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Allen-Bradley

Manual Motor Controller Supplementary Protector/Miniature Circuit Breaker

Bulletin 1492-CB Series B and C

Technical Data



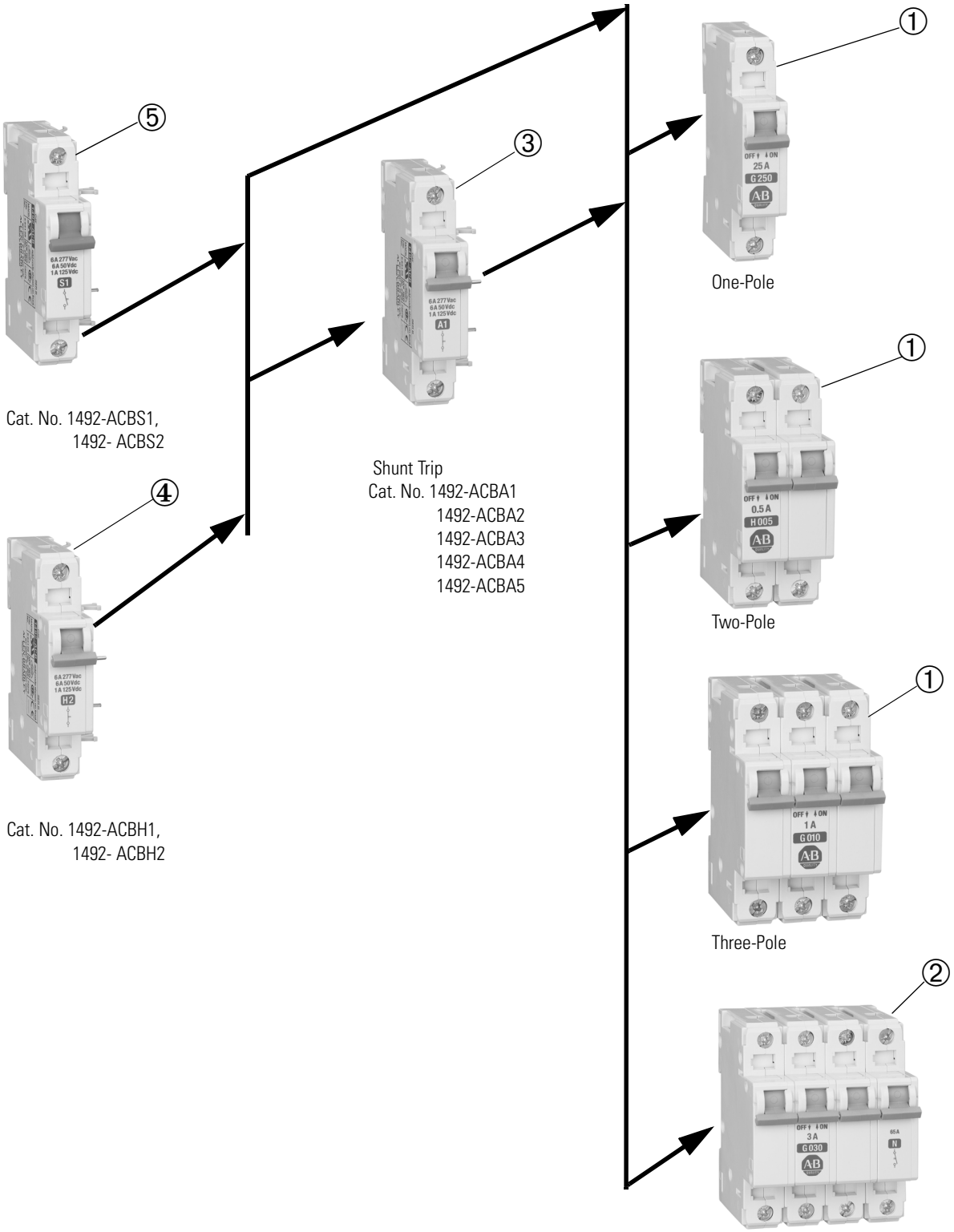
1492-CB Family

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Rockwell Automation

Bulletin 1492-CB and Accessories



Introduction

① Manual Motor Controller/Supplementary Protector/Miniature Circuit Breaker

Series B:

- Available in single or multi-pole. Meets UL 1077/CSA 22.2 No. 235.
- CE marked

  F-trip: Trip Characteristic for resistive loads
  G-trip: Trip Characteristic for slightly inductive loads
  D-trip Trip Characteristic for highly inductive loads
- DC rated devices up to 240V DC with trip curves

  DF-trip: trip characteristic for resistive loads
  DG-trip: trip characteristic for slightly inductive loads
  DH-trip: trip characteristic for highly inductive loads

Series C:

- **In addition to above these devices meet UL 508/CSA 22.2 No. 14, suitable for use as a manual motor controller and as a motor disconnect. (Hp rating, overload protection, and instantaneous trip provided)**

② Switched Neutral Protector (Not Field Mountable)

- Switched neutral pole opens after and closes before the adjacent protected pole (i.e. early make, late break)
- Automatic actuation is a result of the adjacent pole trip mechanism and manual activation is by the linked handles

③ Shunt Trip

- Field installable
- Mounts to side
- Module width is equal to that of a single pole

④ Auxiliary Contact Module

- Field installable
- Changeover contact
- Switches when protective device is operated manually or is tripped electrically
- N.O. contact ❶ — 1492-ACBH1
- N.C. contact ❶ — 1492-ACBH2

⑤ Signal Alarm

- Field installable
- Signal contact switches only when protective device is tripped electrically
- Changeover contact
- N.O. contact ❶ — 1492-ACBS1
- N.C. contact ❶ — 1492-ACBS2

❶ Normal position is the non-activated position of the module.

Description

Bulletin 1492-CB Series C devices may be applied as manual motor controllers for direct control of motors connected across-the-line, meeting UL 508/CSA 22.2 No 14. Additionally these devices are intended for use as a motor disconnect❶ and can be locked in the off position when used with the locking device kit.

These devices are provided with an internal, non replaceable, fixed thermal (bimetal type) overload trip feature and instantaneous magnetic trip feature designed to trip open the controller main contacts upon overcurrent. They are suitable for providing motor overload protection.

These devices may be applied in Group Motor applications.

These devices are also rated as a controller and disconnect for ac general use loads and AC resistive (heating) loads.

Bulletin 1492-CB series B and series C are "energy limiting" thermal magnetic type overcurrent protectors meeting UL 1077/CSA 22.2 No. 235, IEC/EN 60934. These devices are designed for the protection of a wide variety of products including:

- Solenoids
- Test Equipment
- Controller I/O Points
- Relay and Contractor Coils
- Computers
- Transformers
- Automotive Systems
- Power Supplies
- Medical Equipment
- Control Instrumentation

The Bulletin 1492-CB supplementary protectors/miniature circuit breakers are available in one-, one-pole plus neutral, two-, three-, and three-pole plus neutral units. One- and two- pole AC units also have limited DC ratings. Two and three pole units are connected at the handle for simultaneous operation.

In addition, the product line includes devices that are specifically rated for DC with trip curves, DF. DG and DH

Screw termination is standard on all 1492-CB units. Both line and load side terminals accept #16…4 AWG (1.5…25 mm^2) copper wire.

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Important: UL 1077, CSA C22.2 No. 235– In North America, miniature circuit breakers are recognized as supplementary protectors and are intended for use as overcurrent protection within an appliance or other electrical equipment where branch circuit protection is already provided or not required. Internationally, these products are rated to IEC standards as miniature circuit breakers for equipment.

❶ 0.5 A…30 A

International Approvals

Bulletin 1492-CB supplementary protectors/miniature circuit breakers are designed to comply with standards for world-wide customer acceptance. They meet the following standards:

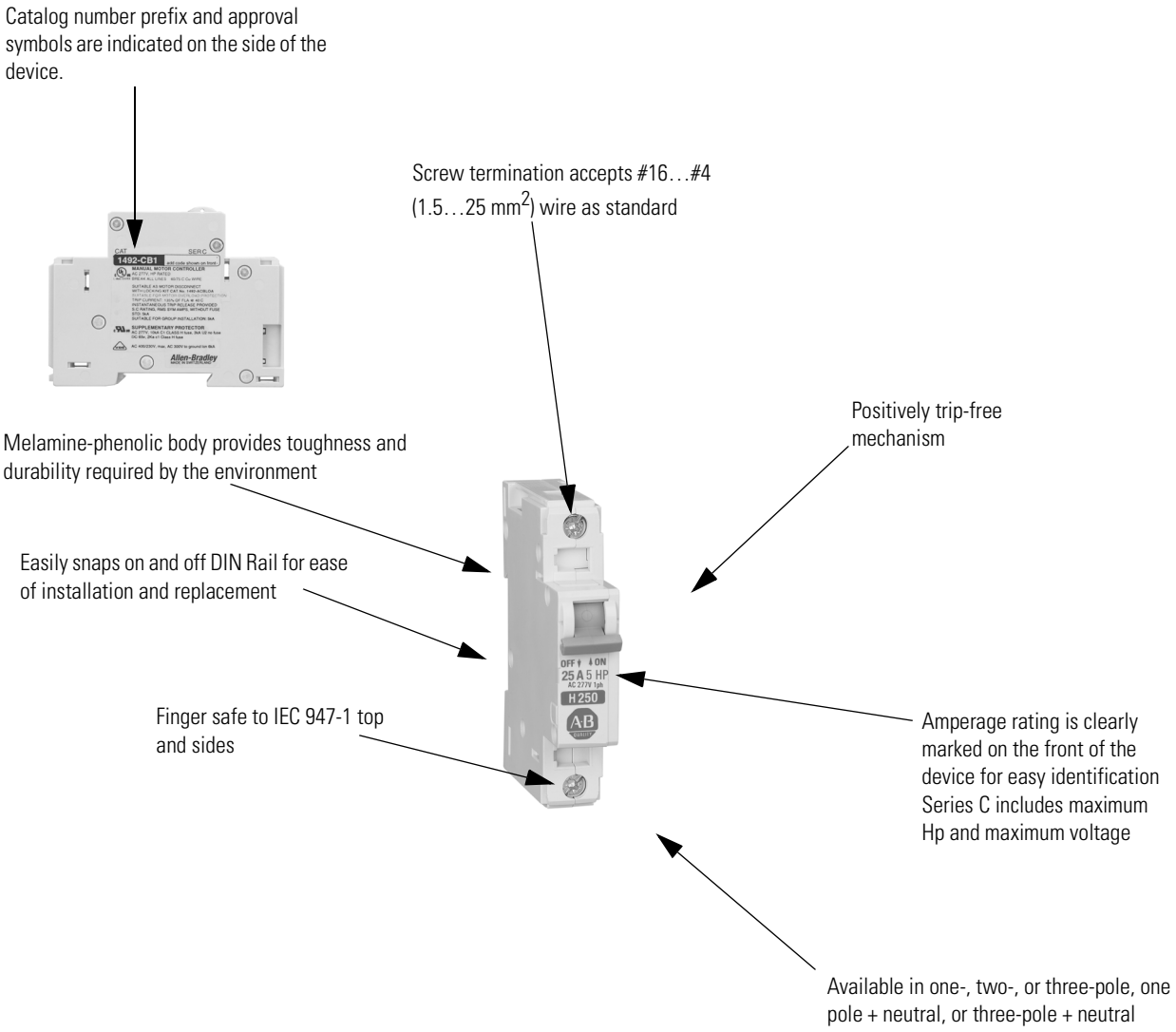
Certifying Agency	Certification Marks	Country	Standard	
Underwriters Laboratories	c UL us LISTED	USA	UL 508	Manual Motor Controller
		Canada	CSA 22.2 No. 14	
Underwriters Laboratories	c TÜV us	USA	UL 1077	Supplementary Protector
		Canada	CSA 22.2 No. 235	
Verband Deutscher Electrotechniker	DVE	Germany	EN 60 950 VDE 0641 VDE 0660	Miniature Circuit Breaker for Equipment
per Conformite European	CE	European Union	EN 60 934	
per International Electrotechnical Commission	IEC	Global	IEC/EN 60 950 IEC 60 934 VDE 0641 VDE 0660	

