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Cutler-Hammer Heater Coil Selection Charts

Magnetic Motor Control

Heater coils are rated to protect 40½°C rise motors, and open and drip-proof motors having a service factor of 1.15 where the motor and the controller are at the same ambient temperature.

For other conditions:

1. For 50½°C, 55½°C, 75½°C rise motors and enclosed motors having a service factor of 1.0, select one size smaller coil.
2. Ambient temperature of controller lower than motor by 26½°C (47½°F) use one size smaller coil.
3. Ambient temperature of controller higher than motor by 26½°C (47½°F) use one size larger coil.

Ultimate tripping current of heater coils is approximately 1.25 times the minimum current rating listed in the tables.

Manual Motor Control

Heater coils are rated to protect standard 40°C rise motors, and open and drip proof motors having a service factor of 1.15 at approximately 125% of rated motor current, and where controller and motor are at same ambient.

Heater coil ranges provide for variations in all enclosure sizes and designs, including internal heating. Selection tables are not compromises or averaged values thereby providing maximum motor output and life.

For other conditions:

1. 50½°C or 55½°C rise motor and enclosed motor having a service factor of 1.0 with protection at 115% of rated current, use one size smaller coil.
2. Ambient temperature of controller lower than motor by: 8.5-16.7½°C (16-30½°F) use one size larger coil. 16.8-27.8½°C(31-50½°F) use two sizes smaller coil.
3. Ambient temperature of controller higher than motor by: 8.5-16.7½°C (16-30½°F) use one size larger coil. 16.8-27.8½°C (31-50½°F) use two sizes larger coil.

Guides

- Lamp Guide: General Information
- Lamp Guide: Fluorescent
- Lamp Guide: HID
- Lamp Guide: Incandescent
- Line Noise
- Power Surges and Spikes
- Brownouts
- Blackouts
- Heat Dissipation in Electrical Enclosures
- Hazardous Location Basics
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- Occupancy Sensor Design Guide
- Occupancy Sensor Application Guide
- Color Application for HID Lamps
- Cutler-Hammer Heater Coil
- General Electric Heater Coil

Electrical Tables

- Allowable Ampacities Insulated Conductors
- Conduit Fill Table
- NEMA Straight Blade Configs
- NEMA Locking Blade Configs
- Common Conversion Factors
- Derate 3 Conductors in a Raceway
- Direct Current Motor Full Load Current
- Approximate Full Load Amperes
- Full Load Current: Three Phase AC Motors
- Full-Load Current: Single Phase AC Motors
- Specific Resistance
- Temperature Conversion Table
- UL Fuse Classification Chart
- Buck Boost Transformer Full Load Amps

Calculations

- Ohm's Law
- Electrical Formulas
- Full Load Formula

Datacomm Tables

- Attenuation for Coaxial and UTP Cables
- Backbone Runs: UTP Cable
- Basic/Channel Link Attenuation

Desc	Type	00-1½	2	3	4	5

A10	Open Encl	ST-1 ST-2	ST-3 ST-4	ST-5 ST-6	ST-7 ST-8	ST-16 ST-16
A30	Encl	ST-9	ST-3	ST-6	ST-8	ST-16
A40	Encl	ST-9	ST-3	ST-6	ST-8	ST-16
A50	Open Encl	ST-1 ST-2	ST-3 ST-4	ST-5 ST-6	ST-7 ST-8	ST-16
B10	both	ST-1	ST-3	ST-5	ST-7	
B50	both	ST-1	ST-3	ST-5	ST-7	
C300	both	ST-1	ST-3	ST-5	ST-7	

Desc	NEMA	Open	1
MS Series	all	See table	
B100 Series	all	See table	

- Basic/Channel Link Next Loss
- Cable Administration
- Category Cables
- Circuit Protection
- Common Ethernet Systems
- Common Types of Cabling
- Computer Circuits
- Copper Wire Limitations
- Digital Patch Cable (DPC) Coding
- 10Base-T Crossover Patch Cord
- 10Base-T Straight Thru Patch Cord
- General Cable Installation Rules
- UTP Cable Attenuation
- Installing Category Data Cables
- Parameters of EIA/TIA 568
- Separation from Sources of Interference
- Structured Cabling (568) Systems
- Standard Networking Configurations

