

# Contender™ Series Factory Sealed Manual Motor Starters and Contactors

## Explosionproof, Dust-Ignitionproof

### NEC/CEC:

Class I, Division 1 and 2, Groups C, D  
Class II, Division 1 and 2, Groups E, F, G  
Class III

NEMA 3, 7CD, 9EFG

### Applications

- Manual motor starters are available to meet any plant installation requirement.
- They may be used to install a variety of electrical wiring devices and comes complete with covers and dead-end or feed-thru hub arrangements. Available with or without the heater.
- Complete units are ideal for manual starting of small Vac or Vdc motors in locations made hazardous by the presence of flammable vapors, gases or combustible dust.

### Features

- Easily readable operator handle with provisions for padlocking in the ON or OFF position.
- Cast in hubs.
- Interchangeable heater units.

### Standard Materials

- Body and cover: malleable iron
- Sealing chamber: copperfree (4/10 of 1% max.) aluminum
- Operating handle: nylon

### Standard Finishes

- Body and cover: gray epoxy powder coat

### Options

- For Aluminum Backbox and Cover add suffix **-SA**.
- Starters are furnished with one interchangeable heater. Select heater number from heater selection table and add appropriate suffix to catalog number. For example, a complete catalog number with Allen-Bradley ◀ motor starter and Allen-Bradley ◀ 0-17 amp heater: EPS2199-P1.

### NEC/CEC Certifications and Compliances

- UL Standards: UL 508, UL 698, UL 1203,
- CSA Standards: CSA C22.2 No. 14-M, C22.2 No. 25, C22.2 No. 30
- cULus Listed: E81751, E76550



1-Gang  
Dead-End



2-Gang  
Feed-Thru

CONTROLS: NEC/CEC EXPLOSIONPROOF MOTOR STARTERS

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◀ Allen-Bradley is a registered trademark of Rockwell Automation.

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### Factory Sealed Manual Motor Starters with Cutler-Hammer + Devices

Poles	Hub Size (Inches)	Catalog Number Cover/Chamber/Device	1-Gang Catalog Number ①		2-Gang Catalog Number ①	
			Dead-End	Feed-Thru	Dead-End	Feed-Thru
1	1/2	EDSK-1MSW	EDS11101	EDSC11101	—	—
	3/4		EDS21101	EDSC21101	EDS22101	EDSC22101
	1		EDS31101	EDSC31101	EDS32101	EDSC32101
2	1/2	EDSK-2MSW	EDS11102	EDSC11102	—	—
	3/4		EDS21102	EDSC21102	EDS22102	EDSC22102
	1		EDS31102	EDSC31102	EDS32102	EDSC32102

### Manual Motor Starter Horsepower Ratings

Poles	120-240 Vac	32 Vdc	120 Vdc	240 Vdc	Cutler-Hammer + Catalog Number
1	1 HP	1/4 HP	—	1/4 HP	MST01
2	1 HP	1/4 HP	1 HP	1 HP	MST02



### Factory Sealed Motor Rated Switches — No Heater Options

Poles	Hub Size (Inches)	Catalog Number Cover/Chamber/Device	1-Gang Catalog Number		2-Gang Catalog Number	
			Dead-End	Feed-Thru	Dead-End	Feed-Thru
2	1/2	EDSK-MC2	EDS11MC2	EDSC11MC2	—	—
	3/4		EDS21MC2	EDSC21MC2	EDS22MC2	EDSC22MC2
	1		EDS31MC2	EDSC31MC2	EDS32MC2	EDSC32MC2
3	1/2	EDSK-MC3	EDS11MC3	EDSC11MC3	—	—
	3/4		EDS21MC3	EDSC21MC3	EDS22MC3	EDSC22MC3
	1		EDS31MC3	EDSC31MC3	EDS32MC3	EDSC32MC3

### Manual Contactor Switch Ratings

Poles	Description	Rating
2	Square D — Class 2510, Type KO-1	30 Amp, 250 Vac/Vdc; 20 Amp, 600 Vac; 1 HP, 115 Vac; 2 HP, 230 Vac; 3 HP, 460-575 Vac
3	Arrow-Hart — AH7810-UD	30 Amp, 600 Vac; 3 HP, 120 Vac; 7-1/2 HP, 240 Vac; 15 HP, 480 Vac; 15 HP 600 Vac

+ Cutler-Hammer is a registered trademark of Eaton Corporation.

