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INDUSTRIAL MOTOR CONTROL + PROTECTION

Product Migration

Electronic Overload Relay

CEP7 to CEP7-1

■ sprecher+







CEP7-1

Obsolete CEP7

Why Upgrade or Migrate

While the CEP7 Overload Relay has been a valuable part of our portfolio for the past 18 years, this product will no longer be available for sale after April 2021. Now is the time to migrate to the CEP7-1 Electronic Overload Relay. The CEP7-1 is the next generation basic-tier electronic overload relay. It has enhanced features to better safeguard your motor investments, including increased accuracy and repeatability, a self-powered design with lower heat dissipation, and an aggressive component certification strategy.

CEP7-1 Features and Benefits

- CEP7-1EE: Trip Class 10 and 20, manual reset only
- CEP7-1EF: Trip Class 10, 15, 20, 30, manual or automatic reset
- 5:1 wide current adjustment range to cover a variety of motor applications
- Supports both single- and three-phase operation in a single component
- A variety of accessories for enhanced protection
 - Ground fault/jam
 - Remote reset and/or indication
 - Anti-tamper shields
 - DIN rail/panel mounting
 - External CT configurations
- Current measurement-based protection
- Electronic design and thermal memory
- Phase loss protection
- Self-powered and direct-mount design with CA7/ CAN7 style contactors

Identify, Mitigate and Help Eliminate the Risk of Automation Obsolescence

In today's economy, it is necessary to have migration solutions that help you to achieve increased productivity and lessen your risk of maintaining your legacy equipment. You need to work with a supplier that has the product, service and industry knowledge to partner with you on an upgrade strategy that will help you maximize your competitive advantage.

Sprecher+Schuh understands that your overload relays are a critical asset in your automation system, and we support that by providing you with the latest technology to maximize your investment. New technologies can improve and extend the operation of existing equipment and provide an immediate boost to productivity. By migrating from your legacy CEP7-ED1/EE Overload to a new CEP7-1 Electronic Overload Relay, you can help to decrease downtime, increase speed to market, and optimize operations well into the future.

We will help you to meet ever changing industry demands to innovate by proactively planning and managing your transition every step of the way to help you get the highest possible return on your automation investment.

[•] Discontinued date may be subject to change.



Migration Options & Application

The CEP7-1 Electronic Overload Relay was designed with migration in mind for customers looking to upgrade from a 2nd gen CEP7.

- CEP7-1 improves application coverage with adjustable Trip Class 10 and 20 for the basic CEP7-1EE model
- Identical mounting footprint to CEP7 for directmount configurations with Series CA7 (IEC) and CAN7 (NEMA) contactors
- Equivalent overload performance, features, and wiring as compared to 2nd gen CEP7
- CEP7-1 offers optional accessory modules which can be front-mounted on series CA7/CAN7 contactors for ease-of-access & minimizing panel space

