



### OVERLOAD RELAY HEATER SELECTION TABLES, *Continued*

#### Type ST Standard Trip Eutectic Alloy

*For Replacement in Existing Applications Only*

For Motors with 1.15 Service Factor

Table ST-1	Table ST-2	Table ST-3	Table ST-4	Table ST-5	Table ST-6	Heater Catalog Number
NEMA Sizes 00, 0, 1, 1-1/2		NEMA Size 2		NEMA Size 3		
For <b>Open</b> Type Cat. No. A10, A50, A700, B10, B50, C300 For <b>Enclosed</b> Type Cat. No. B10, B50, C300	For <b>Enclosed</b> Type Cat. No. A10, A50, A460Ⓢ, A490Ⓢ, A700	For <b>Open</b> Type Cat. No. A10, A50, A700, B10, C300 For <b>Enclosed</b> Type Cat. No. B10, C300, A30, A40, A70, A80, A800-A803	For <b>Enclosed</b> Type Cat. No. A10, A50, A460Ⓢ, A490Ⓢ, A700	For <b>Open</b> Type Cat. No. A10, A50, A700, B10, C300 For <b>Enclosed</b> Type Cat. No. A70, A80, A800-A803, B10	For <b>Enclosed</b> Type Cat. No. A10, A30, A40, A50, A460Ⓢ, A490Ⓢ, A700	
Heater Ampere Range						
.167- .187	.155- .173	.....	.....	.....	.....	H1101
.188- .210	.174- .195	.....	.....	.....	.....	H1102
.211- .237	.196- .220	.....	.....	.....	.....	H1103
.238- .266	.221- .247	.....	.....	.....	.....	H1104
.267- .298	.248- .278	.....	.....	.....	.....	H1105
.299- .334	.279- .310	.....	.....	.....	.....	H1106
.335- .376	.311- .349	.....	.....	.....	.....	H1107
.377- .422	.350- .391	.....	.....	.....	.....	H1108
.423- .474	.392- .441	.....	.....	.....	.....	H1109
.475- .532	.442- .495	.....	.....	.....	.....	H1110
.533- .598	.496- .555	.....	.....	.....	.....	H1111
.599- .672	.556- .624	.....	.....	.....	.....	H1112
.673- .757	.625- .703	.....	.....	.....	.....	H1113
.758- .855	.704- .795	.....	.....	.....	.....	H1114
.865- .959	.796- .895	.....	.....	.....	.....	H1115
.960- 1.07	.896- 0.999	.....	.....	.....	.....	H1116
1.08 - 1.21	1.00 - 1.12	.....	.....	.....	.....	H1117
1.22 - 1.35	1.13 - 1.25	.....	.....	.....	.....	H1018
1.36 - 1.52	1.26 - 1.41	.....	.....	.....	.....	H1019
1.53 - 1.70	1.42 - 1.58	.....	.....	.....	.....	H1020
1.71 - 1.90	1.59 - 1.77	.....	.....	.....	.....	H1021
1.91 - 2.10	1.78 - 1.96	.....	.....	.....	.....	H1022
2.11 - 2.33	1.97 - 2.17	.....	.....	.....	.....	H1023
