



# Installation Instructions

Part Number 30HW900004

## CONTENTS

	Page
<b>SAFETY CONSIDERATIONS</b> .....	1
<b>GENERAL</b> .....	1
Check Package Contents.....	1
<b>INSTALLATION — 30HW WITH TEMPERATURE CONTROLLER</b> .....	1-3
Control Box, Control Section.....	1
Control Box, Power Section.....	1
<b>INSTALLATION — 30HK,HL WITH TEMPERATURE CONTROLLER</b> .....	3,4
Control Box, Control Section.....	3
Control Box, Power Section.....	3
<b>INSTALLATION — 30HK,HL,HW,GTN WITH COMFORTLINK™ CONTROLS</b> .....	5-8
Control Box, Control Section.....	5
Control Box, Power Section.....	5

## SAFETY CONSIDERATIONS

Installing, starting up, and servicing air-conditioning equipment can be hazardous due to system pressures, electrical components, and equipment location.

Only trained, qualified installers and service technicians should install, start up, and service this equipment.

When working on air-conditioning equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment.

Follow all safety codes. Wear safety glasses and work gloves. Use care in handling equipment.

	<b>ELECTRIC SHOCK HAZARD.</b> To avoid the possibility of electrical shock, open all disconnects before installing or servicing this equipment.
--	--

## GENERAL

**Check Package Contents** — Check package for missing parts or shipping damage. If damage is found, or any part is missing, file a claim with the shipper immediately. See Table 1.

**Table 1 — Accessory Package Contents**

ITEM	DESCRIPTION	PART NO.	QTY REQ
1	Ground Current Sensing Board	HN65CT011	1
2	Current Toroid	HT08DZ025	2
3	Wire Assembly 16 Gage, 10 in. Long (254 mm)	99WZ7272TC201016	5
4	Wire Assembly 16 Gage, 6 in. Long, With One Piggyback Terminal (152 mm)	99WZ7282TC200616	1
5	Screws No. 8 x 3/4 in. Long, Type B	AL56AU168	4

For 30HK and HL units 2 accessory packages are required. For 30HW and 30GTN units only 1 accessory package is required.

## INSTALLATION — 30HW WITH TEMPERATURE CONTROLLER

### Control Box, Control Section

1. Mount compressor ground current sensing board (Table 1, Item 1) in control box. See Fig. 1 for location in control box. Use 4 screws provided (Table 1, Item 5) to mount board. Mounting holes are pre-drilled.
2. Remove black wire between TB2-12 and TB2-13 (see Fig. 2).
3. Install 6-in. (152 mm) wire with the piggyback terminal (Table 1, Item 4) between the GCS-A and the GCS-COM. The piggyback terminal must be installed on the GCS-A.
4. Install 10-in. (256 mm) wire (Table 1, Item 3) between GCS-B on the ground current sensing board (Table 1, Item 1) and TB2-3.
5. Install 10-in. (256 mm) wire (Table 1, Item 3) between GCS-A piggyback terminal on the ground current sensing board (Table 1, Item 1) and TB2-13.
6. Install 10-in. (256 mm) wire (Table 1, Item 3) between the GCS-NC terminal and TB2-12.
7. Install 10-in. (256 mm) wire (Table 1, Item 3) between GCS-T1 and TB2-1.
8. Install 10-in. (256 mm) wire (Table 1, Item 3) between GCS-T2 and TB2-2.
9. See Fig. 2 for wiring connections.

### Control Box, Power Section

1. Remove the compressor wires from the contactor(s). Be sure to mark the original positions on the contactor(s).
2. If unit has a single contactor (3 compressor wires), only one of the current toroids (Table 1, Item 2) is used. Place all 3 compressor wires through the toroid. Connect toroid leads to TB2-1 and TB2-2. See Fig. 3.  
  
If unit has 2 contactors (6 compressor wires), both current toroids are used. Place all 3 wires from contactor C1 through one toroid. Connect the toroid leads to TB2-2 and TB2-6. Place all three wires from contactor C1A through the second toroid. Connect the leads from the second toroid to TB2-1 and TB2-6. There should be 2 toroid leads on TB2-6. See Fig. 4.
3. Reconnect the compressor wires to their original terminals on the contactor(s).
4. Secure all loose wires with wire ties.

