

INSTALLATION INSTRUCTIONS for CF/AB and CF/SA H5CR TIMER REPLACEMENT KIT CTR-004A

The CTR-004A Cycle Timer Replacement Kit is designed as a service replacement package for replacing the Omron **H5CR** cycle timers, part number 415-3213-6, used on the CF/AB and CF/SA series dryers from 1997 through 2005. This kit replaces all three cycle timers with the new style H5CX Omron brand timer. It is not designed to be used on older dryers.

The CTR-004A timers function similar to earlier timers, but because of the new timer uses LED technology, the timers will have to be rewired. Once it is rewired you will be able to view and/or change the timer settings. Please read the following information for installing and operating your new timers. Retain this bulletin with your operation manual for future circuit diagram and parts reference.

The **CFAB 150-320** model dryers and all **CFSA** model dryers will require the addition of three relays (included in this kit) and the circuit rewired with the supplied instructions.

CFAB 400-600 model dryers can use these timers directly with a terminal for terminal exchange of timers. However, the times on the timers are unable to be adjusted until they are activated by the previous timer. (For instance, the Cool timer can't be adjusted until the Dry timer expires; likewise with the Unload timer can't be adjusted until the Cool timer expires)

△ NOTE: CFAB 400-600 only: The new timer doesn't contain a terminal 10, so discard the jumper wire normally located between terminal 8 and 10. The schematic in the operation manuals (CFABL-01-2 & CFABL-02-2) can still be used to troubleshoot this circuit.

TIMER INSTALLATION

1. Shut off the main power supply and turn dryer circuit breakers OFF.
2. Open the ASC dead front and disconnect wiring from the old cycle timers.
3. Remove the old timers from the dead front one at a time, making note of which wire numbers are installed to each of the terminals.
4. Install the (3) new H5CX timers using the white plastic Panel Mounting Adaptor to lock the timers to the dead front panel.
5. Mark and drill 2 13/64" holes in the front panel to mount the supplied din rail.
6. Attach the relays onto the din rail.
7. Mark the relays with the supplied labels. Place the UTR label on the larger 3PDT relay and the DTR, CTR to the 2 smaller Relays.
8. Rewire the cycle timer circuit as indicated using the appropriate wiring diagram and step by step instructions at supplied in this bulletin.

TIMER TESTING

1. For testing purposes only, set each of the three cycle timers to the 3 minute (3m) range and adjust timers to approximately 2 minutes.
2. Turn on the dryer's main power and dryer circuit breakers.
3. Start the dryer control circuit; turn the mode selector switch to AB or SA, and the Electronic Moisture Control switch (CF/AB) or the MC Selector switch (CF/SA) to OFF. Also turn the Unload switch to AUTO, the CF/AB Fan switch to ON, the CF/AB Burner switch to AUTO; or the CF/SA Bottom Fan switch to AUTO, and the CF/SA Bottom Burner switch to AUTO.
4. Run the dryer through a complete HEATING, COOLING, and UNLOAD cycle, being sure that the cycles are completed as described in your operator's manual.
5. **MC HOLD CHECK:** Restart the dryer and turn the Electronic Moisture Control switch (CF/AB) to ON or the MC Selector switch (CF/SA) to ON. Also set the MC temp dial to its maximum set point. The HEAT timer should complete its drying cycle, the MC hold light should come ON, and heating should continue. Decrease the MC set point until the MC hold light turns off. The heater should turn off and the cooling cycle begins. Adjust the MC set point back up. The cooling cycle should continue.
6. **UNLOAD AUGER SWITCH CHECK:** Turn the Unload Auger Switch to OFF. When the cooling cycle is complete, the dryer will hold in the cooling mode until the Unload auger switch is turned to AUTO to begin the unload cycle.
7. **CONTINUOUS FLOW CHECK:** Turn the mode switch to Cont Flow (CF/AB) or CF (CF/SA). Also turn the Unload auger switch to AUTO and observe that the unload auger and meter rolls are operating and that the timers are not timing.
8. Reset the timers to the appropriate settings and ranges as recommended by the CYCLE TIME CHARTS at the end of this manual (the times listed match those in the operator's manual, except they are also listed with decimal hours for convenience).

