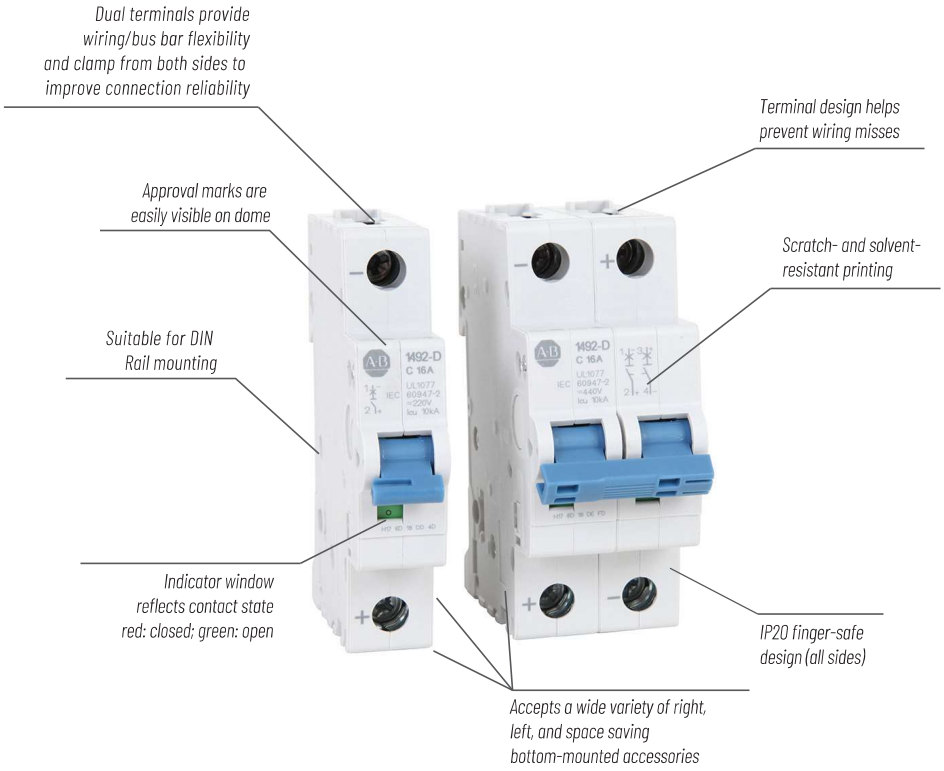


Bulletin 1492-D Miniature Circuit Breakers provide overcurrent and short circuit protection for higher voltage DC circuits. These devices are also Miniature Circuit Breakers as defined by IEC Standards.

These thermal magnetic breakers are offered in two pole variants and a wide range of current ratings 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.

- Specially designed for higher voltage DC circuits with a permanent magnet to direct the arc into the arc splitters
- Dual terminals provide a more secure connection of up to four wires, or two wires and a bus bar
- Existing installations can be easily upgraded to include an auxiliary using the bottom mounted auxiliary contact options, which require no DIN Rail space
- Installation of up to six accessories on the same circuit breaker
- Superior shock and vibration resistance to prevent nuisance tripping
- Terminal design helps prevent wiring misses by directing wires into the terminal openings, even while tightening
- Single and multi-pole toggle mount lock out attachments available for Lockout/Tagout (LOTO)
- RoHS compliant and fully-recyclable device

1492-D Circuit Breakers	
Rated Voltage	UL/CSA: Max. 500V DC (2-pole) IEC: U_e Max. 440V DC (2-pole)
Interrupting Capacity	UL/CSA: 10 kA IEC: 10 kA
Current Ratings	0.5...63 A
Poles	1, 2
Trip Curves	C
Standards Compliance	UL 1077 CSA C22.2 No. 235 EN 60947-2
Certifications	UL Recognized, File No. E65138 CSA Certified, File No. 259391 CE Marked VDE Certified RoHS Compliant

Catalog Number Explanation

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	–	D	1	C	010
		a	b	c	d

a

Voltage Type	
Code	**Description**
D	AC Circuit Breaker

b

Poles	
Code	**Description**
1	1-Pole
2	2-Pole

c

Trip Curve	
Code	**Description**
C	Trip Curve C

d

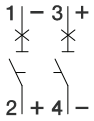
Rated Current (I_n)	
Code	**Current [A]**
005	0.5
010	1
016	1.6
020	2
030	3
040	4
060	6
080	8
100	10
130	13
160	16
200	20
250	25
320	32
400	40
500	50
630	63

