UAC SW 4004C

UAC SW 4004C A/C Trinary Switch Instruction Manual

Model: SW 4004C | Brand: UAC

1. Product Overview

The UAC SW 4004C A/C Trinary Switch is a critical component designed for automotive air conditioning systems. It monitors the refrigerant pressure within the A/C system, providing essential feedback to control the compressor and cooling fans. This switch is engineered to meet or exceed OEM specifications, ensuring reliable performance and maximum cooling efficiency.

Key Features:

- Brand New, OE replacement: UAC branded Trinary HPCO CF LPCO
- Premium ISO/TS 16949 quality; tested to meet or exceed OEM specifications
- Maximum cooling efficiency
- Product is backed by industry leading warranty

Figure 1: UAC SW 4004C A/C Trinary Switch. This image displays the UAC SW 4004C A/C Trinary Switch from multiple angles. The top view shows the electrical connector with four pins. The bottom view shows the pressure port with a green O-ring. The side view illustrates the overall cylindrical shape, the black electrical housing, and the silver hexagonal body with the threaded pressure port.

2. Safety Information

Always prioritize safety when working on automotive systems. Improper handling of A/C systems can lead to serious injury or damage. It is highly recommended that installation and maintenance be performed by a qualified automotive technician.

- **Personal Protective Equipment:** Always wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and long sleeves, when working with refrigerants or automotive components.
- **Refrigerant Handling:** Automotive A/C systems contain pressurized refrigerant. Improper discharge or handling can cause frostbite, chemical burns, or environmental damage. Ensure the system is properly depressurized by a professional before attempting to remove or install any A/C components.
- **Electrical Safety:** Disconnect the vehicle's battery before working on any electrical components to prevent accidental shorts or electrical shock.

- **Hot Surfaces:** Allow the engine and A/C system to cool down completely before beginning work.
- **Vehicle Support:** If lifting the vehicle, ensure it is securely supported on jack stands or a lift. Never rely solely on a jack.

3. Package Contents

- 1 x UAC SW 4004C A/C Trinary Switch

4. Specifications

Specification	Value
Operation Mode	Electrical
Contact Type	Normally Open
Connector Type	Hose Barb
Brand	UAC
Terminal	Solder
Item dimensions L x W x H	1.1 x 0.8 x 0.8 inches
Circuit Type	3-way
Actuator Type	Push Button
Contact Material	Tin
International Protection Rating	IP54
Number of Positions	2
Control Method	Touch
Connectivity Protocol	X-10
Color	Green
Unit Count	1.0 Count
Number of Items	1
Global Trade Identification Number	00711307221660
Manufacturer	UAC
UPC	711307221660
Model	SW 4004C
Item Weight	1.41 ounces
Product Dimensions	1.1 x 0.8 x 0.8 inches
Item model number	SW4004C
Exterior	Machined
Manufacturer Part Number	SW 4004C
OEM Part Number	0123419; 954004; 20944; 2930196; E951018; MT0357; B01A61503; TEM207756; 207756; E951018; MT0357;
ASIN	B003R3U3M2
Date First Available	January 22, 2015

5. Installation and Setup

Installation of the UAC SW 4004C A/C Trinary Switch requires working with a pressurized refrigerant system. It is strongly recommended that this procedure be performed by a certified automotive technician with the proper tools and knowledge to safely handle refrigerants and A/C system components.

Compatibility Note:

This part is NOT universal. Verify compatibility with your vehicle's year, make, and model before purchase and installation. Some Mazda 3 models, for example, have been reported to have thread incompatibility. Please consult your vehicle's service manual or a qualified mechanic to confirm the correct part for your specific application.

Known compatible vehicles include, but are not limited to:

- 2005 Honda Accord EX V6 3.0L
- 2004 Honda Accord LX V6 3.0L
- 2004 Honda Accord EX V6 3.0L
- 2003 Honda Accord LX V6 3.0L
- 2003 Honda Accord EX V6 3.0L
- 2005 Honda Insight Base L3 1.0L
- 2004 Honda Insight Base L3 1.0L
- 2003 Honda Insight Base L3 1.0L
- 2002 Honda Insight Base L3 1.0L
- 2001 Honda Insight Base L3 1.0L
- 2000 Honda Insight Base L3 1.0L
- 2004 Honda Odyssey LX V6 3.5L
- 2004 Honda Odyssey EX V6 3.5L
- 2003 Honda Odyssey LX V6 3.5L
- 2003 Honda Odyssey EX V6 3.5L
- 2003 Honda Odyssey EX-L V6 3.5L
- 2002 Honda Odyssey LX V6 3.5L
- 2002 Honda Odyssey EX V6 3.5L
- 2002 Honda Odyssey Cargo V6 3.5L
- 2002 Honda Odyssey EX-L V6 3.5L
- 2001 Honda Odyssey LX V6 3.5L
- 2001 Honda Odyssey EX V6 3.5L
- 2001 Honda Odyssey Cargo V6 3.5L
- 2000 Honda Odyssey LX V6 3.5L
- Also reported to fit 2004 Toyota Corolla.

General Installation Steps (Professional Installation Recommended):

1. **Depressurize A/C System:** The A/C system must be safely and completely depressurized using proper recovery equipment. This step is critical and should only be performed by a qualified technician.
2. **Locate Old Switch:** Identify the existing trinary switch on your vehicle's A/C system. Its location can vary by vehicle model.
3. **Disconnect Electrical Connector:** Carefully disconnect the electrical connector from the old switch.
4. **Remove Old Switch:** Using an appropriate wrench, carefully unscrew the old trinary switch. Be prepared for a small amount of residual refrigerant or oil to escape, even after depressurization.
5. **Inspect and Prepare:** Inspect the new UAC SW 4004C switch for any damage. Ensure the green O-ring is properly

seated on the new switch.