Qty. 3	415-3233-0	H5CX Timer Programmed
Qty. 2	TD-100282	SPDT 110VAC Relay
Qty. 2	TD-100283	SPDT Relay Base
Qty. 1	HF-7203	3PDT 110VAC Relay
Qty. 1	07097555	3PDT Relay Base
Qty. 1	406-2126-0	4 inch Din Rail Mount
Qty. 2	S-8984	SCREW TCSF #10-32 X 5/8 RHP ZN
Qty. 2	S-4334	NUT HEX #10-32 FINISHED NUT
Qty. 1	PNEG-1594	Installation Instructions.
Qty. 1	DWL-CTR-004A	Wire labels for kit.
Qty. 2		18 gauge White wire
Qty. 3		18 gauge Red wire

Fig. 1 Cycle timer parts list.

Bold line indicates portion of circuit changed by Omron Timers

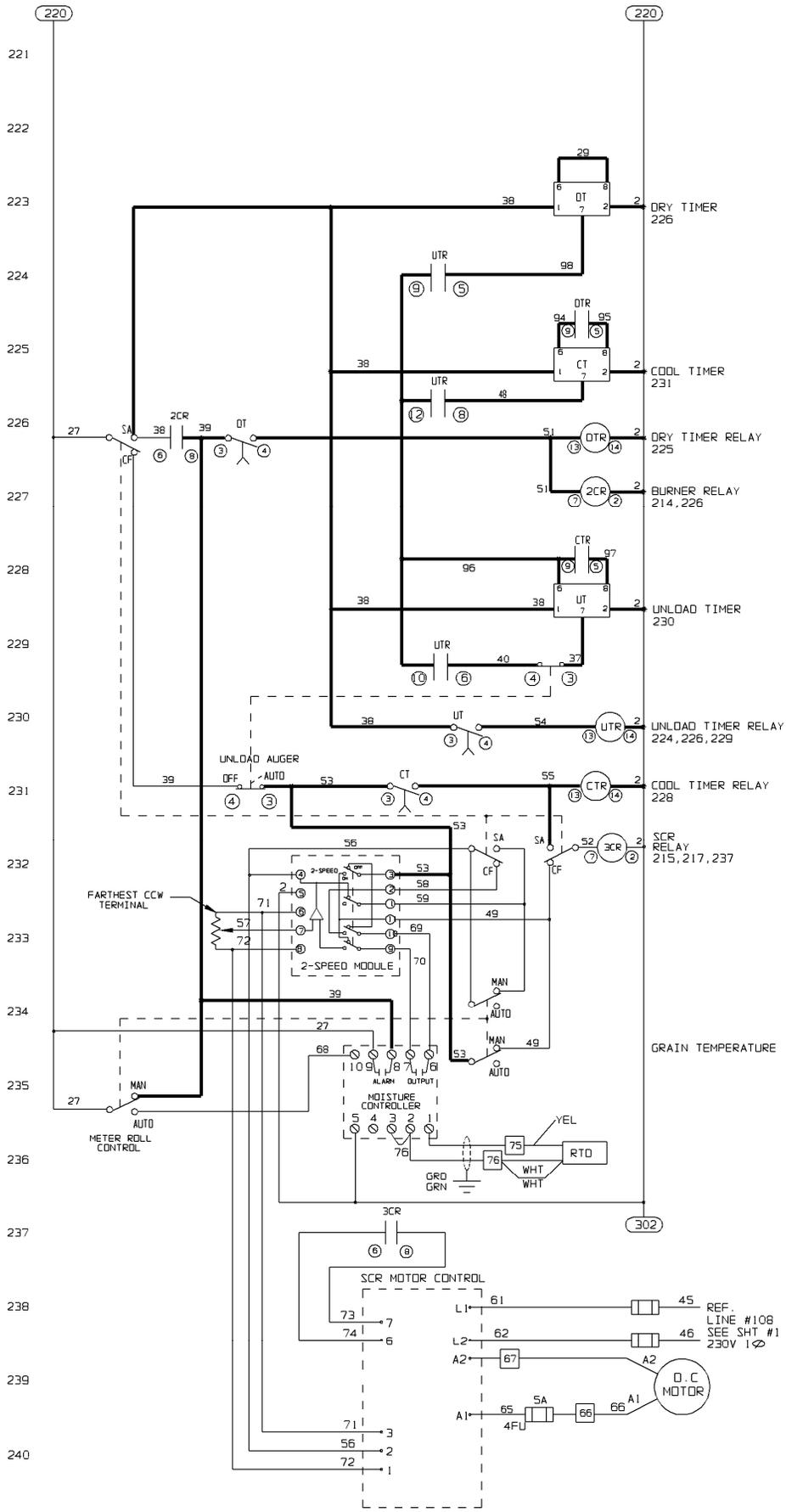


Fig. 2 CFSA Control Circuit.