2.34 - 2.62	2.18 - 2.44	.....	.....	.....	.....	H1024
2.63 - 2.93	2.45 - 2.72	.....	.....	.....	.....	H1025
2.94 - 3.27	2.73 - 3.04	.....	.....	.....	.....	H1026
3.28 - 3.64	3.05 - 3.38	.....	.....	.....	.....	H1066
3.65 - 4.06	3.39 - 3.73	3.72 - 4.10	.....	.....	.....	H1027
4.07 - 4.55	3.74 - 4.18	4.11 - 4.59	3.86 - 4.31	.....	.....	H1028
4.56 - 5.03	4.19 - 4.63	4.60 - 5.07	4.32 - 4.77	.....	.....	H1029
5.04 - 5.59	4.64 - 5.15	5.08 - 5.65	4.78 - 5.31	.....	.....	H1030
5.60 - 6.25	5.16 - 5.68	5.66 - 6.29	5.32 - 5.90	.....	.....	H1031
6.26 - 6.92	5.69 - 6.30	6.30 - 7.00	5.91 - 6.55	.....	.....	H1032
6.93 - 7.75	6.31 - 7.05	7.01 - 7.82	6.56 - 7.33	.....	.....	H1033
7.76 - 8.63	7.06 - 7.76	7.83 - 8.79	7.34 - 8.15	8.32 - 9.27	8.24 - 9.19	H1034
8.64 - 9.59	7.77 - 8.63	8.80 - 9.67	8.16 - 9.03	9.28 - 10.1	9.20 - 10.1	H1035
9.60 - 10.6	8.64 - 9.51	9.68 - 10.8	9.04 - 10.1	10.2 - 11.4	10.2 - 11.3	H1036
10.7 - 11.9	9.52 - 10.5	10.9 - 12.0	10.2 - 11.2	11.5 - 12.8	11.4 - 12.7	H1037
12.0 - 13.3	10.6 - 11.8	12.1 - 13.4	11.3 - 12.5	12.9 - 14.3	12.8 - 14.1	H1038
13.4 - 14.7	11.9 - 13.1	13.5 - 14.9	12.6 - 13.9	14.4 - 16.0	14.2 - 15.8	H1039
14.8 - 16.6	13.2 - 14.8	15.0 - 17.6	14.0 - 15.7	16.1 - 17.8	15.9 - 17.7	H1040
16.7 - 18.8	14.9 - 16.7	17.7 - 19.0	15.8 - 17.5	17.9 - 20.3	17.8 - 20.1	H1041
18.9 - 21.2	16.8 - 18.9	19.1 - 21.5	17.6 - 19.8	20.4 - 22.9	20.2 - 22.7	H1042
21.3 - 23.9	19.0 - 21.3	21.6 - 24.5	19.9 - 22.3	23.0 - 26.0	22.8 - 25.5	H1043
24.0 - 27.0	21.4 - 24.1	24.6 - 27.9	22.4 - 25.4	26.1 - 29.5	25.6 - 28.9	H1044
.....	24.2 - 27.0	28.0 - 32.0	25.5 - 28.7	29.6 - 33.5	29.0 - 32.5	H1045
.....	.....	32.1 - 36.6	28.8 - 32.5	33.6 - 37.8	32.6 - 36.7	H1046
.....	.....	36.7 - 41.8	32.6 - 36.6	37.9 - 42.8	36.8 - 41.0	H1047
.....	.....	41.9 - 45.0	36.7 - 41.0	42.9 - 48.5	41.1 - 46.0	H1048
.....	.....	.....	41.1 - 45.0	48.6 - 55.1	46.1 - 51.8	H1049
.....	.....	.....	.....	55.2 - 62.3	51.9 - 58.6	H1050
.....	.....	.....	.....	62.4 - 69.5	58.7 - 64.6	H1051
.....	.....	.....	.....	69.6 - 79.1	64.7 - 72.7	H1052
.....	.....	.....	.....	79.2 - 90.0	72.8 - 83.1	H1054
.....	.....	.....	.....	.....	83.2 - 90.0	H1055

