

**CSA/UL OVERCURRENT PROTECTION**

Overcurrent Protection on both the primary and secondary sides of transformers are specified in UL508 and the National Electrical Code 450 and the Canadian Electrical Code. The maximum acceptable ratings are shown below. Due to the high inrush current present when a transformer is initially energized it is recommended that the primary fuse be time delay, to prevent nuisance trips during start-up  
Standard fuse dimension is 13/32 x 1-1/2 "MIDGET" fuse.

**MAXIMUM ACCEPTABLE RATING OF PRIMARY OVERCURRENT PROTECTION**

PRIMARY	TRANSFORMER VA										
	25	50	75	100	150	200	250	300	350	500	750
115	0.600 (1.00)	1.250 (2.00)	1.800 (3.20)	2.500 (4.00)	3.500 (6.25)	5.000 (8.00)	5.00	6.25	7.50	10.00	15.00
120	0.600 (1.00)	1.250 (2.00)	1.800 (3.00)	2.25 (4.00)	3.500 (6.25)	5.000 (8.00)	5.00	6.25	7.00	10.00	15.00
200	0.300 (0.60)	0.750 (1.25)	1.125 (1.80)	1.500 (2.50)	2.250 (3.50)	3.000 (5.00)	3.500 (6.25)	4.500 (7.50)	5.000 (8.00)	6.25	9.00
208	0.300 (0.60)	0.600 (1.125)	1.000 (1.80)	1.400 (2.25)	2.000 (3.50)	2.800 (4.50)	3.500 (6.00)	4.000 (7.00)	5.000 (8.00)	6.00	9.00
220	0.300 (0.50)	0.600 (1.125)	1.000 (1.60)	1.250 (2.25)	2.000 (3.20)	2.500 (4.50)	3.200 (5.60)	4.000 (6.25)	4.500 (7.50)	5.60	8.00
230	0.300 (0.50)	0.600 (1.00)	0.800 (1.60)	1.250 (2.00)	1.800 (3.20)	2.500 (4.00)	3.200 (5.00)	3.500 (6.25)	4.500 (7.50)	5.00	8.00
240	0.300 (0.50)	0.600 (1.00)	0.800 (1.50)	1.250 (2.00)	1.800 (3.00)	2.250 (4.00)	3.000 (5.00)	3.500 (6.25)	4.000 (7.00)	5.00	7.50
277	0.250 (0.40)	0.500 (0.80)	0.800 (1.25)	1.000 (1.80)	1.600 (2.50)	2.000 (3.50)	2.500 (4.50)	3.200 (5.00)	3.500 (6.25)	5.000 (9.00)	6.25
347	0.200 (0.35)	0.400 (0.70)	0.600 (1.00)	0.800 (1.40)	1.20 (2.00)	1.700 (2.80)	2.000 (3.50)	2.500 (4.00)	3.000 (5.00)	4.000 (7.00)	6.000 (10.00)
380	0.187 (0.30)	0.300 (0.60)	0.500 (0.80)	0.750 (1.25)	1.125 (1.80)	1.500 (2.50)	1.800 (3.20)	2.250 (3.50)	2.500 (4.50)	3.500 (6.25)	5.600 (9.00)
400	0.187 (0.30)	0.300 (0.60)	0.500 (0.80)	0.750 (1.25)	1.125 (1.80)	1.500 (2.50)	1.800 (3.00)	2.250 (3.50)	2.500 (4.00)	3.500 (6.25)	5.600 (9.00)
415	0.150 (0.30)	0.300 (0.60)	0.500 (0.80)	0.600 (1.13)	1.000 (1.80)	1.400 (2.25)	1.800 (3.00)	2.000 (3.50)	2.500 (4.00)	3.500 (6.00)	5.000 (9.00)
440	0.150 (0.25)	0.300 (0.50)	0.500 (0.80)	0.600 (1.13)	1.000 (1.60)	1.250 (2.25)	1.600 (2.80)	2.000 (3.20)	2.250 (3.50)	3.200 (5.60)	5.000 (8.00)
460	0.150 (0.25)	0.300 (0.50)	0.400 (0.80)	0.600 (1.00)	0.800 (1.60)	1.250 (2.00)	1.600 (2.50)	1.800 (3.20)	2.250 (3.50)	3.200 (5.00)	4.500 (8.00)
480	0.150 (0.25)	0.300 (0.50)	0.400 (0.75)	0.600 (1.00)	0.800 (1.50)	1.250 (2.00)	1.500 (2.50)	1.800 (3.00)	2.000 (3.50)	3.000 (5.00)	4.500 (7.50)
550	0.125 (0.20)	0.250 (0.40)	0.400 (0.60)	0.500 (0.80)	0.800 (1.25)	1.000 (1.80)	1.250 (2.25)	1.600 (2.50)	1.800 (3.00)	2.500 (4.50)	4.000 (6.25)
575	0.125 (0.20)	0.250 (0.40)	0.300 (0.60)	0.500 (0.80)	0.750 (1.25)	1.000 (1.60)	1.250 (2.00)	1.500 (2.50)	1.800 (3.00)	2.500 (4.00)	3.500 (6.25)
600	0.125 (0.20)	0.200 (0.40)	0.300 (0.60)	0.500 (0.80)	0.750 (1.25)	0.800 (1.60)	1.250 (2.00)	1.500 (2.50)	1.600 (2.80)	2.250 (4.00)	3.500 (6.25)

