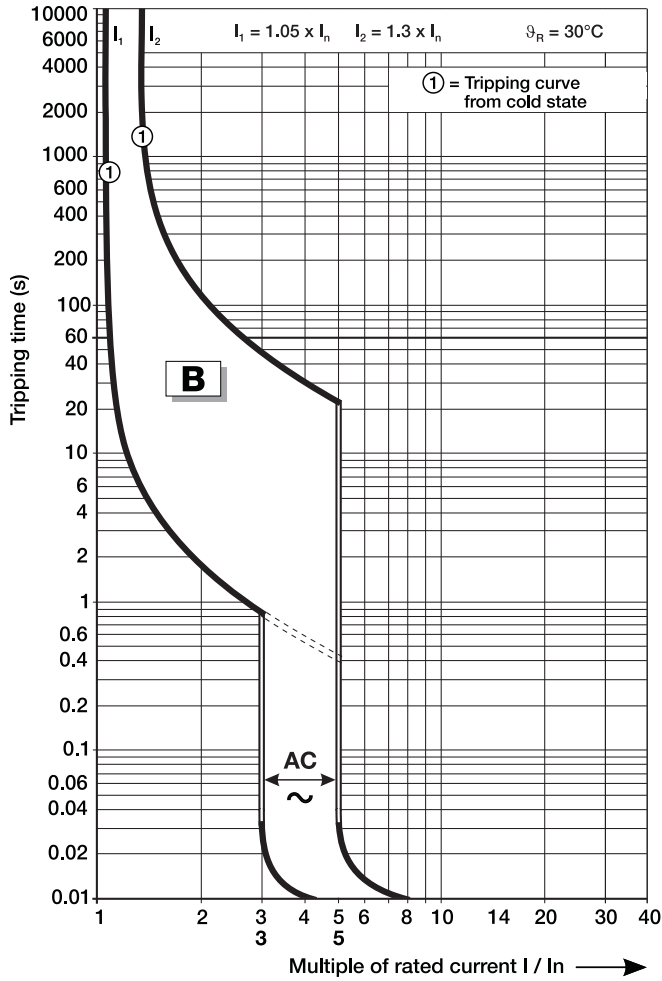
Temperature Derating, IEC

Reference temperature = 30 °C

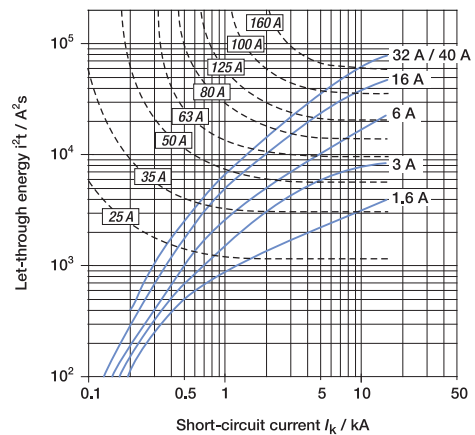
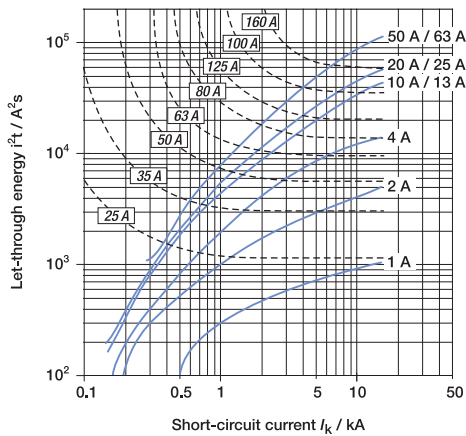
Current Rating [A]	Ambient temperature (°C)									
	-25	-20	-10	0	10	20	30	40	50	55
0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1	1.2	1.2	1.1	1.1	1.1	1.0	1	1.0	0.9	0.9
2	2.3	2.3	2.2	2.2	2.1	2.1	2	1.9	1.9	1.9
3	3.5	3.5	3.4	3.3	3.2	3.1	3	2.9	2.8	2.8
4	4.7	4.6	4.5	4.4	4.2	4.1	4	3.9	3.8	3.7
5	5.8	5.8	5.6	5.5	5.3	5.2	5	4.9	4.7	4.6
6	7.0	6.9	6.7	6.5	6.4	6.2	6	5.8	5.6	5.6
7	8.2	8.1	7.8	7.6	7.4	7.2	7	6.8	6.6	6.5
8	9.3	9.2	9.0	8.7	8.5	8.2	8	7.8	7.5	7.4
10	11.7	11.5	11.2	10.9	10.6	10.3	10	9.7	9.4	9.3
13	15.1	15.0	14.6	14.2	13.8	13.4	13	12.6	12.2	12.0
15	17.5	17.3	16.8	16.4	15.9	15.5	15	14.6	14.1	13.9
16	18.6	18.4	17.9	17.4	17.0	16.5	16	15.5	15.0	14.8
20	23.3	23.0	22.4	21.8	21.2	20.6	20	19.4	18.8	18.5
25	29.1	28.8	28.0	27.3	26.5	25.8	25	24.3	23.5	23.1
30	35.0	34.5	33.6	32.7	31.8	30.9	30	29.1	28.2	27.8
32	37.3	36.8	35.8	34.9	33.9	33.0	32	31.0	30.1	29.6
40	46.6	46.0	44.8	43.6	42.4	41.2	40	38.8	37.6	37.0
50	58.3	57.5	56.0	54.5	53.0	51.5	50	48.5	47.0	46.3
63	73.4	72.5	70.6	68.7	66.8	64.9	63	61.1	59.2	58.3

Tripping Characteristics

B Curve

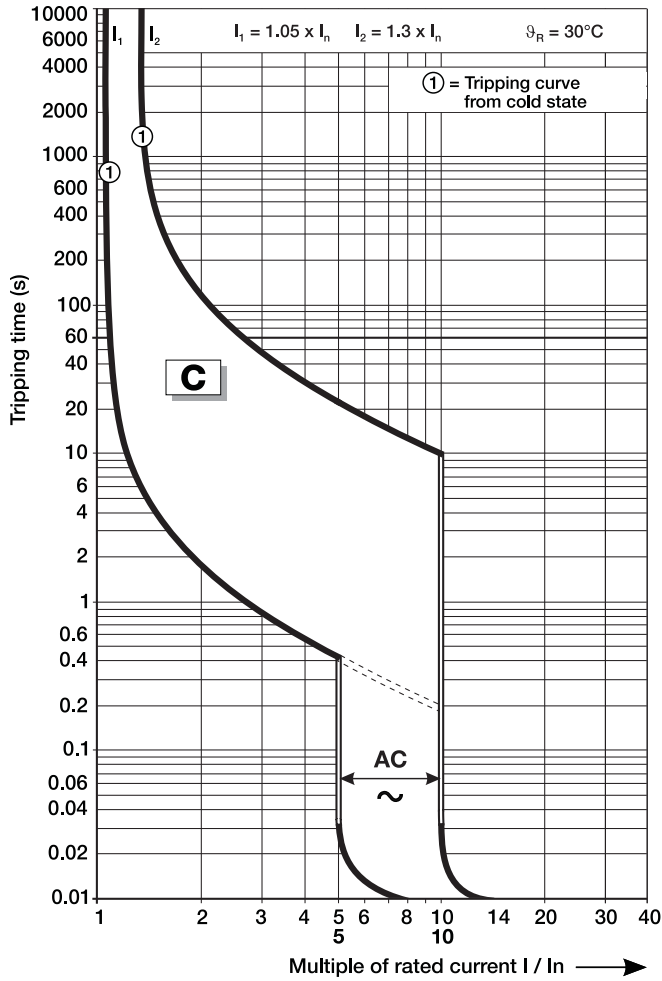


B and C Curve - 230/400V AC Let-through Energy

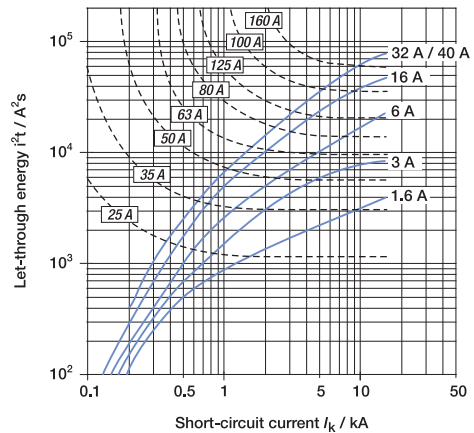
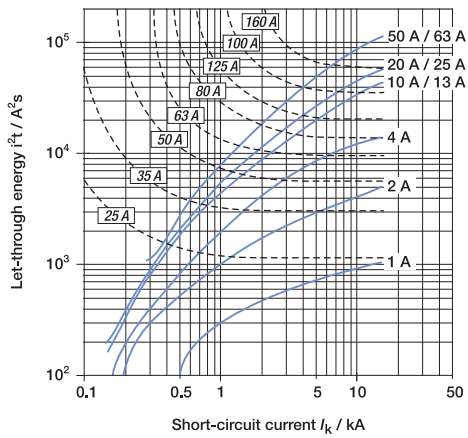