Bold line indicates portion of circuit changed by Omron Timers

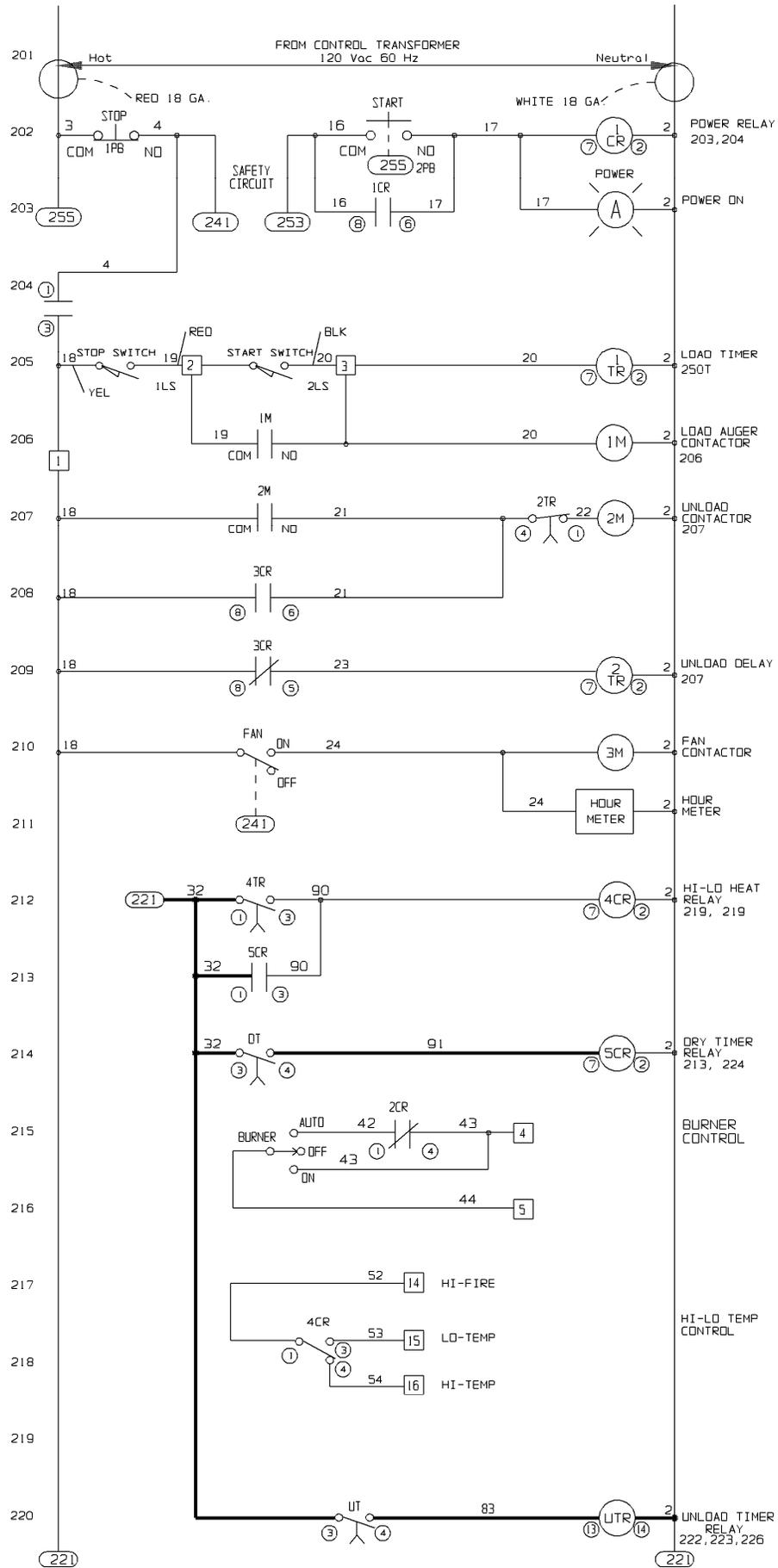


Fig. 3 CFAB 150-320 Control Circuit 1 of 2.