	2nd gen CEF	P7 O/L Types	3rd gen CEP7	7-1 O/L Types		
	CEP7-ED1	CEP7-EE	CEP7-1EE	CEP7-1EF		
Model	CEP7 Electronic Overload Relay	CEP7 Electronic Overload Relay	CEP7-1 Electronic Overload Relay	CEP7-1 Electronic Overload Relay		
Туре	Basic	Advanced	Basic	Advanced		
Rated Current (Range)	0.145A	0.1800A	0.1100A (Single- or Three-Phase)	0.1800A (Single- or Three-Phase)		
UL/NEMA Op Voltage, Nominal	600V AC	600V AC	600V AC	600V AC		
IEC Op Voltage, Nominal	690V AC	690/1000V AC	690/1000V AC	690/1000V AC		
Rated Operating Frequency	50/60 Hz (sinusoidal)	50/60 Hz (sinusoidal)	4565 Hz	4565 Hz		
Operating Temperature (open)	-20+60 °C ((–4…+140 °F)	−20+65 °C	−20+65 °C (−4+149 °F)		
Overload Type	Electronic	Electronic	Electronic	Electronic		
Trip Class (Fixed)	10	-	-	-		
Trip Class (Adjustable)	-	10, 15, 20, 30	10, 20	10, 15, 20, 30		
Reset Type	Manual Only	Automatic or Manual	Manual Only	Automatic or Manual		
Adjustment Range	5:1	5:1	5:1	5:1		
Rated Impulse Strength	6kV AC	6kV AC	6kV AC	6kV AC		
Phase Loss Protection	Yes	Yes	Yes	Yes		
Phase Imbalance Protection	Yes	Yes	Yes	Yes		
Overcurrent (Jam) Protection	No	With Accessory	No	With Protection Accessory		
Ground (Earth) Protection	No	With Accessory	No	With Protection Accessory		
N.C. Trip Contact	Yes	Yes	Yes	Yes		
N.O. Alarm Contact	Yes	Yes	Yes	Yes		
Contact Rating	N.O./N.C. B600	N.O./N.C. B600	N.O. C600/N.C. B600 (AC) N.O./N.C. R300 (DC)	N.O. C600/N.C. B600 (AC) N.O./N.C. R300 (DC)		
Available Mounting Types	Direct and Pass-Thru	Direct and Pass-Thru	Direct and Pass-Thru	Direct and Pass-Thru		





Migration Options & Application

The CEP7-1 Electronic Overload Relay is the newest technology for overload protection and supports both single- and three-phase operation in a single component.

3rd gen 'Basic' model CEP7-1EE					
Current Range 0.1100 A					
Trip Class	10, 20 Adjustable				
Reset Mode	Manual Only				
Accessories	Reset Adapter, Anti-Tamper Shield, Remote Reset Solenoid, DIN Rail/Panel Adapter				

3rd gen 'Advanced' model CEP7-1EF						
Current Range	0.1100 A					
Trip Class	10, 15, 20, 30 Adjustable					
Reset Mode	Automatic and Manual					
Accessories	Reset Adapter, Anti-Tamper Shield, Remote Reset Solenoid, DIN Rail/Panel Adapter, Electronic Remote Reset Accessory, GF and Jam Accessory					

Ideal Applications

- Conveyors
- Pumps
- Fans
- Process

Usability

- Multiple trip class options
- Selectable reset modes
- Wide current range
- Additional modules for enhanced functionality

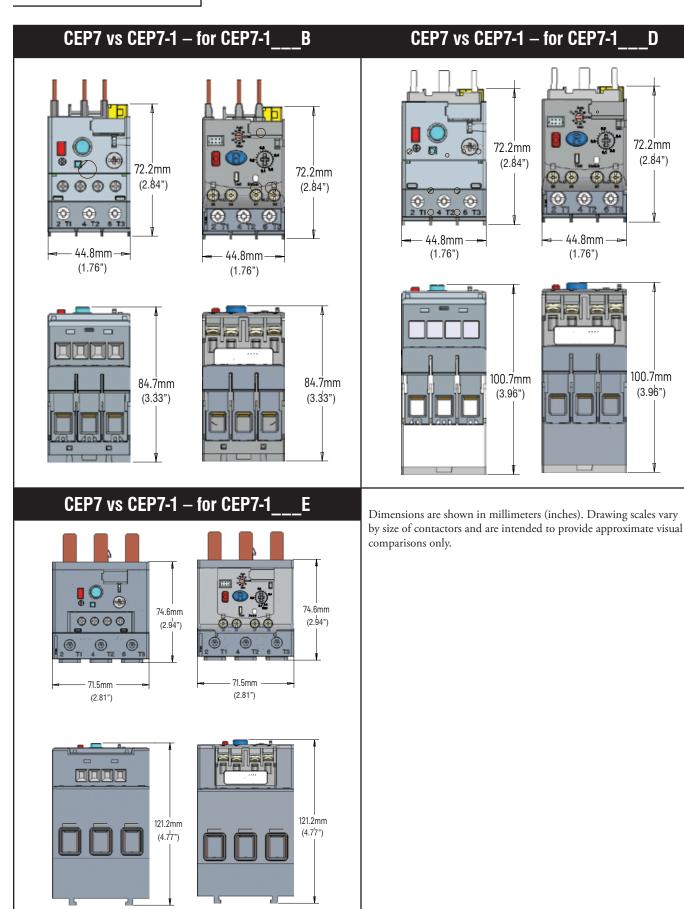
Dimensional Comparison of CEP7 to CEP7-1