Cutler-Hammer A10 Heater Selection Chart

For OPEN Type Cat. No. A10, A50, B10, B50, C300.	For ENCLOSED Type Cat. No. A10, A50	For OPEN Type Cat. No. A10, A50, C300.	For ENCLOSED Type Cat. No. A10, A30, A50	For OPEN Type Cat. No. A10, A50, C300.	For ENCLOSED Type Cat. No. A10, A30, A50	For OPEN Type Cat. No. A10, A50	For ENCLOSED Type Cat. No. A10, A50
For ENCLOSED Type Cat. No. B10, B50, C300	For ENCLOSED type Cat. No. B10, C300, A800	For ENCLOSED type Cat. No. B10, C300, A800	For ENCLOSED type Cat. No. B10	For ENCLOSED type Cat. No. B10	For ENCLOSED type Cat. No. B10	For OPEN Type Cat. No. A10, A50, C300	For ENCLOSED Type Cat. No. A10, A50

- Telecommunication Outlet Specifications
- UTP Connecting Hardware

Catalog Number	Table ST-1	Table ST-2	Table ST-3	Table ST-4	Table ST-5	Table ST-6	Table ST-7	Table ST-8
	Starter Size - Full Load Amps							
	Sizes 00, 0, 1, 1 1/2		Size 2	Size 3		Size 4		
H1101	.167-.187	.155-.173	-	-	-	-	-	-
H1102	.188-.210	.174-.195	-	-	-	-	-	-
H1103	.211-.237	.196-.220	-	-	-	-	-	-
H1104	.238-.266	.221-.247	-	-	-	-	-	-
H1105	.267-.298	.248-.278	-	-	-	-	-	-
H1106	.299-.334	.279-.310	-	-	-	-	-	-
H1107	.335-.376	.311-.349	-	-	-	-	-	-
H1108	.377-.422	.350-.391	-	-	-	-	-	-
H1109	.423-.474	.392-.441	-	-	-	-	-	-
H1110	.475-.532	.442-.495	-	-	-	-	-	-
H1111	.533-.598	.496-.555	-	-	-	-	-	-
H1112	.599-.672	.556-.624	-	-	-	-	-	-
H1113	.673-.757	.625-.703	-	-	-	-	-	-
H1114	.758-.855	.704-.795	-	-	-	-	-	-
H1115	.856-.959	.796-.895	-	-	-	-	-	-
H1116	.960-1.07	.896-.999	-	-	-	-	-	-
H1117	1.08-1.21	1.00-1.12	-	-	-	-	-	-
H1018	1.22-1.35	1.13-1.25	-	-	-	-	-	-
H1019	1.36-1.52	1.26-1.41	-	-	-	-	-	-
H1020	1.53-1.70	1.42-1.58	-	-	-	-	-	-
H1021	1.71-1.90	1.59-1.77	-	-	-	-	-	-
H1022	1.91-2.10	1.78-1.96	-	-	-	-	-	-
H1023	2.11-2.33	1.97-2.17	-	-	-	-	-	-
H1024	2.34-2.62	2.18-2.44	-	-	-	-	-	-
H1025	2.63-2.93	2.45-2.72	-	-	-	-	-	-
H1026	2.94-3.27	2.73-3.04	-	-	-	-	-	-
H1066	3.28-3.64	3.05-3.38	-	-	-	-	-	-
H1027	3.65-4.06	3.39-3.73	3.72-4.10	-	-	-	-	-
H1028	4.07-4.55	3.74-4.18	4.11-4.59	3.86-4.31	-	-	-	-

