

# Duplex Pump Controllers

Sprecher + Schuh duplex pump control panels are specifically designed to meet multi-starter combination requirements as defined in demanding outdoor environmental conditions.

Duplex pump controllers are typically designed for two specific requirements: duplexing and alternation.



**Duplexing** provides capacity for above normal demand or system peaking by allowing both motors to run simultaneously. It also provides standby capacity if one unit fails. Typically multiple pressure or float switches are required to provide electrical signals to the controller.

**Alternation** provides for equal wear on the two machines being controlled by reversing the lead and lag role of the specific motors. Alternation occurs at any time the two motors come to rest.

Duplex Pump Controllers from Sprecher + Schuh offer through-the-door operators and rugged Type 3R rain-proof metal or Type 4X non-metallic enclosures.

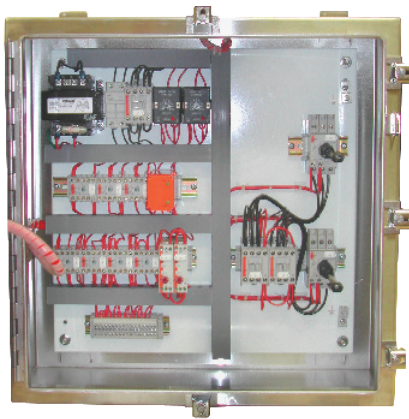


contactors which comply with all requirements by UL and are labeled with the applicable NEMA (00, 0, 1, 2, or 3) size in our pump panels.

Our MCCB models and the L11 models utilize the CEP7 solid state overload relay providing state-of-the-art overload and single-phase protection. See Section B in this catalog for a full description of these excellent motor protection relays.

Our KTA7 model utilizes the high speed current limiting capabilities providing short-circuit protection, branch-circuit disconnect, and overload protection in one compact device. These Type E panels are smaller than classic models and therefore represent an economical solution to duplexing. See Section F in this catalog for application details for these Type E Combos.

*Experience has shown us that duplex pump panels often require customization to accommodate unique components and unique control schematic diagrams. In the following pages you will find a catalog number structure showing standard models with standard options to help guide your selection. We have also provided a check list which can be utilized to request a similar model except customized to meet your application by contacting your Sprecher + Schuh representative.*



## Three models of Duplex Controllers

- **Thermal-magnetic circuit breakers (MCCB)** instead of a motor circuit protector (MCP) to comply with new short-circuit requirements from UL and NEC.
- **Heavy duty fusible or non-fusible L11 disconnect switches** providing improved short-circuit protection when used with J fuses.
- **Self-protected Combination Controllers (Type E)** KTA7 models which offers superior fuseless short-circuit protection in a smaller more economical package (See page F111).

## Custom Control Panels

Sprecher + Schuh custom control facility manufactures custom panels for almost any need, including this duplex control panel in a custom Type 4 stainless steel enclosure.

Duplex pump panels feature our CA7 and CA9 line of contactors, which are UL Listed and sized to match all the available HP sizes of motors. Alternately, we can provide NEMA Sized (CAN7)

| Duplex Pump Panel Checklist |                  |
|-----------------------------|------------------|
| Customer Name: _____        | Location: _____  |
| Project Name: _____         | _____            |
| Contact Person: _____       | Phone No.: _____ |
| Email: _____                | Date: _____      |

**G**  
Simplex & Duplex Pump Panels

Standard catalog number selected from the following pages: \_\_\_\_\_

with the exceptions noted below

**Application Data:** Motor HP: \_\_\_\_\_ Voltage: \_\_\_\_\_ Phase: \_\_\_\_\_ FLA \_\_\_\_\_

Disconnect?  Yes  No

If yes, type of disconnect:  J-Type Fusible  Non-Fusible  Circuit breaker  Type E combination controller

**Starting Method:**  Across-the-line

Softstarter

**Control Transformer:**  Yes  No

If Yes, is there any extra VA capacity required other than what is provided as standard? \_\_\_\_\_ Extra VA required