The mounting footprint of the CEP7 as compared to the CEP7-1 is identical for direct-mount configurations with CA7/CAN7 contactors. The mounting footprint of the CEP7 and CEP7-1 pass-thru versions is also relatively the same however the CEP7-1 offers an extended current sensing range by comparison. In addition, the CEP7-1 offers its own dedicated selection of DIN rail/panel-mount adapters.



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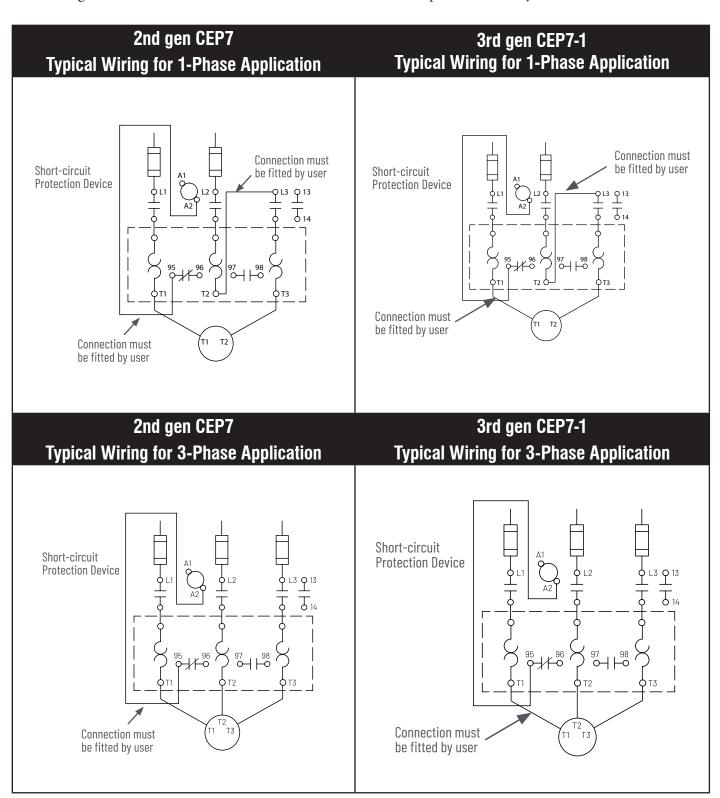




Electrical Comparison of CEP7 to CEP7-1

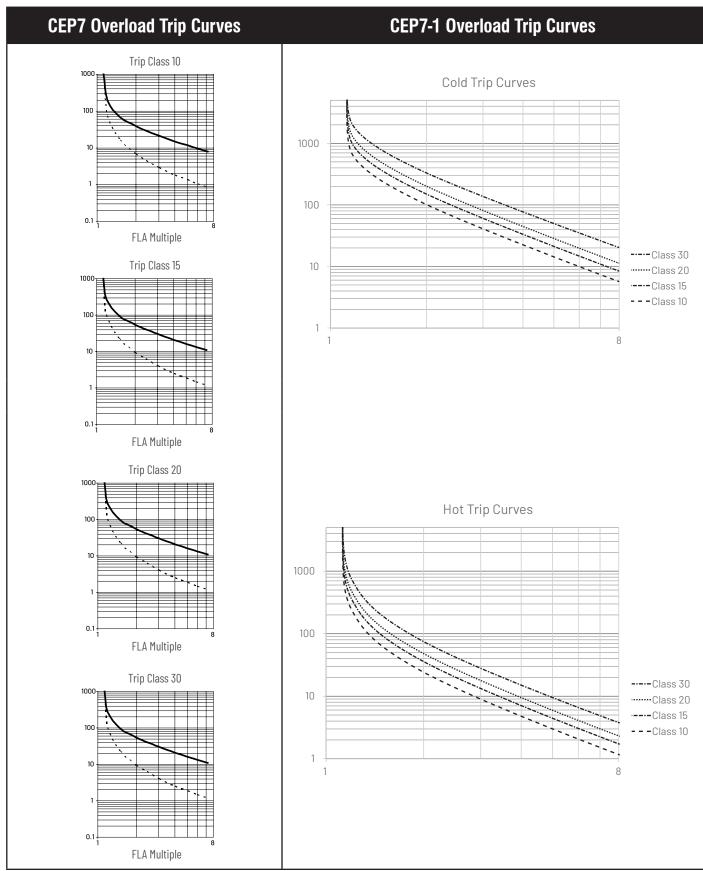
The terminal layout of the CEP7-1 is identical to that of the 2nd gen CEP7 overload. In addition, the CEP7-