Features

- Both a manual motor controller and a supplementary protector in one convenient package (Series C devices)
- Suitable for use as motor disconnect (0.5…30 A)
- AC and DC voltage ratings—in one convenient device
- Higher voltage DC rating in similar package (DF, DG, DH)
- Energy Limiting Design—protects downstream components better than conventional breakers during short circuits
- Field mountable options for selective applications
- True IP2X finger safe design (top and sides)
- International approvals—CE marked, and meets UL, CSA, and IEC (VDE) standards for worldwide acceptance
- Ratings to 480Y/277V AC
  @ 125V AC — 10,000 A U2 Interrupting Capability
- A positively trip-free mechanism (breaker operation cannot be defeated by holding the handle in the ON position)
- 3 trip curves: F, G, and H
- Time delay (H characteristic) for high inrush currents during inductive start-ups such as transformers and power supplies.
- Superior shock and vibration resistance capabilities—helps to prevent nuisance tripping
- Mounts on DIN Rail
- Line and load connections may be reversed for AC applications. Follow polarity marking for DC devices.

Construction

The following design features provide superior performance



Switched Neutral Module (Not Field Mountable)

The switched neutral module opens the neutral line of the circuit when the protected poles are tripped. Use this module as a safety measure (required by some standards) when protecting networks with a grounded neutral system. Switched neutral pole opens after and closes before the adjacent protected pole (i.e. early make, late break). Automatic actuation is a result of the adjacent pole trip mechanism and manual activation is by the linked handles. Switched neutral modules are always mounted on the right side of the protected poles. These modules are not field installable.

How to Order

Ordering Information

To order the proper device, you need to know:

- Maximum rated current of equipment to be protected
- 1-, 2-, or 3-phase system
- Maximum startup (inrush) current
- If accessories are required

Using the Catalog Number Selection Chart

Use the charts on pages 12…17 determine the catalog number.

1. Select a 1-, 2-, or 3-pole device.
2. If needed, select the Switched Neutral Module. The Switched Neutral Module is mounted on the right side of the breaker. This module must be mounted at the factory. It cannot be installed in the field.
3. Select device based upon current of load. (When selecting for motor load, use the motor FLA to select the appropriate current rated device. Do not exceed the starting/LRC as noted on pages 9 and 10.)
4. If applicable, consider derating factors as noted on pages 8 and 9.
5. Order accessory contacts or modules as separate items. Accessory modules are always mounted on the left side of the supplemental protector/miniature circuit breaker. A maximum of two accessory modules can be mounted on a single device. See table on page 19 for possible combinations.

Determining Ratings

1. General

- For General Purpose Loads the standard tripping characteristic for Bulletin 1492-CB is Type G. Type G has a magnetic trip activated at 6…10 times the rated current of the circuit breaker
- For Typical Motor Loads the standard tripping characteristic for Bulletin 1492-CB is Type H. Type H has a magnetic trip activated at 12…20 times the rated current of the circuit breaker

2. Applications as a Supplementary Protector/MCB

- The rated current of Bulletin 1492-CB is determined at 20…25 °C
- In applications with ambient temperature other than 20…25 °C, use the following steps to determine the current rating for the breaker
  a. Take the rated current of the equipment. For example, 16 A
  b. Take the ambient temperature of Bulletin1492-CB location. For example, 50°C (122°F)
  c. Refer to the table below for the ambient temperature correction factor to account for the effects of actual ambient temperature

	Temperature						
Rated Current of Application	**60 °C 32 °F**	**10 °C 50 °F**	**20 °C 68 °F**	**30 °C 86 °F**	**40 °C 104 °F**	**50 °C 122 °F**	**+60 °C +140 °F**
0…10A	0.850	0.901	0.952	1.03	1.11	1.23	1.39
12…20 A	0.855	0.901	0.952	1.01	1.09	1.18	1.30
25 … 40A	0.840	0.893	0.952	1.03	1.12	1.25	1.43
50 A	0.885	0.917	0.952	0.990	1.14	1.09	1.14

Use the following equation to compute the adjusted current rating:

Adjusted Current Rating of the Equipment = Rated Current x Correction Factor

In this example the correction factor would be 1.18. The calculation would be 16 A x 1.18 = 18.9 A

d. Select the circuit breaker with the next available rating. In this example it would be 20 A. With this selection, adequate overload protection is provided and nuisance tripping by thermal influences is avoided.

e. Check that transients of the system do not exceed the "must hold" value of the trip characteristic. This will eliminate nuisance tripping by magnetic influences. The type G characteristic will be adequate for most general purpose applications. See page 26 for trip characteristics.

In general purpose applications occurrences when the type G characteristic does not fully meet the application, the following additional magnetic trip characteristics are available:

Type H allows for transients approximately twice as high as the standard type G. See page 26 for trip characteristics.

Type F achieves instantaneous tripping at current levels approximately half as high as type G. See page 26 for trip characteristics.

The Bulletin l492-CB thermo-bimetal has an operating characteristic that changes with the ambient temperature similar to the withstand capacity of PVC insulated wires. This close simulation allows a higher overcurrent when the ambient temperature is low and heat is dissipated. Also, it effects an automatic interruption at a lower current when high ambient temperature necessitates such an action.

Determining Ratings, Continued

3. Application as Manual Motor Controller (Series C Devices)

These devices are open-type, one, two and three pole, manual motor controllers for direct control of AC motors connected across-the-line. Additionally these devices ❶ are intended for use as a motor disconnect and can be locked in the off position when used with the locking device kit.

These devices are provided with an internal, non replaceable, fixed thermal (bimetal type) overload trip feature and instantaneous magnetic trip feature designed to trip open the controller main contacts upon overcurrent. They are suitable for providing motor overload protection and are manually reset, by means of the toggle handle

These devices are also rated as a controller and disconnect for ac general use loads and ac resistive (heating) loads.

Selection as a Manual Motor Controller should be based upon actual motor nameplate data, FLA and Starting/Locked Rotor Current (LRC)

Example 1: Motor nameplate indicates Single Phase Motor, ½ Hp, 230V AC, FLA 5.3 A, LRC 32A

A 6A 1492-CB would be selected

Example 2: Motor nameplate indicates Single Phase Motor, ½ Hp, 230V AC, FLA 6.3 A, LRC 32A

A 7A 1492-CB would be selected

Motor Control Device Rating: Per tables below.

Ampere Ratings and Horsepower Rating, 1 Phase

1492-CB	**Motor Nameplate (B. C, D motor designation)**		**Horsepower (FLA & LRC Ratings Apply Where No Hp Rating Is Given)**							
			Nominal Circuit Voltage (AC)							
			110… 120	200	208	220… 240	265	277	380… 415	440… 480
Rated Current ❷	FLA Rating	Starting/ LRC Rating	—							
0.5 A	0.5 A	3 A	—							
1 A	1 A	6 A	—	—	—	—	—	—	1/10	—
1.5 A	1.5 A	9 A	—	—	—	1/10	1/10	1/10	1/6	—
2 A	2 A	12 A	—	—	—	1/8	1/6	1/6	1/4	—
3 A	3 A	18 A	1/10	1/6	1/6	1/4	1/4	1/3	1/3	1/2
4 A	4 A	24 A	1/8	1/4	1/3	1/3	1/3	1/3	1/2	1
5 A	5 A	30 A	1/6	1/3	1/3	1/2	1/2	1/2	3/4	1 1/2
6 A	6 A	36 A	1/4	1/2	1/2	1/2	3/4	3/4	1	2
7 A	7 A	42 A	1/4	1/2	1/2	3/4	1	1	1 1/2	2
8 A	8 A	48 A	1/3	3/4	3/4	1	1	1	2	2
10 A	10 A	60 A	1/2	1	1	1 1/2	1 1/2	2	2	3
12 A	12 A	72 A	1/2	1 1/2	1 1/2	2	2	2	3	3
15 A	15 A	90 A	3/4	2	2	2	3	3	3	5
16 A	16 A	96 A	1	2	2	2	3	3	3	5
20 A	20 A	120 A	1 1/2	3	3	3	3	3	5	5
25 A	25 A	150 A	2	3	3	3	5	5	5	7 1/2
30 A	30 A	180 A	2	3	3	5	5	5	7 1/2	10
32 A	32 A	192 A	2	3	5	5	5	5	7 1/2	10
40 A	40 A	240 A	3	5	5	7 1/2	7 1/2	7 1/2	10	15
52 A	52 A	312 A	3	7 1/2	7 1/2	10	10	10	15	20

❶ 0.5 A…30 A

❷ For AC motor circuit nameplate FLA loads, AC general-use loads, AC resistance (heating) loads.

