HiSport HSPEL88567-2

HiSport 12V 10A 4P Multi-Purpose Relay Instruction Manual

Model: HSPEL88567-2

1. Product Overview

The HiSport 12V 10A 4P Multi-Purpose Relay (Model: HSPEL88567-2) is a versatile electrical component designed for various automotive applications. This relay acts as an electrical switch, allowing a low-power signal to control a high-power circuit. It is commonly used in vehicle systems for components such as air conditioning compressors, fuel horns, fog lights, starter headlamps, backup lights, and ABS control.

This product is compatible with a wide range of vehicles, including models from Buick, Cadillac, Chevrolet, GMC, and Hummer. Each pack contains two relays, ensuring you have a spare or can replace multiple units as needed.

Image: Two HiSport 12V 10A 4P Multi-Purpose Relays, showing their compact black rectangular design with four metal pins extending from one end.

2. Specifications

Technical Specifications of HiSport Multi-Purpose Relay

Feature	Detail
Model Number	HSPEL88567-2
Coil Voltage	12 Volts
Current Rating	10 Amps
Contact Type	Normally Open

Feature	Detail
Contact Material	Silver
Connector Type	Quick Connect
Mounting Type	Socket Mount
Operation Mode	Automatic
Mechanical Life	1,000,000 cycles
Electrical Life	100,000 cycles
Item Weight	1.44 ounces (approx. 40g)
Package Dimensions	2.68 x 2.24 x 2.05 inches

Reference Part Numbers: 12135170, 15393412, 19115080, 13502679, 12088567, 12135034, 89046660, 12193606, 19115083, 15328866, 19116963, 13500127, 13500114, 15-8571, 15-8707, 15-80453, 15-50688.

CONTACT DATA

Contact Form	1A（SPSTNO）、1B（SPSTNC）、1C（SPDT(B-M)）		
Contact Material	Ag Alloy		
Contact Rating (resistive)	1A	1B	1C
	40A/14VDC	30A/14VDC	NO：40A/14VDC NC：30A/14VDC
Max. Switching Voltage	75VDC		
Max. Switching Current	40A		
Max. Switching Power	560W		
Contact Resistance or Voltage drop	≤100mΩ		
Electrical Life	1×10^{5}		
Mechanical Life	1×10^{7}		

Image: An internal diagram of the relay, highlighting key components such as the fireproof insulator, highly resistant coil and iron core, and high-density metal, which contribute to its comprehensive safety and durability.

OPERATION CONDITION		
Insulation Resistance		100MΩ Min.（at 500VDC）
Dielectric Strength	Between Contacts	50Hz 500VAC / 1 minute
	Between Coil and Contacts	50Hz 750VAC / 1 minute
Shock resistance		200m/s2 11ms
Vibration resistance		10~40Hz double amplitude 1..27mm ;40~70Hz 50m/s2 70~100Hz double amplitude 0.5mm ;100~500Hz 100m/s2
Terminals strength		100N
Solderability		235℃±2℃ 3±0.5s
Ambient Temperature		-40℃ ~ +85℃
Relative Humidity		95% (at 45℃)
Weight (Approx.)		40g

Image: A visual comparison illustrating the importance of MultiProtect for circuit safety. The diagram shows a proper circuit connection with MultiProtect (green check) versus an unsafe connection without it (red X), emphasizing enhanced protection.

3. Setup and Installation

Installation of the HiSport Multi-Purpose Relay should be performed by a qualified technician or an individual with appropriate automotive electrical knowledge. Always ensure the vehicle's battery is disconnected before beginning any electrical work to prevent short circuits or electrical shock.