Note: If the primary current is:  
a) less than 2 amps, the maximum rating of the overcurrent device is 300% for power circuits, shown above or 500% for control circuits, shown above in (brackets).  
b) 2 amps or more, the maximum rating of the overcurrent device is 250%. (CEC permits 300%)  
All figures assume secondary overcurrent per UL/NEC  
REFERENCE: NEC 430 - 72(C) exception #2, 450-3(b) 1&2, UL508 32.7, UL845 11.16 & 11.17, CEC PartI,26-256

**ACCEPTABLE RATING OF SECONDARY OVERCURRENT PROTECTION**

SECONDARY VOLTAGE	TRANSFORMER VA										
	25	50	75	100	150	200	250	300	350	500	750
23	1.80	3.50	5.00	7.00	10.00	12.00	15.00	20.00	20.00	30.00	45.00
24	1.60	3.20	5.00	6.25	10.00	12.00	15.00	20.00	20.00	30.00	40.00
25	1.60	3.20	5.00	6.25	10.00	12.00	15.00	15.00	20.00	25.00	40.00
90	0.40	0.80	1.25	1.80	2.50	3.50	4.50	5.00	6.25	9.00	12.00
95	0.40	0.80	1.25	1.60	2.50	3.50	4.00	5.00	6.00	8.00	12.00
100	0.40	0.80	1.25	1.60	2.50	3.20	4.00	5.00	5.60	8.00	12.00
110	0.30	0.75	1.125	1.50	2.25	3.00	3.50	4.50	5.00	7.50	10.00
115	0.30	0.60	1.00	1.40	2.00	2.80	3.50	4.00	5.00	7.00	10.00
120	0.30	0.60	1.00	1.25	2.00	2.50	3.20	4.00	4.50	6.25	10.00
220	0.15	0.30	0.50	0.75	1.125	1.50	1.80	2.25	2.50	3.50	5.60
230	0.15	0.30	0.50	0.60	1.00	1.25	1.60	2.00	2.25	3.20	5.00
240	--	0.30	0.50	0.60	1.00	1.25	1.60	2.00	2.25	3.20	5.00

Note: If the rated secondary current is:  
a) less than 9 amps, the maximum rating of the overcurrent device is 167%.  
b) 9 amps or more , the maximum rating of the overcurrent device is 125%.  
c) If 125% does not correspond to a standard fuse rating, the next highest rating may be used.  
REFERENCE NEC 430 - 72(C) exception #2, 450-3(b) 1&2, UL508 32.7, UL845 11.16 & 11.17, CEC PartI 26-256