1 offers a front-mounted communication port to connect optional accessory modules.



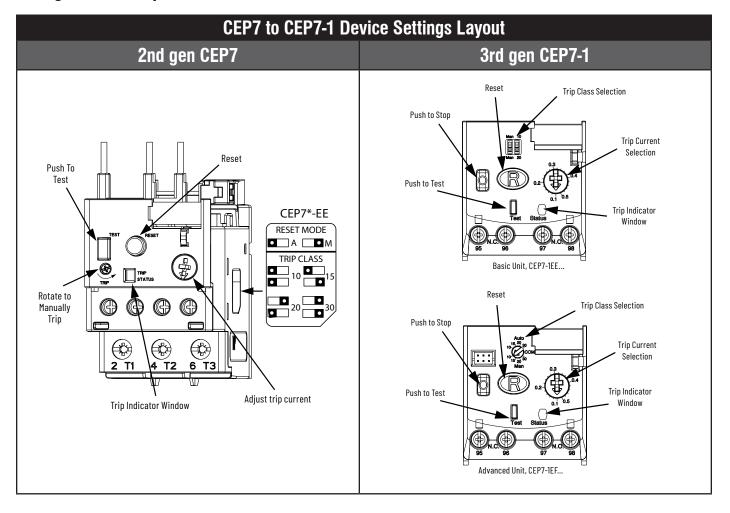


Electrical Comparison of CEP7 to CEP7-1





Configuration Comparison of CEP7 to CEP7-1



The CEP7-1 Overload Relay used with either the optional CEP7-1EGJ ground fault/jam or CEP7-1ERR electronic remote reset accessory modules offer a diagnostic LED status indicator. Which can provide the operating state of the CEP7-1 relay and also fault/

status blink codes (note: the referenced accessory modules require externally supplied power so in the event of a fault condition, the LED status indicator will remain operational).

Status Indicator Color	Solid/Flashing	Description	Solution
Green	Flashing	Module powered	-
	Solid	Module powered and motor current present	-
Amber	Flashing	Warning	-
Red	Flashing	Fault detected and overload relay tripped	-
	Solid	Hardware fault; internal hardware fault detected and overload relay trip attempted	Recover fault by cycling overload relay accessory supply voltage Verify that the supply voltage is within limits Verify the wiring to the terminals is correct Verify that the pins that connected the accessory to the overload relay are not damaged or misaligned Verify the operating temperature of the devices is within specification limits





The status LED indicates the module status by flashing a red trip code. The number of flashes followed by a pause identifies the specific trip code as shown in the table.

CEP7 to CEP7-1 Networking Options

The 2nd gen CEP7 product family (CEP7-ED1/EE version) included a side-mount accessory module that offered the EtherNet/IP communication protocol. For customers seeking a Sprecher+Schuh's overload solution that supports networked communication, please consider the CEP9 electronic overload relay product family.

