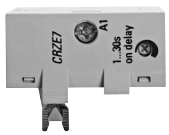
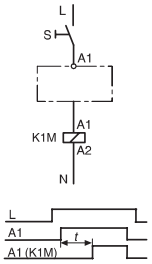
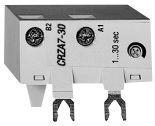
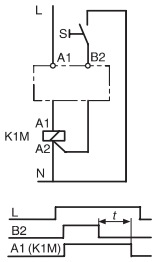
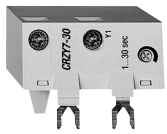
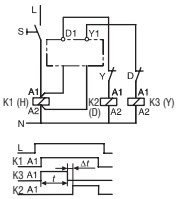
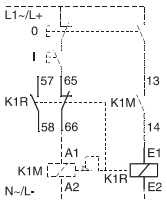
Control Modules ❶

Module	Description	For use with. . .	Connection Diagrams	Function	Catalog Number
	**Pneumatic Timing Module –** The contacts in the Pneumatic Timing Element switch after the delay time. The contacts on the main contactor continue to operate without delay. • Continuous adjustment range	CA7 with AC or 24V DC electronic coil		**ON-Delay** 0.3...30s 1.8...180s	**CZE7-30** **CZE7-180**
		CA7 all		**OFF-Delay** 0.3...30s 1.8...180s	**CZA7-30** **CZA7-180**
	**Electronic Timing Module – ❷** **ON-Delay** The contactor is energized at the end of the delay time.	CA7 with 110...240V, 50/60Hz or 110...250V DC		110...240V 50/60Hz 110...250V DC 0.1...3s 1...30s 10...180s	**CRZE7-3-110/240** **CRZE7-30-110/240** **CRZE7-180-110/240**
		CA7 with 24...48V DC		24...48V DC 0.1...3s 1...30s 10...180s	**CRZE7-3-24/48VDC** **CRZE7-30-24/48VDC** **CRZE7-180-24/48VDC**
	**Electronic Timing Module – ❷** **OFF-Delay** After interruption of the control signal, the contactor is de-energized at the end of the delay time.	CA7-9...37 with 110...240V, 50/60Hz		110...240V 50/60Hz 0.3...3s 1...30s 10...180s	**CRZA7-3-110/240** **CRZA7-30-110/240** **CRZA7-180-110/240**
		CA7-9...37 with 24V, 50/60Hz		24V AC 50/60Hz 0.3...3s 1...30s 10...180s	**CRZA7-3-24VAC** **CRZA7-30-24VAC** **CRZA7-180-24VAC**
	**Electronic Timing Module – ❷** **Wye-Delta Transition Timer** Contactor K3 (Y) is de-energized and contactor K2 (D) is energized after the end of the set transition time. Switching delay at 50ms. • Continuous adjustment range • High repeat accuracy	CA7 with 110...240V, 50/60Hz		110...240V 50/60Hz 1...30s	**CRZY7-30-110/240**
 CM7 CM7-02	**Mechanical/Electrical Interlocks –** • Common to all CA7 contactors; • interlocks different contactor sizes • Mechanical and electrical interlocking possible in one module by means of integrated auxiliary contacts • Dovetail (CA7-S9) connector included (9mm)	CA7 all ❶		**Mechanical** Without auxiliaries	**CM7**
				**Mechanical/ Electrical** Two NC aux contacts	**CM7-02**

❶ Not for use with CA7-40 or CA7-90 (4-pole) contactors.
❷ Not available for use on CA7-9E...55E coil voltage 48V...220V.