① **Ordering Instructions:** Starters and starter cover assemblies are furnished with one interchangeable heater. Select heater number from heater selection table and add appropriate suffix to catalog number. For example, a complete catalog number with Cutler-Hammer motor starter and Cutler-Hammer heater: EDS11101-W1. Available in aluminum — add suffix -SA.

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**Factory Sealed Manual Motor Starters with Allen-Bradley ◀ 600 Devices**

Poles	Hub Size (Inches)	Catalog Number Cover/Chamber/Device	1-Gang Catalog Number ①		2-Gang Catalog Number ①	
			Dead-End	Feed-Thru	Dead-End	Feed-Thru
1	1/2	EDSK-1MSAB ①	EDS1199	EDSC1199	—	—
	3/4		EDS2199	EDSC2199	EDS2299	EDSC2299
	1		EDS3199	EDSC3199	EDS3299	EDSC3299
2	1/2	EDSK-2MSAB ①	EDS11100	EDSC11100	—	—
	3/4		EDS21100	EDSC21100	EDS22100	EDSC22100
	1		EDS31100	EDSC31100	EDS32100	EDSC32100

**Manual Motor Starter Horsepower Ratings**

Poles	120–240 Vac	32 Vdc	120 Vdc	240 Vdc	Allen-Bradley ◀ Catalog Number
1	1 HP	—	—	—	Bulletin 600
2	1 HP	—	3/4 HP	3/4 HP	Bulletin 600

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◀ Allen-Bradley is a registered trademark of Rockwell Automation.

① **Ordering Instructions:** Starters are furnished with one interchangeable heater. Select heater number from heater selection table and add appropriate suffix to catalog number. For example, a complete catalog number with an Allen-Bradley motor starter and an Allen-Bradley heater: **EDS1199-P5**. Available in aluminum; add suffix **-SA**.

# Contender™ Series Factory Sealed Manual Motor Starter and Contactor Heaters

Allen-Bradley ◀ and Cutler-Hammer † heaters and starters are not interchangeable with each other.

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The "Full Load Motor Current" listed in the tables below are ratings which determine the proper heat element that should be used with the EDS Series starters. Refer to motor nameplate for its full load motor current. It is our recommendation that for normal conditions the heater element selected should have a capacity of 20 to 25% greater than the full load current of the motor. This applies to standard +40 °C (+104 °F) temperature rise motors. For +50 °C (+122 °F) rise motors, a heater not greater than 115% full load current should be selected.

However, due to the difference between full load motor currents of various motor manufacturers of the same size motors, the above information is approximate.

If selection of heater element is uncertain as might be in the case of a motor subject to frequent starting and intermittent load, it is advisable to contact the starter manufacturer or his local representative giving full particulars, such as motor horsepower, voltage, phase cycles, name or manufacturer or pertinent data that may aid in the selection of the proper heater element.

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### Allen-Bradley ◀

Full Load Motor Current (Amp)	Add Suffix Contender/EDS
0.17	P1
0.21	P2
0.25	P3
0.32	P4
0.39	P5
0.46	P6
0.57	P7
0.71	P8
0.79	P9
0.87	P10
0.98	P11
1.08	P12
1.19	P13
1.30	P14
1.43	P15
1.58	P16
1.75	P17
1.88	P18
2.13	P19
2.40	P20
2.58	P21
2.92	P22
3.09	P23
3.32	P24
3.77	P25
4.16	P26
4.51	P27
4.93	P28
5.43	P29
6.03	P30
6.83	P31
7.72	P32
8.24	P33
8.90	P34
9.60	P35
10.80	P36
12.00	P37
13.50	P38
15.20	P39