The CEP9 Electronic Overload Relay provides a flexible design and advanced intelligence. With real-time motor diagnostic information to proactively indicate when a motor is having a problem allowing you to efficiently troubleshoot. The CEP9 Electronic Overload Relay offers EtherNet/IP connectivity which

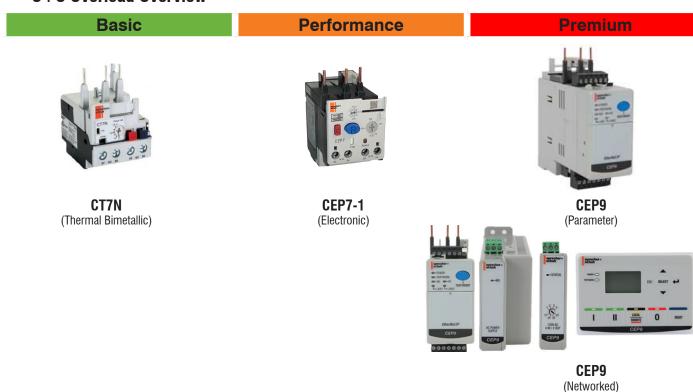
No. of Flashes	Trip Type
1	Overload Trip
2	Phase Loss
3	Ground Fault
5	Jam
8	Short Circuit
10	COM Loss 0
11	Test Trip





can be effectively adapted to those applications using a legacy E1 Plus networked overload solution. The figure below provides a high-level overview of Rockwell Automation's global tiered overload portfolio offering.

S+S Overload Overview



[•] If you experience repeated COM Loss trips, this may be due to a damaged communication interface cable. To test whether this is the case, unplug the communication interface cable from the communication port and wait at least 3 seconds before re-connecting. If the issue persists, consider replacing the communication interface cable.





Component Cross-reference Information

For this particular component migration, there are two types of replacement categories as classified by Rockwell Automation. The following table references both replacement categories depending on the overload configuration. Examples of both categories are also provided below but are for reference only. Other configurations can and will vary by application.

Direct Replacement: a product that can be used in place of an earlier product without any user modifications or adjustments. A direct replacement provides backwards compatible form, fit, and function by emulating the earlier product.

Engineered Replacement: a product or family that can be used to migrate an earlier product or family and requires engineering changes to existing applications. An engineered replacement means that there is a form, fit or function change of the application that is not backward compatible and that does not emulate the earlier product.









Directly Mounted CEP7 Solid State Overload Relays

For Use With	2nd Generation			;	3rd Generation
For ose with	Amp Range	Catalog No.		Amp Range	Catalog No.
Class 10 Manual Rese	et for 3Ø Applicat	tions	Class	s 10/20 - Manu	al Only
	0.10.5	CEP7-ED1AB	functional replacement →	0.10.5	CEP7-1EEAB
047.0	0.21.0	CEP7-ED1BB	functional replacement →	0.21.0	CEP7-1EEBB
CA7-9CA7-23 CAN7-12. CAN7-16	1.05.0	CEP7-ED1CB	functional replacement →	1.05.0	CEP7-1EECB
1 0AN - 12, 0AN - 10	3.216	CEP7-ED1DB	functional replacement →	3.216	CEP7-1EEDB
	5.427	CEP7-ED1EB	functional replacement →	5.427	CEP7-1EEEB
	1.05.0	CEP7-ED1CD	functional replacement →	1.05.0	no direct replacement; CEP7-1EECP
CA7-30CA7-55 CAN7-37, CAN7-43	3.216	CEP7-ED1DD	functional replacement →	3.216	no direct replacement; CEP7-1EEDP
	5.427	CEP7-ED1ED	functional replacement →	5.427	CEP7-1EEED
	945	CEP7-ED1FD	functional replacement →	1155A	CEP7-1EEFD