**Options:**  H-O-A

Pilot Light; Color \_\_\_\_\_ Function \_\_\_\_\_

Terminal Points; Qty \_\_\_\_\_

Phase Monitor

Hour Meter

Lightning Arrestor

Alternator

Number of float switches  1  2  3

Alarm Circuit  Horn  Light Type \_\_\_\_\_  Alarm Silence Button

Other \_\_\_\_\_  Custom Schematic (Must be attached)

**Enclosure:**  Type 1  Type 12  Type 13  Type 3R  Type 4

Type 4X If Type 4X,  non-metallic  304 stainless steel  316 stainless steel

Door-in-door (dead front)

**Special Features:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Series CADPT7 and CADPT9

| Maximum Horsepower Three Phase |      |      | Type 3R Rainproof (Metal) | D I M | Type 4X Watertight Corrosion Resistant Non-metallic | D I M |
|--------------------------------|------|------|---------------------------|-------|---|-------|
| 230V                           | 460V | 575V | Catalog No.               |       | Catalog No.   |       |
|                                |      |      | CADPT                     |       | CADPT   |       |
| 2                              | 5    | 7.5  | 7-9-*-*♦-R0               | R/F   | 7-9-*-*♦-C0   | R/F   |
| 3                              | 7.5  | 10   | 7-12-*-*♦-R0              | R/F   | 7-12-*-*♦-C0  | R/F   |
| 5                              | 10   | 15   | 7-16-*-*♦-R0              | R/F   | 7-16-*-*♦-C0  | R/F   |
| 7.5                            | 15   | 15   | 7-23-*-*♦-R0              | R/F   | 7-23-*-*♦-C0  | R/F   |
| 10                             | 20   | 25   | 7-30-*-*♦-R0              | R/F   | 7-30-*-*♦-C0  | R/F   |
| 10                             | 25   | 30   | 7-37-*-*♦-R0              | R/F   | 7-37-*-*♦-C0  | R/F   |
| 15                             | 30   | 30   | 7-43-*-*♦-R0              | R/F   | 7-43-*-*♦-C0  | R/F   |
| 20                             | 40   | 40   | 7-55-*-*♦-R0              | R/F   | 7-55-*-*♦-C0  | R/F   |
| 20                             | 40   | 50   | 7-60-*-*♦-R0              | R/F   | 7-60-*-*♦-C0  | R/F   |
| 25                             | 50   | 60   | 7-72-*-*♦-R0              | R/F   | 7-72-*-*♦-C0  | R/F   |
| 30                             | 60   | 60   | 7-85-*-*♦-R0              | R/F   | 7-85-*-*♦-C0  | R/F   |
| 30                             | 75   | 75   | 7-97-*-*♦-R0              | R/F   | 7-97-*-*♦-C0  | R/F   |
| 40                             | 75   | 100  | 9-116-*-*♦-R0 ①           | R/F   | 9-116-*-*♦-C0 ①                                     | R/F   |
| 50                             | 100  | 125  | 9-146-*-*♦-R0 ①           | R/F   | 9-146-*-*♦-C0 ①                                     | R/F   |
| 60                             | 125  | 150  | 9-190-*-*♦-R0 ①           | R/F   | 9-190-*-*♦-C0 ①                                     | R/F   |
| 75                             | 150  | 200  | 9-205-*-*♦-R0 ①           | R/F   | 9-205-*-*♦-C0 ①                                     | R/F   |
| 100                            | 200  | 250  | 9-265-*-*♦-R0 ①           | R/F   | 9-265-*-*♦-C0 ①                                     | R/F   |
| 125                            | 250  | 300  | 9-305-*-*♦-R0 ①           | R/F   | 9-305-*-*♦-C0 ①                                     | R/F   |
| 150                            | 300  | 350  | 9-370-*-*♦-R0 ①           | R/F   | 9-370-*-*♦-C0 ①                                     | R/F   |
| 150                            | 350  | 400  | 9-400-EI-*-*♦-R0          | R/F   | 9-400-EI-*-*♦-C0                                    | R/F   |
| 200                            | 400  | 500  | 9-460-EI-*-*♦-R0          | R/F   | 9-460-EI-*-*♦-C0                                    | R/F   |
| 250                            | 500  | 600  | 9-580-EI-*-*♦-R0          | R/F   | 9-580-EI-*-*♦-C0                                    | R/F   |
| 300                            | 600  | 700  | 9-750-EI-*-*♦-R0          | R/F   | 9-750-EI-*-*♦-C0                                    | R/F   |
| 400                            | 800  | 1000 | 9-860-EI-*-*♦-R0          | R/F   | 9-860-EI-*-*♦-C0                                    | R/F   |
| 450                            | 900  | 1150 | 9-1060-EI-*-*♦-R0         | R/F   | 9-1060-EI-*-*♦-C0                                   | R/F   |