6. **Install New Switch:** Carefully thread the new UAC SW 4004C switch into the port. Hand-tighten first to avoid cross-threading, then tighten with a wrench to the manufacturer's specified torque. Do not overtighten.
7. **Reconnect Electrical Connector:** Reconnect the electrical connector to the new switch, ensuring it clicks securely into place.
8. **Evacuate and Recharge A/C System:** The A/C system must be evacuated (vacuumed) to remove air and moisture, then recharged with the correct type and amount of refrigerant according to your vehicle's specifications. This step requires specialized equipment and expertise.
9. **Test System:** After recharging, start the vehicle and test the A/C system to ensure proper operation, including compressor engagement and fan activation.

6. Operation

The UAC SW 4004C Trinary Switch is an automatic component that operates continuously as part of your vehicle's A/C system. It performs three primary functions based on refrigerant pressure:

- **Low Pressure Cut-Off (LPCO):** Prevents the A/C compressor from engaging if the refrigerant pressure is too low. This protects the compressor from damage due to lack of lubrication or refrigerant.
- **High Pressure Cut-Off (HPCO):** Disengages the A/C compressor if the refrigerant pressure becomes excessively high. This prevents damage to the A/C system components from over-pressurization.
- **Condenser Fan Control:** Activates the condenser cooling fan(s) when the refrigerant pressure reaches a certain threshold, ensuring efficient heat dissipation from the condenser.

The switch operates automatically and does not require manual intervention during normal vehicle operation. Its proper functioning is crucial for the efficient and safe operation of your vehicle's air conditioning system.

7. Maintenance

The UAC SW 4004C Trinary Switch itself is a sealed, maintenance-free component. Its longevity is directly related to the overall health and proper functioning of your vehicle's A/C system. To ensure optimal performance and extend the life of your A/C components, consider the following general maintenance practices:

- **Regular A/C System Checks:** Have your vehicle's A/C system inspected annually by a qualified technician. They can check refrigerant levels, inspect for leaks, and assess overall system performance.
- **Address Leaks Promptly:** If you suspect a refrigerant leak (e.g., A/C not cooling effectively, visible oil residue), have it diagnosed and repaired immediately. Low refrigerant levels can cause the trinary switch to cycle the compressor excessively or prevent it from engaging.
- **Keep Condenser Clean:** Ensure the vehicle's condenser (located in front of the radiator) is free from debris, leaves, and dirt. A blocked condenser can lead to high system pressures, potentially causing the trinary switch to activate the high-pressure cut-off.
- **Proper Refrigerant Charge:** Always ensure the A/C system is charged with the correct type and amount of refrigerant as specified by your vehicle manufacturer. Over- or under-charging can lead to improper system pressures and affect switch operation.

8. Troubleshooting

If you experience issues with your vehicle's A/C system after installing or while using the UAC SW 4004C Trinary Switch, consider the following common troubleshooting scenarios. Remember, complex A/C issues often require professional diagnosis.

Symptom	Possible Cause	Action
A/C compressor does not engage (no cold air).	◦ Low refrigerant charge (trinary switch LPCO activated). ◦ High refrigerant pressure (trinary switch HPCO activated). ◦ Faulty electrical connection to the switch. ◦ Incorrect switch installed (compatibility issue). ◦ Other A/C system component failure (e.g., compressor, relay, fuse).	◦ Check refrigerant levels and system pressures (professional required). ◦ Ensure electrical connector is clean and securely attached. ◦ Verify the switch is the correct part for your vehicle (refer to Section 5). ◦ Inspect A/C fuses and relays. ◦ Consult a qualified technician for full system diagnosis.
Condenser fan(s) not turning on when A/C is engaged.	◦ Low refrigerant pressure (not reaching fan activation threshold). ◦ Faulty trinary switch (fan control circuit). ◦ Faulty condenser fan motor or relay.	◦ Check refrigerant levels. ◦ Test fan motor and relay. ◦ Professional diagnosis of trinary switch function.
A/C works intermittently or cycles rapidly.	◦ Slightly low refrigerant charge. ◦ Obstruction in the A/C system. ◦ Intermittent electrical connection.	◦ Have system pressures checked and adjusted. ◦ Ensure wiring to the switch is not damaged.
Green colored oil escaped during installation.	◦ Residual refrigerant oil in the system. ◦ System not fully depressurized.	◦ This indicates refrigerant oil. Ensure proper system evacuation and recharge. ◦ If significant oil loss, the system may need additional oil added during recharge. Consult a professional.

Note: Some users have reported that the switch may take a short period (e.g., overnight) to fully function after initial installation and system recharge. If issues persist, professional diagnosis is recommended.

9. Warranty and Support

The UAC SW 4004C A/C Trinary Switch is backed by an industry-leading warranty, reflecting UAC's commitment to quality and durability. For specific warranty terms, conditions, and claim procedures, please refer to the warranty information provided with your purchase or visit the official UAC website.

For technical support, installation inquiries, or troubleshooting assistance beyond the scope of this manual, please contact UAC customer service or consult a certified automotive professional.

UAC Official Website: www.uacparts.com