Class 1030 Automatic or Manual Reset for 3Ø Applications		Class 10.	30 - Automati	c or Manual	
	0.10.5	CEP7-EEAB	functional replacement →	0.10.5	CEP7-1EFAB
CA7-9CA7-23	0.21.0	CEP7-EEBB	functional replacement →	0.21.0	CEP7-1EFBB
CAN7-12, CAN7-16	1.05.0	CEP7-EECB	functional replacement →	1.05.0	CEP7-1EFCB
OANT-12, OANT-10	3.216	CEP7-EEDB	functional replacement →	3.216	CEP7-1EFDB
	5.427	CEP7-EEEB	functional replacement →	5.427	CEP7-1EFEB
CA7-30CA7-55	1.05.0	CEP7-EECD	functional replacement $ ightarrow$	1.05.0	no direct replacement; CEP7-1EFCP
	3.216	CEP7-EEDD	functional replacement →	3.216	no direct replacement; CEP7-1EFDP
CAN7-37, CAN7-43	5.427	CEP7-EEED	functional replacement →	5.427	CEP7-1EFED
	945	CEP7-EEFD	functional replacement →	1155	CEP7-1EFFD
	1155	CEP7-EEQD	functional replacement →	1155	CEP7-1EFFD
CA7-60CA7-97 CAN7-85	5.427	CEP7-EEEE	functional replacement $ ightarrow$	5.427	no direct replacement; CEP7-1EFEP
	945	CEP7-EEFE	functional replacement $ ightarrow$	1155	no direct replacement; CEP7-1EFFD + CEP7-1EPD
	1890	CEP7-EEGE	functional replacement →	20100	CEP7-1EFGE
	60120	CEP7-EEVE	functional replacement →	20100	CEP7-1EFGE

Class 1030 Automatic or Manual Reset for 1Ø Applications			Class 10	30 - Automati	c or Manual
047.0 047.00	1.05.0	CEP7S-EEPB	functional replacement $ ightarrow$	1.05.0	CEP7-1EFCB
CA7-9CA7-23 CAN7-12CAN7-16	3.216	CEP7S-EERB	functional replacement →	3.216	CEP7-1EFDB
OAN7-12OAN7-10	5.427	CEP7S-EESB	functional replacement $ ightarrow$	5.427	CEP7-1EFEB
CA7-30CA7-43 CAN7-37CAN7-43	945	CEP7S-EETD	functional replacement $ ightarrow$	1155	CEP7-1EFFD
CA7-60CA7-97 CAN7-85	1890	CEP7S-EEUE	functional replacement $ ightarrow$	20100	CEP7-1EFGE





Component Cross-reference Table

For Use With	2nd	Generation			3rd Generation
Tor osc with	Amp Range	Catalog No.		Amp Range	Catalog No.
Class 10 Manual Reset for 3Ø Applications		Class 10/20 - Manual			
CA8-0912	1.05.0	CEP7-ED1CP	functional replacement →	1.05.0	CEP7-1EECP
CA7-9CA7-23	3.216	CEP7-ED1DP	functional replacement →	3.216	CEP7-1EEDP
CAN7-12CAN7-37	5.427	CEP7-ED1EP	functional replacement →	5.427	CEP7-1EEEP

Class 1030 Automatic or Manual Reset for 3Ø Applications			Class 10	30 - Automa	tic or Manual
CA8-0912	1.05.0	CEP7-EECP	functional replacement →	1.05.0	CEP7-1EFCP
CA7-9CA7-23	3.216	CEP7-EEDP	functional replacement →	3.216	CEP7-1EFDP
CAN7-12CAN7-37	5.427	CEP7-EEEP	functional replacement →	5.427	CEP7-1EFEP

Class 1030 Automatic or Manual Reset for 1Ø Applications			Class 10	30 - Automa	tic or Manual
CA8-0912	1.05.0	CEP7S-EEPP	functional replacement $ ightarrow$	1.05.0	CEP7-1EFCP
CA7-9CA7-23	3.216	CEP7S-EERP	functional replacement →	3.216	CEP7-1EFDP
CAN7-12CAN7-37	5.427	CEP7S-EESP	functional replacement →	5.427	CEP7-1EFEP