FIELD CONTROL WIRING SECTION

POWER SECTION

LEGEND

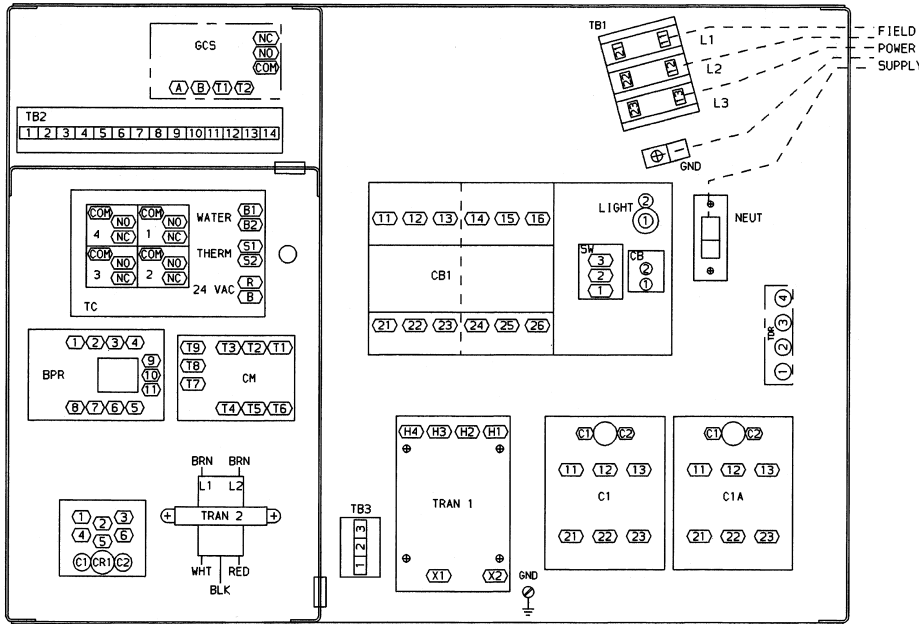


Fig. 1 — 30HW Control Box Component Arrangement (Temperature Controller)

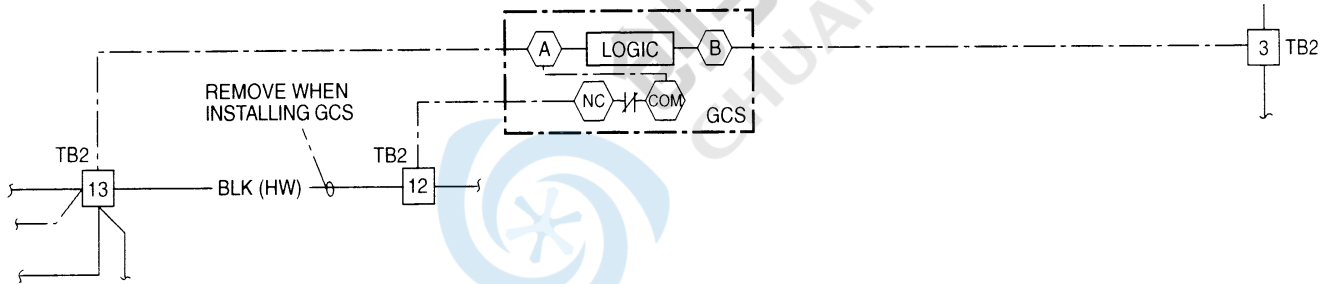


Fig. 2 — 30HW Ground Current Sensor Field Control Wiring, Temperature Controller

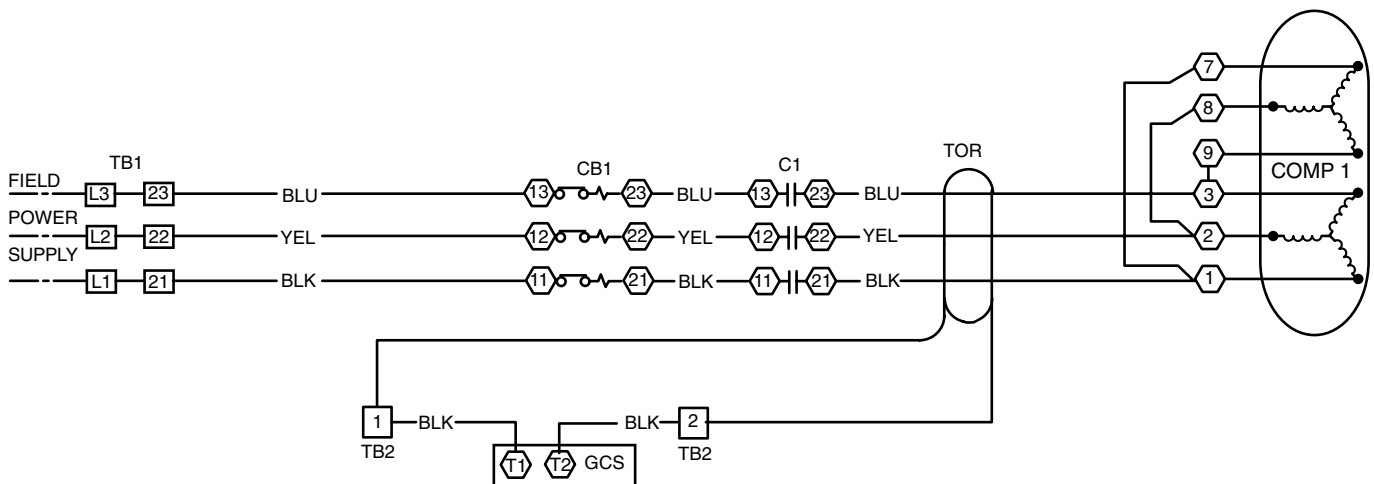
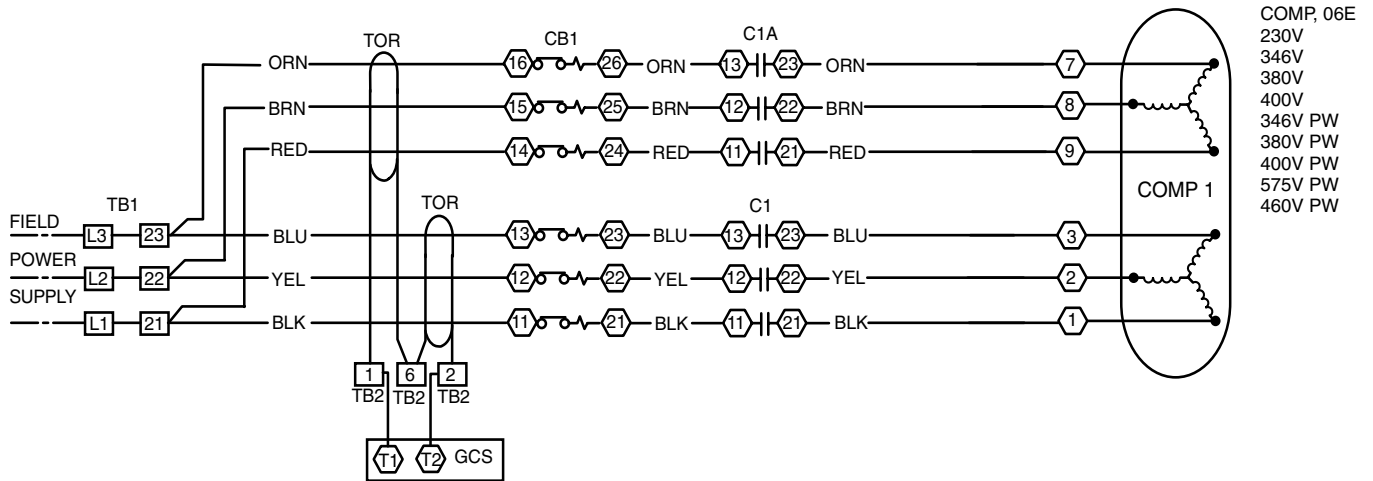