Determining Ratings, Continued

Ampere Ratings and Horsepower Rating, 3 Phase								
1492-CB	**Motor Nameplate (B. C, D motor designation)**		**Horsepower (FLA & LRC Ratings Apply Where No Hp Rating Is Given)**					
			Nominal Circuit Voltage (AC)					
			110…120	200	208	220…240	380…415	440…480
Rated Current ❶	FLA Rating	Starting/ LRC Rating	—					
0.5 A	0.5 A	—	—					
1 A	1 A	—	—					
1.5 A	1.5 A	10 A	—	—	—	—	1/2	1/2
2 A	2 A	12.5 A	—	—	—	—	3/4	3/4
3 A	3 A	20 A	—	1/2	1/2	1/2	1	1 1/2
4 A	4 A	25 A	—	3/4	3/4	3/4	1 1/2	2
5 A	5 A	32 A	1/2	1	1	1	2	3
6 A	6 A	32 A	1/2	1	1	1 1/2	2	3
7 A	7 A	32 A	3/4	1 1/2	1 1/2	2	3	3
8 A	8 A	46 A	3/4	2	2	2	3	5
10 A	10 A	46 A	1	2	2	3	5	5
12 A	12 A	63.5 A	1 1/2	3	3	3	5	7 1/2
15 A	15 A	81 A	2	3	3	3	7 1/2	10
16 A	16 A	81 A	2	3	3	5	7 1/2	10
20 A	20 A	81 A	3	5	5	5	10	10
25 A	25 A	116 A	3	5	7 1/2	7 1/2	10	15
30 A	30 A	145 A	3	7 1/2	7 1/2	10	15	20
32 A	32 A	145 A	5	7 1/2	10	10	15	20
40 A	40 A	218 A	5	10	10	10	20	30
52 A	52 A	218 A	7 1/2	15	15	15	30	40

❶ For AC motor circuit nameplate FLA loads, AC general-use loads, AC resistance (heating) loads.

Motor overload protection rating:

Trip current: 125% of marked rated current @40° C
Class Designation: 20

Instantaneous Magnetic Trip Provided

Short Circuit Rating/Interrupt Capability Without Fuse Protection

Single Motor: 5000 A

Group Motor: 5000 A

General Purpose and Resistive (Heating) Load Ratings:

One pole: 277V AC @ rated current
Two pole: 480Y/277V AC 1 ph @ rated current
Three pole: 480Y/277V AC 3 ph @ rated current

Ambient Temperature Rating: 40° C

Notes

Selection Tables

F-Trip Characteristics — Resistive Loads (AC)

Tripping characteristics 3…5 I_n



One-Pole



One-Pole Plus Neutral

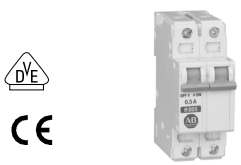
Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Cat. No.	Ser.
0.5 A	---	1492-CB1F005	C	c UL us LISTED	0.5 A	1492-CB1F005-N	B
1 A	---	1492-CB1F010	C	c UL us LISTED	1 A	1492-CB1F010-N	B
1.5 A	1/10	1492-CB1F015	C	c UL us LISTED	1.5 A	1492-CB1F015-N	B
2 A	1/6	1492-CB1F020	C	c UL us LISTED	2 A	1492-CB1F020-N	B
3 A	1/3	1492-CB1F030	C	c UL us LISTED	3 A	1492-CB1F030-N	B
4 A	1/3	1492-CB1F040	C	c UL us LISTED	4 A	1492-CB1F040-N	B
5 A	1/2	1492-CB1F050	C	c UL us LISTED	5 A	1492-CB1F050-N	B
6 A	3/4	1492-CB1F060	C	c UL us LISTED	6 A	1492-CB1F060-N	B
7 A	1	1492-CB1F070	C	c UL us LISTED	7 A	1492-CB1F070-N	B
8 A	1	1492-CB1F080	C	c UL us LISTED	8 A	1492-CB1F080-N	B
10 A	2	1492-CB1F100	C	c UL us LISTED	10 A	1492-CB1F100-N	B
12 A	2	1492-CB1F120	C	c UL us LISTED	12 A	1492-CB1F120-N	B
15 A	3	1492-CB1F150	C	c UL us LISTED	15 A	1492-CB1F150-N	B
16 A	3	1492-CB1F160	C	c UL us LISTED	16 A	1492-CB1F160-N	B
20 A	3	1492-CB1F200	C	c UL us LISTED	20 A	1492-CB1F200-N	B
25 A	5	1492-CB1F250	C	c UL us LISTED	25 A	1492-CB1F250-N	B
30 A	5	1492-CB1F300	C	c UL us LISTED	30 A	1492-CB1F300-N	B
32 A	5 ❸	1492-CB1F320	B/C ❸	c UL us LISTED ❸	32 A	1492-CB1F320-N	B
40 A	71/2 ❸	1492-CB1F400	B/C ❸	c UL us LISTED ❸	40 A	1492-CB1F400-N	B
50 A	10 ❸	1492-CB1F500	B/C ❸	c UL us LISTED ❸	50 A	1492-CB1F500-N	B
52 A❸	10 ❸	1492-CB1F520❸	C ❸	c UL us LISTED ❸	—	—	—
Max. Operational Voltage	277V AC 1 ph 65V DC				277V AC 1 ph 65V DC		
Diagram	 1-pole				 1-pole +N		

❶ Series C product.
❷ per UL508, CSA 22.2 No. 14.
❸ Check for availability.

Selection Tables, Continued

F-Trip Characteristics — Resistive Loads (AC)

Tripping characteristics 3…5 I_n


Two-Pole


Three-Pole


Three-Pole Plus Neutral

Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Cat. No.	Ser.
0.5 A	—	1492-CB2F005	C	c UL us LISTED	0.5 A	—	1492-CB3F005	C	c UL us LISTED	0.5 A	1492-CB3F005-N	B
1 A	—	1492-CB2F010	C	c UL us LISTED	1 A	—	1492-CB3F010	C	c UL us LISTED	1 A	1492-CB3F010-N	B
1.5 A	—	1492-CB2F015	C	c UL us LISTED	1.5 A	1/2	1492-CB3F015	C	c UL us LISTED	1.5 A	1492-CB3F015-N	B
2 A	—	1492-CB2F020	C	c UL us LISTED	2 A	3/4	1492-CB3F020	C	c UL us LISTED	2 A	1492-CB3F020-N	B
3 A	1/2	1492-CB2F030	C	c UL us LISTED	3 A	1 1/2	1492-CB3F030	C	c UL us LISTED	3 A	1492-CB3F030-N	B
4 A	1	1492-CB2F040	C	c UL us LISTED	4 A	2	1492-CB3F040	C	c UL us LISTED	4 A	1492-CB3F040-N	B
5 A	1 1/2	1492-CB2F050	C	c UL us LISTED	5 A	3	1492-CB3F050	C	c UL us LISTED	5 A	1492-CB3F050-N	B
6 A	2	1492-CB2F060	C	c UL us LISTED	6 A	3	1492-CB3F060	C	c UL us LISTED	6 A	1492-CB3F060-N	B
7 A	2	1492-CB2F070	C	c UL us LISTED	7 A	3	1492-CB3F070	C	c UL us LISTED	7 A	1492-CB3F070-N	B
8 A	2	1492-CB2F080	C	c UL us LISTED	8 A	5	1492-CB3F080	C	c UL us LISTED	8 A	1492-CB3F080-N	B
10 A	3	1492-CB2F100	C	c UL us LISTED	10 A	5	1492-CB3F100	C	c UL us LISTED	10 A	1492-CB3F100-N	B
12 A	3	1492-CB2F120	C	c UL us LISTED	12 A	71/2	1492-CB3F120	C	c UL us LISTED	12 A	1492-CB3F120-N	B
15 A	5	1492-CB2F150	C	c UL us LISTED	15 A	10	1492-CB3F150	C	c UL us LISTED	15 A	1492-CB3F150-N	B
16 A	5	1492-CB2F160	C	c UL us LISTED	16 A	10	1492-CB3F160	C	c UL us LISTED	16 A	1492-CB3F160-N	B
20 A	5	1492-CB2F200	C	c UL us LISTED	20 A	10	1492-CB3F200	C	c UL us LISTED	20 A	1492-CB3F200-N	B
25 A	71/2	1492-CB2F250	C	c UL us LISTED	25 A	15	1492-CB3F250	C	c UL us LISTED	25 A	1492-CB3F250-N	B
30 A	10	1492-CB2F300	C	c UL us LISTED	30 A	20	1492-CB3F300	C	c UL us LISTED	30 A	1492-CB3F300-N	B
32 A	10 ❸	1492-CB2F320	B/C ❸	c UL us LISTED ❸	32 A	20 ❸	1492-CB3F320	B/C ❸	c UL us LISTED ❸	32 A	1492-CB3F320-N	B
40 A	15 ❸	1492-CB2F400	B/C ❸	c UL us LISTED ❸	40 A	30 ❸	1492-CB3F400	B/C ❸	c UL us LISTED ❸	40 A	1492-CB3F400-N	B
50 A	20 ❸	1492-CB2F500	B/C ❸	c UL us LISTED ❸	50 A	30 ❸	1492-CB3F500	B/C ❸	c UL us LISTED ❸	50 A	1492-CB3F500-N	B
52 A❸	20 ❸	1492-CB2F520❸	C ❸	c UL us LISTED ❸	52 A❸	40 ❸	1492-CB3F520❸	C ❸	c UL us LISTED ❸	—	—	
Max Operational Voltage	480Y/277V AC 1 ph 65V DC				480Y/277V AC 3 ph 65V DC					480Y/277V AC 3 ph 65V DC		
Diagram	 2-poles				 3-poles					 3-poles + N		

❶ Series C product.

