INSTALLATION INSTRUCTIONS FOR LOW AMBIENT KIT
USED ON ZG/ZC/ZH 036-150 PACKAGED ROOFTOP UNITS

Shipping and Packing List

99W67 & 99W68 (page 1)
Package 1 of 1 contains:
1- Pressure switch (S11)
2- Wire harnesses
1- Valve depressor tee
1- Relay (K10 for ZC, ZG G, J, M; K58 for ZH units)
2- Dual terminals
Bag assembly containing:
2- Screws
1- Snap bushing

10Z34 (page 8)
Package 1 of 1 contains:
2- Pressure switches (S11 / 102312-01; S84 / 102312-02)
2- Wire harnesses
2- Wire ties
2- Valve depressor tees

Application

ZG/ZC 036-060 units use 99W67; 610195-07
ZH 036-060 units use 99W68; 610195-08
ZG/ZC/ZH 092-150 units use 10Z34; 612397-01

The low ambient pressure switches cycle the outdoor fan while allowing compressor operation in the cooling cycle. This intermittent fan operation results in a high evaporating temperature which allows the system to operate without icing the evaporator coil and losing capacity. This kit is designed for use in ambient temperatures no lower than 0°F (-17.8°C) unless otherwise noted in the Engineering Handbook.

Install a belly-band style crankcase heater on compressors which don't have one OR on compressors which don't have an internal heater.

Installation - 036-060

1- Disconnect power to unit. Open compressor access and control box panels.
2- Install valve depressor tee on liquid line pressure tap. See figure 1. Install pressure switch on pressure tap.

WARNING
Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier

CAUTION
Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

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Installation - 036-060

1- Disconnect power to unit. Open compressor access and control box panels.
2- Install valve depressor tee on liquid line pressure tap. See figure 1. Install pressure switch on pressure tap.
7- Make wiring connections as follows:

- **ZG/ZC** Y, P Voltage  
- **ZG/ZC** G, J, M Voltage  
- **ZH** Y, P Voltage  
- **ZH** G, J, M Voltage  
- Wiring Schematic

8- Bundle wiring and secure wiring away from unit components.

9- Restore power to unit and close access panels.

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**ROUTE WIRING - 036-060**

- **ROUTE WIRING THROUGH BUSHING**
- **OUTDOOR COIL SUPPORT**
- **COMPRESSOR AND OUTDOOR COIL NOT SHOWN**
- **OUTDOOR COIL SUPPORT**
- **ROUTE WIRING THROUGH BUSHING**
- **ROUTE HARNESS THROUGH CONTROL BOX OPENING TO K1**

**FIGURE 2**
**FIGURE 3**

**WIRING - ZG/ZC Y, P VOLT UNITS - 036-060**

- Disconnect wire to K1-T2 contactor.
- Connect to harness wire marked B4-Black.

- On P Volt Units: This is Terminal “C”.

**FIGURE 4**

- Black Wire To B4 Outdoor Fan Motor.
- Connect to harness wire marked B4-Black.
Disconnect wire to K1-T2 contactor

Connect to harness wire marked B4-Black

FIGURE 5
Remove the white wires marked CMC1-O.
Install dual terminals on CMC1-O terminals.
Reattach the white wires and the kit harness wires marked CMC1-O on the dual terminals.

Connect to harness wire marked FAN IN

Disconnect unit wire marked FAN IN and black wire to B4 outdoor fan motor from

Connect to harness wire marked B4-Black

To B4 Outdoor Fan Motor

CONTROL BOX PANEL BOTTOM
Disconnect unit wire marked K10-A from K10.
Insert kit harness wire marked CMC1-FAN into unit wire marked K10-A.
Insert kit harness marked K10-A onto terminal K10-A.
Remove the white wires marked CMC1-O.
Install dual terminals on CMC1-O terminals.
Reattach the white wires and the kit harness wires marked CMC1-O on the dual terminals.

FIGURE 7
Installation - 092-150

1- Disconnect power to unit.

2- Install valve depressor tee on liquid line pressure taps. See figure 9 for ZG/ZC units and figure 10 for ZH units. Install pressure switches on valve depressor tee.

3- Check system for leaks.
Wiring - ZG/ZC 092-150 Units

Refer to wiring schematic in figure 14.
1- Disconnect wires marked S11 as shown in figure 9.
2- Locate shorter kit harness and connect wires as shown in figure 11. Discard longer harness when installing a ZG or ZC unit.
3- Bundle wiring and secure away from unit components.

Wiring - ZH 092-120 Units

Refer to wiring schematic in figure 15.
1- Refer to figure 13 to make wiring connections.
2- Bundle wiring and secure away from unit components.

Operation

Outdoor fans will be energized when the liquid pressure rises to 450 psig (3103kPa) and de-energize when liquid pressure drops to 240 psig (1655kPa).

ZG/ZC/ZH 092-150 - Outdoor fans cycle together (all switches must be open).

When heat pump units operate in heating mode, K58 bypasses S11 and S84 pressure switches to keep fans operating regardless of liquid pressure.
DISCONNECT WIRE FROM CMC1 FAN TERMINAL; CONNECT TO CMC1-FAN MALE TERMINAL

LONGER KIT WIRE HARNESS

FEMALE TERMINAL

SHORTER KIT WIRE HARNESS

CMC1-FAN

PLUG

K58

FACTORY WIRING

FIELD WIRING

FIGURE 13
FIGURE 15

NOTE - IF ANY WIRE IN THIS APPLIANCE IS REPLACED IT MUST BE REPLACED WITH WIRE OF SAME SIZE, RATING, TERMINATION AND INSULATION THEREOF.

WARNING - ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH - UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.

DISCONNECT ALL POWER BEFORE SERVICING.

240V COMMON

420 CONDENSER FAN MOTOR
430-1-2 RELAY, OUTDOOR FAN
430L2 RELAY, FORWARD/REVERSE VALVE
430L3 RELAY, COMPRESSOR 1 OR 2
430S1-1 RELAY, COMPRESSOR 2 OR 240V
431 VALVE, REVERSING 1
431L2 VALVE, REVERSING 2
431L3 VALVE, REVERSING 3
432 SWITCH, UNIT HIGH PRESS COMP 1
432S1 SWITCH, UNIT HIGH TEMP COMP 1
432S2 SWITCH, OUTDOOR COMP 1
432S3 SWITCH, UNIT LOW PRESS COMP 1
432S4 SWITCH, UNIT LOW TEMP COMP 1
433 SWITCH, UNIT HIGH COMP 2
433S1 SWITCH, UNIT HIGH TEMP COMP 2
433S2 SWITCH, OUTDOOR COMP 2
434 SWITCH, UNIT LOW PRESS COMP 2
434S1 SWITCH, UNIT LOW TEMP COMP 2
434S2 SWITCH, UNIT LOW TEMP COMP 2
430H TRANSFORMER, CONTROL
110 TRANSFORMER, 110V/24V
111 TRANSFORMER, 110V/120V
113 TRANSFORMER, 240V/110V

JIP JACKPLUG DESCRIPTION
Z1 HEAT
Z6 TEST HEAT
Z8 TEST COOL

DEMONSTRATES OPTIONAL COMPONENTS
120 VOLTAGE MUST BE INSTALLED.

WIRING DIAGRAM
06/14

537672-01

HEAT PUMP - CAV
ZHA - 092, 102, 120 - G, J, M, Y

SECTION B
REV. 0

Supercedes 537672-01