Fig. 3 — 30HW Toroid Field Wiring, Single Contactor, Temperature Controller



**Fig. 4 — 30HW Toroid Field Wiring, Two Contactors, Temperature Controller**

LEGEND (Fig. 3-8)

- COM — Common
- GCS — Ground Current Sensor
- NC — Normally Closed
- PW — Part Wind
- TB — Terminal Block
- TOR — Toroid
- — Accessory Wiring
- — Factory Wiring

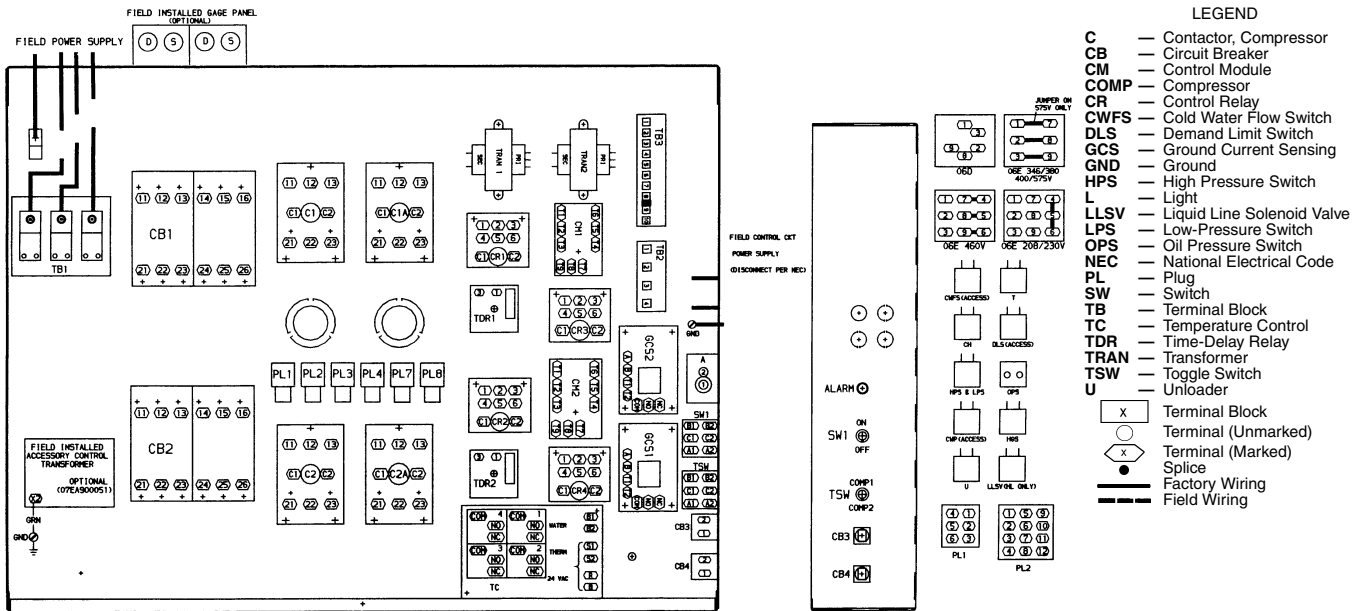
### INSTALLATION — 30HK,HL WITH TEMPERATURE CONTROLLER