### Cutler-Hammer †

Full Load Motor Current (Amp)	Heater Rating (Amp)	Add Suffix Contender
0.40-0.43	0.50	W1
0.44-0.48	0.55	W2
0.49-0.53	0.61	W3
0.54-0.58	0.67	W4
0.59-0.64	0.74	W5
0.65-0.71	0.81	W6
0.72-0.78	0.89	W7
0.79-0.87	0.98	W8
0.88-0.95	1.10	W9
0.96-1.03	1.20	W10
1.04-1.15	1.30	W11
1.16-1.27	1.45	W12
1.28-1.35	1.60	W13
1.36-1.51	1.70	W14
1.52-1.67	1.90	W15
1.68-1.83	2.10	W16
1.84-1.99	2.30	W17
2.00-2.23	2.50	W18
2.24-2.47	2.80	W19
2.48-2.71	3.10	W20
2.72-2.95	3.40	W21
2.96-3.27	3.70	W22
3.28-3.59	4.10	W23
3.60-3.99	4.50	W24
4.00-4.39	5.00	W25
4.40-4.79	5.50	W26
4.80-5.26	6.00	W27
5.27-5.83	6.60	W28
5.84-6.39	7.30	W29
6.40-7.03	8.00	W30
7.07-7.74	8.80	W31
7.75-8.46	9.70	W32
8.47-9.35	10.60	W33
9.36-10.30	11.70	W34
10.31-11.35	12.90	W35
11.36-12.47	14.20	W36
12.48-13.67	15.60	W37
13.68-15.12	17.10	W38
15.13-16.00	18.60	W39

† Cutler-Hammer is a registered trademark of Eaton Corporation.

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# Contender™ Series Factory Sealed Manual Motor Starter Mounting Bodies

## Explosionproof, Dust-Ignitionproof




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Class I, Division 1, Groups C, D

Class I, Division 2, Groups B, C, D

Class II, Division 1 and 2, Groups E, F, G

Class III

	Type	Hub Size (Inches)	Catalog Number	
			Malleable Iron	Aluminum
<b>1-Gang</b>				
	Dead-End	1/2	EDS171	EDS171-SA
		3/4	EDS271	EDS271-SA
		1	EDS371	EDS371-SA
	Feed-Thru	1/2	EDSC171	EDSC171-SA
		3/4	EDSC271	EDSC271-SA
		1	EDSC371	EDSC371-SA
<b>2-Gang</b>				
	Dead-End	1/2	EDS172	EDS172-SA
		3/4	EDS272	EDS272-SA
		1	EDS372	EDS372-SA
	Feed-Thru	1/2	EDSC172	EDSC172-SA
		3/4	EDSC272	EDSC272-SA
		1	EDSC372	EDSC372-SA
<b>Tandem ①</b>				
	Dead-End	1/2	EDS177	EDS177-SA
		3/4	EDS277	EDS277-SA
		1	EDS377	EDS377-SA
	Feed-Thru	1/2	EDSC177	EDSC177-SA
		3/4	EDSC277	EDSC277-SA
		1	EDSC377	EDSC377-SA

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① For tandem bodies, external seals must be installed within 1.5 meters (5 feet) of each conduit entrance for Class I, Groups C and D.

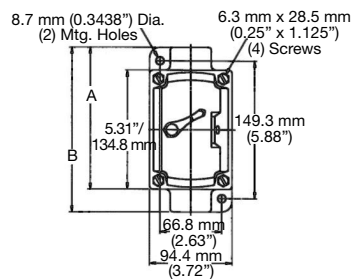
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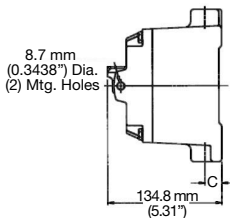
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### Dimensions in Millimeters (Inches)

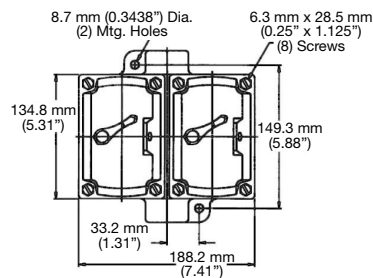
#### 1-Gang and 2-Gang



1-Gang Front



1-2-Gang Side



2-Gang Front

Hub Size (Inches)	Dimensions in Millimeters (Inches)		
	A	B	C
1/2	153.9 (6.06)	172.9 (6.81)	19.0 (0.75)
3/4	153.9 (6.06)	172.9 (6.81)	22.3 (0.88)
1	156.7 (6.17)	178.5 (7.03)	25.4 (1.00)

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