NOTE: Individually boxed heaters master packed 10 per carton.  
 Ⓢ For A460 controllers, select heaters at 50% of rated full load current.  
 Ⓢ For A490 controllers, select heaters at 58% of rated full load current.





### OVERLOAD RELAY HEATER SELECTION TABLES, *Continued*

#### Type ST Standard Trip Eutectic Alloy

For Replacement in Existing Applications Only

For Motors With 1.15 Service Factor

Table ST-7	Heater Catalog Number
NEMA Size 4	
For <b>Open</b> Type Cat. No. A10, A50, C300 For <b>Enclosed</b> Type Cat. No. A10, A30, A40, A50, A70, A80, A460 <sup>Ⓢ</sup> , A490 <sup>Ⓢ</sup> , A700, A800-A803	
Heater Ampere Range	
20.6- 23.3 23.4- 26.3	H1042 H1043
26.4- 30.8 30.9- 34.0 34.1- 38.3 38.4- 43.4 43.5- 49.3	H1044 H1045 H1046 H1047 H1048
49.4- 55.8 55.9- 63.1 63.2- 70.4 70.5- 79.9 80.0- 92.7	H1049 H1050 H1051 H1052 H1054
92.8-105 106 -121 122 -135	H1055 H1056 H1057

Table ST-8	Heater Catalog Number
NEMA Size 5	
For <b>Open</b> and <b>Enclosed</b> Type A10, A50, A30-40, A70, A80, A400, A410, A420, A460, A490, A800-A801	
Heater Ampere Range	
92-101 102-113 114-125 126-139 140-157	H1020 H1021 H1022 H1023 H1024
158-175 176-196 197-218 219-243 244-270	H1025 H1026 H1066 H1027 H1028

Table ST-9	Heater Catalog Number
NEMA Size 0 and 1	
For <b>Enclosed</b> Type Cat. No. A30, A40, A70, A80, A800-A803	
Heater Ampere Range	
.164- .183 .184- .205 .206- .232 .233- .260 .261- .293	H1101 H1102 H1103 H1104 H1105
.294- .328 .329- .369 .370- .414 .415- .465 .466- .522	H1106 H1107 H1108 H1109 H1110
.523- .586 .587- .659 .660- .743 .744- .839 .840- .943	H1111 H1112 H1113 H1114 H1115
.944- 1.05 1.06 - 1.17	H1116 H1117
1.18 - 1.31 1.32 - 1.47 1.48 - 1.66	H1018 H1019 H1020
1.67 - 1.85 1.86 - 2.04 2.05 - 2.26 2.27 - 2.54 2.55 - 2.85	H1021 H1022 H1023 H1024 H1025
2.86 - 3.18 3.19 - 3.53 3.54 - 3.95 3.96 - 4.41 4.42 - 4.88	H1026 H1066 H1027 H1028 H1029
4.89 - 5.42 5.43 - 6.07 6.08 - 6.64 6.65 - 7.43 7.44 - 8.23	H1030 H1031 H1032 H1033 H1034
8.24 - 9.19 9.20 -10.1 10.2 -11.3 11.4 -12.6 12.7 -14.0	H1035 H1036 H1037 H1038 H1039
14.1 -15.7 15.8 -17.7 17.8 -19.8 19.9 -22.0 22.1 -24.9 25.0 -27.0	H1040 H1041 H1042 H1043 H1044 H1045

Table ST-10	Table ST-11	Table ST-12	Heater Catalog Number
NEMA Size 6	NEMA Size 7	NEMA Size 8	
For <b>Open</b> Type — Cat. No. A10, A50, A700 For <b>Enclosed</b> Type — Cat. No. A10, A30, A40, A50, A70, A80, A400, A460 <sup>Ⓢ</sup> , A490 <sup>Ⓢ</sup> , A700			
Heater Ampere Range			
..... 154-171 172-192 193-215	229-255 256-287 288-321 322-359	..... 384- 429 430- 482 483- 538	H1018 H1019 H1020 H1021
216-237 238-263 264-295 296-330 331-369	360-397 398-439 440-492 493-551 552-615	539- 595 596- 657 658- 741 742- 827 828- 924	H1022 H1023 H1024 H1025 H1026
370-410 411-458 459-512 513-574	616-685 686-763 764-855 .....	925-1027 1028-1147 1148-1285 .....	H1066 H1027 H1028 H1029

NOTE: Individually boxed heaters master packed 10 per carton.  
<sup>Ⓢ</sup> For A460 controllers, select heaters for 50% of rated full load current.  
<sup>Ⓢ</sup> For A490 controllers, select heaters for 58% of rated full load current.