Product Selection

1-Pole DC Circuit Breakers

Photo/Wiring Diagram	Continuous Current Rating (I_n)	Trip Curve C Inductive 5...10 I_n
	[A]	Cat. No.
 	0.5	1492-D1C005
	1	1492-D1C010
	1.6	1492-D1C016
	2	1492-D1C020
	3	1492-D1C030
	4	1492-D1C040
	6	1492-D1C060
	8	1492-D1C080
	10	1492-D1C100
	13	1492-D1C130
	16	1492-D1C160
	20	1492-D1C200
	25	1492-D1C250
	32	1492-D1C320
	40	1492-D1C400
	50	1492-D1C500
	63	1492-D1C630

2-Pole DC Circuit Breakers

Photo/Wiring Diagram	Continuous Current Rating (I_n)	Trip Curve C Inductive 5...10 I_n
	[A]	Cat. No.
 	0.5	1492-D2C005
	1	1492-D2C010
	1.6	1492-D2C016
	2	1492-D2C020
	3	1492-D2C030
	4	1492-D2C040
	6	1492-D2C060
	8	1492-D2C080
	10	1492-D2C100
	13	1492-D2C130
	16	1492-D2C160
	20	1492-D2C200
	25	1492-D2C250
	32	1492-D2C320
	40	1492-D2C400
	50	1492-D2C500
	63	1492-D2C630

Specifications

Electrical Ratings		
Poles		1, 2
Tripping characteristics		C
Rated current (I_n)		0.5...63 A
Rated frequency [f]		0 Hz (DC only)
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	1-pole	250V DC
	2-pole	500V DC
Rated interrupting capacity per UL 1077		10 kA
Application		Supplementary Protector for DC application use; application codes: TC2, OLO, SC: U1, 250V DC, 10kA (1 pole); TC2, OLO, SC: U1, 500V DC, 10kA (2 pole)
Reference temperature for tripping characteristics		25 °C
Electrical endurance		6,000 operations
Data per IEC/EN 60947-2		
Rated operational voltage (U_e)	1-pole	220V DC
	2-pole	440 V DC
Highest supply or utilization voltage (U_{max})	1-pole	250V DC
	2-pole	500 V DC
Min. operating voltage		12V DC
Rated ultimate short-circuit breaking capacity (I_{cu})		10 kA
Rated service short-circuit breaking capacity (I_{cs})		10 kA
Rated impulse withstand voltage $U_{imp.}$ (1.2/50µs)		4 kV (test voltage 6.2 kV at sea level, 5 kV at 2,000 m)
Dielectric test voltage		2 kV (50/60 Hz, 1 min.)
Reference temperature for tripping characteristics		55 °C
Electrical endurance 1 cycle (2s - ON, 13s - OFF, $I_n \leq 32$ A), 1 cycle (2s - ON, 28s - OFF, $I_n > 32$ A)		1,500 operations

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 I_n
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 (1)		-25...+55 °C (-13...+131 °F)
Storage temperature		-40...+70 °C (-40...+158 °F)
Installation		
Terminal		Dual terminal
Cross-section of wire (2) – solid, stranded (front/back terminal slot)		35/35 mm^2
		18...4/18...10 AWG
Cross-section of wire – flexible (front/back terminal slot)		25/10 mm^2
Multi-wire rating per UL, CSA		1 wire, 18...4 AWG
		2-4 wires (3), 18...10 AWG
Cross-section of bus bars (back terminal slot)		10 mm^2
Tightening torque	IEC	2.8 N•m
	UL/CSA	AWG 18...16: 13.3 in•lb, AWG 14...10: 17.7 in•lb, AWG 8...4: 39.8 in•lb
Screwdriver		No. 2 Pozidriv
Mounting		DIN Rail (EN 60715, 35 mm) with fast clip
Mounting position		Any
Supply		Note polarity of device
Approximate Dimensions and Weight		
Pole dimension (H x D x W)		88 x 69 x 17.5 mm
Pole weight		125 g (4.5 oz.)
Combination with Auxiliary Elements		
Auxiliary contact		Yes
Signal contact		Yes
Shunt trip		Yes

(1) 35 mm^2 self-declared, not included in IEC/EN approval.
(2) Refer to the ambient temperature derating tables.
(3) Wires must be of like size and stranding. Up to two wires per terminal slot.