Tripping Characteristics

C Curve

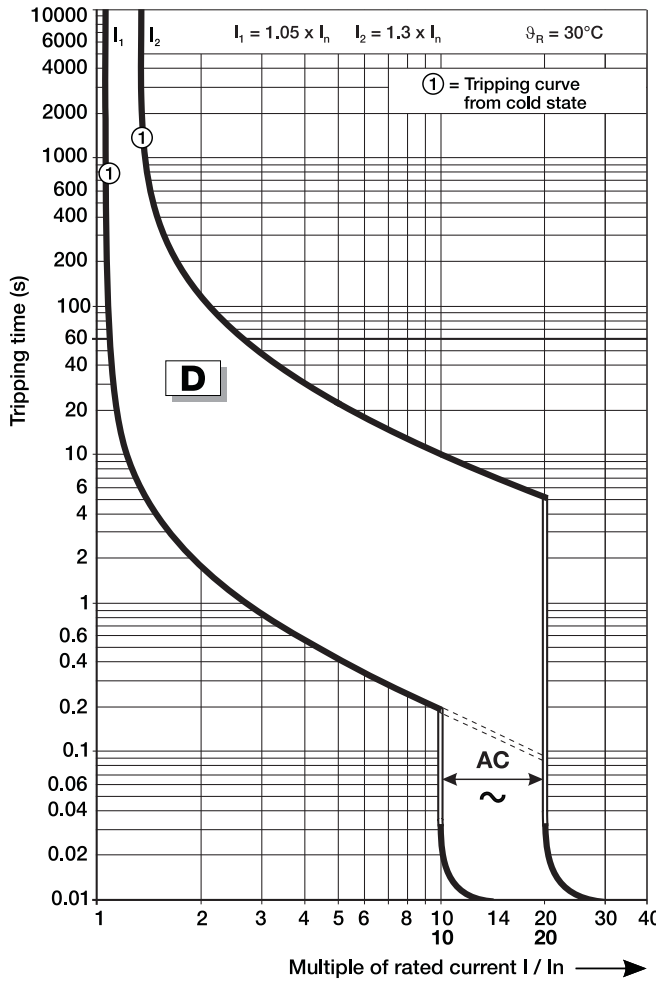


B and C Curve - 230/400V AC Let-through Energy

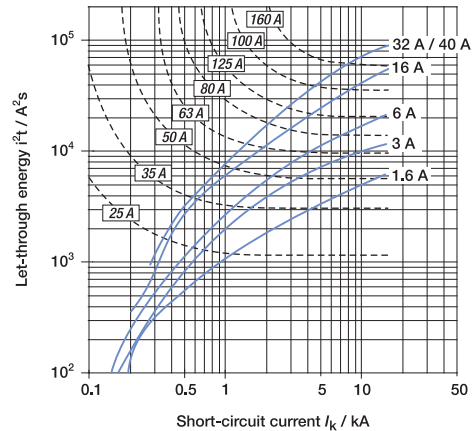
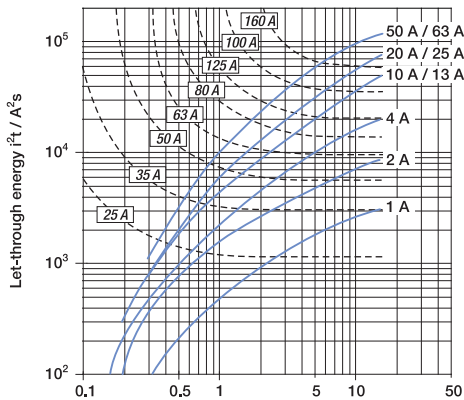


Tripping Characteristics

D Curve



D Curve - 230/400V AC Let-through Energy



Accessories

Right Mount

Photo	Product Description ‡★△	Contacts	Standards	Certifications	UL/CSA Max. Current/Voltage	IEC Ratings Current/Voltage	Cat. No.
	Shunt Trip		UL 1077 CSA 22.2 No. 235	UL Recognized CSA Certified CE Marked	110...415V AC 110-250V DC	110...415V AC 110-250V DC	189-AST1
			UL 1077 CSA 22.2 No. 235	UL Recognized CSA Certified CE Marked	12...60V AC/DC	12...60V AC/DC	189-AST2
	Auxiliary/Signal Contact	1 N.O./N.C. (1 C.O.) 	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1A @ 480 VAC 2A @ 277 VAC 1.5A @ 125 VDC 2A @ 60 VDC 4A @ 24 VDC	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 1.5A @ 110 V (DC-12) 1A @ 220 V (DC-12) 4A @ 24 V (DC-13) 2A @ 60 V (DC-13)	189-ASCR3
	Auxiliary Contact	1 N.O./N.C. (1 C.O.) 	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1A @ 480 VAC 2A @ 277 VAC 1.5A @ 125 VDC 2A @ 60 VDC 4A @ 24 VDC	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 1.5A @ 110 V (DC-12) 1A @ 220 V (DC-12) 4A @ 24 V (DC-13) 2A @ 60 V (DC-13)	189-AR3
		1 N.O. + 1 N.C. 	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1A @ 400 VAC 2A @ 230 VAC 1A @ 50 VDC 2A @ 30V DC	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 2A @ 30V (DC-12) 1A @ 50 V (DC-12) 2A @ 30V (DC-13) 1A @ 50 V (DC-13)	189-AR11
		2 N.C. 	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1A @ 400 VAC 2A @ 230 VAC 1A @ 50 VDC 2A @ 30 VDC	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 2A @ 30V (DC-12) 1A @ 50 V (DC-12) 2A @ 30V (DC-13) 1A @ 50 V (DC-13)	189-AR02
		2 N.O. 	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1A @ 400 VAC 2A @ 230 VAC 1A @ 50 VDC 2A @ 30 VDC	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 2A @ 30V (DC-12) 1A @ 50 V (DC-12) 2A @ 30V (DC-13) 1A @ 50 V (DC-13)	189-AR20


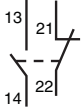

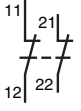

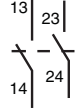
‡ A maximum of one C.O. type signal contact, and two C.O. type auxiliary contacts **OR** three C.O. type auxiliary contacts may be installed with or without one shunt trip per 1492-SP.

★ A maximum of two 189-AR11, -AR02, or -AR20 auxiliary contacts may be installed per 1492-SP. They may not be combined with shunt trips or C.O. type contacts.

△ A maximum of four right mount accessories of any type may be installed per 1492-SP. The shunt trip must be mounted closest to 1492-SP, then the signal contact, then the auxiliary contact(s). For allowed combinations, and installation instructions please contact your local Rockwell Automation sales office or Allen-Bradley distributor.


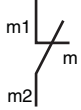

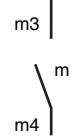
Accessories

Left Mount

Photo	Product Description ★	Contacts	Standards	Certifications	UL/CSA Max. Current/Voltage	IEC Ratings Current/Voltage	Cat. No.
	Auxiliary Contact	1 N.O. + 1 N.C. 	EN 60947-5-1	CE Marked	—	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 1.5A @ 110 V (DC-12) 1A @ 220 V (DC-12) 4A @ 24 V (DC-13) 2A @ 60 V (DC-13)	189-AL11
		2 N.C. 	EN 60947-5-1	CE Marked	—	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 1.5A @ 110 V (DC-12) 1A @ 220 V (DC-12) 4A @ 24 V (DC-13) 2A @ 60 V (DC-13)	189-AL02
		2 N.O. 	EN 60947-5-1	CE Marked	—	2A @ 230 V (AC-14) 1A @ 400 V (AC-14) 1.5A @ 110 V (DC-12) 1A @ 220 V (DC-12) 4A @ 24 V (DC-13) 2A @ 60 V (DC-13)	189-AL20

★ Only one left mount auxiliary contact may be installed per 1492-SP.



Bottom Mount

Photo	Product Description Δ	Contacts	Standards	Certifications‡	UL/CSA Max. Current/Voltage	IEC Ratings Current/Voltage	Cat. No.
	Auxiliary Contact	1 N.C. 	UL1077 CSA C22.2 No.235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked CCC Certified	2 A @ 230V AC 2 A @ 50V DC	2A @ 230 V (AC-14) 2A @ 30V (DC-12) 1A @ 50 V (DC-12) 2A @ 30 V (DC-13) 1A @ 50 V (DC-13)	189-AB01
		1 N.O. 	UL1077 CSA C22.2 No.235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked CCC Certified	2 A @ 230V AC 2 A @ 50V DC	2A @ 230 V (AC-14) 2A @ 30V (DC-12) 1A @ 50 V (DC-12) 2A @ 30 V (DC-13) 1A @ 50 V (DC-13)	189-AB10

Δ Only one bottom mount auxiliary contact may be installed per 1492-SP.