#### Control Box, Control Section

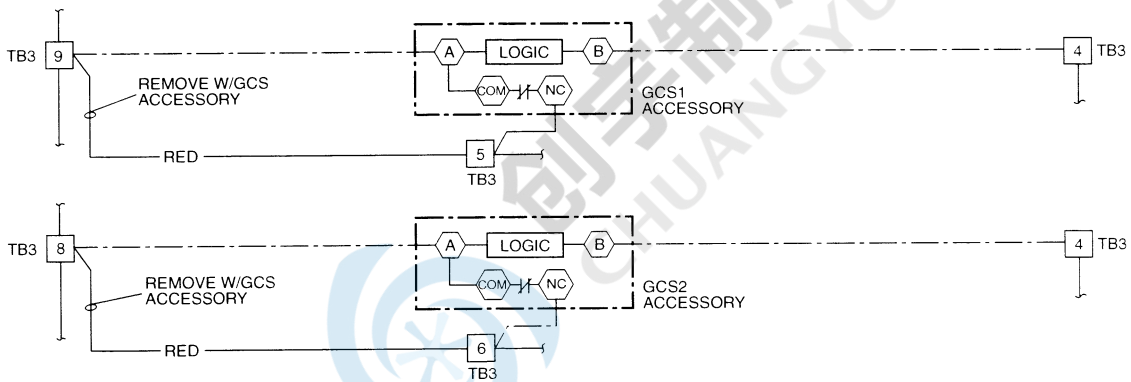
1. Mount compressor ground current sensing boards (Table 1, Item 1) in control box. See Fig. 5 for locations in control box. Use 4 screws provided (Table 1, Item 5) to mount each board. Mounting holes are pre-drilled.
2. Remove the RED wire between TB3-5 and TB3-9 for circuit 1. Remove the RED wire between TB3-6 and TB3-8 for circuit 2. See Fig. 6.
3. Install 6-in. (152 mm) wire (Table 1, Item 4) with the piggyback terminal on GCS1-A. The other end of the wire should be connected on GCS1-COM. Install the other 6-in. (152 mm) wire (Table 1, Item 4) with the piggyback terminal on GCS2-A. The other end of the wire should be connected on GCS2-COM. See Fig. 5 for locations in control box.
4. Install one 10-in. (256 mm) wire (Table 1, Item 3) connecting GCS1-B on the TB3-4 for circuit 1, and one 10-in. (256 mm) wire (Table 1, Item 3) connecting GCS2-B and TB3-4 for circuit 2.
5. Install one 10-in. (256 mm) wire (Table 1, Item 3) connecting GCS1-A and TB3-9 for circuit 1, and one 10-in. (256 mm) wire (Table 1, Item 3) connecting GCS2-A and TB3-8 for circuit 2.
6. Install 10-in. (256 mm) wire (Table 1, Item 3) between GCS1-NC terminal and TB3-5 (for circuit 1). Install 10-in. (256 mm) wire (Table 1, Item 3) between GCS2-NC terminal and TB3-6 (for circuit 2).

#### Control Box, Power Section

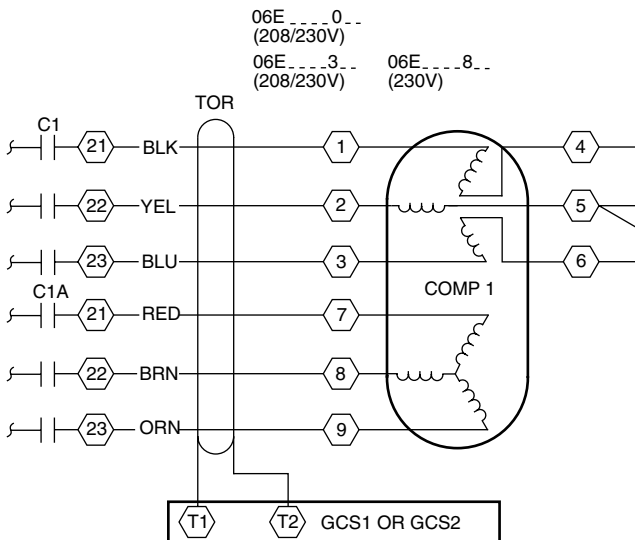
1. Remove the compressor wires from the contactor(s) for circuit 1. Be sure to mark the original positions of the wires.
2. Place all of the compressor power wires through the toroid (Table 1, Item 2). Reconnect the compressor wires to their original terminals on the contactor(s).
3. Connect the toroid leads to GCS1-T1 and GCS1-T2. See Fig. 7 and 8.
4. Remove the compressor wires from the contactor(s) for circuit 2. Be sure to mark the original positions of the wires.
5. Place all of the compressor power wires through the toroid. Reconnect the compressor wires to their original terminals on the contactor(s).
6. Connect the toroid leads to GCS2-T1 and GCS2-T2. See Fig. 7 and 8.
7. Secure all loose wires with wire ties.



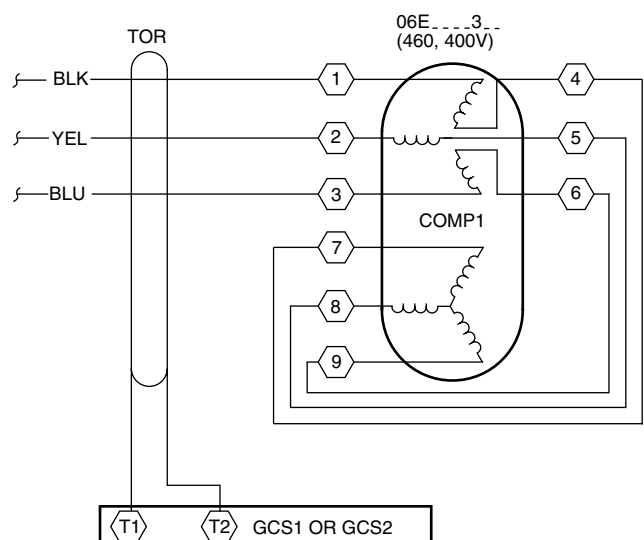
**Fig. 5 — 30HK,HL Control Box Component Arrangement (Temperature Controller)**