**Note:** Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C104 and follow the instructions for modifying Catalog Numbers.

### Duplex Pump Controller includes:

- (2) Contactors (AC coil)
- (2) Overload relay protection
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C119

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuit). Contact your Sprecher + Schuh representative for a customized price.

### Ordering Instructions

|                                 |                     |
|---------------------------------|---------------------|
| Specify Catalog Number          |                     |
| Replace (*) with Coil Code      | See page C104       |
| Replace (♦) with O/L Relay      | See pages C105-C106 |
| Factory Modifications available | See pages C107-C111 |

- ① CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CADPT9-116-\*-\*♦-R0 becomes CADPT9-116-EI-\*-\*♦-R0.

**Series CADPT7 and CADPT9 with Thermal-Magnetic Circuit Breaker**

| Maximum Horsepower<br>Three Phase |      |       | MCCB<br>Amps | Type 3R<br>Rainproof (Metal) | D<br>I<br>M | Type 4X<br>Watertight<br>Corrosion Resistant<br>Non-metallic | D<br>I<br>M |
|-----------------------------------|------|-------|--------------|------------------------------|-------------|--|-------------|
| 230V                              | 460V | 575V  |              | Catalog Number               |             | Catalog Number   |             |
|                                   |      |       |              | CADPT                        |             | CADPT  |             |
| 2                                 | 5    | ~     | 15           | 7-9-*◆-TB15RO                | R/F         | 7-9-*◆-TB15CO  | R/F         |
| 2                                 | 5    | 5     | 15           | 7-9-*◆-TBH15RO               | R/F         | 7-9-*◆-TBH15CO   | R/F         |
| ~                                 | ~    | 7.5   | 20           | 7-9-*◆-TBH20RO               | R/F         | 7-9-*◆-TBH20CO   | R/F         |
| 3                                 | 7.5  | ~     | 20           | 7-12-*◆-TB20RO               | R/F         | 7-12-*◆-TB20CO   | R/F         |
| 3                                 | 7.5  | 10    | 20           | 7-12-*◆-TBH20RO              | R/F         | 7-12-*◆-TBH20CO  | R/F         |
| 5                                 | 10   | ~     | 30           | 7-16-*◆-TB30RO               | R/F         | 7-16-*◆-TB30CO   | R/F         |
| ~                                 | ~    | 15    | 35           | 7-23-*◆-TBH35RO              | R/F         | 7-23-*◆-TBH35CO  | R/F         |
| 7.5                               | 15   | ~     | 40           | 7-23-*◆-TB40RO               | R/F         | 7-23-*◆-TB40CO   | R/F         |
| 10                                | 20   | 25 ①  | 50           | 7-30-*◆-TB50RO               | R/F         | 7-30-*◆-TB50CO   | R/F         |
| 10                                | 20   | 25    | 50           | 7-30-*◆-TBH50RO              | R/F         | 7-30-*◆-TBH50CO  | R/F         |
| 10                                | 25   | 30 ①  | 50           | 7-37-*◆-TB50RO               | R/F         | 7-37-*◆-TB50CO   | R/F         |
| 10                                | 25   | 30    | 50           | 7-37-*◆-TBH50RO              | R/F         | 7-37-*◆-TBH50CO  | R/F         |
| ~                                 | 30   | ~     | 70           | 7-43-*◆-TB70RO               | R/F         | 7-43-*◆-TB70CO   | R/F         |
| 15                                | ~    | ~     | 80           | 7-43-*◆-TB80RO               | R/F         | 7-43-*◆-TB80CO   | R/F         |
| 20                                | 40   | 40 ①  | 80           | 7-55-*◆-TB80RO               | R/F         | 7-55-*◆-TB80CO   | R/F         |
| 20                                | 40   | 40    | 80           | 7-55-*◆-TBH80RO              | R/F         | 7-55-*◆-TBH80CO  | R/F         |
| ~                                 | ~    | 40 ①  | 80           | 7-60-*◆-TB80RO               | R/F         | 7-60-*◆-TB80CO   | R/F         |