1. **Identify the Old Relay:** Locate the relay that needs to be replaced. Refer to your vehicle's service manual for the exact location of the air conditioning compressor relay or other relevant relays.
2. **Disconnect Power:** Turn off the vehicle's ignition and disconnect the negative terminal of the battery.
3. **Remove the Old Relay:** Carefully pull out the old relay from its socket. Some relays may have a retaining clip that needs to be released first.
4. **Inspect the Socket:** Check the relay socket for any signs of corrosion, damage, or loose connections. Clean if necessary.
5. **Install the New Relay:** Align the pins of the new HiSport relay with the corresponding slots in the socket. Gently push the relay firmly into place until it is fully seated. Ensure a secure connection.
6. **Reconnect Power:** Reconnect the negative terminal of the battery.
7. **Test Functionality:** Start the vehicle and test the function controlled by the new relay (e.g., turn on the air conditioning, test the horn).

Important: Always verify compatibility with your specific vehicle model and the intended application before installation. The relay is designed for a socket mount, ensuring a straightforward replacement process.

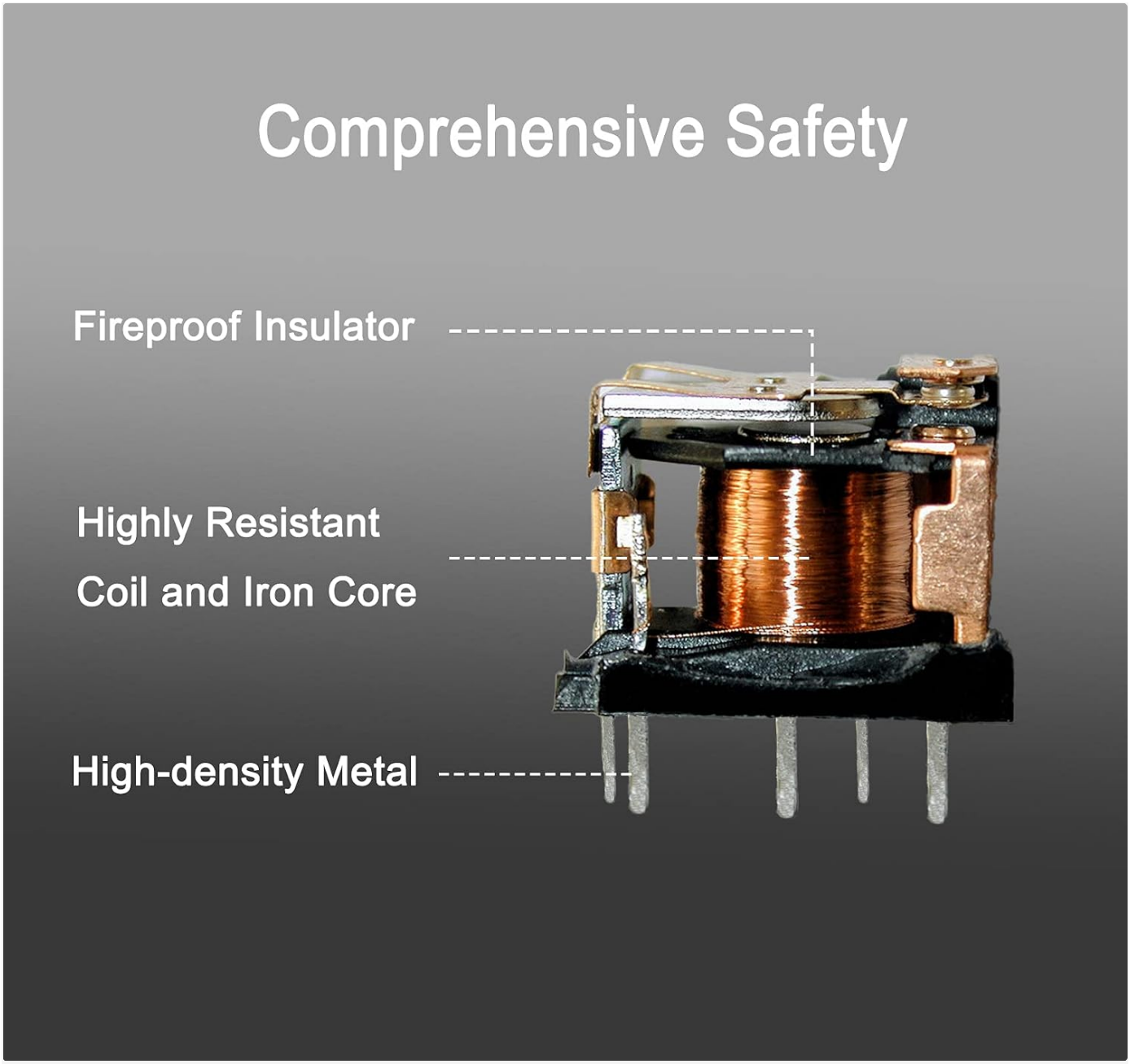

Image: A side view of the HiSport relay, illustrating its compact form factor and the four quick-connect pins designed for easy socket mounting.

4. Operating Principles

The HiSport Multi-Purpose Relay operates on a simple electromagnetic principle. When a small electrical current is applied to the relay's coil (the control circuit), it generates a magnetic field. This magnetic field attracts an armature, causing a set of electrical contacts to close or open, thereby completing or breaking a separate, higher-power circuit (the load circuit).

- **Control Circuit:** This is the low-current circuit that activates the relay. For example, when you turn on your car's air conditioning, a small current flows to the relay's coil.
- **Load Circuit:** This is the high-current circuit that the relay controls. When the relay is activated, it allows the higher current to flow to the A/C compressor, enabling it to operate.
- **Normally Open (NO) Contacts:** This relay features normally open contacts, meaning the load circuit is open (no current flow) when the relay is de-energized. When the coil is energized, the contacts close, allowing current to flow.

This design protects sensitive control switches from high currents and allows a single switch to control multiple high-power