**Fig. 6 — 30HK,HL Ground Current Fault Sensor Field Control Wiring, Temperature Controller**



**Fig. 7 — 30HK,HL Toroid Field Wiring for 208/230-V Temperature Controller**



**Fig. 8 — 30HK,HL Toroid Field Wiring for 400-V/460-V Temperature Controller**

# INSTALLATION — 30HK,HL,HW,GTN WITH COMFORTLINK™ CONTROLS

## Control Box, Control Section

1. Mount compressor ground current board(s) (Table 1, Item 1). See Fig. 9 for 30HK,HL units. See Fig. 10 for 30HW units. See Fig. 11 for 30GTN units. Use 4 screws provided (Table 1, Item 5) to mount each board. Mounting holes are pre-drilled in the left side of the fuse/circuit breaker/display bracket located in the upper right corner of the control box.
2. Remove GRAY jumper wire between TB2-5 and TB2-8 for compressor A1. On 30HK,HL units, remove the ORANGE jumper wire between TB2-6 and TB2-10 for compressor B1. See Fig. 12 for 30HK,HL units. See Fig. 13 for 30HW and 30GTN units.
3. Install 6-in. (152 mm) wire (Table 1, Item 4) with the piggyback terminal on GCS-A-A. The other end of the wire should be connected to GCS-A-COM. For 30HK,HL units, install the other 6-in. (152 mm) wire (Table 1, Item 4) with the piggyback terminal on GCS-B-A. The other end of the wire should be connected to GCS-B-COM. See Fig. 9, 10 or 11 for locations in control box.
4. Using field supplied wire, connect TB2-5 to GCS-A-A. Next, connect a wire from TB2-8 to GCS-A-NC. For 30HK,HL units, connect a wire from TB2-6 to GCS-B-A. Connect a second wire from TB2-10 to GCS-B-NC. See

Fig. 12 for 30HK,HL units. See Fig. 13 for 30HW or 30GTN units.

5. Using field supplied wire, connect GCS-A-B to TRAN2-SEC-L2. For 30HK,HL units, connect GSC-B-B to TRAN2-SEC-L2. See Fig. 12 for 30HK,HL units. See Fig. 13 for 30HW or 30GTN units.

## Control Box, Power Section

1. Remove the compressor wires from the contactor(s) for compressor A1. Be sure to mark the original positions of the wires.
2. Place all of the compressor wires through the toroid (Table 1, Item 2). Reconnect the compressor wires to their original terminals on the contactor(s).
3. Connect the toroid leads to GCS-A-T1 and GCS-A-T2. See Fig. 14 for all units.
4. If the unit has two compressors (30HK,HL) remove the compressor wires from the contactor(s) for Compressor B1. Be sure to mark the original position of the wires.
5. Place all of the compressor wires through the toroid (Table 1, Item 2). Reconnect the compressor wires to their original terminals on the contactor(s).
6. Connect the toroid leads to GCS-B-T1 and GCS-B-T2. See Fig. 14.
7. Secure all loose wires with wire ties.