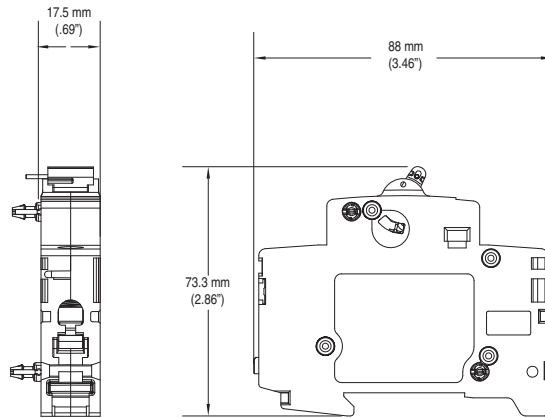
‡ Bottom mount auxiliaries show a CE Mark on the product instruction sheet and packaging, but not on the product itself.

Toggle Mount

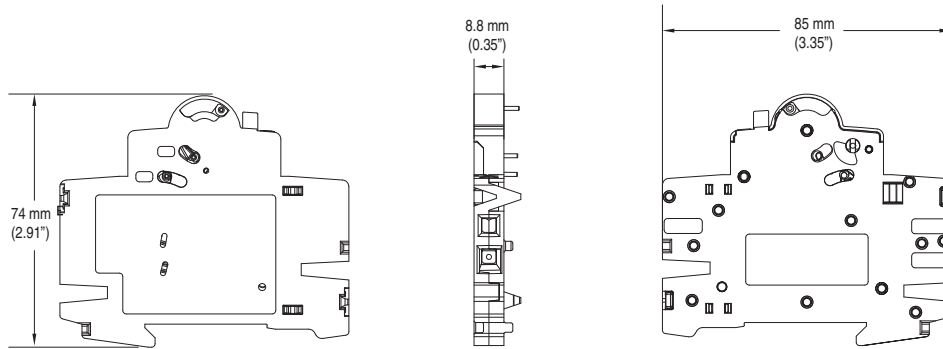
Photo	Product Description	Cat. No.
	Lock-out attachment for 1-pole MCB	189-ALOA1
	Lock-out attachment for multi-pole MCB	189-ALOA2

Accessory Approximate Dimensions

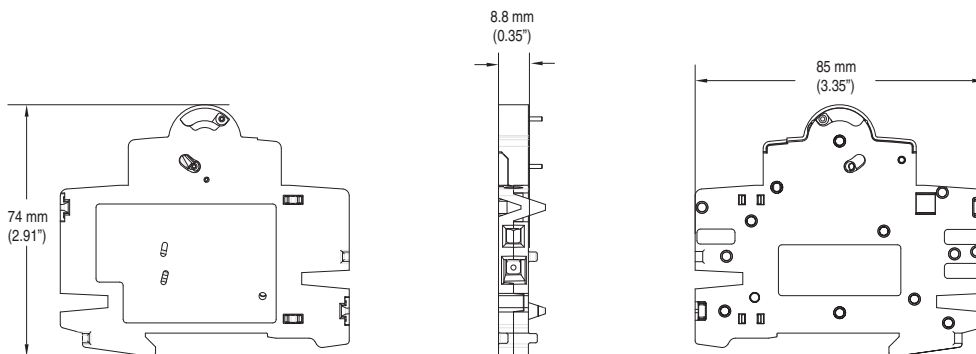
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



189-AST1 and 189-AST2



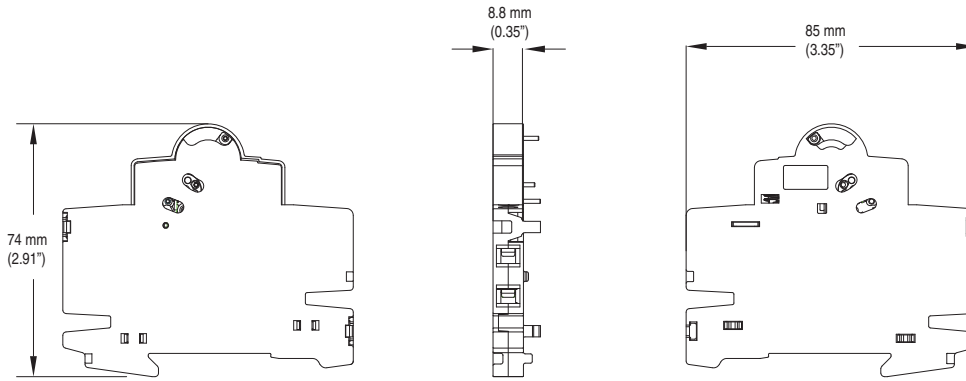
189-ASCR3



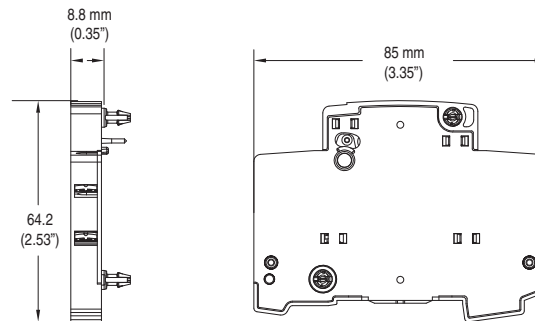
189-AR3

Accessory Approximate Dimensions

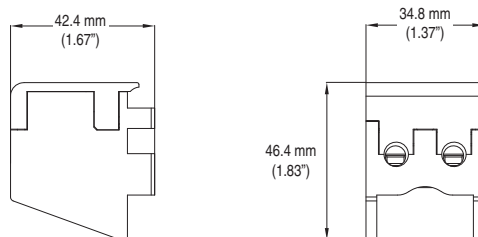
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



189-AR11, 189-AR02, 189-AR20



189-AL11, 189-AL02, and 189-AL20



189-AB01 and 189-AB10

Bus Bars

1492-SP Bus Bars

Description	Pins	Rated Current [A] ‡	Pkg. Qty.	Cat. No. ★
1-Phase	57	100 A	1	1492-A1B1
	57	80 A	1	1492-A1B8
1-Phase with aux. contact	37	100 A	1	1492-A1B1H
	37	80 A	1	1492-A1B8H
2-Phase	56	100 A	1	1492-A2B1
	56	80 A	1	1492-A2B8
2-Phase with aux. contact	46	100 A	1	1492-A2B1H
	46	80 A	1	1492-A2B8H
3-Phase	57	100 A	1	1492-A3B1
	57	80 A	1	1492-A3B8
3-Phase with aux. contact	48	100 A	1	1492-A3B1H
	48	80 A	1	1492-A3B8H

★ cULus, UL508, EN 60947-1, CE Marked

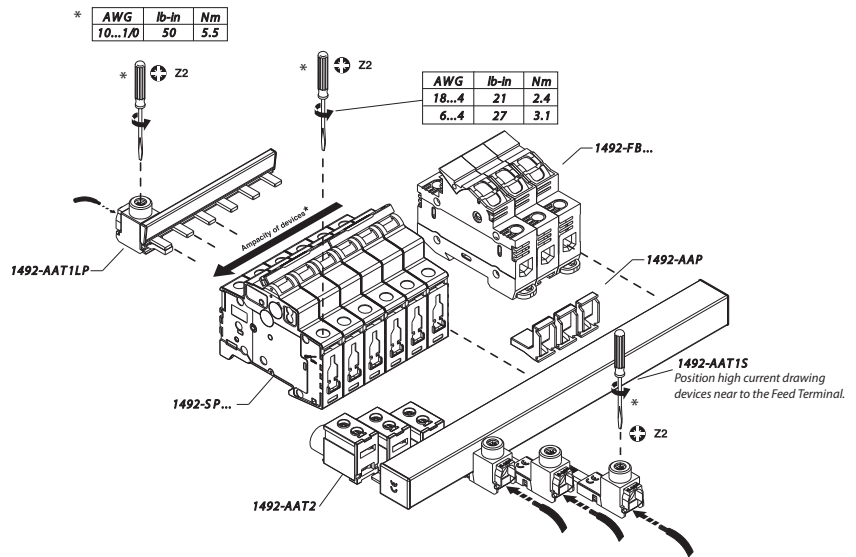
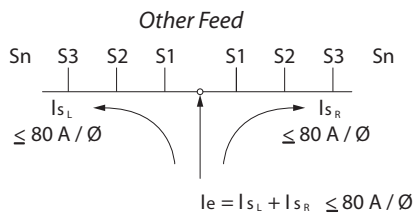
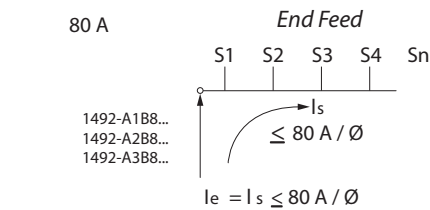
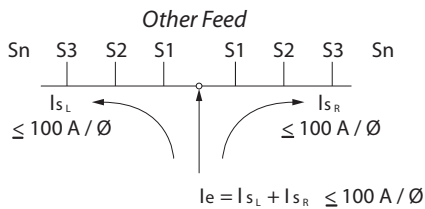
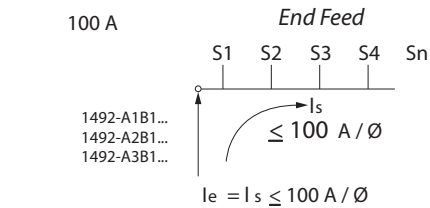
‡ Refer to the diagrams below for Feeder Terminal & Bus Bar Current Distribution