| ~                                 | ~    | 40    | 80           | 7-60-*◆-TBH80RO              | R/F         | 7-60-*◆-TBH80CO  | R/F         |
| 20                                | 40   | 50 ①  | 100          | 7-60-*◆-TB100RO              | R/F         | 7-60-*◆-TB100CO  | R/F         |
| 20                                | 40   | 50    | 100          | 7-60-*◆-TBH100RO             | R/F         | 7-60-*◆-TBH100CO   | R/F         |
| 25                                | 50   | 60 ①  | 125          | 7-72-*◆-TB125RO              | R/F         | 7-72-*◆-TB125CO  | R/F         |
| 25                                | 50   | 60    | 125          | 7-72-*◆-TBH125RO             | R/F         | 7-72-*◆-TBH125CO   | R/F         |
| 30                                | 60   | ~     | 125          | 7-85-*◆-TB125RO              | R/F         | 7-85-*◆-TB125CO  | R/F         |
| ~                                 | ~    | 75 ①② | 150          | 7-97-*◆-TB150RO              | R/F         | 7-97-*◆-TB150CO  | R/F         |
| ~                                 | ~    | 75 ②  | 150          | 7-97-*◆-TBH150RO             | R/F         | 7-97-*◆-TBH150CO   | R/F         |
| ~                                 | 75 ② | ~     | 175          | 7-97-*◆-TB175RO              | R/F         | 7-97-*◆-TB175CO  | R/F         |
| ~                                 | 75   | ~     | 175          | 9-116-*◆-TB175RO ③           | R/F         | 9-116-*◆-TB175CO ③   | R/F         |
| 40                                | ~    | 100 ② | 200          | 9-116-*◆-TB200RO ③           | R/F         | 9-116-*◆-TB200CO ③   | R/F         |
| ~                                 | 100  | 125 ② | 225          | 9-146-*◆-TB225RO ③           | R/F         | 9-146-*◆-TB225CO ③   | R/F         |
| 50                                | ~    | ~     | 250          | 9-146-*◆-TB250RO ③           | R/F         | 9-146-*◆-TB250CO ③   | R/F         |
| 60                                | 125  | 150   | 300          | 9-190-*◆-TB300RO ③           | R/F         | 9-190-*◆-TB300CO ③   | R/F         |
| 75                                | 150  | 200   | 350          | 9-205-*◆-TB350RO ③           | R/F         | 9-205-*◆-TB350CO ③   | R/F         |
| ~                                 | 175  | ~     | 400          | 9-265-*◆-TB400RO ③           | R/F         | 9-265-*◆-TB400CO ③   | R/F         |
| 100                               | 200  | 250   | 450          | 9-265-*◆-TB450RO ③           | R/F         | 9-265-*◆-TB450CO ③   | R/F         |
| ~                                 | ~    | ~     | 500          | 9-305-*◆-TB500RO ③           | R/F         | 9-305-*◆-TB500CO ③   | R/F         |
| 125                               | 250  | 300   | 600          | 9-305-*◆-TB600RO ③           | R/F         | 9-305-*◆-TB600CO ③   | R/F         |
| ~                                 | ~    | 350   | 600          | 9-370-*◆-TB600RO ③           | R/F         | 9-370-*◆-TB600CO ③   | R/F         |
| 150                               | 300  | ~     | 700          | 9-370-*◆-TB700RO ③           | R/F         | 9-370-*◆-TB700CO ③   | R/F         |
| 150                               | ~    | 400   | 700          | 9-400-EI-*◆-TB700RO          | R/F         | 9-400-EI-*◆-TB700CO  | R/F         |
| ~                                 | 350  | ~     | 800          | 9-400-EI-*◆-TB800RO          | R/F         | 9-400-EI-*◆-TB800CO  | R/F         |
| ~                                 | ~    | ~     | 800          | 9-460-EI-*◆-TB800RO          | R/F         | 9-460-EI-*◆-TB800CO  | R/F         |
| 200                               | 400  | 500   | 1000         | 9-460-EI-*◆-TB1000RO         | R/F         | 9-460-EI-*◆-TB1000CO   | R/F         |
| ~                                 | ~    | 600   | 1000         | 9-580-EI-*◆-TB1000RO         | R/F         | 9-580-EI-*◆-TB1000CO   | R/F         |
| 250                               | 500  | ~     | 1200         | 9-580-EI-*◆-TB1200RO         | R/F         | 9-580-EI-*◆-TB1200CO   | R/F         |