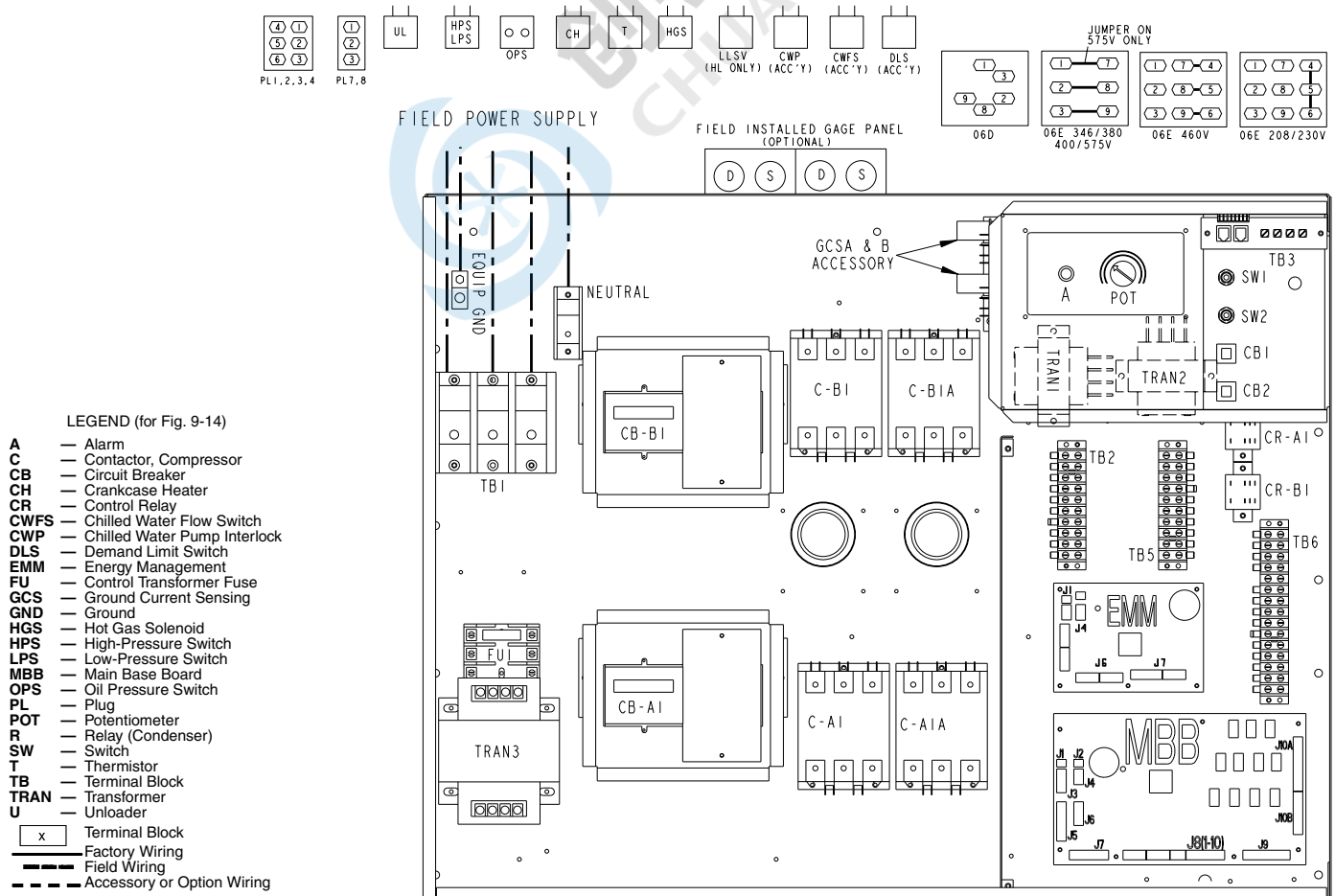


Fig. 9 — 30HK,HL Control Box Component Arrangement, ComfortLink Units

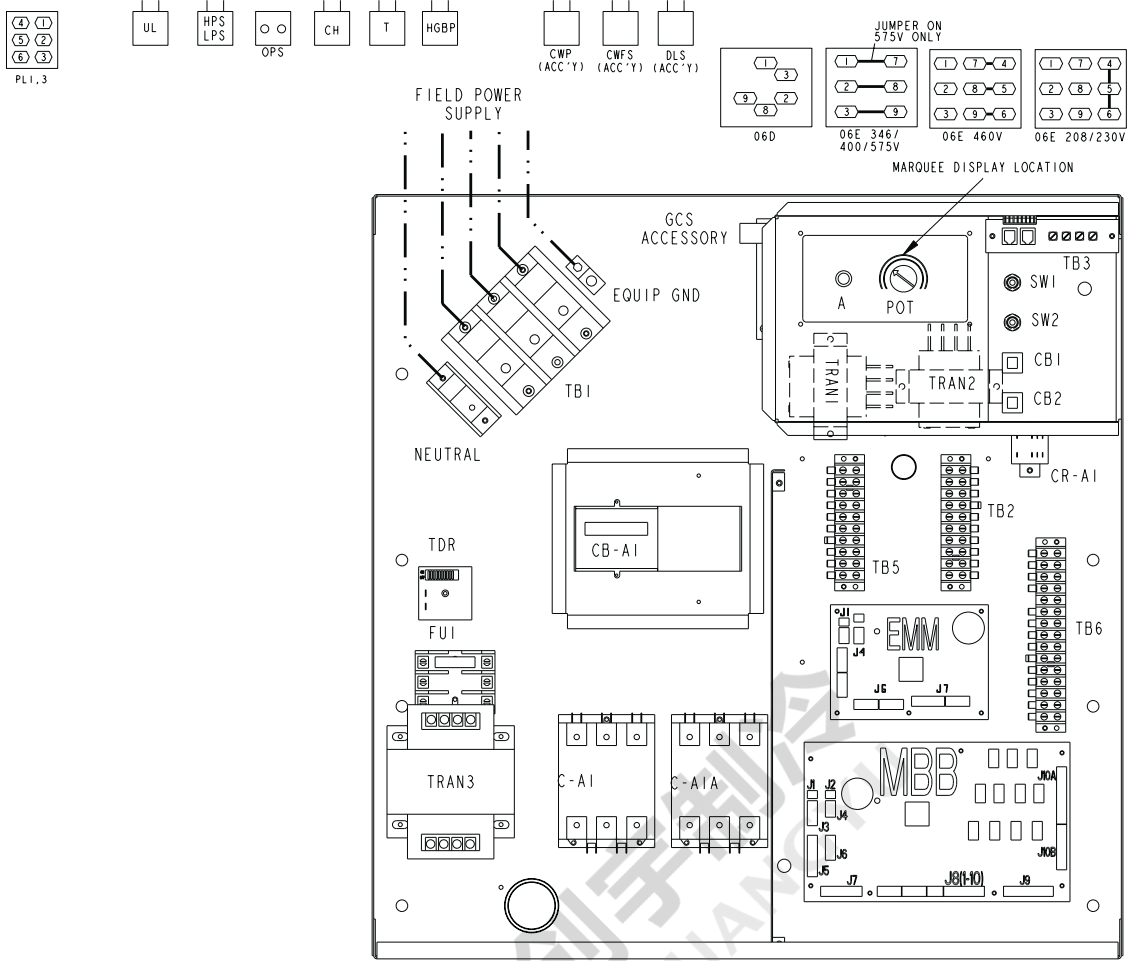