1492-SP Bus Bar Accessories

Description	Pkg. Qty.	Cat. No. ★
Terminal Power Feed, 35 mm ² , offset lug	10	1492-AAT1
Terminal Power Feed, 35 mm ² , straight lug	10	1492-AAT1S
Terminal Power Feed, 35 mm ² , offset lug, low profile	10	1492-AAT1LP
Dedicated Power Feed, 50 mm ²	10	1492-AAT2
End Cover for 1-phase bus bar	10	1492-A1E
End Cover for 2- or 3-phase bus bar	10	1492-AME
Protective Shroud for unused pins	10	1492-AAP

★ cULus, UL508, EN 60947-1, CE Marked

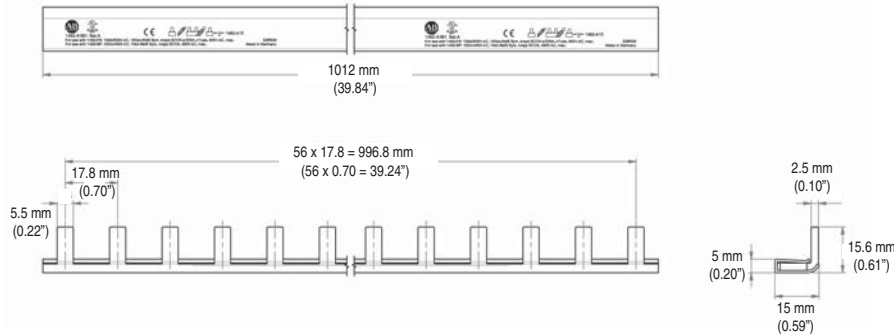
Feeder Terminal & Bus Bar Current Distribution



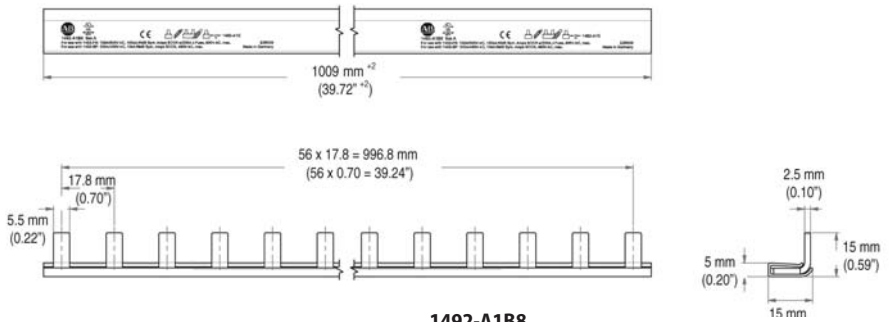
Bus Bar Approximate Dimensions

Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

1-Phase Bus Bars

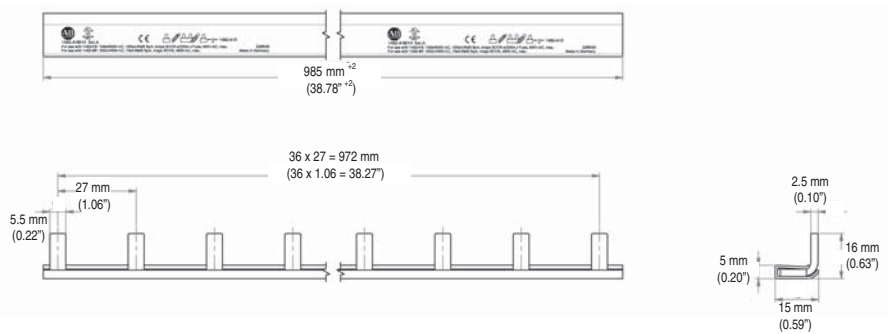


1492-A1B1

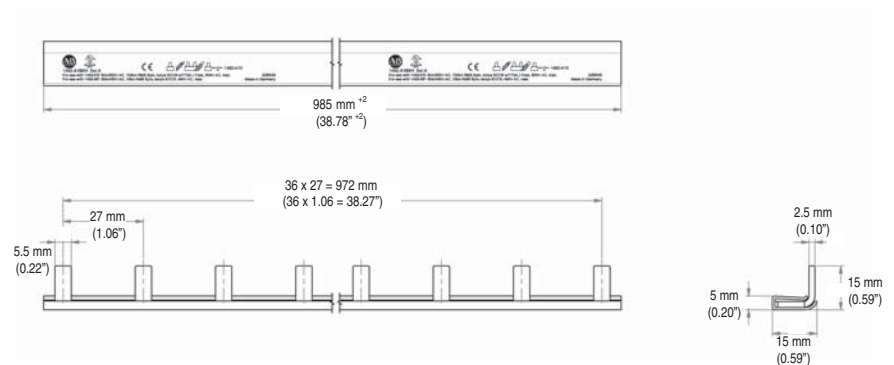


1492-A1B8

1-Phase Bus Bars, with Auxiliary Contact



1492-A1B1H

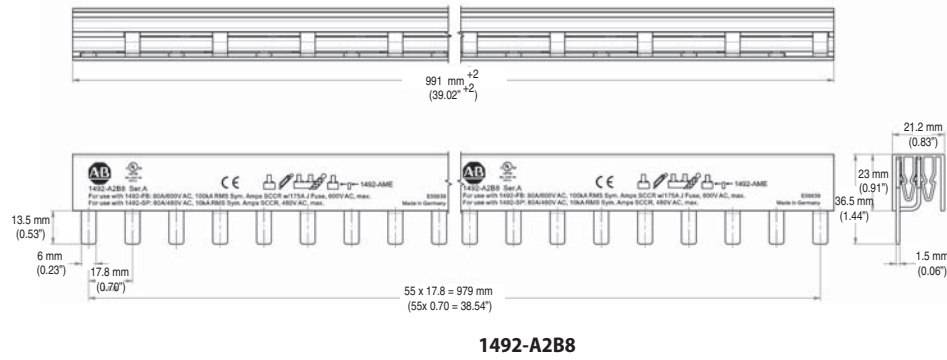
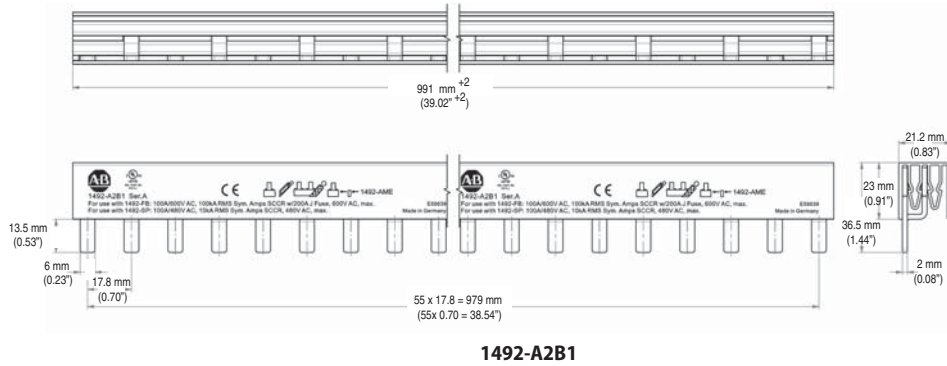