**Duplex Pump Controller with circuit breaker includes:**

- (2) Contactors (AC coil)
- (2) Overload relay protection
- (2) Thermal magnetic circuit breakers
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C119

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuit). Contact your Sprecher + Schuh representative for a customized price.

**Note:** Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C104 and follow the instructions for modifying Catalog Numbers.

**Ordering Instructions**

|                                 |                     |
|---------------------------------|---------------------|
| Specify Catalog Number          |                     |
| Replace (*) with Coil Code      | See page C104       |
| Replace (◆) with O/L Relay      | See pages C105-C106 |
| Factory Modifications available | See pages C107-C111 |

- ① Applicable to 600Y/347V only.
- ② The short circuit and kAIC is relegated to the contactor's 10kA. Contact your Sprecher + Schuh representative for a higher kAIC.
- ③ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CADPT9-116-\*◆-TB175RO becomes CADPT9-116-EI-\*◆-TB175RO.

### Series CADPT7 and CADPT9 with Fusible Disconnect (J-Type) ①②

| Maximum Horsepower<br>Three Phase |      |      |      | Fuse<br>clip<br>Amps | Type 3R<br>Rainproof (Metal) | D<br>I<br>M | Type 4X<br>Watertight<br>Corrosion Resistant<br>Non-metallic | D<br>I<br>M |
|-----------------------------------|------|------|------|----------------------|------------------------------|-------------|--|-------------|
| 200V                              | 230V | 460V | 575V |                      | Catalog Number               |             | Catalog Number   |             |
|                                   |      |      |      |                      | <b>CADPT</b>                 |             | <b>CADPT</b>   |             |
| 2                                 | 2    | 5    | 7.5  | 30                   | 7-9-*-*♦-JF61RO              | R/F         | 7-9-*-*♦-JF61CO  | R/F         |
| 3                                 | 3    | 7.5  | 10   | 30                   | 7-12-*-*♦-JF61RO             | R/F         | 7-12-*-*♦-JF61CO   | R/F         |
| 5                                 | 5    | 10   | 15   | 30                   | 7-16-*-*♦-JF61RO             | R/F         | 7-16-*-*♦-JF61CO   | R/F         |
| 5                                 | ~    | ~    | ~    | 30                   | 7-23-*-*♦-JF61RO             | R/F         | 7-23-*-*♦-JF61CO   | R/F         |
| ~                                 | 7.5  | 15   | 15   | 60                   | 7-23-*-*♦-JF62RO             | R/F         | 7-23-*-*♦-JF62CO   | R/F         |
| 7.5                               | 10   | 20   | 25   | 60                   | 7-30-*-*♦-JF62RO             | R/F         | 7-30-*-*♦-JF62CO   | R/F         |
| 10                                | 10   | 25   | 30   | 60                   | 7-37-*-*♦-JF62RO             | R/F         | 7-37-*-*♦-JF62CO   | R/F         |
| 10                                | ~    | 30   | 30   | 60                   | 7-43-*-*♦-JF62RO             | R/F         | 7-43-*-*♦-JF62CO   | R/F         |
| ~                                 | 15   | ~    | ~    | 100                  | 7-43-*-*♦-JF63RO             | R/F         | 7-43-*-*♦-JF63CO   | R/F         |