Power Loss Due to Current

Rated Current	Power Loss Per Pole	Rated Current	Power Loss Per Pole
[A]	[W]	[A]	[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

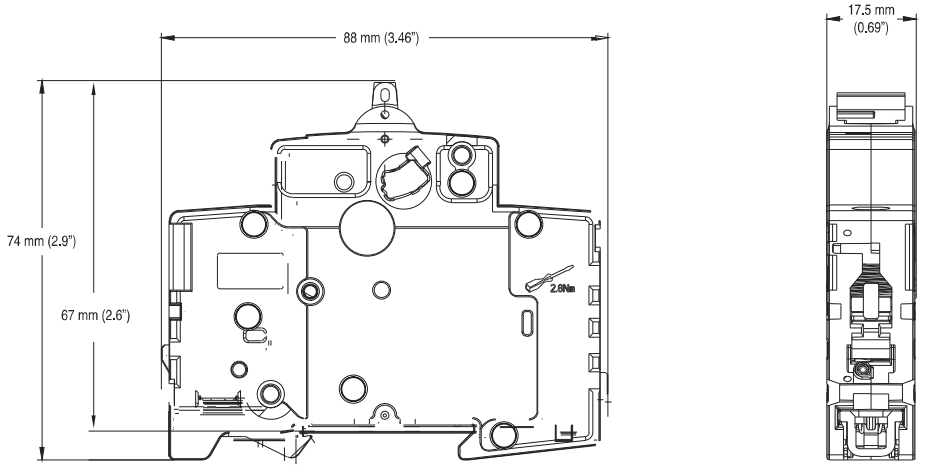
Zero-stack Derating

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).

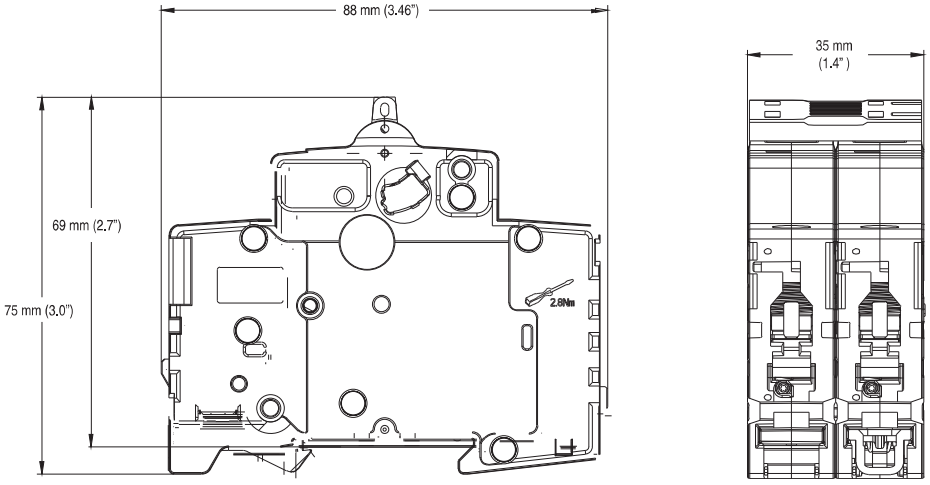
No. of Adjacent Devices	Factor
1	1
2.3	0.9
4.5	0.8
≥ 6	0.75

Approximate Dimensions

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



1-Pole



2-Pole

Ambient Temperature Derating

Application below 0º 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-D
Temperature Derating, UL
Reference temperature = 25 °C