1492-A1B8H

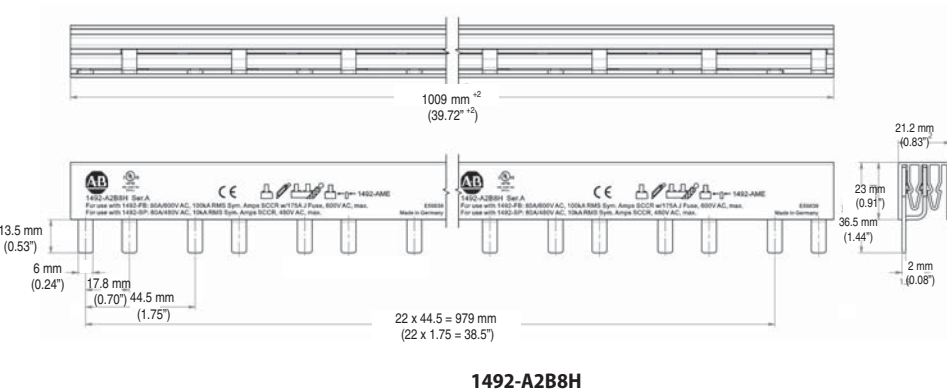
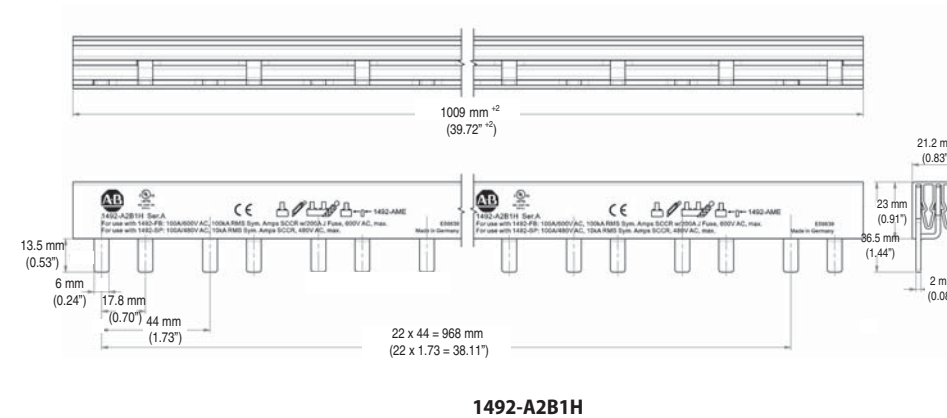
Bus Bar Approximate Dimensions

Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

2-Phase Bus Bars



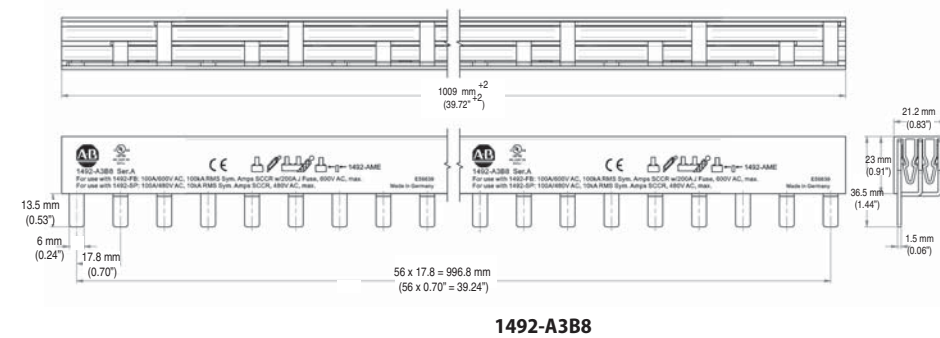
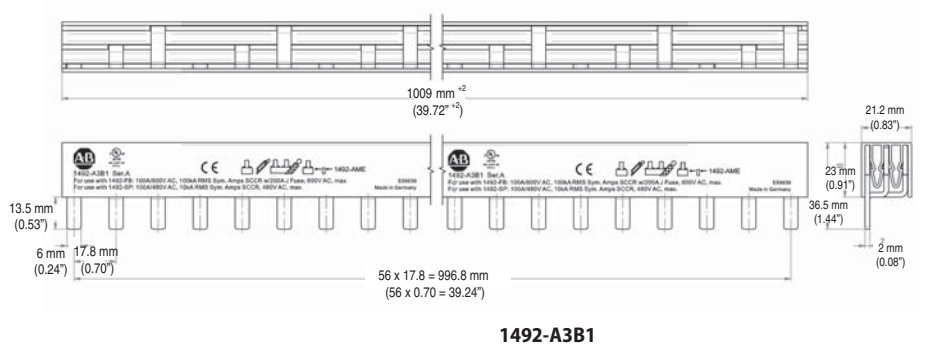
2-Phase Bus Bars, with Auxiliary Contact



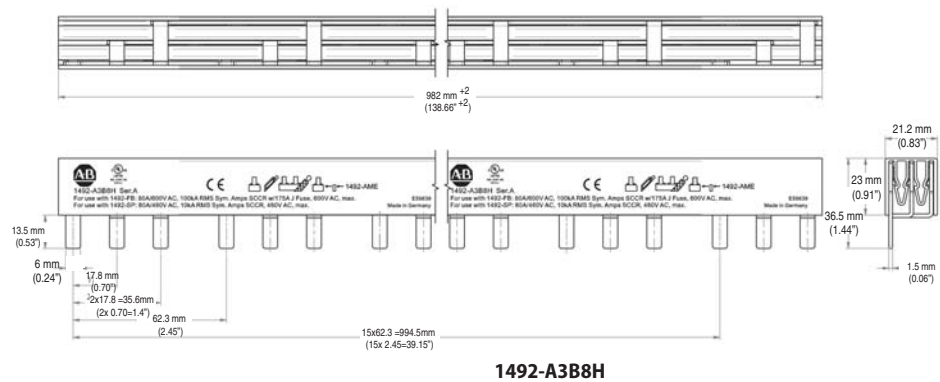
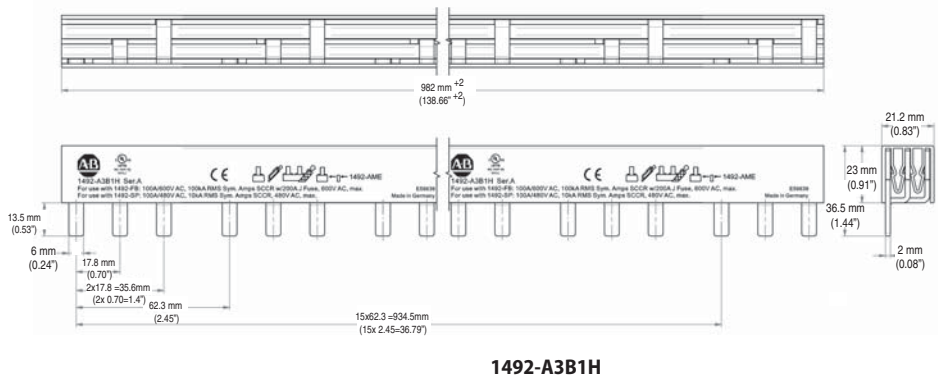
Bus Bar Approximate Dimensions

Note: Dimensions are shown in millimeters. Dimensions are not intended for manufacturing purposes.

3-Phase Bus Bars

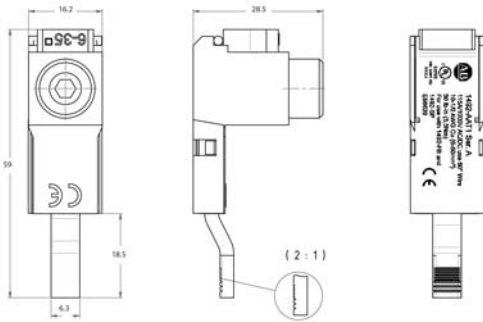


3-Phase Bus Bars, with Auxiliary Contact

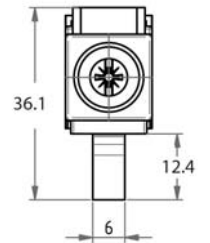
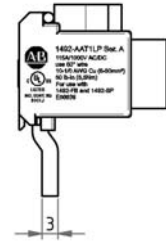
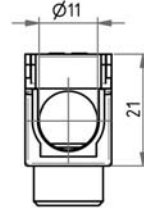


Bus Bar Accessory Approximate Dimensions

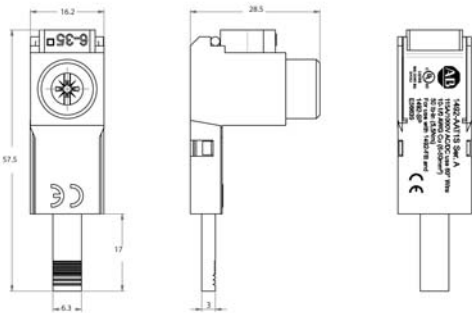
Note: Dimensions are shown in millimeters. Dimensions are not intended for manufacturing purposes.