H1029	4.56-5.03	4.19-4.63	4.60-5.07	4.32-4.77	-	-	-	-
H1030	5.04-5.59	4.64-5.15	5.08-5.65	4.78-5.31	-	-	-	-
H1031	5.60-6.25	5.16-5.68	5.66-6.29	5.32-5.90	-	-	-	-
H1032	6.26-6.92	5.69-6.30	6.30-7.00	5.91-6.55	-	-	-	-
H1033	6.93-7.75	6.31-7.05	7.01-7.82	6.56-7.33	-	-	-	-
H1034	7.76-8.63	7.06-7.76	7.83-8.79	7.34-8.15	8.32-9.27	8.24-9.19	-	-
H1035	8.64-9.59	7.77-8.63	8.80-9.67	8.16-9.00	9.28-10.1	9.20-10.1	-	-
H1036	9.60-10.6	8.64-9.51	9.68-10.8	9.01-10.1	10.2-11.4	10.2-11.3	-	-
H1037	10.7-11.9	9.52-10.5	10.9-12.0	10.2-11.2	11.5-12.8	11.4-12.7	-	-
H1038	12.0-13.3	10.6-11.8	12.1-13.4	11.3-12.5	12.9-14.3	12.8-14.1	-	-
H1039	13.4-14.7	11.9-13.1	13.5-14.9	12.6-13.9	14.4-16.0	14.2-15.8	-	-
H1040	14.8-16.6	13.2-14.8	15.0-17.6	14.0-15.7	16.1-17.8	15.9-17.7	-	-
H1041	16.7-18.8	14.9-16.7	17.7-19.0	15.8-17.5	17.9-20.3	17.8-20.1	-	-
H1042	18.9-21.2	16.8-18.9	19.1-21.5	17.6-19.8	20.4-22.9	20.2-22.7	20.6-23.3	20.6-23.3
H1043	21.3-23.9	19.0-21.3	21.6-24.5	19.9-22.3	23.0-26.0	22.8-25.5	23.4-26.0	23.4-26.0
H1044	24.0-27.0	21.4-24.1	24.6-27.9	22.4-25.4	26.1-29.5	25.6-28.9	26.3-30.5	26.3-30.5
H1045	-	24.2-27.0	28.0-32.0	25.5-28.7	29.6-33.5	29.0-32.5	26.4-30.6	26.4-30.6
H1046	-	-	32.1-36.6	28.8-32.5	33.6-37.8	32.6-36.7	30.8-33.7	30.8-33.7
H1047	-	-	36.7-41.8	32.6-36.6	37.9-42.8	36.8-41.0	30.9-34.0	30.9-34.0
							34.1-38.3	34.1-38.3
							38.4-43.4	38.4-43.4
H1048	-	-	41.9-45.0	36.7-41.0	42.9-48.5	41.1-46.0	43.5-48.2	43.5-48.2
H1049	-	-	-	41.1-45.0	48.6-55.1	46.1-51.8	49.3-54.6	49.3-54.6
H1050	-	-	-	-	55.2-62.3	51.9-58.6	49.4-61.2	49.4-61.2
H1051	-	-	-	-	62.4-69.5	58.7-64.6	55.8-67.6	55.8-67.6
H1052	-	-	-	-	69.6-79.1	64.7-72.7	55.9-63.1	55.9-63.1
							63.2-70.4	63.2-70.4
							70.5-79.9	70.5-79.9
H1054	-	-	-	-	79.2-90.0	72.8-83.1	80.0-87.1	80.0-87.1
H1055	-	-	-	-	-	93.2-90.0	91.7-97.5	91.7-97.5
H1056	-	-	-	-	-	-	91.8-105	91.8-105
H1057	-	-	-	-	-	-	105-110	105-110
H1058	-	-	-	-	-	-	106-121	106-121
							122-135	122-135
							-	-

Heaters for A200 or B100 Manual Starters

Motor Full-Load Current	Catalog Number
1.40 - 1.54	FH19
1.55 - 1.71	FH20
1.72 - 1.89	FH21
1.90 - 2.10	FH22
2.11 - 2.32	FH23
2.33 - 2.54	FH24
2.55 - 2.79	FH25
2.80 - 3.07	FH26
3.08 - 3.36	FH27
3.37 - 3.68	FH28
3.69 - 4.03	FH29
4.04 - 4.40	FH30
4.41 - 4.81	FH31

4.82 - 5.26	FH32
5.27 - 5.74	FH33
5.75 - 6.26	FH34
6.27 - 6.83	FH35
6.84 - 7.45	FH36
7.46 - 8.11	FH37
8.12 - 8.81	FH38
8.82 - 9.58	FH39
9.59 - 10.40	FH40
10.41 - 11.30	FH41
11.40 - 12.20	FH42
12.30 - 13.50	FH43
13.60 - 14.90	FH44
15.00 - 16.00	FH45
16.10 - 17.10	FH46
17.20 - 18.30	FH47
18.40 - 19.70	FH48
19.80 - 21.20	FH49
21.30 - 22.80	FH50
22.90 - 24.50	FH51
24.60 - 26.40	FH52
26.50 - 28.50	FH53
28.60 - 30.80	FH54
30.90 - 33.30	FH55
33.40 - 36.00	FH56
36.10 - 38.90	FH57
11.90 - 13.00	FH68
13.10 - 14.30	FH69
16.00 - 17.40	FH71
17.50 - 19.10	FH72
19.20 - 21.10	FH73
21.20 - 23.20	FH74
23.30 - 25.60	FH75
25.70 - 28.10	FH76
28.20 - 30.80	FH77
30.90 - 34.50	FH78
34.60 - 38.20	FH79
38.30 - 42.60	FH80
42.70 - 46.00	FH81
47.00 - 51.00	FH82

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