| ~                                 | ~    | ~    | 40   | 60                   | 7-55-*-*♦-JF62RO             | R/F         | 7-55-*-*♦-JF62CO   | R/F         |
| 15                                | 20   | 40   | ~    | 100                  | 7-55-*-*♦-JF63RO             | R/F         | 7-55-*-*♦-JF63CO   | R/F         |
| ~                                 | ~    | ~    | 40   | 60                   | 7-60-*-*♦-JF62RO             | R/F         | 7-60-*-*♦-JF62CO   | R/F         |
| 15                                | 20   | 40   | 50   | 100                  | 7-60-*-*♦-JF63RO             | R/F         | 7-60-*-*♦-JF63CO   | R/F         |
| 20                                | 25   | 50   | 60   | 100                  | 7-72-*-*♦-JF63RO             | R/F         | 7-72-*-*♦-JF63CO   | R/F         |
| ~                                 | ~    | ~    | 60   | 100                  | 7-85-*-*♦-JF63RO             | R/F         | 7-85-*-*♦-JF63CO   | R/F         |
| 25                                | 30   | 60   | ~    | 200                  | 7-85-*-*♦-JF64RO             | R/F         | 7-85-*-*♦-JF64CO   | R/F         |
| 30                                | 30   | 75   | 75   | 200                  | 7-97-*-*♦-JF64RO             | R/F         | 7-97-*-*♦-JF64CO   | R/F         |
| 30                                | 40   | 75   | 100  | 200                  | 9-116-*-*♦-JF64RO ③          | R/F         | 9-116-*-*♦-JF64CO ③  | R/F         |
| 40                                | 50   | 100  | 125  | 200                  | 9-146-*-*♦-JF64RO ③          | R/F         | 9-146-*-*♦-JF64CO ③  | R/F         |
| 50                                | 60   | 125  | 150  | 400                  | 9-190-*-*♦-JF65RO ③          | R/F         | 9-190-*-*♦-JF65CO ③  | R/F         |
| 60                                | 75   | 150  | 200  | 400                  | 9-205-*-*♦-JF65RO ③          | R/F         | 9-205-*-*♦-JF65CO ③  | R/F         |
| 75                                | 100  | 200  | 250  | 400                  | 9-265-*-*♦-JF65RO ③          | R/F         | 9-265-*-*♦-JF65CO ③  | R/F         |
| 100                               | 125  | 250  | 300  | 600                  | 9-305-*-*♦-JF66RO ③          | R/F         | 9-305-*-*♦-JF66CO ③  | R/F         |
| 125                               | 150  | 300  | 350  | 600                  | 9-370-*-*♦-JF66RO ③          | R/F         | 9-370-*-*♦-JF66CO ③  | R/F         |
| 125                               | 150  | ~    | 400  | 600                  | 9-400-EI-*-*♦-JF66RO         | R/F         | 9-400-EI-*-*♦-JF66CO   | R/F         |
| ~                                 | ~    | 350  | ~    | 800                  | 9-400-EI-*-*♦-JF67RO         | R/F         | 9-400-EI-*-*♦-JF67CO   | R/F         |
| 150                               | 200  | 400  | 500  | 800                  | 9-460-EI-*-*♦-JF67RO         | R/F         | 9-460-EI-*-*♦-JF67CO   | R/F         |

### Duplex Pump Controller with disconnect switch includes:

- (2) Contactors (AC coil)
- (2) Overload relay protection
- (2) J-type fusible disconnect switch (excluding line fuses)
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C119

**Note:** Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C104 and follow the instructions for modifying Catalog Numbers.