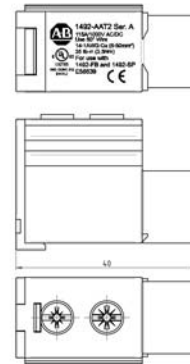
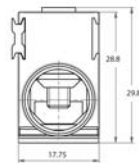
1492-AAT1



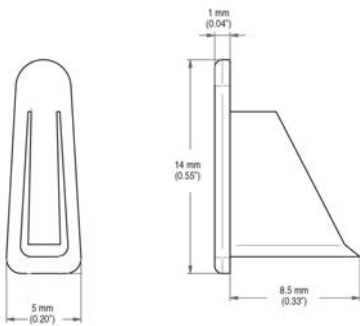
1492-AAT1LP



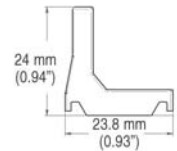
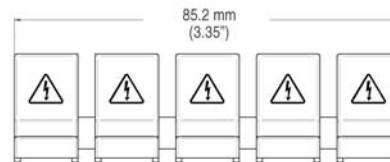
1492-AAT1S



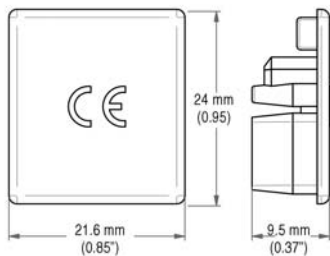
1492-AAT2



1492-A1E

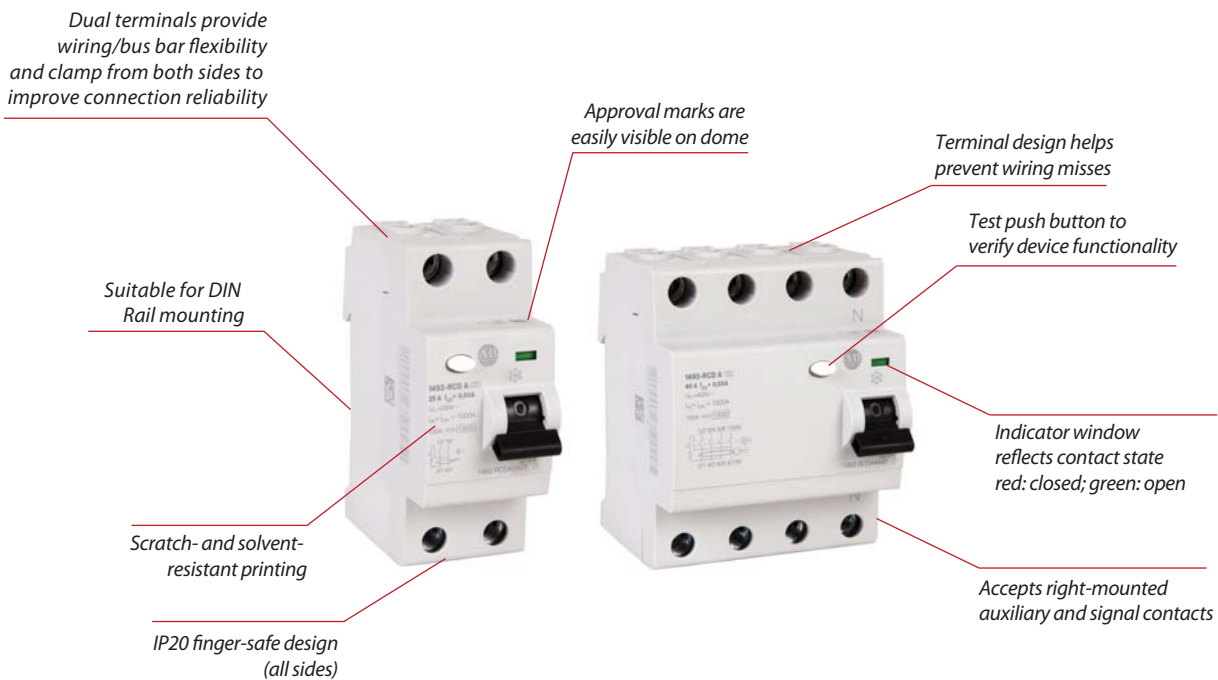


1492-AAP



1492-AME

1492-RCD Residual Current Devices



The Bulletin 1492-RCD line includes Residual Current Devices, also known as Residual Current Circuit Breakers, for detecting and interrupting leakage current to ground. By detecting small leakage currents and disconnecting all ungrounded connectors quickly, RCDs can prevent injury to exposed personnel and damage to equipment.

RCDs are used in series with miniature circuit breakers for additional circuit protection from not only overload and short circuit, but also ground fault. Many short circuits begin as undetected ground faults. Using an RCD in an application may detect problems before costly equipment damage and downtime occurs.

These devices are Type A Residual Current Devices to IEC Standards.

Features

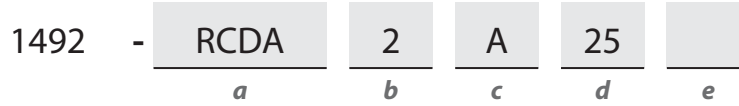
- Provides protection against current leakage to ground (earth) caused by an insulation loss between a live conductor and an exposed conductive part (such as an abraded wire, or a grounded person touching the live conductor)
- Suitable for protection against AC and pulsating DC (rectified AC) earth leakage current
- 30 mA sensitivity devices for personnel protection (consult local requirements)
- 100, 300 and 500 mA sensitivity devices for equipment protection
- Dual terminals allow a more secure connection of two wires, or both a wire and bus bar
- Reversible line and load connections

1492-RCD Residual Current Devices

Current Ratings	25, 40, 63, 80 A
Rated Sensitivity I_{Δn}	30, 100, 300, 500 mA
Poles	2, 4
Standards Compliance	UL 1053 ANSI/NFPA 70 EN 61008 CSA C22.2 No.144 GB 16916
Certifications	cURus Recognized, File No. E53935 CE Marked CCC Certified VDE Certified 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.



a

Type	
Code	Description
RCDA	Residual Current Device, Type A

b

Poles	
Code	Description
2	2-Pole
4	4-Pole

c

Sensitivity $I_{\Delta n}$	
Code	Rated Sensitivity [mA]
A	30
B	100
C	300
D	500



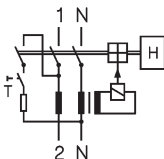
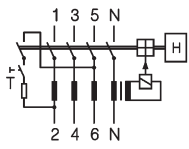
d

Rated Current (I_n)	
Code	Current [A]
25	25
40	40
63	63
80	80

e

Delay Option (available on select 4-pole devices)	
Code	Description
	Can be left blank
S	With Delay

Product Selection

				
Sensitivity (mA)	Rated Current (A)	2-Pole (1-Pole + Neutral)	4-Pole (3-Pole + Neutral)	
			Standard	With Delay
30	25	1492-RCDA2A25	1492-RCDA4A25	—
	40	1492-RCDA2A40	1492-RCDA4A40	—
	63	—	1492-RCDA4A63	—
	80	—	1492-RCDA4A80	—
100	25	1492-RCDA2B25	1492-RCDA4B25	—
	40	1492-RCDA2B40	1492-RCDA4B40	1492-RCDA4B40S
	63	—	1492-RCDA4B63	1492-RCDA4B63S
300	25	1492-RCDA2C25	1492-RCDA4C25	—
	40	1492-RCDA2C40	1492-RCDA4C40	1492-RCDA4C40S
	63	—	1492-RCDA4C63	1492-RCDA4C63S
	80	—	1492-RCDA4C80	—
500	25	—	1492-RCDA4D25	—
	40	—	1492-RCDA4D40	—
	63	—	1492-RCDA4D63	—
	80	—	1492-RCDA4D80	—
Diagram				

Specifications

General Data			
Poles	2,4		
Rated current I_n	25, 40, 63, 80 A		
Rated sensitivity $I_{\Delta n}$	2-pole	30, 100, 300 mA	
	4-pole	30, 100, 300, 500 mA	
Electrical Ratings			
Rated short-circuit strength	10 kA with 63 A gG/gL back-up fuse, 10 kA with 80 A gG/gL back-up fuse for 80 A device		
Rated operational voltage U_e per IEC/EN	230/400V AC		
Rated voltage U_e per UL	480Y/277V AC		
Max. operating voltage of circuit test	254V AC		
Min. operating voltage of circuit test	110V		
Rated frequency	50/60 Hz		
Rated conditional short-circuit	10 kA (SCPD - fuse gG 100 A)		
Rated residual breaking capacity	1 kA		
Rated impulse withstand voltage U_{imp} (1.2/50 μ s)	4 kV		
Dielectric test voltage at ind. freq. for 1 min.	2.5 kV		
Electrical endurance	10,000 operations		
Mechanical			
Indicator window	Red ON/green OFF		
Protection degree	Housing	IP4X	
	Terminals	IP2X	
Environmental			
Ambient temperature (with daily average +35 °C)	-25...+55 °C		
Storage temperature	-40...+70 °C		
Mechanical endurance	20,000 operations		
Installation			
Terminal type	Dual terminal		
Cross-section of conductors - solid, stranded, flexible (front/back terminal slot)	25...63 A	mm ²	25/25 mm ²
		AWG	18...4 AWG
	80 A	mm ²	35/35 mm ²
		AWG	18...2 AWG
Cross-section of bus bars (back terminal slot)	25...63 A	mm ²	10/10 mm ²
	80 A	mm ²	16/16 mm ²
Tightening torque	25...63 A	N·m	2.8 N·m
		in·lb	25 in·lb
	80 A	N·m	4.8 N·m
		in·lb	43 in·lb
Mounting	DIN Rail EN 60715 (35 mm) with fast clip device		
Supply	Optional		

