



Cutler-Hammer

I.S. 17387C
Model A

Quick Installation Guide for Size 1 or 2 Motor Controller

FOR FULL-VOLTAGE, SINGLE-SPEED, NONREVERSING APPLICATIONS

1. Attach the contactor or starter to the mounting surface with #10 screws. See Figure 2.
2. Connect the line terminals to the branch circuit Short-Circuit-Protective Device (SCPD) or disconnecting means, with 75°C copper wire or 90°C copper wire derated to 75°C ampacity, selected in accordance with the National Electrical Code (NEC).
3. Connect the load terminals to the motor using 75°C or 90°C copper conductors derated to 75°C ampacity.
4. Make control wire connections as shown in Figure 1. Strip control wires for terminals 3-P-E-C not more than 1/4 inch.

For Motor Starters

5. See the motor nameplate for motor full-load current (FLA) and service factor (S.F.).
6. Set the 8-position DIP switch beneath the nameplate (Figure 3) for motor FLA and Class 10 protection. See separate instruction sheet: OVERLOAD PROTECTION SETTINGS.
7. If the starter trips before the motor and its connected load come up to rated speed, reset the starter WITH POWER ON and change the DIP switch setting to Class 20 protection. If starter trips again, select Class 30 protection.
8. Insert the clear plastic snap-in cover into the opening over the DIP switch. Mount the protection label in some convenient location.

See instruction leaflet I.L. 17401 for additional information, alternate connection diagrams, ground-fault and phase-loss protection, troubleshooting hints, etc.

Controller Size	Circuit Conductor	Wire Range (AWG)	Tightening Torque (lb.-in.)
1	Power	#14-8	18-20
2	Power	#14	20-22
2	Power	#12-4	45-50
1 & 2	Control	#18-14	6