**FOR REFERENCE ONLY - SUBJECT TO CHANGE**

**IEC OVERCURRENT PROTECTION**

**ACCEPTABLE RATING OF PRIMARY OVERCURRENT PROTECTION**

	TRANSFORMER VA								
	50	75	100	150	200	250	300	350	500
PRIMARY VOLTAGE									
115	2.00	2.00	4.00	4.00	6.00	6.00	8.00	10.00	12.00
120	2.00	2.00	4.00	4.00	6.00	6.00	8.00	10.00	12.00
200	1.00	2.00	2.00	4.00	4.00	4.00	4.00	6.00	8.00
208	1.00	2.00	2.00	4.00	4.00	4.00	4.00	6.00	8.00
220	1.00	1.00	2.00	4.00	4.00	4.00	4.00	6.00	6.00
230	1.00	1.00	2.00	4.00	4.00	4.00	4.00	6.00	6.00
240	1.00	1.00	2.00	4.00	4.00	4.00	4.00	4.00	6.00
277	0.50	1.00	1.00	2.00	4.00	4.00	4.00	4.00	6.00
380	0.50	1.00	1.00	2.00	2.00	4.00	4.00	4.00	6.00
400	0.50	0.50	1.00	2.00	2.00	4.00	4.00	4.00	4.00
415	0.50	0.50	1.00	1.00	2.00	4.00	4.00	4.00	4.00
440	0.50	0.50	1.00	1.00	2.00	2.00	4.00	4.00	4.00
460	0.50	0.50	1.00	1.00	2.00	2.00	4.00	4.00	4.00
480	0.50	0.50	0.50	1.00	2.00	2.00	4.00	4.00	4.00
550	0.50	0.50	0.50	1.00	1.00	2.00	2.00	4.00	4.00
575	0.50	0.50	0.50	1.00	1.00	2.00	2.00	4.00	4.00
600	0.50	0.50	0.50	1.00	1.00	2.00	2.00	4.00	4.00

Note: Protection Index - IP00. Protection Index with supplied terminal covers attached to primary, secondary and fuse block terminals is IP-20. Fuses 10X38mm (13/32" x 1 1/2"). Time-lag IEC 269

**ACCEPTABLE RATING OF SECONDARY OVERCURRENT PROTECTION**

	TRANSFORMER VA									
	50	75	100	150	200	250	300	350	500	750
SECONDARY VOLTAGE										
23	2.50	4.00	5.00	8.00	10.00	12.00	16.00	16.00	25.00	--
24	2.50	4.00	5.00	8.00	10.00	12.00	16.00	16.00	25.00	32.00
25	2.50	4.00	5.00	8.00	10.00	12.00	16.00	16.00	25.00	32.00
90	0.63	1.00	1.25	2.00	2.50	3.15	4.00	4.00	6.30	10.00
95	0.63	0.80	1.25	1.60	2.50	3.15	4.00	4.00	6.30	8.00
100	0.50	0.80	1.00	1.60	2.00	2.50	3.15	4.00	5.00	8.00
110	0.50	0.80	1.00	1.60	2.00	2.50	3.15	4.00	5.00	8.00
115	0.50	0.80	1.00	1.60	2.00	2.50	3.15	3.15	5.00	8.00
120	0.50	0.63	1.00	1.25	2.00	2.50	2.50	3.15	5.00	6.30
220	0.25	0.40	0.50	0.80	1.00	1.25	1.60	1.60	2.50	4.00
230	0.25	0.40	0.50	0.80	1.00	1.25	1.60	1.60	2.50	4.00
240	0.25	0.31	0.50	0.63	1.00	1.25	1.25	1.60	2.50	3.15

Note: Miniature fuses 5X20mm time-lag (IEC 127-2/III).. For values over 6.3A use 10X38 mm time lag (IEC 269-3-1)

**FOR REFERENCE ONLY - SUBJECT TO CHANGE**