

## Versatile and Expandable

- Adjustable Trip Class and Reset Modes** The Basic CEP7-1EE relay offers Trip Class 10 and 20 with manual reset only. The Advanced CEP7-1EF relay offers Trip Class 10, 15, 20, and 30 with a selectable dial, in manual or automatic reset.
- Pass-through Design** The CEP7-1 relay Pass-through option consumes less panel space than a standard CEP7-1 relay that is configured with a panel-mount adapter. The pass-through design provides integrated DIN Rail mount and panel mounting holes. The CEP7-1 Pass-through Electronic Overload Relay provides the same protection and expandable accessory capabilities as a standard CEP7-1 relay.
- External CTs** For motor overload protection applications above 100A in current sensing capability, the CEP7-1EF\_Z relay offers functionality with external CT configurations up to 800A maximum capacity.

## Wide current adjustment range

Thermal or bimetallic overload relays typically have a small current adjustment range of 1.5:1 meaning that the maximum setting is generally 1.5 times the lower setting. Sprecher + Schuh's CEP7-1 overload relay is capable of adjustment to a maximum of five times the minimum set current, which dramatically reduces the number of units required on-hand to cover the full range of current settings up to 100 amperes.

## Selectable tripping class

Both the CEP7-1 models have standard Class 10 tripping characteristics. The CEP7-1EE Basic model is equipped with dip switches that allow the select ability between Class 10 and Class 20, while the CEP7-1EF Advanced model possesses a selection dial on the face of the overload for trip classes 10/15/20 and 30. This selection feature allows you to closely match the Trip Class with the start-up time of the motor.

## Adaptive Protection

### Remote Reset Capability

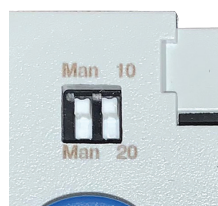
The CEP7-1EF relay offers optional remote reset capabilities through the use of an electro-mechanical reset solenoid or an electronic remote reset accessory module.

### Ground Fault and Jam Protection

The CEP7-1EF relay offers optional ground fault and jam protection through the use of an accessory module. The ground fault current detection level is configurable via a mechanical rotary dial from 0.02...5A. Jam protection is configurable via two mechanical rotary dials, current level from 125...600% FLA, and delay from 0.1...10 seconds.

## Robust design

The CEP7 has been designed to physically extend to the back-pan therefore aligning the mounting of the overload with the corresponding contactor. Further, the mechanical attachment and direct electrical connection to the contactor provides a robust mounting, which means less damage from shipping or during field wire installation. The bipolar latching relay which controls the normally closed trip contacts and normally open alarm circuit contacts have been self-enclosed, therefore insulating the electromagnet and shielding against airborne metal particles and other potential environmental debris. The CEP7 has been tested to operate in -20° C. or up to 60° C (140 °F) and withstand 3G of vibration or 30G of shock on a mountain up to an altitude of 2000m or in a jungle at 95% humidity. Reliability under every conceivable environmental condition is a quality built into the design of the CEP7 electronic overload relay.



CEP7-1EE Switch  
Selection for Trip class  
(10 or 20)



CEP7-1EF Selectable Dial for  
• Manual vs. automatic  
• Trip class 10, 15, 20 or 30)



## Increased accuracy and improved motor protection

Microelectronics provide flexible and accurate motor overload protection. Unlike traditional overload relays that simulate heat build-up in the motor by passing current through a heater element, CEP7 solid state overload relays measure motor current directly through integrated current transformers. The transformers, in turn, create a magnetic field that induces DC voltage onto the ASIC board. The electronics identify excessive current or loss of phase more accurately, and react to the condition with greater speed and reliability than traditional overload relays. In addition, CEP7 solid state relays offer setting accuracies from 2.5 – 5% and repeat accuracy of 1%.

## Dramatically lowered energy requirement saves money, reduces panel space

Because traditional overload relays work on the principle of “modeling” the heat generated in the motor (recreating the heat in the bimetal elements or heaters), a significant amount of energy is wasted. In traditional bimetallic overload relays, as many as six watts of heat are dissipated to perform the protective function. Because the CEP7 uses sampling techniques to actually measure the current flowing in the circuit, very little heat is dissipated in the device...as little as 0.5 watts. This not only reduces the total amount of electrical energy consumed in an application, but it can also have a dramatic impact on the design and layout of control panels. The density of motor starters can be much greater because less heat is generated by each of the individual components. Higher density results in smaller control panels. In addition, special ventilation or air conditioning that might have been required to protect sensitive electronic equipment such as PLC's can now be reduced or eliminated. CEP7 overload relays dramatically reduced energy requirement saves money and reduces panel space.