### OVERLOAD RELAY HEATER SELECTION TABLES, *Continued*

#### Type BNC Bimetal

*For Replacement in Existing Applications Only*

For Motors with 1.15 Service Factor

Table BNC-1	Table BNC-2	Table BNC-3	Table BNC-4	Heater Catalog Number
NEMA Sizes 00, 0, 1, 1-1/2		NEMA Size 2		
For <b>Open</b> Type Cat. No. A11, A51, B11, B51, C301 For <b>Enclosed</b> Type Cat. No. C301	For <b>Enclosed</b> Type Cat. No. A11, A51, B11, B51	For <b>Open</b> Type Cat. No. A11, A51, B11, C301 For <b>Enclosed</b> Type Cat. No. A31, A41, A71, A81, B11	For <b>Enclosed</b> Type Cat. No. A11, A51, C301	
Heater Ampere Range				
.180- .201	.167- .187	.....	.....	H1101
.202- .226	.188- .210	.....	.....	H1102
.227- .254	.211- .236	.....	.....	H1103
.255- .285	.237- .266	.....	.....	H1104
.286- .320	.267- .297	.....	.....	H1105
.321- .357	.298- .332	.....	.....	H1106
.358- .402	.333- .373	.....	.....	H1107
.403- .451	.374- .419	.....	.....	H1108
.452- .506	.420- .470	.....	.....	H1109
.507- .568	.471- .528	.....	.....	H1110
.569- .638	.529- .592	.....	.....	H1111
.639- .716	.593- .663	.....	.....	H1112
.717- .799	.664- .743	.....	.....	H1113
.800- .911	.744- .847	.....	.....	H1114
.912- 1.01	.848- .951	.....	.....	H1115
1.02 - 1.14	.952- 1.06	.....	.....	H1116
1.15 - 1.29	1.07 - 1.20	.....	.....	H1117
1.30 - 1.44	1.21 - 1.33	.....	.....	H1018
1.45 - 1.61	1.34 - 1.49	.....	.....	H1019
1.62 - 1.80	1.50 - 1.67	.....	.....	H1020
1.81 - 2.03	1.68 - 1.89	.....	.....	H1021
2.04 - 2.25	1.90 - 2.09	.....	.....	H1022
2.26 - 2.49	2.10 - 2.32	.....	.....	H1023
2.50 - 2.76	2.33 - 2.57	.....	.....	H1024
2.77 - 3.05	2.58 - 2.83	.....	.....	H1025
3.06 - 3.39	2.84 - 3.15	.....	.....	H1026
3.40 - 3.83	3.16 - 3.51	3.87 - 4.18	.....	H1066
3.84 - 4.22	3.52 - 3.87	4.19 - 4.60	3.94 - 4.33	H1027
4.23 - 4.63	3.88 - 4.25	4.61 - 5.10	4.34 - 4.78	H1028
4.64 - 5.19	4.26 - 4.76	5.11 - 5.60	4.79 - 5.27	H1029
5.20 - 5.73	4.77 - 5.27	5.61 - 6.20	5.28 - 5.83	H1030
5.74 - 6.49	5.28 - 5.90	6.21 - 6.92	5.84 - 6.51	H1031
6.50 - 7.32	5.91 - 6.63	6.93 - 7.76	6.52 - 7.29	H1032
7.33 - 8.07	6.64 - 7.35	7.77 - 8.63	7.30 - 8.07	H1033
8.08 - 9.03	7.36 - 8.15	8.64 - 9.67	8.08 - 9.03	H1034
9.04 - 9.99	8.16 - 8.87	9.68 - 10.5	9.04 - 9.99	H1035
10.0 - 11.1	8.88 - 9.99	10.6 - 11.8	10.0 - 11.1	H1036
11.2 - 12.5	10.0 - 11.1	11.9 - 13.2	11.2 - 12.3	H1037
12.6 - 14.1	11.2 - 12.5	13.3 - 15.0	12.4 - 14.1	H1038
14.2 - 15.9	12.6 - 14.1	15.1 - 17.2	14.2 - 16.1	H1039
16.0 - 18.0	14.2 - 16.1	17.3 - 19.1	16.2 - 17.8	H1040
18.1 - 19.8	16.2 - 17.7	19.2 - 21.5	17.9 - 19.9	H1041
19.9 - 22.2	17.8 - 19.8	21.6 - 23.6	20.0 - 21.9	H1042
22.3 - 25.0	19.9 - 22.2	23.7 - 27.0	22.0 - 24.7	H1043
25.1 - 27.0	22.3 - 25.0	27.1 - 30.6	24.8 - 27.9	H1044
.....	25.1 - 27.0	30.7 - 35.1	28.0 - 31.6	H1045
.....	.....	35.2 - 39.8	31.7 - 35.3	H1046
.....	.....	39.9 - 45.0	35.4 - 39.4	H1047
.....	.....	.....	39.5 - 44.4	H1048
.....	.....	.....	44.5 - 45.0	H1049

NOTE: Individually boxed heaters master packed 10 per carton.