❷ per UL508, CSA 22.2 No. 14.

❸ Check for availability of noted Series C product.

Selection Tables, Continued

G-Trip Characteristics — Inductive Loads (AC)

Tripping Characteristics 6…10 I_n



One-Pole



One-Pole Plus Neutral

Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Cat. No.	Ser.
0.5 A	---	1492-CB1G005	C	c UL us LISTED	0.5 A	1492-CB1G005-N	B
1 A	---	1492-CB1G010	C	c UL us LISTED	1 A	1492-CB1G010-N	B
1.5 A	1/10	1492-CB1G015	C	c UL us LISTED	1.5 A	1492-CB1G015-N	B
2 A	1/6	1492-CB1G020	C	c UL us LISTED	2 A	1492-CB1G020-N	B
3 A	1/3	1492-CB1G030	C	c UL us LISTED	3 A	1492-CB1G030-N	B
4 A	1/3	1492-CB1G040	C	c UL us LISTED	4 A	1492-CB1G040-N	B
5 A	1/2	1492-CB1G050	C	c UL us LISTED	5 A	1492-CB1G050-N	B
6 A	3/4	1492-CB1G060	C	c UL us LISTED	6 A	1492-CB1G060-N	B
7 A	1	1492-CB1G070	C	c UL us LISTED	7 A	1492-CB1G070-N	B
8 A	1	1492-CB1G080	C	c UL us LISTED	8 A	1492-CB1G080-N	B
10 A	2	1492-CB1G100	C	c UL us LISTED	10 A	1492-CB1G100-N	B
12 A	2	1492-CB1G120	C	c UL us LISTED	12 A	1492-CB1G120-N	B
15 A	3	1492-CB1G150	C	c UL us LISTED	15 A	1492-CB1G150-N	B
16 A	3	1492-CB1G160	C	c UL us LISTED	16 A	1492-CB1G160-N	B
20 A	3	1492-CB1G200	C	c UL us LISTED	20 A	1492-CB1G200-N	B
25 A	5	1492-CB1G250	C	c UL us LISTED	25 A	1492-CB1G250-N	B
30 A	5	1492-CB1G300	C	c UL us LISTED	30 A	1492-CB1G300-N	B
32 A	5 ❸	1492-CB1G320	B/C ❸	c UL us LISTED ❸	32 A	1492-CB1G320-N	B
40 A	71/2 ❸	1492-CB1G400	B/C ❸	c UL us LISTED ❸	40 A	1492-CB1G400-N	B
50 A	10 ❸	1492-CB1G500	B/C ❸	c UL us LISTED ❸	50 A	1492-CB1G500-N	B
52 A❸	10 ❸	1492-CB1G520❸	C ❸	c UL us LISTED ❸	—	—	
Max. Operational Voltage	277V AC 1 ph 65V DC				277V AC 1 ph 65V DC		
Diagram	 1-pole				 1-pole +N		

❶ Series C product.
❷ per UL508, CSA 22.2 No. 14.
❸ Check for availability of noted Series C product.

Selection Tables, Continued

G-Trip Characteristics — Inductive Loads (AC)

Tripping Characteristics 6…10 I_n



Two-Pole



Three-Pole



Three-Pole Plus Neutral

Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Cat. No.	Ser.
0.5 A	—	1492-CB2G005	C	c UL us LISTED	0.5 A	—	1492-CB3G005	C	c UL us LISTED	0.5 A	1492-CB3G005-N	B
1 A	—	1492-CB2G010	C	c UL us LISTED	1 A	—	1492-CB3G010	C	c UL us LISTED	1 A	1492-CB3G010-N	B
1.5 A	—	1492-CB2G015	C	c UL us LISTED	1.5 A	1/2	1492-CB3G015	C	c UL us LISTED	1.5 A	1492-CB3G015-N	B
2 A	—	1492-CB2G020	C	c UL us LISTED	2 A	3/4	1492-CB3G020	C	c UL us LISTED	2 A	1492-CB3G020-N	B
3 A	1/2	1492-CB2G030	C	c UL us LISTED	3 A	1 1/2	1492-CB3G030	C	c UL us LISTED	3 A	1492-CB3G030-N	B
4 A	1	1492-CB2G040	C	c UL us LISTED	4 A	2	1492-CB3G040	C	c UL us LISTED	4 A	1492-CB3G040-N	B
5 A	1 1/2	1492-CB2G050	C	c UL us LISTED	5 A	3	1492-CB3G050	C	c UL us LISTED	5 A	1492-CB3G050-N	B
6 A	2	1492-CB2G060	C	c UL us LISTED	6 A	3	1492-CB3G060	C	c UL us LISTED	6 A	1492-CB3G060-N	B
7 A	2	1492-CB2G070	C	c UL us LISTED	7 A	3	1492-CB3G070	C	c UL us LISTED	7 A	1492-CB3G070-N	B
8 A	2	1492-CB2G080	C	c UL us LISTED	8 A	5	1492-CB3G080	C	c UL us LISTED	8 A	1492-CB3G080-N	B
10 A	3	1492-CB2G100	C	c UL us LISTED	10 A	5	1492-CB3G100	C	c UL us LISTED	10 A	1492-CB3G100-N	B
12 A	3	1492-CB2G120	C	c UL us LISTED	12 A	71/2	1492-CB3G120	C	c UL us LISTED	12 A	1492-CB3G120-N	B
15 A	5	1492-CB2G150	C	c UL us LISTED	15 A	10	1492-CB3G150	C	c UL us LISTED	15 A	1492-CB3G150-N	B
16 A	5	1492-CB2G160	C	c UL us LISTED	16 A	10	1492-CB3G160	C	c UL us LISTED	16 A	1492-CB3G160-N	B
20 A	5	1492-CB2G200	C	c UL us LISTED	20 A	10	1492-CB3G200	C	c UL us LISTED	20 A	1492-CB3G200-N	B
25 A	71/2	1492-CB2G250	C	c UL us LISTED	25 A	15	1492-CB3G250	C	c UL us LISTED	25 A	1492-CB3G250-N	B
30 A	10	1492-CB2G300	C	c UL us LISTED	30 A	20	1492-CB3G300	C	c UL us LISTED	30 A	1492-CB3G300-N	B
32 A	10 ❸	1492-CB2G320	B/C ❸	c UL us LISTED ❸	32 A	20 ❸	1492-CB3G320	B/C ❸	c UL us LISTED ❸	32 A	1492-CB3G320-N	B
40 A	15 ❸	1492-CB2G400	B/C ❸	c UL us LISTED ❸	40 A	30 ❸	1492-CB3G400	B/C ❸	c UL us LISTED ❸	40 A	1492-CB3G400-N	B
50 A	20 ❸	1492-CB2G500	B/C ❸	c UL us LISTED ❸	50 A	30 ❸	1492-CB3G500	B/C ❸	c UL us LISTED ❸	50 A	1492-CB3G500-N	B
52 A❸	20 ❸	1492-CB2G520❸	C ❸	c UL us LISTED ❸	52 A❸	40 ❸	1492-CB3G520❸	C ❸	c UL us LISTED ❸	—	—	—
Max Operational Voltage	480Y/277V AC 1 ph 65V DC				480Y/277V AC 3 ph 65V DC					480Y/277V AC 3 ph 65V DC		
Diagram	 2-poles				 3-poles					 3-poles + N		

❶ Series C product.

❷ per UL508, CSA 22.2 No. 14.

❸ Check for availability of noted Series C product.

Selection Tables, Continued

H-Trip Characteristics — Highly Inductive Loads (AC)

Tripping Characteristics 12…20 I_n



One-Pole



One-Pole Plus Neutral

Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Cat. No.	Ser.
0.5 A	---	1492-CB1H005	C	c UL us LISTED	0.5 A	1492-CB1H005-N	B
1 A	---	1492-CB1H010	C	c UL us LISTED	1 A	1492-CB1H010-N	B
1.5 A	1/10	1492-CB1H015	C	c UL us LISTED	1.5 A	1492-CB1H015-N	B
2 A	1/6	1492-CB1H020	C	c UL us LISTED	2 A	1492-CB1H020-N	B
3 A	1/3	1492-CB1H030	C	c UL us LISTED	3 A	1492-CB1H030-N	B
4 A	1/3	1492-CB1H040	C	c UL us LISTED	4 A	1492-CB1H040-N	B
5 A	1/2	1492-CB1H050	C	c UL us LISTED	5 A	1492-CB1H050-N	B
6 A	3/4	1492-CB1H060	C	c UL us LISTED	6 A	1492-CB1H060-N	B
7 A	1	1492-CB1H070	C	c UL us LISTED	7 A	1492-CB1H070-N	B
8 A	1	1492-CB1H080	C	c UL us LISTED	8 A	1492-CB1H080-N	B
10 A	2	1492-CB1H100	C	c UL us LISTED	10 A	1492-CB1H100-N	B
12 A	2	1492-CB1H120	C	c UL us LISTED	12 A	1492-CB1H120-N	B
15 A	3	1492-CB1H150	C	c UL us LISTED	15 A	1492-CB1H150-N	B
16 A	3	1492-CB1H160	C	c UL us LISTED	16 A	1492-CB1H160-N	B
20 A	3	1492-CB1H200	C	c UL us LISTED	20 A	1492-CB1H200-N	B
25 A	5	1492-CB1H250	C	c UL us LISTED	25 A	1492-CB1H250-N	B
30 A	5	1492-CB1H300	C	c UL us LISTED	30 A	1492-CB1H300-N	B
32 A	5 ❸	1492-CB1H320	B/C ❸	c UL us LISTED ❸	32 A	1492-CB1H320-N	B
40 A	71/2 ❸	1492-CB1H400	B/C ❸	c UL us LISTED ❸	40 A	1492-CB1H400-N	B
50 A	10 ❸	1492-CB1H500	B/C ❸	c UL us LISTED ❸	50 A	1492-CB1H500-N	B
52 A❸	10 ❸	1492-CB1H520❸	C ❸	c UL us LISTED ❸	—	—	—
Max. Operational Voltage	277V AC 1 ph 65V DC				277V AC 1 ph 65V DC		
Diagram	 1-pole				 1-pole +N		

❶ Series C product.
❷ per UL508, CSA 22.2 No. 14.
❸ Check for availability of noted Series C product.