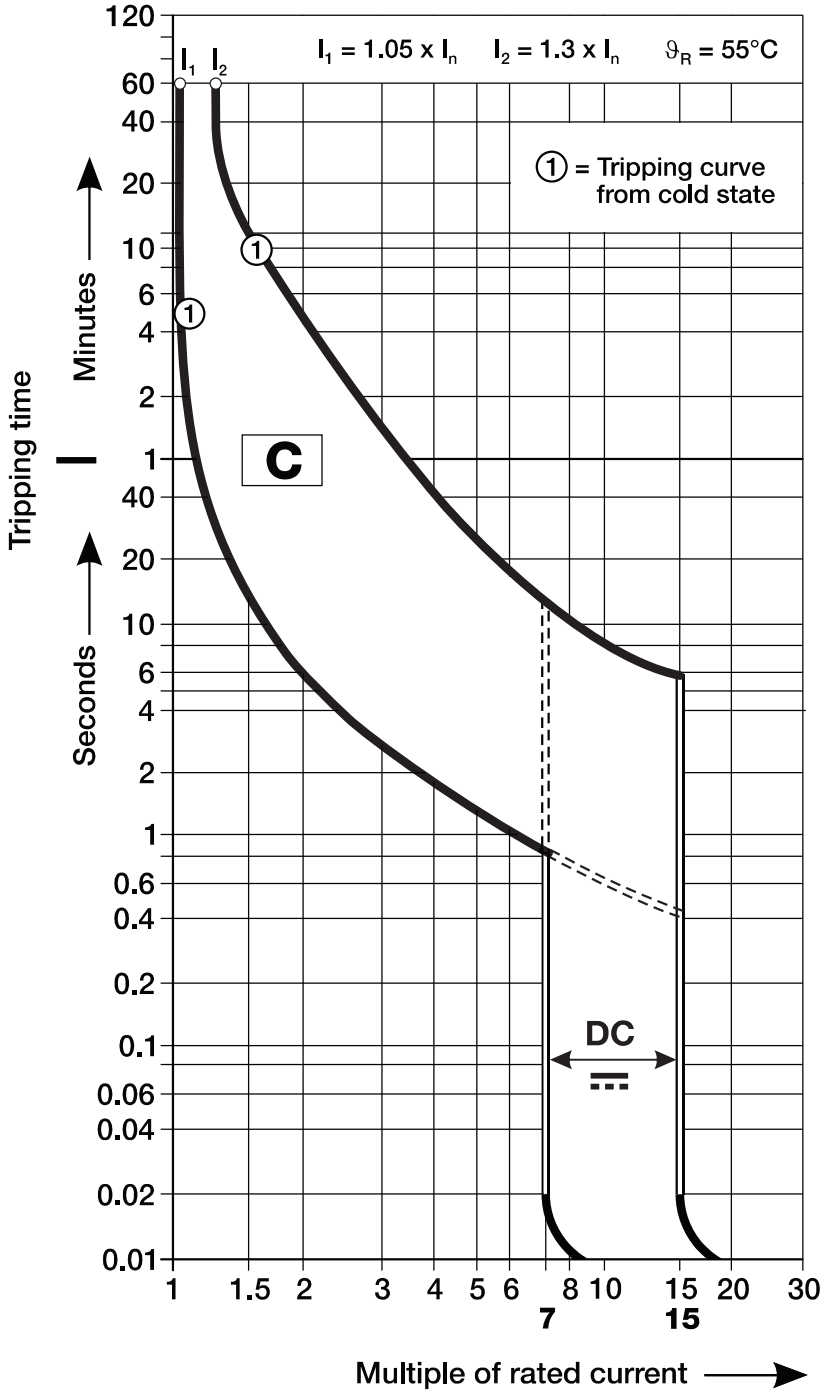
Current Rating (A)	Ambient temperature (°C)										
	-25	-20	-10	0	10	20	25	30	40	50	55
0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
1	1.2	1.2	1.2	1.2	1.1	0.9	1	1.0	1.0	0.9	0.9
1.6	1.8	1.8	1.8	1.8	1.8	1.5	1.6	1.6	1.5	1.5	1.5
2	2.3	2.3	2.3	2.3	2.3	1.9	2	2.0	1.9	1.9	1.8
3	3.5	3.5	3.5	3.5	3.4	2.8	3	3.0	2.9	2.8	2.7
4	4.6	4.6	4.6	4.6	4.5	3.8	4	3.9	3.8	3.7	3.6
6	6.9	6.9	6.9	6.9	6.8	5.6	6	5.9	5.7	5.6	5.5
8	9.2	9.2	9.2	9.2	9.1	7.5	8	7.9	7.6	7.4	7.3
10	11.5	11.5	11.5	11.5	11.4	9.4	10	9.9	9.6	9.3	9.1
13	15.0	15.0	15.0	15.0	14.8	12.2	13	12.8	12.4	12.0	11.8
16	18.4	18.4	18.4	18.4	18.2	15.0	16	15.8	15.3	14.8	14.6
20	23.0	23.0	23.0	23.0	22.7	18.8	20	19.7	19.1	18.5	18.2
25	28.8	28.8	28.8	28.8	28.4	23.5	25	24.6	23.9	23.1	22.8
32	36.8	36.8	36.8	36.8	36.3	30.1	32	31.5	30.6	29.6	29.1
40	46.0	46.0	46.0	46.0	45.4	37.6	40	39.4	38.2	37.0	36.4
50	57.5	57.5	57.5	57.5	56.8	47.0	50	49.3	47.8	46.3	45.5
63	72.5	72.5	72.5	72.5	71.5	59.2	63	62.1	60.2	58.3	57.3

