## Starters + Enclosed Product

### General Description
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### The Orange Express Program
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### Fractional Manual Starters
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### KWIKstarters II
- Selection Guide
- Type E/F KWIKstarters
- Wiring Diagrams
- Dimensions

### Enclosed Contactors
- Reversing Contactors
- Single-Phase Contactors
- Lighting Contactors

### Magnetic Motor Starters
- Reversing
- Single-Phase
- NEMA Labeled

### Combination Starters
- NEMA Labeled

### Explosion-Proof Starters
- Accessories - Field Installable

### Multi-Speed Starters

### Reduced Voltage Starters

### Pump Controllers
- Simplex Controllers
- NEMA Labeled
- Duplex Controllers

### Type E/F Combination Controllers

### Custom Control Panels

### Technical Data
- Coil & Overload Relay Codes
- Modifications - Factory Assembled
- Accessories - Field Installable
- Technical Information
- Control Power Sizing
- Wiring Diagrams
- Enclosure Dimensions
Open & enclosed pre-wired starters and enclosed contactors for any application

In addition to selling “open” components, Sprecher + Schuh also offers a full array of preassembled and enclosed products ready to install when they reach your dock.

Standard or customized

The cataloged products in this section comprise Sprecher + Schuh’s standard offerings. In most cases, engineering drawings and bills-of-material have already been created and assembly procedures have been standardized. Generally speaking, lead times are shorter on these standard items.

- Fractional Manual Starters
- Enclosed contactors
- Magnetic motor starters
- KWIKstarters
- Combination starters
- Explosion-proof starters
- Multi-speed starters
- Reduced voltage starters
- Pump controllers
- Softstarters (see Section D)
- Type E/F combination controllers (see Section F)

Your sales representative and our Engineering department will also work with you to customize any of our standard pre-assembled or enclosed products to suit your exact specifications. Any combination of enclosure types, pilot devices, control power transformers, meters and other modifications can be combined to provide exactly the panel you need.

UL/CSA approved shop

Sprecher + Schuh’s assembly operations in the US and Canada are both UL Approved UL508A shops and CSA certified. This means, upon customer request, we can build UL 508A Listed and CSA compliant panels that satisfy the most rigorous UL inspection. Regardless of whether your panel has a UL508A Listing, panels built by Sprecher + Schuh adhere to UL mandated design and wiring standards.

Built with quality and pride

Every panel built by Sprecher + Schuh is meticulously designed and constructed. Where possible, all panels are...
laid out with generous wiring space. Control wiring is neatly bundled and tied to the back pan. Outsourced components are industrial control quality from name brand manufacturers. Control wiring and device function is electrically tested before the panel leaves our facility.

**ISO 9001 and Atex Certified**

Sprecher + Schuh is committed to a quality system, focused on customer solutions. This is achieved through superior products and services, excellent customer service, technical expertise, supplier partnerships, and industry leadership.

Our facility is ISO 9001 certified. That was the catalyst in allowing Sprecher + Schuh to obtain Atmospheres Explosives certification (ATEX). ATEX certification permits us to build explosion-proof equipment and panels to be supplied across the European Union, including Canada.
Orange Express

A program designed to meet the demand for shipment of enclosed contactors, starters and Type E Self-Protected Manual Motor Controllers in 3 days or less, from the time we enter your order until it is ready for shipment; GUARANTEED.

Sprecher + Schuh has shipped stock components for years while the demands on our Custom Control Panel Shop business has steadily increased. Our Houston, Richmond and Canada facilities accommodate customer demand for quick turn around on standard enclosed contactors, manual motor starters, magnetic motor starters and Combo starters. More stock, more manpower and streamlined logistics are all combined to make it possible for Sprecher + Schuh to guarantee three day shipment for a variety of enclosed products.

Check out the details of Orange Express; we are confident you won’t be disappointed!

Getting started

- Orange Express orders received by Richmond Customer Service by noon on day one will ship by the end of day three.
- Orange Express orders must be complete with all details before the three day clock can be started.
- Orange Express orders must be clearly identified as an Orange Express order.
- Orange Express orders may be shipped standard freight or express. Express delivery must be clearly marked and will be pre-paid and charged.
- Orange Express orders are limited to the enclosed products detailed and marked with the OE logo in this catalog.
- Orange Express orders may include up to five items; that’s five of the same item or five different line items.
- Orange Express orders must utilize established Sprecher + Schuh standard wiring diagrams.
Look for the Orange Express Icons

The OE icon is scattered throughout the catalog, indicating which products are available in the program. Orange Express includes the following products as detailed in the Orange Express Selection Guide:

- Kwikstarters II
- FVNR CA7 Contactors – Type 1 and 12 enclosed
- FVR CA7 Contactors – Type 1 and 12 enclosed
- FVNR CAT7 Magnetic Starters – Type 1, 12 and non-metallic 4X enclosed
- FVR CAUT7 Magnetic Starters – Type 1, 12 and non-metallic 4X enclosed
- FVNR CBT7 Magnetic Starters – Type 1, 12 and non-metallic 4X enclosed
- FVR CBUT7 Magnetic Starters – Type 1, 12 and non-metallic 4X enclosed.