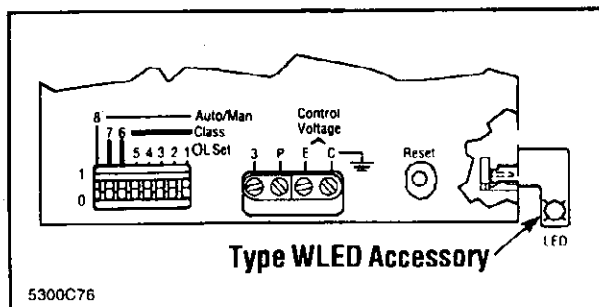


Fig. 3 DIP Switch, Terminals and Reset

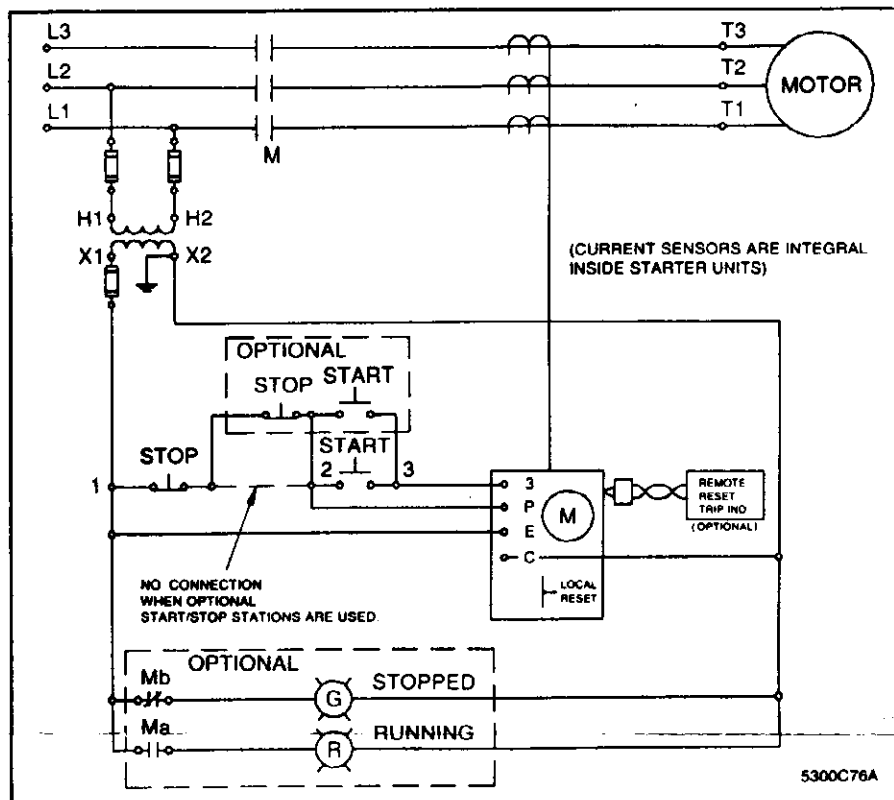


Fig. 1 Internal Holding Circuit - 3 Wire

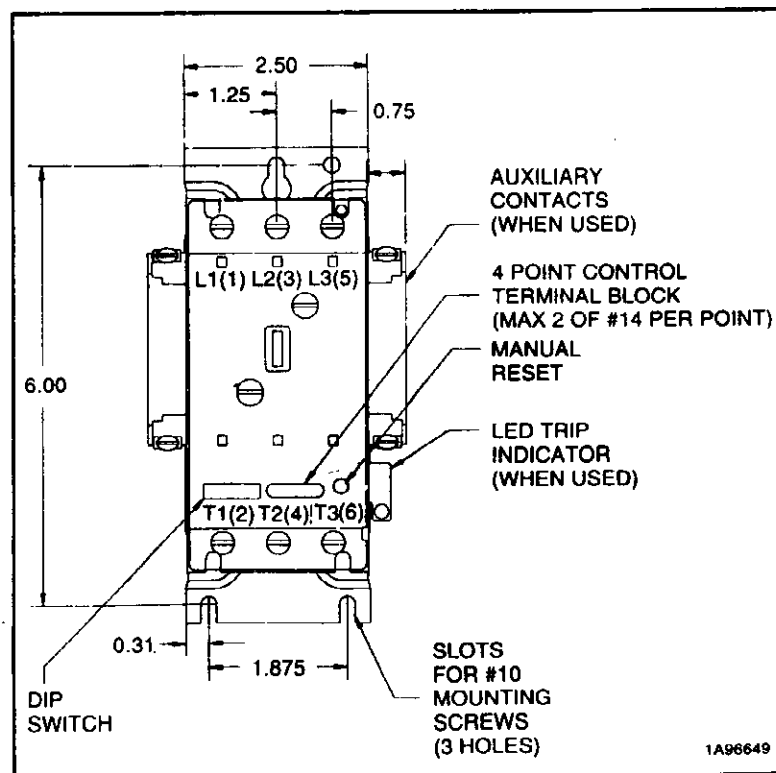


Fig. 2 Size 1 and Size 2 Mounting Dimensions (in inches)

INSTALLATION GUIDE, SIZE 1 OR 2

I.S. 17387C

SIZE 1 LOWER CURRENT RANGE

Column A SERVICE FACTOR 1.15 to 1.25 MIN. MAX.	Column B SERVICE FACTOR 1.0 MIN. MAX.	TRIP RATING (AMPERES)	DIP SWITCH SETTING* (POSITIONS) (54321)
0.47 — 0.51	0.51 — 0.56	0.59	00000
0.52 — 0.56	0.57 — 0.61	0.65	00001
0.57 — 0.61	0.62 — 0.67	0.71	00010
0.62 — 0.68	0.68 — 0.74	0.78	00011
0.69 — 0.75	0.75 — 0.82	0.86	00100
0.76 — 0.82	0.83 — 0.89	0.95	00101
0.83 — 0.90	0.90 — 0.98	1.04	00110
0.91 — 1.00	0.99 — 1.09	1.14	00111
1.01 — 1.09	1.10 — 1.19	1.26	01000
1.10 — 1.21	1.20 — 1.31	1.38	01001
1.22 — 1.33	1.32 — 1.44	1.52	01010
1.34 — 1.46	1.45 — 1.59	1.67	01011
1.47 — 1.61	1.60 — 1.75	1.84	01100
1.62 — 1.77	1.76 — 1.93	2.02	01101
1.78 — 1.95	1.94 — 2.12	2.23	01110
1.96 — 2.14	2.13 — 2.33	2.45	01111
2.15 — 2.36	2.34 — 2.56	2.69	10000
2.37 — 2.60	2.57 — 2.82	2.96	10001
2.61 — 2.85	2.83 — 3.10	3.26	10010
2.86 — 3.14	3.11 — 3.42	3.58	10011
3.15 — 3.46	3.43 — 3.76	3.94	10100
3.47 — 3.81	3.77 — 4.14	4.34	10101

* ALL SETTINGS NOT SHOWN ARE EQUIVALENT TO 00000.