Selection Tables, Continued

H-Trip Characteristics — Highly Inductive Loads (AC)

Tripping Characteristics 12…20 I_n



Two-Pole



Three-Pole



Three-Pole Plus Neutral

Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Maximum Hp Rating ❶ ❷	Cat. No.	Ser.	Certifications ❶ ❷	Rated Current	Cat. No.	Ser.
0.5 A	—	1492-CB2H005	C	c UL us LISTED	0.5 A	—	1492-CB3H005	C	c UL us LISTED	0.5 A	1492-CB3H005-N	B
1 A	—	1492-CB2H010	C	c UL us LISTED	1 A	—	1492-CB3H010	C	c UL us LISTED	1 A	1492-CB3H010-N	B
1.5 A	—	1492-CB2H015	C	c UL us LISTED	1.5 A	1/2	1492-CB3H015	C	c UL us LISTED	1.5 A	1492-CB3H015-N	B
2 A	—	1492-CB2H020	C	c UL us LISTED	2 A	3/4	1492-CB3H020	C	c UL us LISTED	2 A	1492-CB3H020-N	B
3 A	1/2	1492-CB2H030	C	c UL us LISTED	3 A	1 1/2	1492-CB3H030	C	c UL us LISTED	3 A	1492-CB3H030-N	B
4 A	1	1492-CB2H040	C	c UL us LISTED	4 A	2	1492-CB3H040	C	c UL us LISTED	4 A	1492-CB3H040-N	B
5 A	1 1/2	1492-CB2H050	C	c UL us LISTED	5 A	3	1492-CB3H050	C	c UL us LISTED	5 A	1492-CB3H050-N	B
6 A	2	1492-CB2H060	C	c UL us LISTED	6 A	3	1492-CB3H060	C	c UL us LISTED	6 A	1492-CB3H060-N	B
7 A	2	1492-CB2H070	C	c UL us LISTED	7 A	3	1492-CB3H070	C	c UL us LISTED	7 A	1492-CB3H070-N	B
8 A	2	1492-CB2H080	C	c UL us LISTED	8 A	5	1492-CB3H080	C	c UL us LISTED	8 A	1492-CB3H080-N	B
10 A	3	1492-CB2H100	C	c UL us LISTED	10 A	5	1492-CB3H100	C	c UL us LISTED	10 A	1492-CB3H100-N	B
12 A	3	1492-CB2H120	C	c UL us LISTED	12 A	71/2	1492-CB3H120	C	c UL us LISTED	12 A	1492-CB3H120-N	B
15 A	5	1492-CB2H150	C	c UL us LISTED	15 A	10	1492-CB3H150	C	c UL us LISTED	15 A	1492-CB3H150-N	B
16 A	5	1492-CB2H160	C	c UL us LISTED	16 A	10	1492-CB3H160	C	c UL us LISTED	16 A	1492-CB3H160-N	B
20 A	5	1492-CB2H200	C	c UL us LISTED	20 A	10	1492-CB3H200	C	c UL us LISTED	20 A	1492-CB3H200-N	B
25 A	71/2	1492-CB2H250	C	c UL us LISTED	25 A	15	1492-CB3H250	C	c UL us LISTED	25 A	1492-CB3H250-N	B
30 A	10	1492-CB2H300	C	c UL us LISTED	30 A	20	1492-CB3H300	C	c UL us LISTED	30 A	1492-CB3H300-N	B
32 A	10 ❸	1492-CB2H320	B/C ❸	c UL us LISTED ❸	32 A	20 ❸	1492-CB3H320	B/C ❸	c UL us LISTED ❸	32 A	1492-CB3H320-N	B
40 A	15 ❸	1492-CB2H400	B/C ❸	c UL us LISTED ❸	40 A	30 ❸	1492-CB3H400	B/C ❸	c UL us LISTED ❸	40 A	1492-CB3H400-N	B
50 A	20 ❸	1492-CB2H500	B/C ❸	c UL us LISTED ❸	50 A	30 ❸	1492-CB3H500	B/C ❸	c UL us LISTED ❸	50 A	1492-CB3H500-N	B
52 A❸	20 ❸	1492-CB2H520❸	C ❸	c UL us LISTED ❸	52 A❸	40 ❸	1492-CB3H520❸	C ❸	c UL us LISTED ❸	—	—	—
Max Operational Voltage	480Y/277V AC 1 ph 65V DC				480Y/277V AC 3 ph 65V DC					480Y/277V AC 3 ph 65V DC		
Diagram	 2-poles				 3-poles					 3-poles + N		

❶ Series C product.

❷ per UL508, CSA 22.2 No. 14.

❸ Check for availability of noted series C product.

Selection Tables, Continued

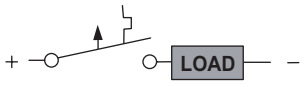
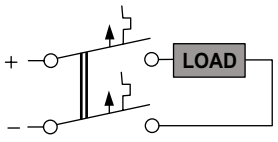
DC Devices
-DF,-DG and DH-Trip Characteristics (DC)



One-Pole



Two-Pole

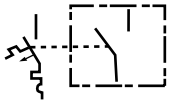
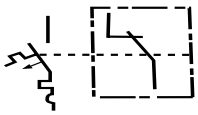
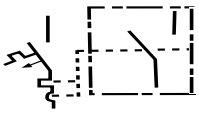
Trip Characteristic	DF ❶	DG ❷	DH ❸	—	—	DF ❶	DG ❷	DH ❸	
Rated Current	**Cat. No.**	**Cat No.**	**Cat No.**	**Ser.**	**Rated Current**	**Cat. No.**	**Cat No.**	**Cat No.**	**Ser.**
0.5 A	1492-CB1DF005	1492-CB1DG005	—	B	0.5 A	1492-CB2DF005	1492-CB2DG005	—	B
1 A	1492-CB1DF010	1492-CB1DG010	—	B	1 A	1492-CB2DF010	1492-CB2DG010	—	B
2 A	1492-CB1DF020	1492-CB1DG020	—	B	2 A	1492-CB2DF020	1492-CB2DG020	—	B
3 A	1492-CB1DF030	1492-CB1DG030	—	B	3 A	1492-CB2DF030	1492-CB2DG030	—	B
4 A	1492-CB1DF040	1492-CB1DG040	—	B	4 A	1492-CB2DF040	1492-CB2DG040	—	B
5 A	1492-CB1DF050	1492-CB1DG050	—	B	5 A	1492-CB2DF050	1492-CB2DG050	—	B
6 A	1492- CB1DF060	1492-CB1DG060	1492-CB1DH060	B	6 A	1492-CB2DF060	1492-CB2DG060	1492-CB2DH060	B
7 A	1492-CB1DF070	1492-CB1DG070	1492-CB1DH070	B	7 A	1492-CB2DF070	1492-CB2DG070	1492-CB2DH070	B
8 A	1492-CB1DF080	1492-CB1DG080	1492-CB1DH080	B	8 A	1492-CB2DF080	1492-CB2DG080	1492-CB2DH080	B
10 A	1492-CB1DF100	1492-CB1DG100	1492-CB1DH100	B	10 A	1492-CB2DF100	1492-CB2DG100	1492-CB2DH100	B
12 A	1492-CB1DF120	1492-CB1DG120	1492-CB1DH120	B	12 A	1492-CB2DF120	1492-CB2DG120	1492-CB2DH120	B
15 A	1492-CB1DF150	1492-CB1DG150	1492-CB1DH150	B	15 A	1492-CB2DF150	1492-CB2DG150	1492-CB2DH150	B
16 A	1492-CB1DF160	1492-CB1DG160	1492-CB1DH160	B	16 A	1492-CB2DF160	1492-CB2DG160	1492-CB2DH160	B
20 A	1492-CB1DF200	1492-CB1DG200	1492-CB1DH200	B	20 A	1492-CB2DF200	1492-CB2DG200	1492-CB2DH200	B
25 A	1492-CB1DF250	1492-CB1DG250	1492-CB1DH250	B	25 A	1492-CB2DF250	1492-CB2DG250	1492-CB2DH250	B
30 A	1492-CB1DF300	1492-CB1DG300	1492-CB1DH300	B	30 A	1492-CB2DF300	1492-CB2DG300	1492-CB2DH300	B
32 A	1492-CB1DF320	1492-CB1DG320	1492-CB1DH320	B	32 A	1492-CB2DF320	1492-CB2DG320	1492-CB2DH320	B
40 A	1492-CB1DF400	1492-CB1DG400	1492-CB1DH400	B	40 A	1492-CB2DF400	1492-CB2DG400	1492-CB2DH400	B
Max. Operational Voltage	120V DC per pole 240V DC 2 pole in series								
Wiring	 1 Pole				 2 Pole				

❶ Tripping characteristic: DF — 4.5…8 I_n (DC)

❷ Tripping characteristic: DG — 9.0…16 I_n (DC)

❸ Tripping characteristic: DH — 18.0…32.0 I_n (DC)

Accessories

Auxiliary Contacts	Description	Approvals	Diagrams	Cat. No.	Ser.
	Auxiliary Contact Module • Switches when protective device is operated manually or tripped electrically • 1 N.O. Contact	c UL us IEC CE		1492-ACBH1	B
	Auxiliary Contact Module • Switches when protective device is operated manually or tripped electrically • 1 N.C. Contact	c UL us IEC CE		1492-ACBH2	B
	Signal Alarm Contact Module • Switches when protective device Is operated manually or tripped electrically • 1 N.O. Contact	c UL us IEC CE		1492-ACBS1	B
	Signal Alarm Contact Module • Switches when protective device Is operated manually or tripped electrically • 1 N.C. Contact	c UL us IEC CE		1492-ACBS2	B

Note: Series B device mounted accessories work with Series B and Series C devices.