**Direct Mount / Single & Three-phase Applications ①②③**

Overload Relay	Directly Mounts to Contactor...	Adjustment Range (A)	Catalog Number
<b>CEP7-1EE Manual Reset for 1Ø and 3Ø Applications - Trip Class 10, 20</b>			
 <p>shown: CEP7-1EEAB</p>	CA7-9...CA7-23 CAN7-12, CAN7-16	0.1...0.5	CEP7-1EEAB
		0.2...1.0	CEP7-1EEBB
		1.0...5.0	CEP7-1EECB
		3.2...16	CEP7-1EEDB
	CA7-30...CA7-55 CAN7-37, CAN7-43	5.4...27	CEP7-1EEEB
		11...55	CEP7-1EEED
	CA7-60...CA7-97 CAN7-85	20...100	CEP7-1EEGE
		<b>CEP7-1EF Automatic or Manual Reset for 1Ø and 3Ø Applications - Trip Class 10, 15, 20, 30</b>	
 <p>shown: CEP7-1EFAB</p>	CA7-9...CA7-23 CAN7-12, CAN7-16	0.1...0.5	CEP7-1EFAB
		0.2...1.0	CEP7-1EFBB
		1.0...5.0	CEP7-1EFCB
		3.2...16	CEP7-1EFCB
	CA7-30...CA7-55 CAN7-37, CAN7-43	5.4...27	CEP7-1EFEB
		11...55	CEP7-1EFED
	CA7-60...CA7-97 CAN7-85	20...100	CEP7-1EFGE

**TIP!**

Most industrial applications usually call for an overload relay that must be manually reset in the event of a trip. This allows the cause of the overload to be identified before the motor is restarted. An overload relay that resets automatically is generally for specialized, or remote applications, such as rooftop AC units where restarting the motor will not harm people or equipment.

**B**  
3rd Gen CEP7 Overloads

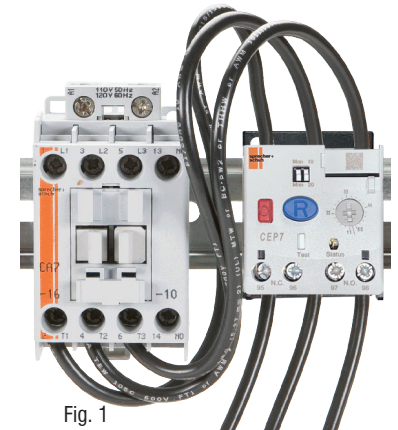





Fig. 1

**Pass-Thru Models / Single & Three-phase Applications ②③**

Overload Relay	for use with... ①	Adjustment Range (A)	Catalog Number
<b>CEP7-1EE Manual Reset for 1Ø and 3Ø Applications - Trip Class 10, 20</b>			
 <p>shown: CEP7-1EECP</p>	All contactors	1.0...5.0	CEP7-1EECP
		3.2...16	CEP7-1EEDP
		5.4...27	CEP7-1EEEP
		11...55	CEP7-1EEFP
		20...100	CEP7-1EEGP
<b>CEP7-1EF Automatic or Manual Reset for 1Ø and 3Ø Applications - Trip Class 10, 15, 20, 30</b>			
 <p>shown: CEP7-1EFGP</p>	All contactors	1.0...5.0	CEP7-1EFCP
		3.2...16	CEP7-1EFCP
		5.4...27	CEP7-1EFEP
		11...55	CEP7-1EFFP
		20...100	CEP7-1EFGP
<b>CEP7-1EF Automatic or Manual Reset for 1Ø and 3Ø Applications - Trip Class 10, 15, 20, 30</b>			
 <p>shown: CEP7-1EFLZ</p>	All contactors and external current transformers	30...150	CEP7-1EFHZ
		40...200	CEP7-1EFJZ
		60...300	CEP7-1EFKZ
		80...400	CEP7-1EFWZ
		100...500	CEP7-1EFLZ
		120...600	CEP7-1EFMZ
160...800	CEP7-1EFNZ		

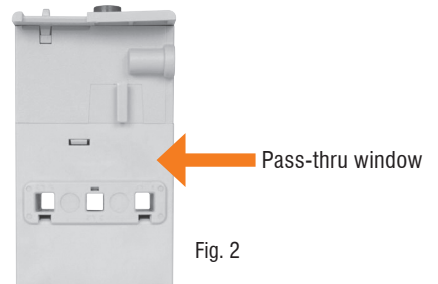


Fig. 2

**Description**

Fig. 1 - The Pass-Thru version of the CEP7 permits separate mounting of the overload relay.

Fig. 2 - Motor load side cables simply pass-thru a window in the overload relay body. The internal current transformers monitor the current flow.

**Benefits**

- No need for a panel mount adapter as required with direct-connect versions
- Eliminates 3 to 6 wire terminations
- Designed for use with CA8 or CA7 contactors
- Easily replaces outdated overload relays in existing starter assemblies
- Provides state-of-the-art accuracy and motor protection

① This reference is not intended to be a guide for selecting contactors. Size overload relays using the full load current of the motor.

② The reset time of a CEP7 set in the automatic mode is approximately 120 seconds.

③ CEP7 overload relays do not work with Variable Frequency Drives, DC Applications or Softstarters with braking options.

**COMING SOON**