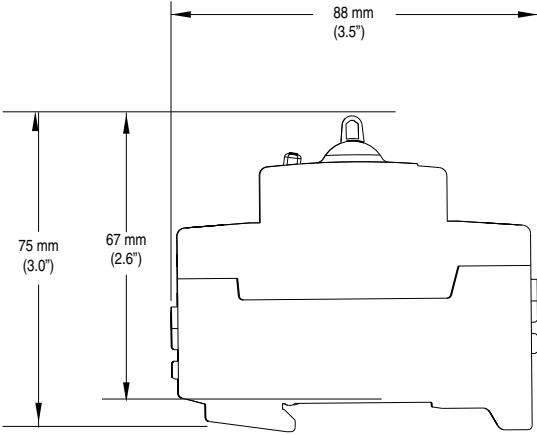
Approximate Dimensions and Weight		
Dimensions (H x D x W)	2-pole	88 x 67 x 35 mm
	4-pole	88 x 67 x 70 mm
Weight	2-pole	200 g (7.1 oz.)
	4-pole	350 g (12.3 oz.)
Combination with Auxiliary Elements		
Auxiliary contact	Yes	
Signal contact	Yes	

Power Loss Due to Current

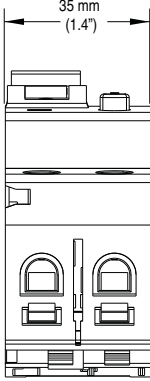
Rated Current [A]	Power Loss [W]	
	2-pole	4-pole
25	1	1.3
40	2.4	3.2
63	3.2	4.4
80	8.8	33.3

Approximate Dimensions

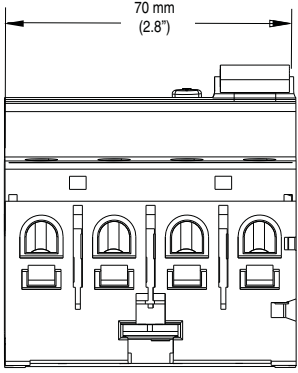
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



2-, 4-Pole








2-Pole



4-Pole

Right Mount

Photo	Product Description ‡★△	Contacts	Standards	Certifications	UL/CSA Max. Current/Voltage	IEC Ratings Current/Voltage	Cat. No.
	Auxiliary/Signal Contact	1 N.O./N.C. (1 C.O.) 198 196 195	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1 A @ 480V AC 2 A @ 277V AC 1.5 A @ 125V DC 2 A @ 60V DC 4 A @ 24V DC	2 A @ 230V (AC-14) 1 A @ 400V (AC-14) 1.5 A @ 110V (DC-12) 1 A @ 220V (DC-12) 4 A @ 24V (DC-13) 2 A @ 60V (DC-13)	189-ASCR3
	Auxiliary/Signal Contact	1 N.O./N.C. (1 C.O.) -4 1 1-2 -1 1-2-3-	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1 A @ 480V AC 2 A @ 277V AC 1.5 A @ 125V DC 2 A @ 60V DC 4 A @ 24V DC	2 A @ 230V (AC-14) 1 A @ 400V (AC-14) 1.5 A @ 110V (DC-12) 1 A @ 220V (DC-12) 4 A @ 24V (DC-13) 2 A @ 60V (DC-13)	189-AR3
	Auxiliary Contact	1 N.O. + 1 N.C. -1 1-3 -2 1-4 1- 2-	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1 A @ 400V AC 2 A @ 230V AC 1 A @ 50V DC 2 A @ 30V DC	2 A @ 230V (AC-14) 1 A @ 400V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50V (DC-12) 2 A @ 30V (DC-13) 1 A @ 50V (DC-13)	189-AR11
		2 N.C. -1 1-1 -2 1-2 1- 2-	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1 A @ 400V AC 2 A @ 230V AC 1 A @ 50V DC 2 A @ 30V DC	2 A @ 230V (AC-14) 1 A @ 400V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50V (DC-12) 2 A @ 30V (DC-13) 1 A @ 50V (DC-13)	189-AR02
		2 N.O. -3 1 1-3 -4 1-4 1- 2-	UL 1077 CSA 22.2 No. 235 EN 60947-5-1 GB 14048.5	UL Recognized CSA Certified CE Marked VDE Certified CCC Certified	1 A @ 400V AC 2 A @ 230V AC 1 A @ 50V DC 2 A @ 30V DC	2 A @ 230V (AC-14) 1 A @ 400V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50V (DC-12) 2 A @ 30V (DC-13) 1 A @ 50V (DC-13)	189-AR20

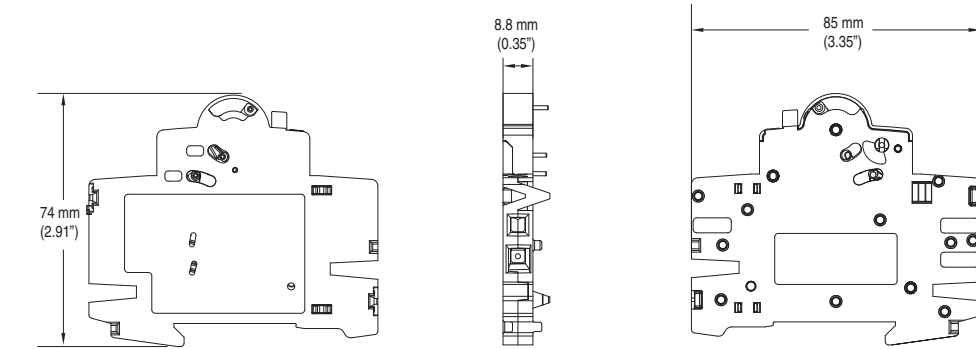
‡ A maximum of one C.O. type signal contact, and one C.O. type auxiliary contact **OR** two C.O. type auxiliary contacts may be installed per 1492-RCD.

★ A maximum of one 189-AR11, -AR02, or -AR20 auxiliary contact may be installed per 1492-RCD.

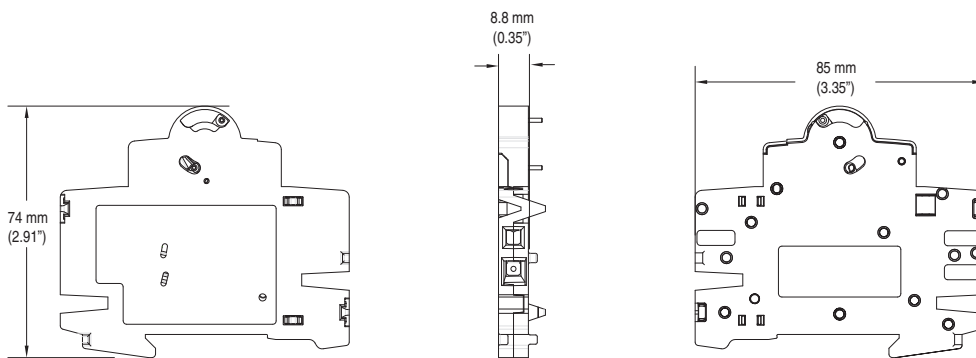
△ A maximum of three accessories of any type may be installed per 1492-RCD. The signal contact must be mounted closest to the RCD, then the auxiliary contact(s). For allowed combinations, and installation instructions please contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Accessory Approximate Dimensions

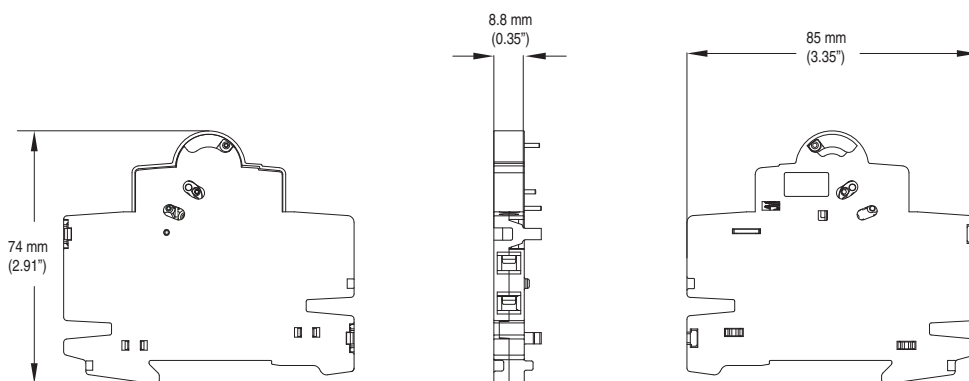
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.