SIZE 1 UPPER CURRENT RANGE

Column A SERVICE FACTOR 1.15 to 1.25 MIN. MAX.	Column B SERVICE FACTOR 1.0 MIN. MAX.	TRIP RATING (AMPERES)	DIP SWITCH SETTING* (POSITIONS) (54321)
3.15 — 3.46	3.43 — 3.75	3.93	00000
3.47 — 3.81	3.76 — 4.13	4.33	00001
3.82 — 4.19	4.14 — 4.55	4.77	00010
4.20 — 4.61	4.56 — 4.99	5.25	00011
4.62 — 5.0	5.0 — 5.4	5.77	00100
5.1 — 5.5	5.5 — 6.0	6.35	00101
5.6 — 6.0	6.1 — 6.5	6.9	00110
6.1 — 6.6	6.6 — 7.2	7.7	00111
6.7 — 7.3	7.3 — 8.0	8.5	01000
7.4 — 8.1	8.1 — 8.8	9.3	01001
8.2 — 8.9	8.9 — 9.6	10.2	01010
9.0 — 9.8	9.7 — 10.6	11.2	01011
9.9 — 10.8	10.7 — 11.7	12.4	01100
10.9 — 11.9	11.8 — 12.9	13.6	01101
12.0 — 13.1	13.0 — 14.2	15.0	01110
13.2 — 14.4	14.3 — 15.7	16.5	01111
14.5 — 15.8	15.8 — 17.2	18.1	10000
15.9 — 17.4	17.3 — 18.9	19.9	10001
17.5 — 19.2	19.0 — 20.9	21.9	10010
19.3 — 21.1	21.0 — 22.9	24.1	10011
21.2 — 23.2	23.0 — 25.2	26.5	10100
23.3 — 25.6	25.3 — 27.0	29.1	10101
25.7 — 27.0	—	32.1	10110

* ALL SETTINGS NOT SHOWN ARE EQUIVALENT TO 00000.

After reading the **OVERLOAD PROTECTION SETTINGS** instruction sheet, mount it in the starter enclosure or on the panel adjacent to the starter. Discard this instruction sheet after use and retain I.L. 17401 for future reference.

RESET METHOD

POSITION 8

MANUAL (Nonautomatic.
Wait 5 minutes.)

0

AUTOMATIC (Reset time is
based on protection Class.)

1

OVERLOAD CLASS

POSITION 7

POSITION 6

10

0

0

20

0

1

30

1

0

NONE

1

1

SIZE 2 CURRENT RANGE

Column A SERVICE FACTOR 1.15 to 1.25 MIN. MAX.	Column B SERVICE FACTOR 1.0 MIN. MAX.	TRIP RATING (AMPERES)	DIP SWITCH SETTING* (POSITIONS) (54321)
3.15 — 3.46	3.43 — 3.75	3.93	00000
3.47 — 3.81	3.76 — 4.13	4.33	00001
3.82 — 4.19	4.14 — 4.55	4.77	00010
4.20 — 4.61	4.56 — 4.99	5.25	00011
4.62 — 5.0	5.0 — 5.4	5.77	00100
5.1 — 5.5	5.5 — 6.0	6.35	00101
5.6 — 6.0	6.1 — 6.5	6.9	00110
6.1 — 6.6	6.6 — 7.2	7.7	00111
6.7 — 7.3	7.3 — 8.0	8.5	01000
7.4 — 8.1	8.1 — 8.8	9.3	01001
8.2 — 8.9	8.9 — 9.6	10.2	01010
9.0 — 9.8	9.7 — 10.6	11.2	01011
9.9 — 10.8	10.7 — 11.7	12.4	01100
10.9 — 11.9	11.8 — 12.9	13.6	01101
12.0 — 13.1	13.0 — 14.2	15.0	01110
13.2 — 14.4	14.3 — 15.7	16.5	01111
14.5 — 15.8	15.8 — 17.2	18.1	10000
15.9 — 17.4	17.3 — 18.9	19.9	10001
17.5 — 19.2	19.0 — 20.9	21.9	10010
19.3 — 21.1	21.0 — 22.9	24.1	10011
21.2 — 23.2	23.0 — 25.2	26.5	10100
23.3 — 25.6	25.3 — 27.8	29.1	10101
25.7 — 28.1	27.9 — 30.5	32.1	10110
28.2 — 31.0	30.6 — 33.7	35.3	10111
31.1 — 34.1	33.8 — 37.0	38.9	11000
34.2 — 37.5	37.1 — 40.7	42.8	11001
37.6 — 41.2	40.8 — 44.8	47.0	11010
41.3 — 45.0	44.9 — 45.0	51.6	11011

* ALL SETTINGS NOT SHOWN ARE EQUIVALENT TO 00000.

Replace the arc box cover securely after making selections.

Cutler-Hammer

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EATON