Bold line indicates portion of circuit changed by Omron Timers

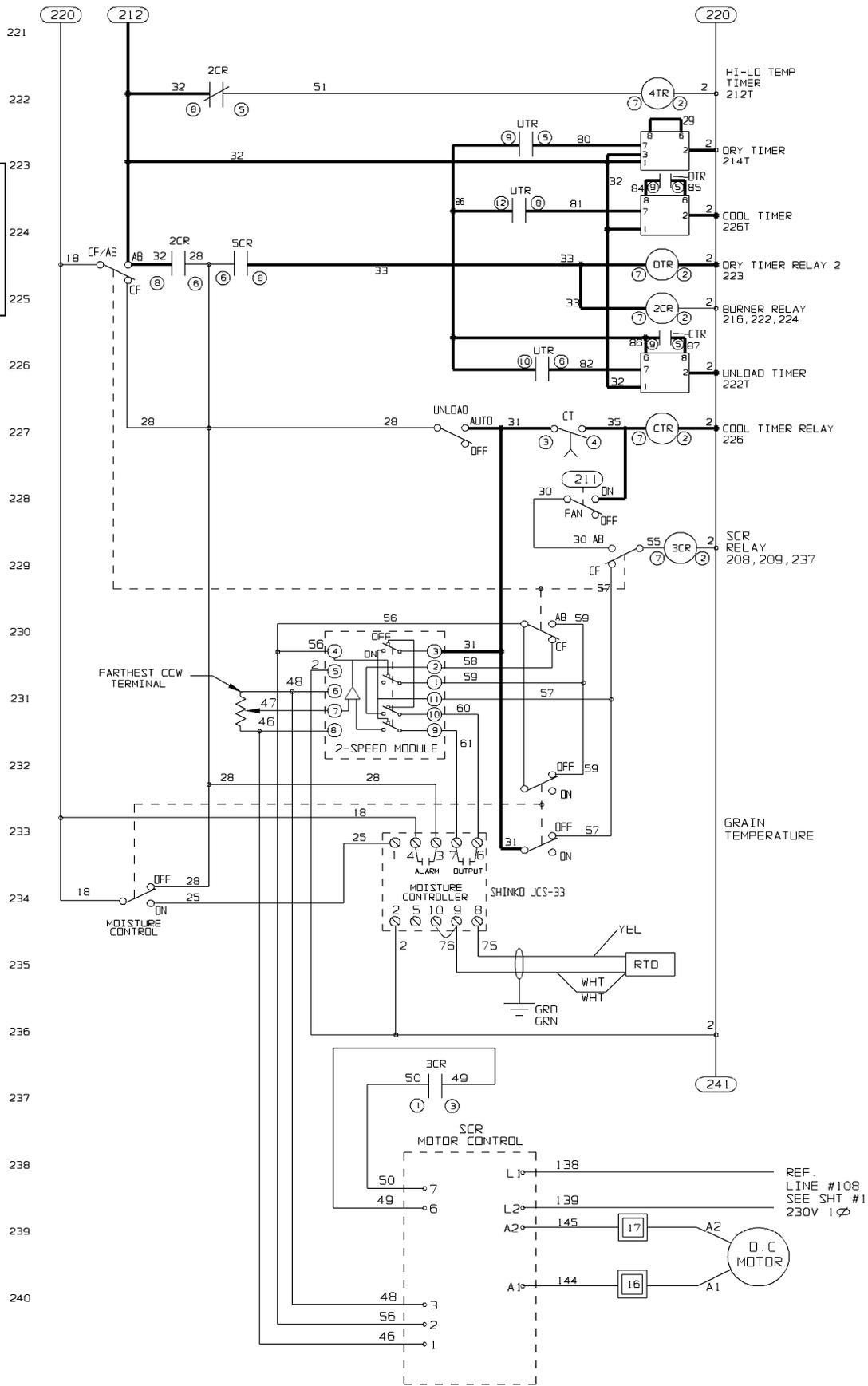


Fig. 4 CFAB 150-320 Control Circuit 2 of 2.

