

### Technical Information

<b>Rated Insulation Voltage <math>U_i</math></b>	
IEC	690V
UL; CSA	600V
<b>Rated Impulse Strength <math>U_{imp}</math></b>	
	6 kV
<b>High Test Voltage</b>	
1 minute (per IEC 947-4)	2500V
<b>Rated Voltage <math>U_e</math></b>	
AC	115, 230, 400, 500, 690V
DC	24, 48, 110, 220, 440V
<b>Rated Frequency</b>	
	50/60 Hz, DC
<b>Ambient Temperature</b>	
Storage	-55...+80°C (-67...176°F)
Operation at nominal current	-25...+60°C (-13...140°F)
Conditioned 15% current reduction after AC-1 at > 60°C	-25...+70°C (-13...158°F)

<b>Corrosion Resistance</b>		humid-alternating climate, cyclic, per IEC 68-2-30 and DIN 50 016, 56 cycles
<b>Altitude</b>		2000m above main sea level, per IEC 947-4
<b>Type of Protection</b>		IP 2X (IEC 60529 and DIN 40050) in connected state
<b>Finger Protection</b>		safe from touch by fingers and back of hand per VDE 0106, Part 100
<b>Shock Protection</b>		IEC 68-2: Half Sinusoidal shock 11ms 30G (in 3 directions)
<b>Vibration Resistance</b>		IEC 68-2: static >2G in normal position no malfunction <5G

### Coil Data - AC Control Circuit

Operating Voltage Range	Pickup	[x $U_s$ ]	0.85...1.1
	Dropout	[x $U_s$ ]	0.3...0.6
Coil Consumption	Inrush	[VA]	75
	Seal	[VA/W]	9.5/2.7
Operating Times	Pickup Time	[ms]	15...30
	Dropout Time	[ms]	10...60

### Latch Attachment Release, CV7-11

Coil Consumption	AC	[VA/W]	45/40
	DC	[W]	25

<b>Contact Signal Duration</b>	[min/max]	0.03...15s
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### Timing Attachment, CRZE7, CRZA7

Reset Time	at min. time setting	[ms]	10
	at max. time setting	[ms]	70
	Repeat Accuracy		± 10%

### Coil Data - Electronic DC

Voltage Range			Coil Consumption & Operating Times ③				
Voltage Code	Nominal Voltage US [VDC]	Ratings [x $U_s$ ]	Average/Peak Pickup [W]	Hold-in [W]	Dropout Voltage [x $U_s$ ]	Pickup [ms]	Dropout [ms]
12E	12	0.7...1.25	10/17	1.7	0.3...0.4	25...50	27...45
24E	24	0.7...1.25	10/17	1.7			
36E	36...48	0.7...1.25	10/17	1.7...1.9			
48E	48...72	0.8...1.25	10/17	1.7...1.9	0.3...0.4	25...50	23...33
110E	110...125	0.7...1.12④	12/19	2.0...2.1			
220E	220...250	0.8...1.1	14/22	2.7...3.0			

### Control Relays Maximum Auxiliary Contacts

CS7 (AC and DC electronic coils, vertical mounting, 60° C)	CS7(E)-40E	CS7(E)-31E	CS7(E)-22E	CS7(E)-04E
Maximum N.O. Side Auxiliaries	2	2	4	2
Maximum N.C. Side Auxiliaries	4	4 ①	4 ①	2
Maximum N.O. Front Auxiliaries	4	4	4	4
Maximum N.C. Front Auxiliaries	4	4 ②	2	0
Maximum N.O. Front + Side Auxiliaries	6	6	8	6
Maximum N.C. Front + Side Auxiliaries	7	5	5	2
Maximum N.O. + N.C. Front + Side Auxiliaries	8	8	8	6

- ① With no front auxiliary contacts installed. Otherwise 3 N.C. maximum.
- ② With no side mount auxiliary contacts installed. Otherwise 3 N.C. maximum.
- ③ The hold-in demand of the CS7E is very low but the pick-up demand is approximately 1 ampere at 24 VDC. When sizing (dimensioning) a power supply for applications involving parallel switched contactors then multiply the peak demand by the number of contactors to be simultaneously switched and add to the hold-in demand of all other control circuit burdens, including other contactors, pilot devices, solenoids, etc.
- ④ At 110VDC, coil code 110E has an operating range of 0.7...1.25 x $U_s$