Accessories, Continued

Voltage Trips	Description	Approvals	Voltages	Diagrams	Cat. No.	Ser.
	Shunt Trip Module • Use the Shunt Trip Module to trip the adjacent breaker poles from a remote location. The module is actuated by applying a voltage (Pickup Voltage) to the trip terminals. • Shunt Trip Modules are often used in emergency shutdown circuits where multiple power circuits must be switched off from a single location.	c UL us IEC CE	5…12V AC/DC 10…24V AC/DC 20…48V AC/DC 40…110V AC/DC 90…240V AC/DC		1492-ACBA1 1492-ACBA2 1492-ACBA3 1492-ACBA4 1492-ACBA5	B B B B B

Note: Series B device mounted accessories work with Series B and Series C devices.

Allowable combinations of field added modules ❶ added to 1p, 1p+N, 2p, 3p device:

(1) N.O. Auxiliary Contact Module
(1) N.C. Auxiliary Contact Module
(1) N.O. Signal Alarm Contact Module
(1) N.C. Signal Alarm Contact Module
(1) Shunt Trip Module
(2) N.O. Auxiliary Contact Modules
(2) N.C. Auxiliary Contact Modules
(2) N.O. Signal Alarm Contact Modules
(2) N.C. Signal Alarm Contact Modules
(1) N.O. Auxiliary Contact Module + (1) N.C. Auxiliary Contact Module
(1) N.O. Auxiliary Contact Module + (1) N.O. Signal Alarm Module
(1) N.O. Auxiliary Contact Module + (1) N.C. Signal Alarm Module
(1) N.C. Auxiliary Contact Module + (1) N.O. Signal Alarm Module
(1) N.C. Auxiliary Contact Module + (1) N.C. Signal Alarm Module
(1) Shunt Trip Module + (1) N.O. Auxiliary Contact Module
(1) Shunt Trip Module + (1) N.C. Auxiliary Contact Module
(1) Shunt Trip Module + (1) N.O. Signal Alarm Contact Module
(1) Shunt Trip Module + (1) N.C. Signal Alarm Contact Module

Allowable combinations of field added modules ❶ added to 3p+N device

(1) N.O. Auxiliary Contact Module
(1) N.C. Auxiliary Contact Module
(1) N.O. Signal Alarm Contact Module
(1) N.C. Signal Alarm Contact Module
(1) Shunt Trip Module

❶ All modules are added to left side of device.

Accessories, Continued

Accessories used with all 1492-CB Miniature Circuit Breakers

Accessories	Cat. No.	Pieces/Package
Mounting Rails		
1 m Symmetrical DIN	199-DR1	10
1 m Hi-Rise Symmetrical DIN	1492-DR6	2
1 m Angled Hi-Rise Symmetrical DIN	1492-DR7	2
End Anchor	1492-EAH35	50
Lockout Attachment ❶	1492-ACBLOA	5
Pin Style Commoning Link	—	—
One-Pole — one meter, 40 A (56 devices /m)	1492-ACBCL1	1
Two-Pole — one meter, 30 A (29 devices /m)	1492-ACBCL2	1
Three-Pole — one meter, 30 A (19 devices /m)	1492-ACBCL3	1
Bus Bar End Cap for Two or Three Pole Devices	1492-ACBEC1	10
Front Panel Mounting Brackets		
One-Pole	1492-N711	5
Two-Pole	1492-N712	5
Three-Pole	1492-N713	5
Four-Pole	1492-N714	5
Five-Pole	1492-N715	5
Connecting Clip	1492-ACBCC1	10
Opening Seal	1492-ACBHS1	10

❶ When using Bulletin 1492-CB manual motor controller as a motor disconnect, the lockout attachment is required.

Application Examples

The following are examples of some typical selections of 1492-CB Series C when used as a manual motor controller.

Applications- 1 Phase									
			One Pole			Two Pole			Approvals
Rated Current	FLA	Starting LRA	Hp @ 120V AC	Cat. No.	Ser.	Hp @ 240V AC	Cat. No.	Ser.	UL 508 CSA 22.2 No.14
1.5 A	1.5 A	9 A	—	1492-CB1H015	C	1/10	1492-CB2H015	C	c UL us LISTED
2 A	2 A	12 A	—	1492-CB1H020	C	1/8	1492-CB2H020	C	c UL us LISTED
3 A	3 A	18 A	1/10	1492-CB1H030	C	1/4	1492-CB2H030	C	c UL us LISTED
4 A	4 A	24 A	1/8	1492-CB1H040	C	1/3	1492-CB2H040	C	c UL us LISTED
5 A	5 A	30 A	1/6	1492-CB1H050	C	1/2	1492-CB2H050	C	c UL us LISTED
6 A	6 A	36 A	1/4	1492-CB1H060	C	1/2	1492-CB2H060	C	c UL us LISTED
7 A	7 A	42 A	1/4	1492-CB1H070	C	3/4	1492-CB2H070	C	c UL us LISTED
8 A	8 A	48 A	1/3	1492-CB1H080	C	1	1492-CB2H080	C	c UL us LISTED
10 A	10 A	60 A	1/2	1492-CB1H100	C	1 1/2	1492-CB2H100	C	c UL us LISTED
12 A	12 A	72 A	1/2	1492-CB1H120	C	2	1492-CB2H120	C	c UL us LISTED
15 A	15 A	90 A	3/4	1492-CB1H150	C	2	1492-CB2H150	C	c UL us LISTED
16 A	16 A	96 A	1	1492-CB1H160	C	2	1492-CB2H160	C	c UL us LISTED
20 A	20 A	120 A	1 1/2	1492-CB1H200	C	3	1492-CB2H200	C	c UL us LISTED
25 A	25 A	150 A	2	1492-CB1H250	C	3	1492-CB2H250	C	c UL us LISTED
30 A	30 A	180 A	2	1492-CB1H300	C	5	1492-CB2H300	C	c UL us LISTED
32 A	32 A	192 A	2	1492-CB1H320 ❶	C ❶	5	1492-CB2H320 ❶	C ❶	c UL us LISTED ❶
40 A	40 A	240 A	3	1492-CB1H400 ❶	C ❶	7 1/2	1492-CB2H400 ❶	C ❶	c UL us LISTED ❶
50 A	50 A	300 A	3	1492-CB1H500 ❶	C ❶	10	1492-CB1H500 ❶	C ❶	c UL us LISTED ❶
52 A	52 A	320 A	3	1492-CB1H520 ❶	C ❶	10	1492-CB2H520 ❶	C ❶	c UL us LISTED ❶

❶ Check for availability.

Application Examples, Continued

Applications - 3 Phase

			Three Pole						Approvals
Rated Current	**FLA**	**Starting LRA**	**Hp @ 200V AC**	**Hp @ 208V AC**	**Hp @ 220…240V AC**	**Hp @ 440…480V AC**	**Cat. No.**	**Ser.**	**UL 508 CSA 22.2 No.14**
1.5 A	1.5 A	10 A	—	—	—	1/2	1492-CB3H015	C	c UL us LISTED
2 A	2 A	12.5 A	—	—	—	3/4	1492-CB3H020	C	c UL us LISTED
3 A	3 A	20 A	1/2	1/2	1/2	1 1/2	1492-CB3H030	C	c UL us LISTED
4 A	4 A	25 A	3/4	3/4	3/4	2	1492-CB3H040	C	c UL us LISTED
5 A	5 A	32 A	1	1	1	3	1492-CB3H050	C	c UL us LISTED
6 A	6 A	32 A	1	1	1 1/2	3	1492-CB3H060	C	c UL us LISTED
7 A	7 A	32 A	1 1/2	1 1/2	2	3	1492-CB3H070	C	c UL us LISTED
8 A	8 A	46 A	2	2	2	5	1492-CB3H080	C	c UL us LISTED
10 A	10 A	46 A	2	2	3	5	1492-CB3H100	C	c UL us LISTED
12 A	12 A	63.5 A	3	3	3	7 1/2	1492-CB3H120	C	c UL us LISTED
15 A	15 A	81 A	3	3	3	10	1492-CB3H150	C	c UL us LISTED
16 A	16 A	81 A	3	3	5	10	1492-CB3H160	C	c UL us LISTED
20 A	20 A	81 A	5	5	5	10	1492-CB3H200	C	c UL us LISTED
25 A	25 A	116 A	5	7 1/2	7 1/2	15	1492-CB3H250	C	c UL us LISTED
30 A	30 A	145 A	7 1/2	7 1/2	10	20	1492-CB3H300	C	c UL us LISTED
32 A	32 A	145 A	7 1/2	10	10	20	1492-CB3H320 ❶	C ❶	c UL us LISTED ❶
40 A	40 A	218 A	10	10	10	30	1492-CB3H400 ❶	C ❶	c UL us LISTED ❶
50 A	50 A	218 A	15	15	15	30	1492-CB3H500 ❶	C ❶	c UL us LISTED ❶
52 A	52 A	290 A	15	15	15	40	1492-CB3H520 ❶	C ❶	c UL us LISTED ❶

❶ Check for availability.

Technical Information

The Benefits of Limiting Let-Through-Energy

Bulletin 1492-CB vs. Conventional Breakers

The Bulletin 1492-CB line features the unique 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 1492-CB manual motor controller is designed to substantially reduce the amount of *let-through-current* and the resulting *let-through-energy* that can damage protected components. The Bulletin 1492-CB manual motor controller has the ability to interrupt short circuit current within the first half cycle of the fault.