### OVERLOAD RELAY HEATER SELECTION TABLES, *Continued*

#### Type BNC Bimetal

*For Replacement in Existing Applications Only*

For Motors with 1.15 Service Factor

Table BNC-5	Table BNC-6	Table BNC-7	Heater Catalog Number
NEMA Size 3		NEMA Size 4	
For <b>Open</b> Type Cat. No. A11, B11, A51, C301 For <b>Enclosed</b> Type Cat. No. B11, A71, A81	For <b>Enclosed</b> Type Cat. No. A11, A31, A41, A51	For <b>Open</b> Type Cat. No. A11, A51, C301 For <b>Enclosed</b> Type Cat. No. A11, A31, A41, A51, A71, A81	
Heater Ampere Range			
7.57- 8.47 8.48- 9.35 9.36-10.1 10.2 -11.2 11.3 -12.2	7.57- 8.39 8.40- 9.27 9.28-10.1 10.2 -11.1 11.2 -12.1	..... ..... ..... ..... .....	H1033 H1034 H1035 H1036 H1037
12.3 -13.7 13.8 -15.7 15.8 -17.3 17.4 -19.9 20.0 -22.9	12.2 -13.6 13.7 -15.5 15.6 -17.2 17.3 -19.8 19.9 -22.7	..... ..... ..... ..... 20.0- 22.9	H1038 H1039 H1040 H1041 H1042
23.0 -26.4 26.5 -30.6 30.7 -35.5 35.6 -41.2 41.3 -46.5	22.8 -26.0 26.1 -30.0 30.1 -34.4 34.5 -39.5 39.6 -44.3	23.0- 26.4 26.5- 30.6 30.7- 35.5 35.6- 41.2 41.3- 46.5	H1043 H1044 H1045 H1046 H1047
46.6 -52.4 52.5 -57.8 57.9 -63.6 63.7 -69.9 70.0 -79.5	44.4 -49.9 50.0 -54.3 54.4 -59.8 59.9 -65.1 65.2 -73.1	46.6- 52.4 52.5- 57.8 57.9- 63.6 63.7- 69.9 70.0- 79.5	H1048 H1049 H1050 H1051 H1052
79.6 -90.0 ..... ..... .....	73.2 -83.9 84.0 -90.0 ..... .....	79.6- 92.0 92.1-104.0 105 -119.0 120 -135.0	H1054 H1055 H1056 H1057

For Motors with 1.15 Service Factor

Table BNC-9	Heater Catalog Number
NEMA Size 5	
For <b>Open</b> and <b>Enclosed</b> Type A11, A31-41, A51, A71, A81	
Heater Ampere Range	
96.8-108 109 -121 122 -135 136 -149 150 -166	H1020 H1021 H1022 H1023 H1024
167 -182 183 -203 204 -229 230 -253 254 -283	H1025 H1026 H1066 H1027 H1028

For Motors with 1.15 Service Factor

Table BNC-8	Heater Catalog Number
NEMA Size 0 and 1	
For <b>Enclosed</b> Type Cat. No. A31, A41, A71, A81	
Heater Ampere Range	
.176- .198 .199- .221 .222- .249 .250- .279 .280- .313	H1101 H1102 H1103 H1104 H1105
.314- .350 .351- .395 .396- .442 .443- .497 .498- .556	H1106 H1107 H1108 H1109 H1110
.557- .626 .627- .703 .704- .783 .784- .895 .896- .999	H1111 H1112 H1113 H1114 H1115
1.00 - 1.12 1.13 - 1.25	H1116 H1117
1.26 - 1.40 1.41 - 1.56 1.57 - 1.74	H1018 H1019 H1020
1.75 - 1.97 1.98 - 2.19 2.20 - 2.42 2.43 - 2.68 2.69 - 2.95	H1021 H1022 H1023 H1024 H1025
2.96 - 3.29 3.30 - 3.72 3.73 - 4.10 4.11 - 4.49 4.50 - 5.04	H1026 H1066 H1027 H1028 H1029
5.05 - 5.56 5.57 - 6.23 6.24 - 7.03 7.04 - 7.75 7.76 - 8.71	H1030 H1031 H1032 H1033 H1034
8.72 - 9.59 9.60 -10.5 10.6 -11.8 11.9 -13.3 13.4 -14.9	H1035 H1036 H1037 H1038 H1039
15.0 -16.9 17.0 -18.5 18.6 -20.7 20.8 -23.0 23.1 -25.7	H1040 H1041 H1042 H1043 H1044
25.8 -27.0	H1045

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NOTE: Individually boxed heaters master packed 10 per carton.