- FVNR CATN7 NEMA Size 00, 0, 1 and 2 Magnetic Starters – Type 1, 12 and non-metallic 4X enclosed
- Combo CAT7 & CATN7 MCCB FVNR Magnetic Starters - Type 1, 12 and non-metallic 4X enclosed
- Combo CAT7 Fusible FVNR Magnetic Starters - Type 1, 12 and non-metallic 4X enclosed
- Combo CAT7 Non-Fusible FVNR Magnetic Starters - Type 1, 12 and non-metallic 4X enclosed
- KTA7 Type E Self-Protected Manual Motor Controller – Type IP65, 12, 4 and non-metallic 4X enclosed
- CX7 Type E KTA7 Self-Protected Combination FVNR Controller – Type 4/12 enclosed
- All contactors and starters listed above with AC coil only
- Options - factory installed modifications include:
  - Start – Stop Pushbutton
  - Hand – Off – Auto Selector Switch
  - Forward – Stop – Reverse Pushbutton for FVR starters/contactors
  - Forward – Off – Reverse Selector Switch for FVR starters/contactors
  - Pilot Lights (Two Maximum)
  - Additional interlocks
  - Surge Suppressor
  - Control Power Transformer (with primary and secondary fusing as required)

Our Guarantee

Orange Express orders not shipped by day three, for some unforeseen reason, will be shipped via premium freight at our expense; that's Sprecher + Schuh's guarantee of quality service and performance.
Catalog Number Coding
Starters and Enclosed Product

- **Non-reversing**
  - CA: Contactor
  - CAT: Starter
  - CBT: Starter (Single Phase)
  - CATN: Starter (NEMA Three Phase)
  - CBTN: Starter (NEMA Single Phase)

- **Reversing**
  - CAU: Reversing Contactor
  - CBU: Reversing Contactor (Single Phase)
  - CAUT: Reversing Starter
  - CBU: Reversing Starter (Single Phase)
  - CAUTN: Reversing Starter (NEMA)

- **Multi-speed**
  - CAZTT: Multispeed-Two Wind. (Cons/VAR TQ)
  - CAZHT: Multispeed-Two Wind. (Const. HP)
  - CAEHT: Multispeed-One Wind. (Cons/VAR TQ)
  - CAEHT: Multispeed-One Wind. (Const. HP)

- **Reduced Voltage**
  - CAAT: Autotransformer Starter
  - CAYT: Wye-Delta Starter
  - CAPWT: Part Winding Starter

- **Pump Panels**
  - CAPT: Simplex Pump Panel
  - CAPTN: Simplex Pump Panel (NEMA Size)
  - CADPT: Duplex Pump Panel

- **Contactors or Starter Type**
  - **Contactor Size**
  - **Coil Code (or CPT)**

- **Small - Series CA7**
  - 7-9(E)
  - 7-12(E)
  - 7-16(E)
  - 7-23(E)
  - 7-30(E)
  - 7-37(E)
  - 7-40(E)
  - 7-43(E)
  - 7-60(D)
  - 7-72(D)
  - 7-85(D)
  - 7-90(D)
  - 7-97(D)

- **Medium - Series CA6**
  - 6-115(EI)
  - 6-140(EI)
  - 6-180(EI)
  - 6-210(EI)
  - 6-250-EI
  - 6-300-EI
  - 6-420-EI
  - 6-630-EI
  - 6-860-EI

- **Large - Series CA5**
  - 5-1200

- **Control Transformer**
  - Code: Primary  Secondary
  - XA: 208  120
  - XB: 240  120
  - XC: 480  120
  - XD: 575  120
  - XE: 240  24
  - XF: 480  24
  - XG: 380  110

For additional Control Transformer Codes, refer to Modifications page in this section.

- (D) & (E) suffix designates contactors with DC coils

This illustration is for reference only. Turn to the appropriate page to determine specific catalog number & pricing.
**CEP7 Second Generation - Solid State**

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**CT7N - Bimetallic Thermal**

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<td>CT7N O/L Relay, Class 10, manual or automatic reset</td>
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<tr>
<td>...P</td>
<td>CT7N O/L Relay, Class 10, manual or automatic reset, separate mount</td>
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**Through-the-Door Operated Combo**

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<tr>
<th>Thermal Magnet Circuit Breaker</th>
<th>Fusible Disconnect</th>
<th>Non Fusible Disconnect</th>
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<tr>
<td>TB15 15 Amp</td>
<td>JF61 600V/30A</td>
<td>JU61 600V/30A</td>
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<tr>
<td>TB20 20 Amp</td>
<td>JF62 600V/60A</td>
<td>JU62 600V/60A</td>
</tr>
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<td>TB25 25 Amp</td>
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For complete listing of Option Codes, refer to Modifications page in this section.

For additional Cover Control Codes, refer to Modifications page in this section.