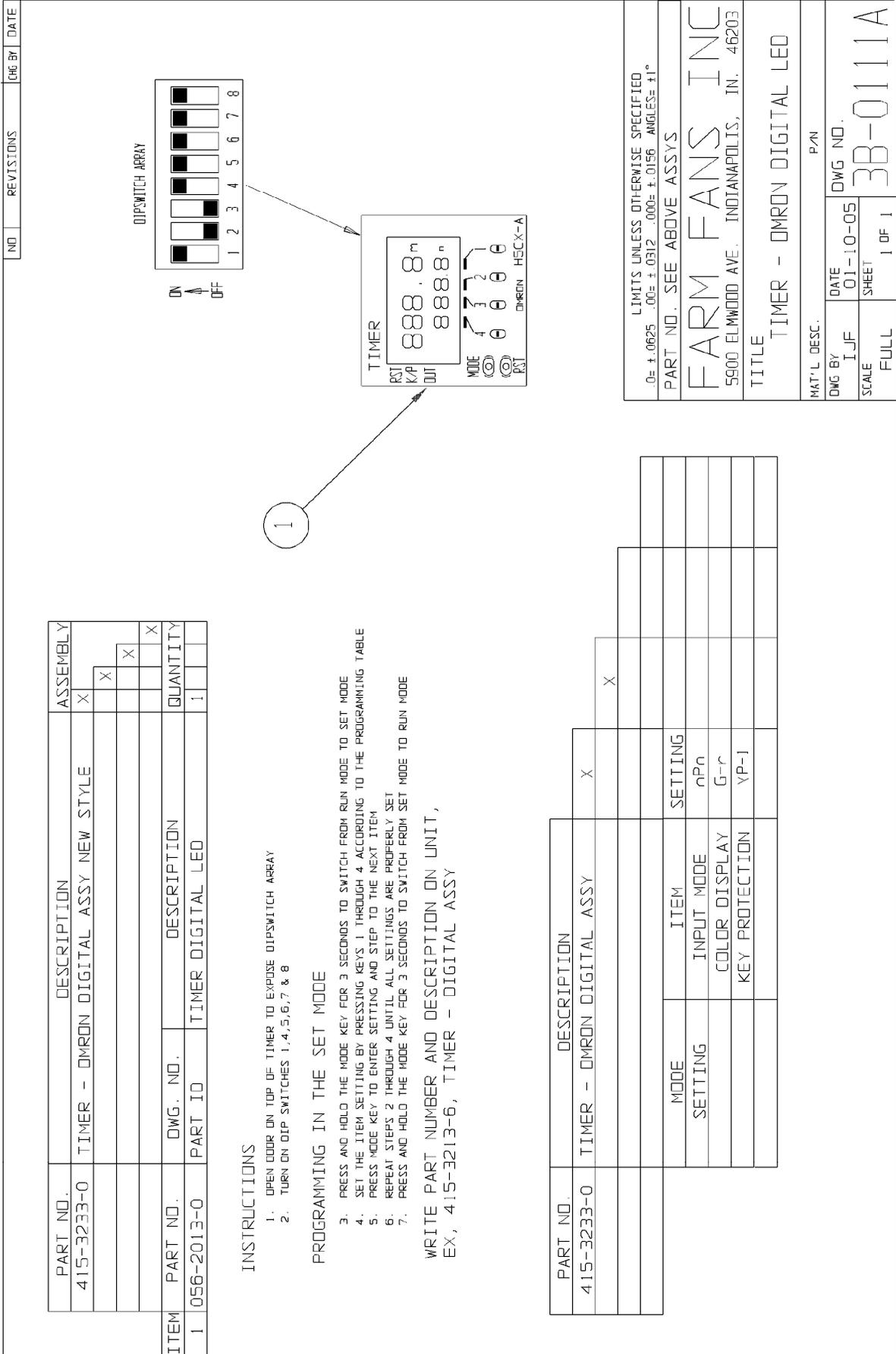


Fig. 4 H5CX programming information.

CFAB 150-320 WIRING INSTRUCTIONS

1. Install each new timer one at a time. Make note of what wire numbers are on each terminal of the old H5CR timers. Then when you install the new H5CX timers, replace the wires back onto the same numbered terminal they were on with the old timers. We will move these later but it's important that we know where they are so there is less confusion on the rewiring of this circuit. (Note: there is no terminal 10 on the new H5CX timers, so the jumper between 8 and 10 on all timers can be safely removed and discarded.)
2. Locate the wire labeled 35 between Unload Timer terminal 1 and Cool Timer terminal 4. Disconnect the wire from the Unload Timer terminal 1 and move it to the CTR relay terminal 13. (Note: if the wire isn't long enough, replace it with a longer wire.)
3. Remove the Wire labeled 80 on Dry Timer terminal 6 and Unload timer terminal 3. Discard the wire.
4. Locate the wire labeled 80 on the Unload timer terminal 3 to the Reset switch and relocate the wire from Unload timer terminal 3 to the Unload timer terminal 1. Re-label both ends of this wire as wire 32.
5. Add a jumper between Unload timer terminal 1 and Unload timer terminal 3. Label this wire as wire 32.
6. Locate the remaining jumper wire labeled 80 on the Dry timer between terminals 6 and 8, remove the wire label 80 sticker on this jumper and discard. Leave the jumper between 6 and 8 on the Dry timer.
7. Remove the jumper labeled 81 on the Cool Timer located between terminals 6 and 8. Discard this jumper.
8. Remove the jumper labeled 82 on the Unload Timer located between terminals 6 and 8. Discard this jumper.