Control Modules *(continued)*

Module	Description	For use with...	Connection Diagrams	Catalog Number
	**Mechanical Latch –** Following contactor latching, the contactor coil is immediately de-energized by the NC auxiliary contact (65-66). • Electrical or manual release • 1 NO + 1 NC auxiliary switch • Suitable for all CA7 contactors	All CA7 ❺		**CV7-11-✱** **Replace ✱ with coil code below (See Application Note below)**

CV7 Mechanical Latch Coil Codes ❶❷❸❹

Coil Code	Application Range			Latch & Contactor Coil Rating
	50 Hz	60 Hz	VDC	
24Z	**24 VAC**	24 VAC	12 VDC	24V 50/60 Hz
48Z	48 VAC	48 VAC	**24 VDC**	48V 50/60 Hz
110	100 VAC	110 VAC	48 or 60VDC	110V50/110V60
120	110 VAC	**120 VAC**	~	110V50/120V60
~~220W~~	~~~~	~~208...240 VAC~~	~~~~	~~208...240V60~~
240Z	**240 VAC**	**240 VAC**	125 VDC	240V 50/60 Hz
400Z	400 VAC	400 VAC	220 VDC	400V 50/60 Hz
415	400...415 VAC	~	~	400...415 V50 Hz

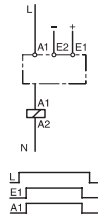
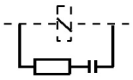
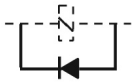
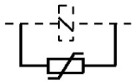
APPLICATION NOTE:

The CV7 Mechanical Latch for CA7 may be used for both AC and DC applications; however when using DC control circuit the user must apply the following rules for coil selection of the contactor and latch combination:

- The CA7-9E...55E contactor uses an electronic DC coil and the CV7 latch coil code should be chosen from the table on the left. (i.e.: 24V DC control circuit select CA7-9E...55E with code 24E and CV7 latch uses a 48Z AC coil code).
- When DC control circuits are required use CA7-60D...97D contactors with standard two winding DC coil and the CV7 latch with AC coil selected from the table, top left. (i.e.: 125V DC control circuit should use 125DD coil code in the contactor and 240Z AC coil code in the CV7 latch).

❶ Other voltages available. Contact your Sprecher + Schuh representative.
❷ CV7 must be wired for momentary operation only.
❸ Command duration 0.03...10 seconds.
❹ Coil operating limits on CV7-11 match those of the contactor it is being used with.
❺ Not for use with CA7-90 (4-pole) contactors.

Control Modules *(continued)*

Module	Description	For use with...	Connection Diagrams	Function		Catalog Number
				Input	Output	
	**Electronic Interface –** Interface between the DC control signal from a PLC and the AC operating mechanism of the contactor. • Requires no additional surge suppression for the coils • Suitable for all CA7 contactors ❷	CA7 all (with AC control)		24V DC ❶ 12V DC ~~48V DC~~	110... 240V AC	**CRI7E-24** **CRI7E-12** ~~**CRI7E-48**~~ Gray is special order
	**Surge Suppressors -** Limits coil switching transients. • Plug-in, coil mounted • Suitable for all CA7 contactors	CA7 all (with AC control)		**RC Module -** AC Control (50/60Hz) 24...48V 110...280V 380...480V		**CRC7-48** **CRC7-280** **CRC7-480**
		CA7-9C...43C (with conventional DC control)		**Diode Module -** DC Control 12-250VDC		**CRD7-250** ❸
		CA7 all (with AC control) CA7-9C...43C (with conventional DC control)		**Varistor Module -** AC/DC Control 12...55VAC/ 12...77VDC 56...136VAC/ 78...180VDC 137...277VAC/ 181...350VDC 278...575VAC		**CRV7-55** ❸ **CRV7-136** ❸ **CRV7-277** ❸ **CRV7-575** ❸

❶ Control voltage 18...30V DC (10...15mA)

❷ Minimum actuation current is 5 volts, 2ma. The leakage current is <1MA for the following:
- CRI7E-12 @ 2.5 VDC input
- CRI7E-24 @5 VDC input
- CRI7E-48 @ 10 VDC input.

❸ Electronic DC Contactors (CA7-9E...55E) include internal surge protection and do not require additional external surge protection.