Fig. 10 — 30HW Control Box Component Arrangement, ComfortLink™ Units

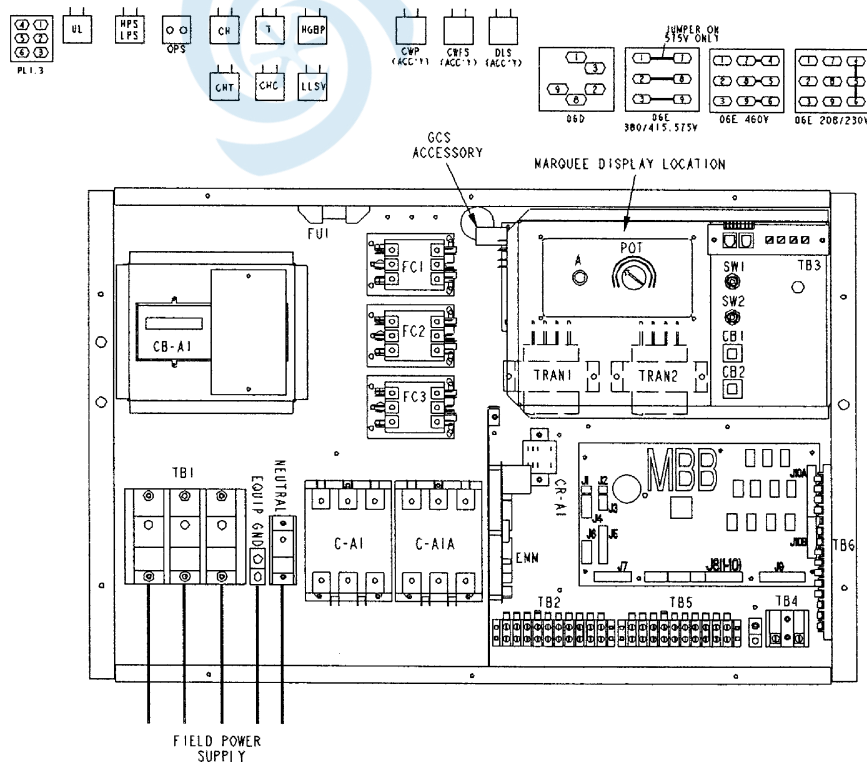
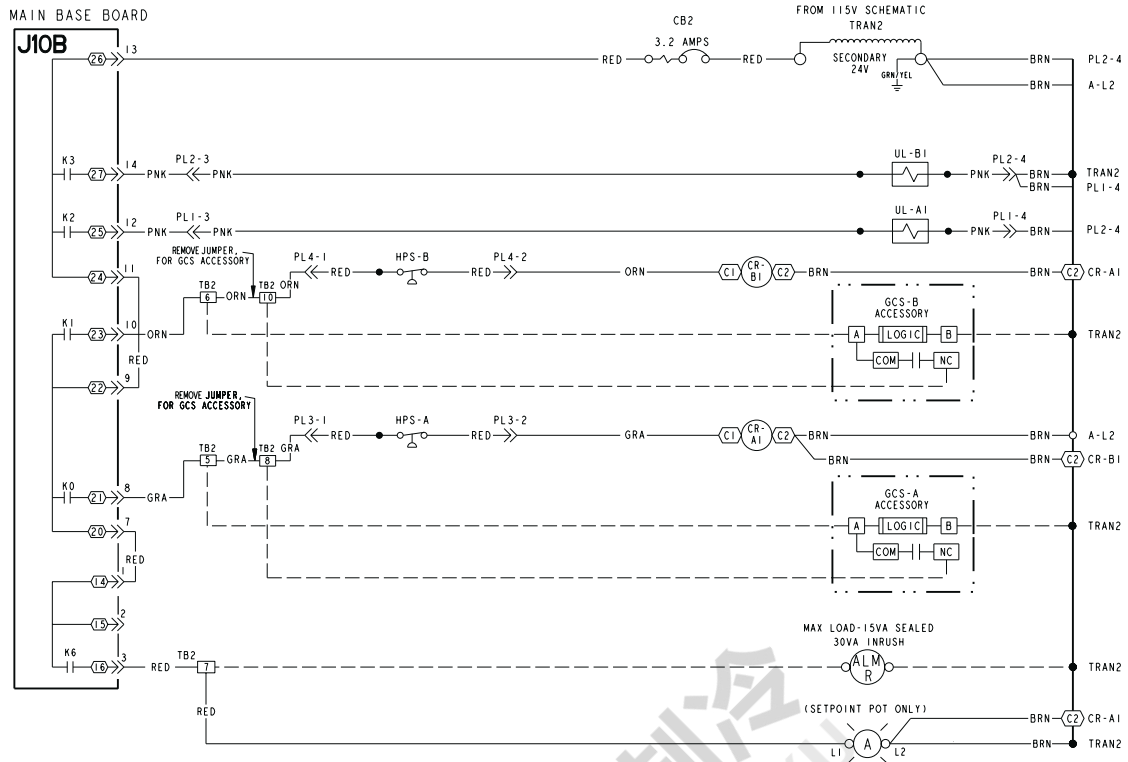


