

# 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

Appleton®

◀ 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<br>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 +<br>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<br>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.

# 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.

### 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                  |

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