Class 1030 Automatic or Manual Reset for 3Ø Applications		Class 1030 - Automatic or Manual		
CA6-115CA6-180	30150	CEP7-EEHF	functional replacement $ ightarrow$	no direct replacement; CEP7-CT-UL-300 (UL approved) + (plus) CEP7-1EFKZ for 60300A range
CA6-115-EICA6-180-EI CAN6-180(EI)	40200	CEP7-EEJF	functional replacement $ ightarrow$	no direct replacement; CEP7-CT-UL-300 (UL approved) + (plus) CEP7-1EFKZ for 60300A range
	40200	CEP7-EEJG	functional replacement →	no direct replacement; CEP7-CT-UL-300 (UL approved) + (plus) CEP7-1EFKZ for 60300A range
CA6-210-EICA6-420-EI CAN6-300-EI	60300	CEP7-EEKG	functional replacement →	no direct replacement; CEP7-CT-UL-300 (UL approved) + (plus) CEP7-1EFKZ for 60300A range
	100500	CEP7-EELG	functional replacement $ ightarrow$	no direct replacement; CEP7-CT-UL-600 (UL approved) + (plus) CEP7-1EFMZ for 120600A range
CA6-630-EICA6-860-EI	120600	СЕР7-ЕЕМН	functional replacement $ ightarrow$	no direct replacement; CEP7-CT-UL-600 (UL approved) + (plus) CEP7-1EFMZ for 120600A range
	160800	CEP7-EENH	~	no direct replacement
CA9-116(EI)CA9-146(EI)	30150	CEP7-EEHJ	functional replacement $ ightarrow$	no direct replacement; CEP7-CT-UL-300 (UL approved) + (plus) CEP7-1EFKZ for 60300A range
CA9-190(EI)CA9-205(EI)	40200	CEP7-EEJJ	functional replacement →	no direct replacement; CEP7-CT-UL-300 (UL approved) + (plus) CEP7-1EFKZ for 60300A range

Load Side Lugs & Accessories for Use with Contactors Only					
CEP7-EEHF, CEP7-EEJF	CA6-HB2	functional replacement →	no direct replacement		
CEP7-EEJG, CEP7-EEKG,	CA6-HB3	functional replacement →	no direct replacement		
CEP7-EELG, CEP7-EEHJ	САО-ПВЗ	iunctional replacement ->	по инесттерисетнети		
CEP7-EEHFEP7-EEJF	CA6-L180	functional replacement →	no direct replacement		
CEP7-EEJG, CEP7-EEKG,	CA6-L420	functional replacement →	no direct replacement		
CEP7-EELG, CEP7-EEJJ	GAU-L420	iunctional replacement ->	по инесттерисетнени		
CEP7-EEMH, CEP7-EENH	CA6-L630	functional replacement →	no direct replacement		
CEP7-EEMH, CEP7-EENH	CA6-L860	functional replacement →	no direct replacement		
CA6-115(-EI) to 180(-EI)	CA6-TC180	functional replacement →	no direct replacement		
CA6-210-El to 420-El	CA6-TC420	functional replacement $ ightarrow$	no direct replacement		
CA6-630-EI to 860-EI	CA6-TC860	functional replacement $ ightarrow$	no direct replacement		





For Use With	2nd Generation			3rd Generation	
	Amp Range	Catalog No.		For Use With	Catalog No.
Side Mount Modules					•
Side-mount to any CEP7-EE_, CEP7S-EE_		CEP7-ERR	functional replacement →	CEP7-1EF	CEP7-1ERR
		CEP7-EJM	functional replacement →	CEP7-1EF	CEP7-1EGJ
		CEP7-EPT	functional replacement →		no direct replacement
		CEP7-ETN	functional replacement →		no direct replacement
Side-mount to any CEP7-EE_CEP7S-EE_ Must used with CEP7-CBCT_ Current Sensor		CEP7-EGF	functional replacement →	CEP7-1EF	CEP7-1EGJ
		CEP7-EGJ	functional replacement →	CEP7-1EF	CEP7-1EGJ
All modules with DIP Switches		CEP7-EMC	functional replacement →	CEP7-1EGJ	CEP7-1EMC