9. Remove the wire labeled 83 between Dry timer terminal 7 and Cool timer terminal 7. Discard this wire.
10. Remove the wire labeled 83 between Cool timer terminal 7 and Unload timer terminal 7. Discard this wire.
11. Locate the wire labeled 83 between Unload Timer terminal 7 and Unload Timer terminal 4. Discard this wire. Leave the other 83 wire on the Unload Timer terminal 4.
12. Locate the wire labeled 33 on the Cool Timer terminal 1 and attach it to terminal 13 of the DTR relay. (If the wire isn't long enough, replace the wire with a longer piece between DTR term. 13 and 5CR term. 8.)
13. Add a wire labeled 83 from Unload Timer terminal 4 to UTR terminal 13.
14. Add a wire labeled 32 between Dry timer terminal 3 and Cool timer terminal 1. (Note: this will place 3 wires labeled 32 on terminal 3 of the Dryer timer.)
15. Add a wire labeled 32 between Cool timer terminal 1 and Unload timer terminal 3.
16. Add a wire labeled 85 between Cool timer terminal 6 and DTR terminal 9.
17. Add a wire labeled 84 between Cool timer terminal 8 and DTR terminal 5.
18. Add a wire labeled 86 between Unload timer terminal 6 and CTR terminal 9.
19. Add a wire labeled 86 between CTR terminal 9 and UTR terminal 9.
20. Add a wire labeled 86 between UTR terminal 9 and UTR terminal 10.
21. Add a wire labeled 86 between UTR terminal 10 and UTR terminal 12.
22. Add a wire labeled 87 between Unload timer terminal 8 and CTR terminal 5.
23. Add a wire labeled 80 between UTR terminal 5 and Dry timer terminal 7.
24. Add a wire labeled 81 between UTR terminal 6 and Cool timer terminal 7.
25. Add a wire labeled 82 between UTR terminal 8 and Unload Timer terminal 7.