Limiting let-through-energy will protect against the harmful effects of overcurrent and is focused primarily on avoiding the following:

- Excessive Heat
- 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:

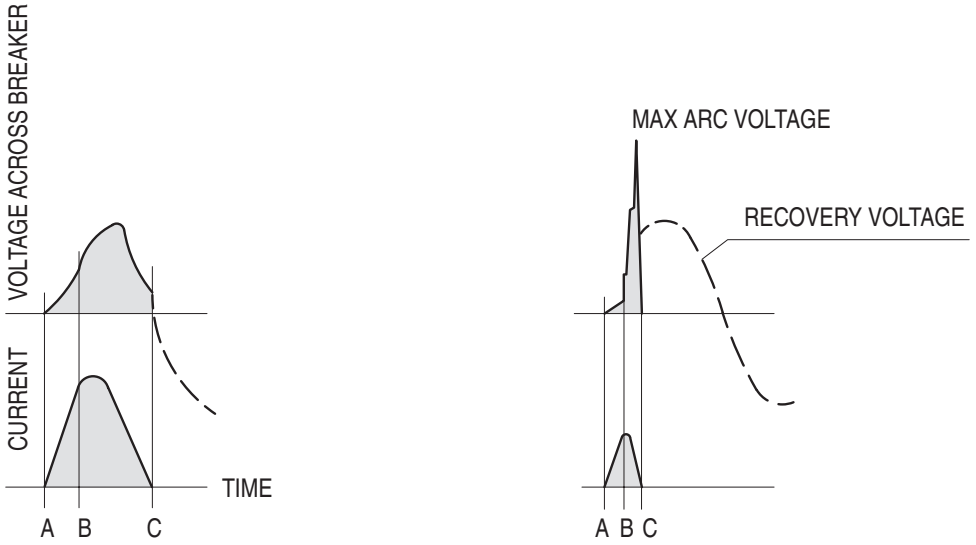
- Far less damage at the location of the short circuit.
- Fast electric separation of a faulty unit from the system, especially power supplies connected in parallel that are switched off when the voltage of the power bus drops below a certain level.
- Far less wear on the miniature circuit breaker itself. 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.)

Technical Information, Continued

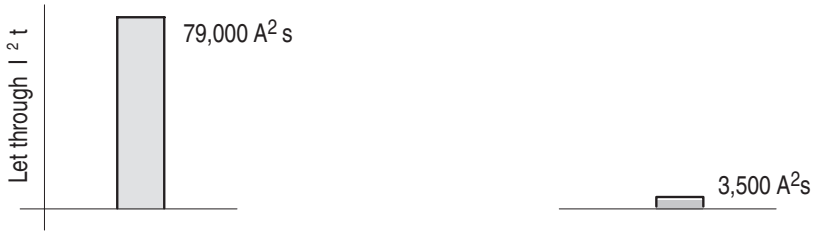
Short Circuit Interruption Diagrams

Short Circuit Interruption 10 kA — 120V AC
Instant of initiation: 15° after voltage zero

CONVENTIONAL BREAKERS **ALLEN-BRADLEY Bulletin 1492-CB**



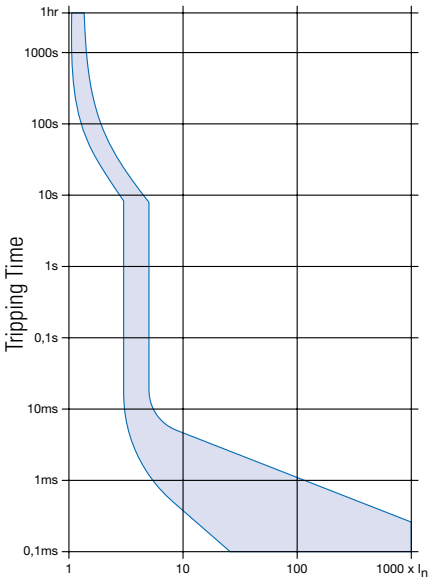
A = Instant when the short is initiated
B = Instant when the contacts open and the arc is initiated
C = Instant when the arc extinguishes and the current ceases to flow



1492-CB Trip Characteristics

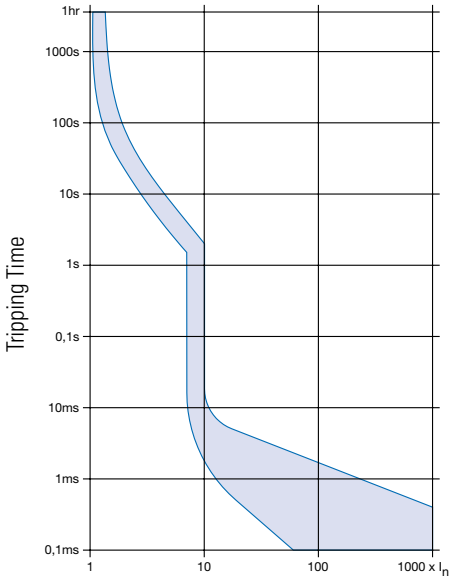
For Standard Device
(At 20°…25° C)

F-Trip Curve



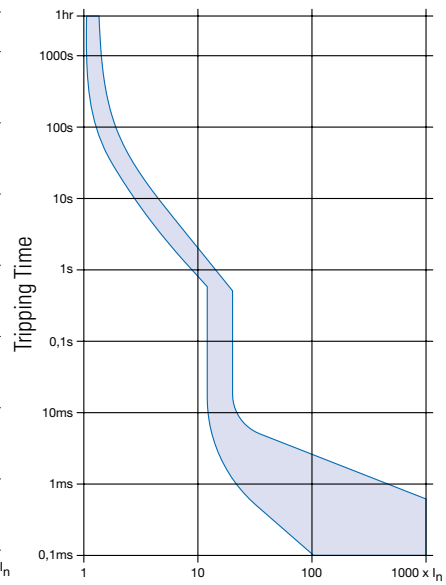
Multiple of Rated Current (x I_n)

G-Trip Curve



Multiple of Rated Current (x I_n)

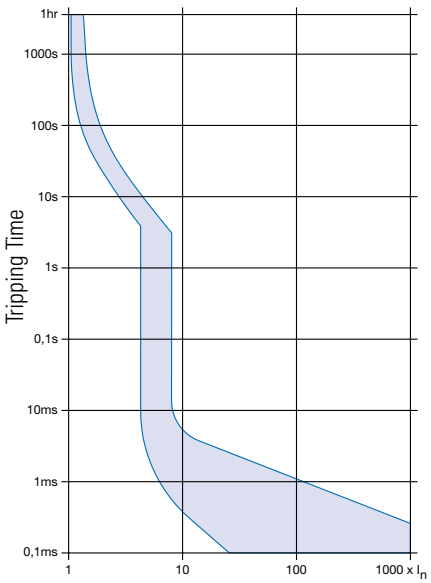
H-Trip Curve



Multiple of Rated Current (x I_n)

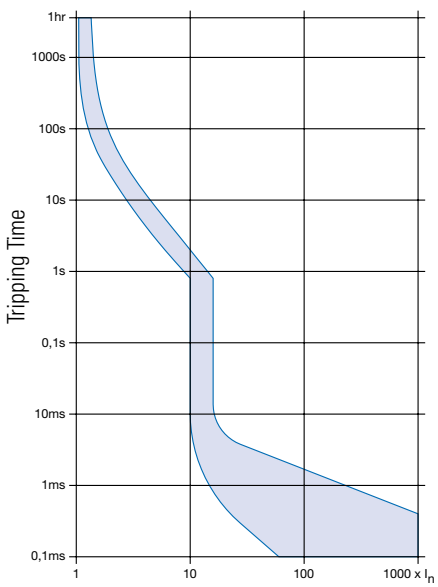
For DC Voltages

DF-Trip Curve



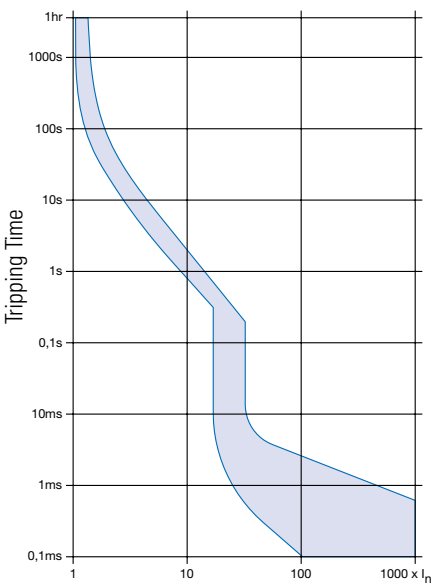
Multiple of Rated Current (x I_n)

DG-Trip Curve



Multiple of Rated Current (x I_n)

DH-Trip Curve



Multiple of Rated Current (x I_n)

I_n = Rated Current

I_{nt} = Non-tripping current at 1 hour = 1.05 I_n

I_t = Trip current within 1 hour= 1.35 I_n

Specifications

	F Curve Resistive or Slightly Inductive Loads	G Curve Slightly Inductive Loads	H Curve Highly Inductive Loads
Tripping Characteristic	3…5 I_n	6…10 I_n	12…20 I_n
Approvals	See Selection Tables		
Maximum Voltage Ratings			
Dielectric Strength	1960V AC		
	25 G Half Sine Wave for 11 ms (3 Axis)		
Shock	Frequency Range: 10…500 Hz Max. Amplitude (p - p) = 0.30 in. Max. Acceleration = 5 G 1 hour each of 3 axis		
Operating Temperature Range	–40…+140°F (–20…+60°C)		
Shipment and Short Term Temperature Limits	–40…+185°F (–20…+85°C)		
Housing Material	Melamine-Phenolic		
Wire Size	#16…#4 AWG (1.0…25 mm^2)		
Recommended Wire Strip Length	0.51" (13 mm)		
Electromechanical Life at 240V AC	Up to 6 A, 50,000 cycles 7…16 A, 30,000 cycles 20…32 A, 20,000 cycles 40…50 A, 12,000 cycles		
Switched Neutral Rating	277V AC, 65 A		
Auxiliary Contact Rating **Signal Contact Rating**	277V AC, 6 A 125V AC, 1A 50V DC, 6A		
Manual Motor Controller (Series C Devices) (Hp rated, Overload Protection, Instantaneous Trip Provided) **Suitable as Motor Disconnect ❶** **Suitable for Single Motor and Group Motor Applications**			
Approvals	UL 508, CSA 22.2 No. 14, File Number E14841		
Current Range	1…30 A ❷	0.5…30 A❷	0.5…30 A ❷
Short Circuit Rating/Interrupting Capability Without Series Fuse ❸			
One-Pole	5 kA @ 277V AC		
Multi-Pole	5 kA @ 480Y V AC		

❶ 0.5…30 A

❷ Ratings above 30 A check for availability.