CEP7 Ground Fault Sensor Selection					
For use with	CA7-9CA7-37	45A	CEP7-CBCT1	functional replacement →	still current
CEP7-EGF and	CA7-9CA7-85	90A	CEP7-CBCT2	functional replacement →	still current
CEP7-EGJ and	CA7-9CA9-190	180A	CEP7-CBCT3	functional replacement →	still current
contactor	CA7-9CA9-400	420A	CEP7-CBCT4	functional replacement →	still current

Accessories					
CEP7-EJM, CEP7-EGF, CEP7-EGJ, CEP7- EPT, CEP7-ERR		CEP7-ERID	functional replacement →	CEP7-1ERR, CEP7-1EGJ	CEP7-ERID
CEP7-ERID		CEP7-NCRID	functional replacement →	CEP7-1ERR, CEP7-1EGJ	CEP7-1ERIDN
CEP7-ED1B, CEP7(S)-EEB		CEP7-EPB	functional replacement →	CEP7-1B	CEP7-1EPB
CEP7-ED1D, CEP7(S)-EED		CEP7-EPD	functional replacement →	CEP7-1D	CEP7-1EPD
CEP7(S)-EEE		CEP7-EPE	functional replacement →	CEP7-1E	CEP7-1EPE
all CEP7-ED1, CEP7-EE		CEP7-BC8	functional replacement →	CEP7-1	CEP7-1BC8
CEP7 all		CEP7-EMR*	functional replacement →	CEP7-1	CEP7-1EMR*
CEP7-ED1(all), CEP7-EE_B, CEP7-EE_D, CEP7-EE_E, CEP7-EE_P		CEP7-ERA	functional replacement →	CEP7-1	CEP7-1ERA

CEP7 Intelli-button Reset kit with Side Mount Module					
Remote Reset Only	CE	EP7-IB1	functional replacement $ ightarrow$	CEP7-1EF	CEP7-1IB1
Jam and Remote Reset	CE	EP7-IB2	functional replacement $ ightarrow$	CEP7-1EF	CEP7-1IB2
Thermistor Relay and Remote Reset	CE	EP7-IB3	functional replacement $ ightarrow$		no direct replacement
Ground Fault and Remote Reset	CE	P7-IB4	functional replacement →	CEP7-1EF	CEP7-1IB4
	CE	EP7-IB5	functional replacement →	CEP7-1EF	CEP7-1IB5
	CE	EP7-IB6	functional replacement $ ightarrow$		no direct replacement
	CE	P7-IB7	functional replacement →		no direct replacement
Ground Fault and Jam and Remote Reset Module	CE	EP7-IB8	functional replacement $ ightarrow$	CEP7-1EF	CEP7-1IB8
	CE	EP7-IB9	functional replacement $ ightarrow$	CEP7-1EF	CEP7-1IB9
	CE	EP7-IB10	functional replacement $ ightarrow$		no direct replacement
	CE	P7-IB11	functional replacement $ ightarrow$		no direct replacement

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Product Migration:

Electronic Overload Relay - CEP7 to CEP7-1

PUB ID: MIGRATION-CEP7-1_v4 01/2025

Sprecher + Schuh has provided reliable control and protection solutions for its customers since 1903.

Today, Sprecher + Schuh offers a wide range of low-voltage industrial control products, including contactors, a variety of relays, starters, push buttons, switches, terminals and controllers, to name a few. All of our products are crafted with precision and tested rigorously for performance — far exceeding industry standards. Moving forward, we continue along the path of constantly seeking innovative ways to provide solutions for our customers. It is by this philosophy that Sprecher + Schuh has come to be the industrial control manufacturer of choice for many customers around the globe seeking quality, reliability, and a name they can trust.