Bulletin 1492-D
Temperature Derating, IEC
Reference temperature = 55 °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	0.6	0.5	0.5	0.5	0.5
1	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1
1.6	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6
2	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.0	2
3	3.7	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	3
4	5.0	4.9	4.8	4.7	4.5	4.4	4.3	4.2	4.1	4
6	7.4	7.4	7.2	7.0	6.8	6.6	6.5	6.3	6.1	6
8	9.9	9.8	9.6	9.3	9.1	8.8	8.6	8.4	8.1	8
10	12.4	12.3	12.0	11.7	11.4	11.1	10.8	10.5	10.2	10
13	16.1	15.9	15.5	15.1	14.8	14.4	14.0	13.6	13.2	13
16	19.8	19.6	19.1	18.6	18.2	17.7	17.2	16.7	16.2	16
20	24.8	24.5	23.9	23.3	22.7	22.1	21.5	20.9	20.3	20
25	31.0	30.6	29.9	29.1	28.4	27.6	26.9	26.1	25.4	25
32	39.7	39.2	38.2	37.3	36.3	35.4	34.4	33.4	32.5	32
40	49.6	49.0	47.8	46.6	45.4	44.2	43.0	41.8	40.6	40
50	62.0	61.3	59.8	58.3	56.8	55.3	53.8	52.3	50.8	50
63	78.1	77.2	75.3	73.4	71.5	69.6	67.7	65.8	63.9	63

Tripping Characteristics

C Curve



Accessories

Right Mount

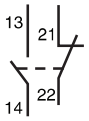
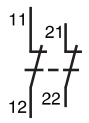
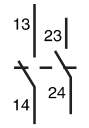
Photo	Product Description (1) (2) (3)	Contacts	Standards	Certifications	UL/CSA Max. Current/Voltage	IEC Ratings Current/Voltage	Cat. No.
	Shunt Trip		UL 1077 CSA 22.2 No. 235	UL Recognized CSA Certified CE Marked	110...415V AC 110...250V DC	110...415V AC 110...250V DC	189-AST1
			UL 1077 CSA 22.2 No. 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	1 A @ 480 V AC 2 A @ 277 V AC 1.5 A @ 125 V DC 2 A @ 60 V DC 4 A @ 24 V DC	2 A @ 230 V (AC-14) 1 A @ 400 V (AC-14) 1.5 A @ 110 V (DC-12) 1 A @ 220 V (DC-12) 4 A @ 24 V (DC-13) 2 A @ 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	1 A @ 480 V AC 2 A @ 277 V AC 1.5 A @ 125 V DC 2 A @ 60 V DC 4 A @ 24 V DC	2 A @ 230 V (AC-14) 1 A @ 400 V (AC-14) 1.5 A @ 110 V (DC-12) 1 A @ 220 V (DC-12) 4 A @ 24 V (DC-13) 2 A @ 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	1 A @ 400 V AC 2 A @ 230 V AC 1 A @ 50 V DC 2 A @ 30V DC	2 A @ 230 V (AC-14) 1 A @ 400 V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50 V (DC-12) 2 A @ 30 V (DC-13) 1 A @ 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	1 A @ 400 V AC 2 A @ 230 V AC 1 A @ 50 V DC 2 A @ 30 V DC	2 A @ 230 V (AC-14) 1 A @ 400 V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50 V (DC-12) 2 A @ 30 V (DC-13) 1 A @ 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	1 A @ 400 V AC 2 A @ 230 V AC 1 A @ 50 V DC 2 A @ 30 V DC	2 A @ 230 V (AC-14) 1 A @ 400 V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50 V (DC-12) 2 A @ 30 V (DC-13) 1 A @ 50 V (DC-13)	189-AR20

(1) 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-D.

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

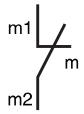
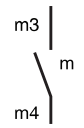
(3) A maximum of four right mount accessories of any type may be installed per 1492-D. The shunt trip must be mounted closest to 1492-D, then the signal contact, then the auxiliary contact(s). For allowed combinations, and installation instructions please contact your local Rockwell Automation sales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

Left Mount

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

(1) Only one left mount auxiliary contact may be installed per 1492-D.

Bottom Mount

Photo	Product Description (1)	Contacts	Standards	Certifications (2)	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	2 A @ 230 V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50 V (DC-12) 2 A @ 30 V (DC-13) 1 A @ 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	2 A @ 230 V (AC-14) 2 A @ 30V (DC-12) 1 A @ 50 V (DC-12) 2 A @ 30 V (DC-13) 1 A @ 50 V (DC-13)	189-AB10

(1) Only one bottom mount auxiliary contact may be installed per 1492-D.
(2) 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