189-ASCR3



189-AR3



189-AR11, 189-AR02, 189-AR20

Bus Bars

1492-RCD Cuttable Bus Bars

Description	Pins	Pkg. Qty.	Cat. No. ★
2-Phase MCB to RCD	4	10	189-CL204
4-Phase MCB to RCD	8	10	189-CL408

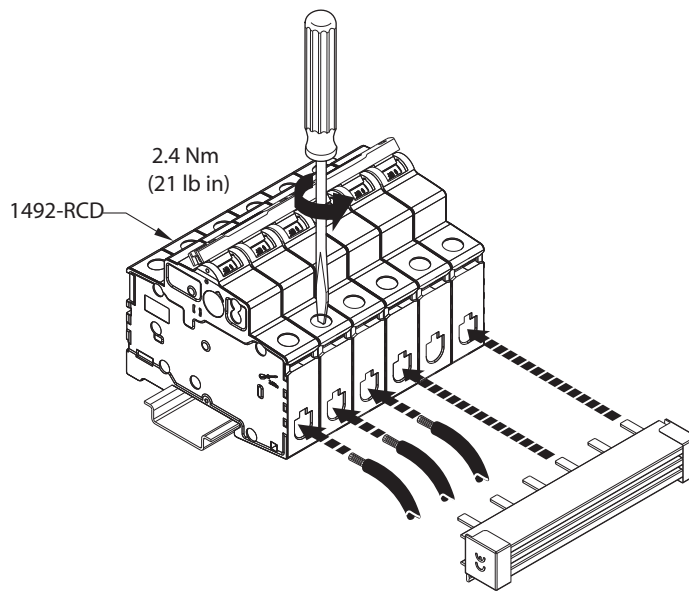
★ These devices are CE Marked, but not certified to any UL, CSA, or other standard.

1492-RCD Bus Bar Accessories

Description	Pkg. Qty.	Cat. No. ★
Terminal Power Feed, 6...25 mm ²	10	189-CLT25
Terminal Power Feed, 6...50 mm ²	10	189-CLT50
Dedicated Power Feed, 50 mm ²	10	189-CLT50D
For 2-phase bus bar‡	10	189-CL3EC
For 4-phase bus bar	10	189-CL4EC
Protective Shroud for unused pins	10	189-CLPS

★ These devices are CE Marked, but not certified to any UL, CSA, or other standard.

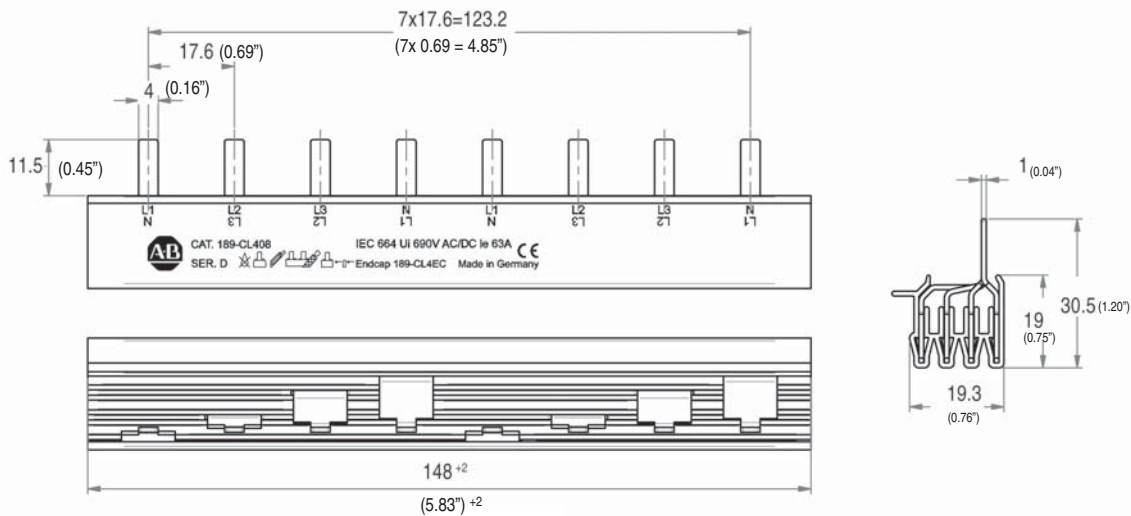
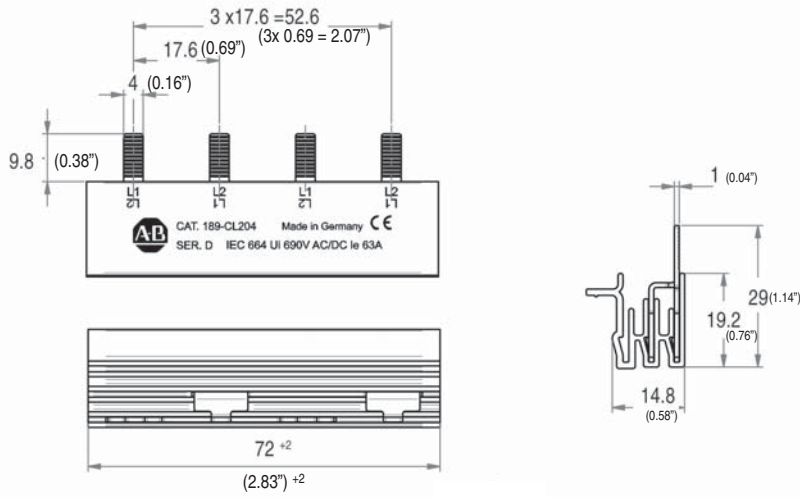
‡ 189-CL3EC also used for 2- and 3-phase MCB bus bars.



Bus Bar Approximate Dimensions

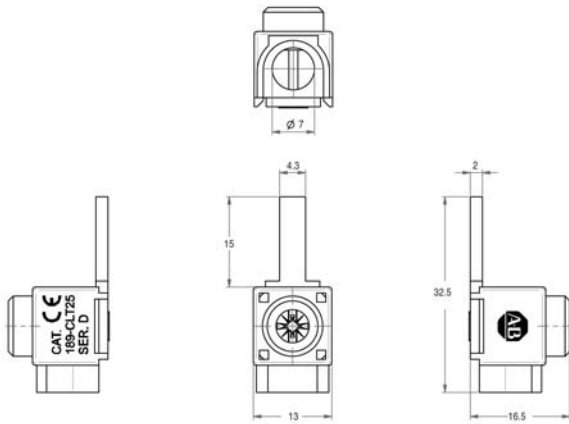
Note: Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

2- and 4-Phase Bus Bars

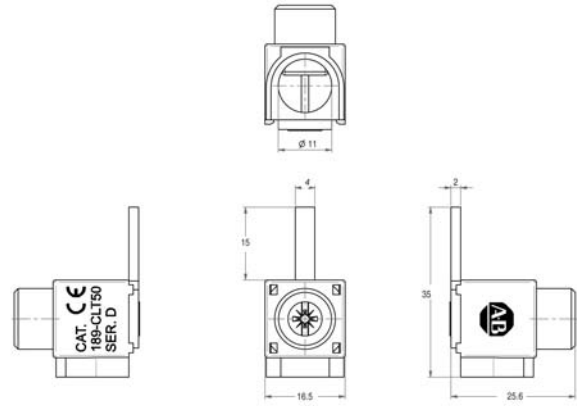


Bus Bar Accessory Approximate Dimensions

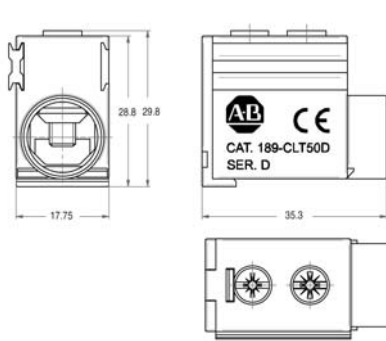
Note: Dimensions are shown in millimeters. Dimensions are not intended for manufacturing purposes.



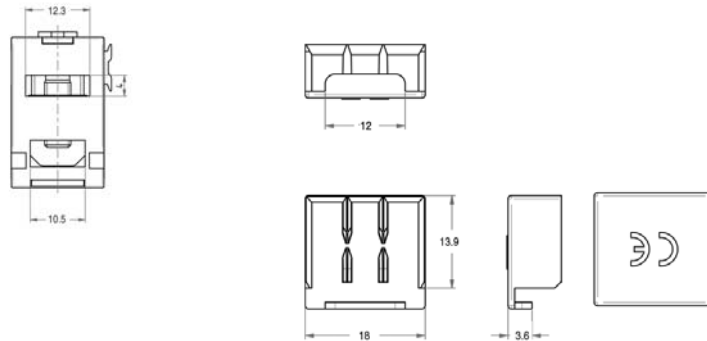
189-CLT25



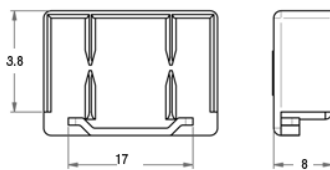
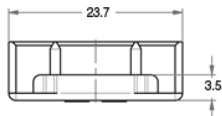
189-CLT50



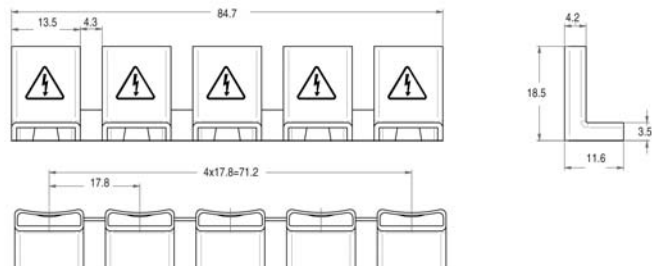
189-CLT50D



189-CL3EC



189-CL4EC



189-CLPS

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Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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