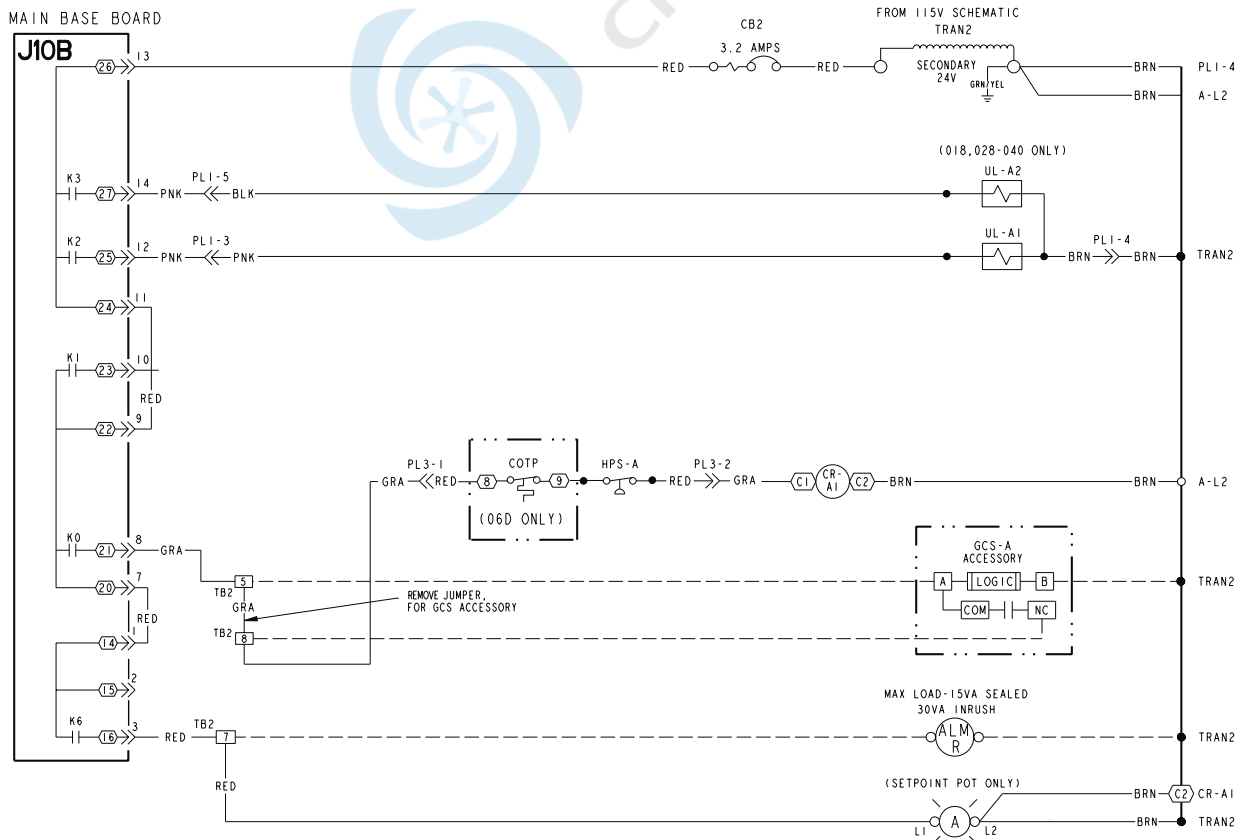
Fig. 11 — 30GTN Control Box Component Arrangement, ComfortLink™ Units

## LOW VOLTAGE CONTROL SCHEMATIC



**Fig. 12 — 30HK,HL Ground Current Sensor Field Control Wiring, ComfortLink™ Units**

## LOW VOLTAGE CONTROL SCHEMATIC



**Fig. 13 — 30HW, 30GTN Ground Current Sensor Field Control Wiring, ComfortLink Units**

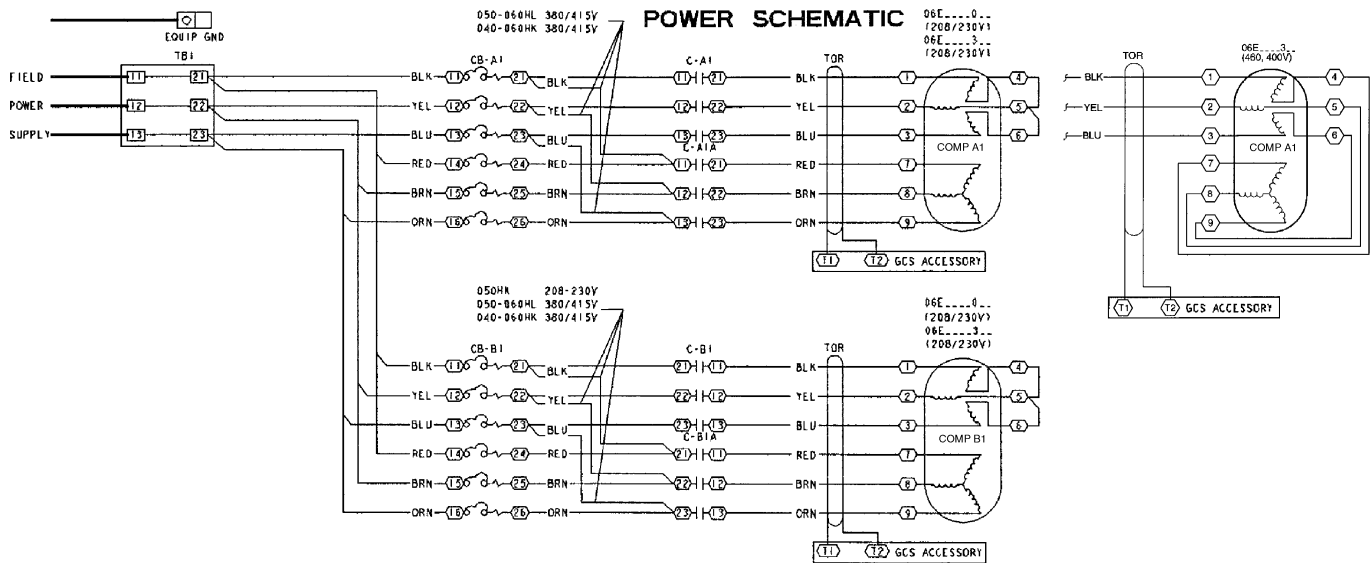


Fig. 14 — 30HK,HL,HW and 30GTN Toroid Field Wiring, One or Two Contactors, ComfortLink™ Units