26. Connect a white wire (neutral) to any AC neutral wire connection (white wire that's labeled 2) and connect the other end of it to UTR terminal 14.
27. Add a wire labeled 2 between UTR terminal 14 and CTR terminal 14.
28. Add a wire labeled 2 between CTR terminal 14 and DTR terminal 14.

CFSA WIRING INSTRUCTIONS

1. Install each new timer one at a time. Make note of what wire numbers are on each terminal of the old H5CR timers. Then when you install the new H5CX timers, replace the wires back onto the same numbered terminal they were on with the old timers. We will move these later but it's important that we know where they are so there is less confusion on the rewiring of this circuit. (**Note:** there is no terminal 10 on the new H5CX timers, so the jumper between 8 and 10 on all timers can be safely removed and discarded)
2. Remove the jumper wire labeled 51 on Cool Timer terminal 1 to Dry timer terminal 4. Discard the wire. (Leave the other 51 wire on Dry timer terminal 4 alone)
3. Add a wire labeled 51 to Dry timer terminal 4 to the DTR relay terminal 13.
4. Remove the Wire labeled 29 on Dry Timer terminal 6 and Unload timer terminal 3. Discard the wire.
5. Remove both wires labeled 55 on the Unload timer terminal 1 and relocate both of the wires to the CTR relay terminal 13.
6. Remove the jumper on the Cool Timer located between terminals 6 and 8. Discard this jumper.
7. Remove the jumper on the Unload Timer located between terminals 6 and 8. Discard this wire.
8. Locate the wire labeled 40 between Cool Timer terminal 7 and Unload switch. Move the wire from the Cool timer terminal 7 to UTR terminal 6. Leave the other end connected to the unload switch.
9. Remove the wire labeled 40 between Dry timer terminal 7 and Cool timer terminal 7. Discard this wire.
10. Remove the wire labeled 40 between Unload timer terminal 4 and Dry timer terminal 7. Discard this wire.
11. Remove one of the wires labeled 38 (doesn't matter which one as long as it will reach) on the Dry timer terminal 1 and reattach it the Unload timer terminal 1.
12. Add a jumper labeled 38 from the Dry timer terminal 1 to the Cool timer terminal 1.
13. Add a jumper labeled 38 from the Cool timer terminal 1 to the Unload timer terminal 3.
14. Add a jumper labeled 38 from the Unload timer terminal 3 to Unload timer terminal 1.
15. Add a wire labeled 94 between Cool timer terminal 6 and DTR terminal 9.
16. Add a wire labeled 95 between Cool timer terminal 8 and DTR terminal 5.
17. Add a wire labeled 96 between Unload timer terminal 6 and CTR terminal 9.
18. Add a wire labeled 96 between CTR terminal 9 and UTR terminal 9.
19. Add a wire labeled 96 between UTR terminal 9 and UTR terminal 10.
20. Add a wire labeled 96 between UTR terminal 10 and UTR terminal 12.
21. Add a wire labeled 97 between Unload timer terminal 8 and CTR terminal 5.
22. Add a wire labeled 98 between UTR terminal 5 and Dry timer terminal 7.
23. Add a wire labeled 48 between UTR terminal 8 and Cool Timer terminal 7.

24. Add a wire labeled 100 between UTR terminal 13 and Unload timer terminal 4.
25. Connect a white wire (neutral) to terminal #2 on the terminal strip or any AC neutral connection point (white wire with label 2) and connect the other end of it to UTR terminal 14.
26. Add a wire labeled 2 between UTR terminal 14 and CTR terminal 14.
27. Add a wire labeled 2 between CTR terminal 14 and DTR terminal 14.