❸ Suitable for future use after clearing fault.

Specifications, Continued

	F Curve Resistive or Slightly Inductive Loads	G Curve Inductive Loads	H Curve Highly Inductive Loads
Supplementary Protector — General Industrial Type 25°C Ambient			
Approvals	UL 1077, CSA 22.2 No. 235 UL File Number E65138		
Current Range	1…50 A	0.5…50 A	0.5…50 A
Overload Rating (OL), Tested at 1.5 Times Current Rating for General Use			
One-pole	OL: 0 @ 277V AC		
Multi-pole	OL: 0 @ 480Y/277V AC		
Tripping Current (TC)			
TC: 1	Tripping current is in the range of 125%…135% of amp rating		
Short Circuit/Interrupting Capability Rating WITHOUT Series Fuse ❶			
One-pole	5 kA @ 277V AC U1 3 kA @ 277V AC U2 10 kA @ 125V AC U2		
Multi-pole	5 kA @ 480Y/277V AC U1 3 kA @ 480Y/277V AC U2 5 kA @ 240V AC U2		
One Pole, Two Pole	2 kA @ 65V DC U1		
DC Rated Devices	DF Curve 4.5…8 I_n	DG Curve 9…16 I_n	DH Curve 18…32 I_n
One-pole	10 kA @ 120V DC U1	10 kA @ 120V DC U1	5 kA @ 120V DC U1
Two-pole in Series	10 kA @ 240V DC U1	10 kA @ 240V DC U1	5 kA @ 240V DC U1
Interrupting Capability WITHOUT Series Fuse—Pending, Consult Factory ❷			
One-pole	3 kA @ 277V AC U3 10 kA @ 125V AC U3		
Multi-pole	3 kA @ 480Y/277V AC U3 5 kA @ 240V AC U3		
Miniature Circuit Breaker			
Approvals	IEC — VDE (VDE 0641)		
Current Range (IEC)	1…50 A	.5…50 A	.5…50 A
Interrupt Rating (IEC)	—		
One-pole	10 kA @ 240V AC		
Multi-pole	10 kA @ 420V AC		

Explanation of short circuit current rating ❶❷

The short circuit current rating is followed by a letter and number designating the test conditions and any calibrations and dielectric tests following the short circuit test.

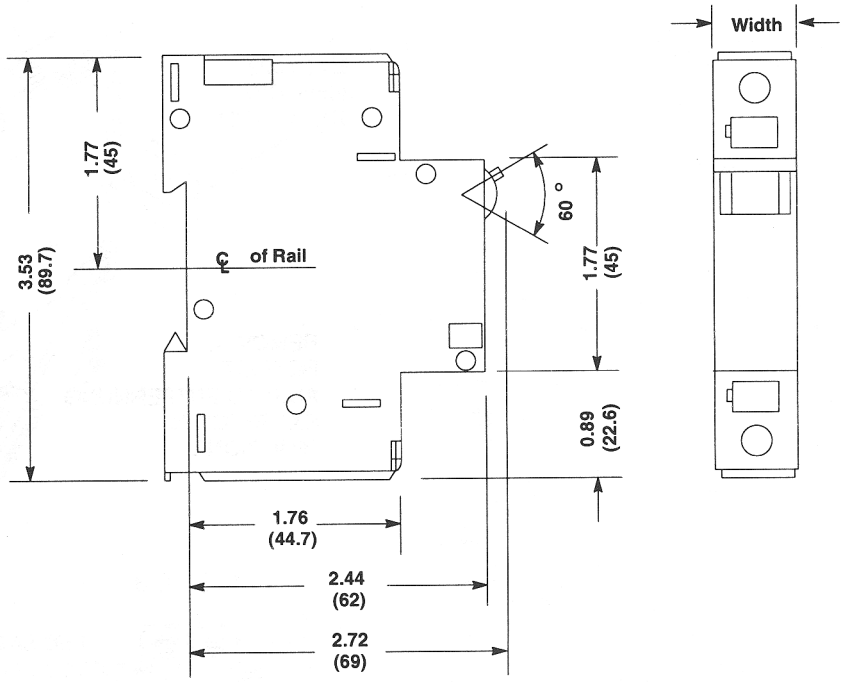
C	Indicates that the short-circuit test was conducted with series overcurrent protection.
U	Indicates that the short-circuit test was conducted without series overcurrent protection.
1	Indicates that a recalibration and dielectric test was not conducted as part of the short-circuit test.
2	Indicates that a recalibration and dielectric test was conducted as part of the short-circuit test.
3 ❷	In addition to tests for 2 (above), a voltage withstand test between line and load terminals was conducted as part of the short-circuit test.

❶ Per UL 1077 and pending CSA 22.2, No. 235 proposed 2002 update

❷ Code 3 is pending CSA 22.2 No. 235 proposed 2002 update. UL 1077 does not provide for a code 3.

Approximate Dimensions

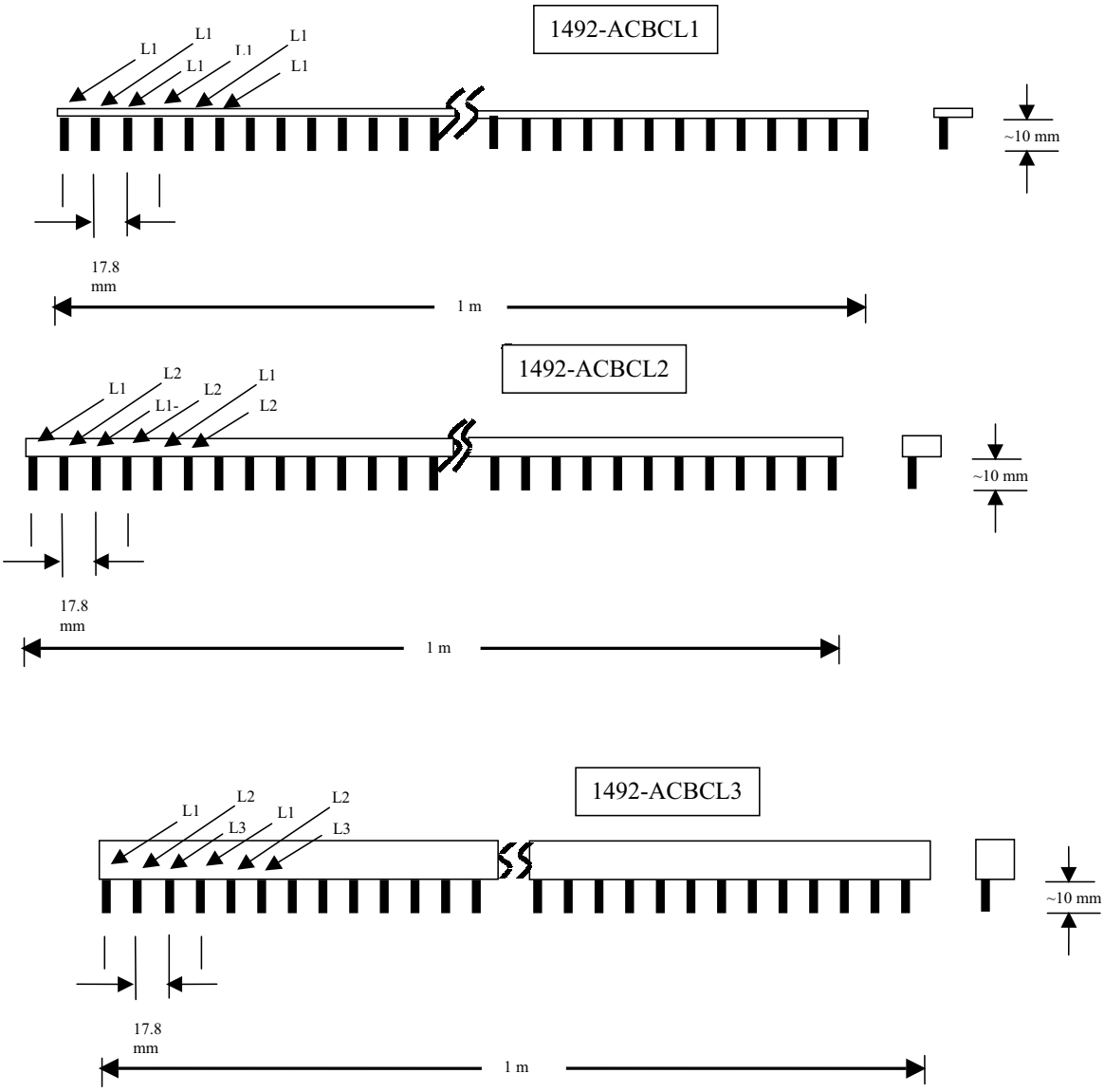
Dimensions are shown in millimeters. Dimensions are not intended for manufacturing purposes.



Number of Poles and Accessories	1	2	3	4	5
Width (inches)	0.7	1.4	2.1	2.8	3.5
Width (millimeters)	17.8	35.6	53.3	71.1	88.9

Note: Accessories and one-pole width are identical.

Approximate Dimensions, Continued



Notes

Notes

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