R/F - Experience has shown that applications requiring duplex pump panels often require customization. (i.e.: unique components and control circuits). Contact your Sprecher + Schuh representative for a customized price.

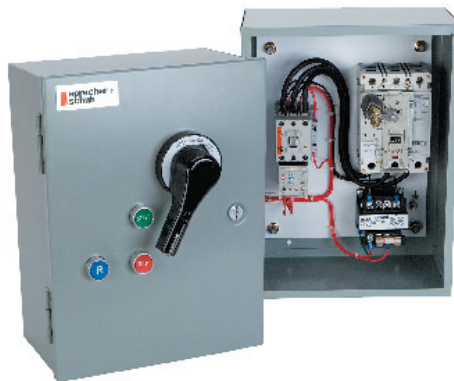
### Ordering Instructions

|                                 |   |
|---------------------------------|---|
| Specify Catalog Number          |   |
| Replace (*) with Coil Code      | See page C104<br>See pages C105-C106<br>See pages C107-C111 |
| Replace (♦) with O/L Relay      |   |
| Factory Modifications available |   |

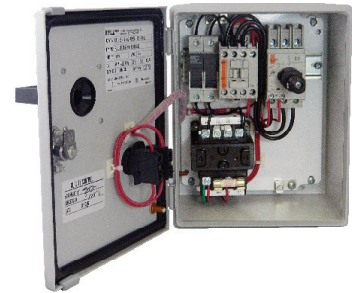
- ① Fusible combo starters use the L11 Disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ② A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.
- ③ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CADPT9-116-\*-\*♦-JF64RO becomes CADPT9-116-EI-\*-\*♦-JF64RO.

# Type E/F Combination Controllers

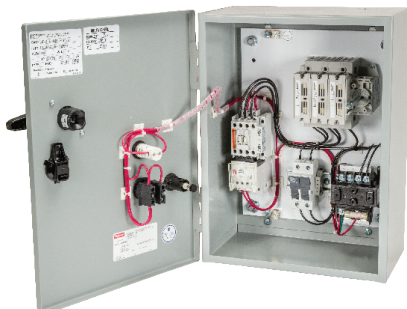
An alternative to the  
Classic Combination  
Starter



Classic Construction Type C  
Thermal Magnetic MCCB  
Combination Starter



Construction Type E/F  
E-Combo Self-Protected  
Motor Controller



Classic Construction Type A  
Fusible Combination Starter

## The Classic Combo

Classic combination starters in Construction Type A use fusible L11 Disconnect switches. Construction Type C combos use UL489 Molded Case Circuit Breakers. Both are popular choices but Sprecher + Schuh's E-Combo line offers an alternative.

## Advanced Alternative

Technology has advanced in the last two decades and UL, NEC, and CSA now recognize Self-Protected Combination Motor Controllers as providing a means of thru-the-door disconnect, short circuit protection, and overload protection in a single device (KTA7). Further, when KTA7 is combined with CA7 contactors for remote operation, the resulting assembly is a Construction Type E/F Combination Starter. Less components and a smaller enclosure means a functional equal to the Classic Combo at a reduced price.



## The E-Combo Starter

Sprecher + Schuh's Ecombo and EcomboPlus starters are the compact alternative to larger and higher priced combination starters. E-Combos include:

- KTA7 "Type E/F" Self-protected Motor Controller with 1 N.O. front mount auxiliary contact
- CA7 or CAN7 Contactors (for remote operation)
- Terminal Adaptor for Type E Applications
- Power and Control Wiring
- Type 12/4 enclosure, dual rated - watertight, dusttight
- Gray/Black or Red/Yellow Type 4/4X/12; IP66 handle
- Factory installed pilot device options
- Higher SCCR ratings than MCCB combination versions
- All in a smaller NEMA Type 4/12 enclosure at a more economical price.

For details on these economical combination starter alternatives turn to Catalog Number Selection, page F105.



Construction Type E/F  
Reversing E-Combo Self-Protected  
Motor Controller

See page F105 for  
**Type E/F**  
Combination  
**Starter**  
Control Panels