components simultaneously.

COIL PARAMETER

Dash numbers	Coil voltage (VDC)		Coil resistance	Pickup voltage VDC(Max.)	Release voltage VDC(Min.)	Coil power	Operate Time	Release Time
	Rated	Max.	Ω±10%					
006-1800	6V	7.8V	20	3.9V	0.6V	1.8W	≤7 ms	≤5 ms
012-1800	12V	15.6V	80	7.8V	1.2V			
024-1800	24V	31.2V	320	15.6V	2.4V			

Other Products

Image: A visual representation of the relay's compact dimensions and weight, highlighting its small body designed to handle significant electrical currents effectively.

5. Maintenance

Relays are generally maintenance-free components. However, regular inspection of the surrounding area can help ensure optimal performance and longevity.

- **Visual Inspection:** Periodically check the relay and its socket for any signs of physical damage, corrosion, or overheating (discoloration, melted plastic).
- **Cleanliness:** Ensure the relay and its socket are free from dirt, dust, and moisture, which can interfere with electrical connections.
- **Secure Connection:** Verify that the relay is securely seated in its socket. Vibrations can sometimes cause components to loosen over time.

If any issues are observed, it is recommended to replace the relay. Do not attempt to repair a faulty relay, as it is a sealed unit and internal repairs are not feasible or safe.

6. Troubleshooting

If you experience issues with a component controlled by this relay, consider the following troubleshooting steps:

- **Component Not Activating:** If the component (e.g., A/C compressor, horn) does not turn on, the relay might be faulty.
    - Check the fuse associated with the circuit.
    - Swap the suspect relay with a known good, identical relay from another non-critical circuit (e.g., horn relay if the A/C is not working). If the component then works, the original relay is likely defective.

    - Verify that the control signal is reaching the relay coil.
- **Intermittent Operation:** If the component works sometimes but not always, this could indicate a loose connection or an intermittently failing relay.
    - Ensure the relay is firmly seated in its socket.
    - Inspect the wiring and connectors for corrosion or damage.
    - Consider replacing the relay if other checks yield no results.
- **Relay Clicking but Component Not Working:** This suggests the relay coil is activating, but the internal contacts are not making proper connection or there's an issue with the load circuit.
    - Check the power supply to the load side of the relay.
    - Inspect the wiring from the relay to the component.
    - The relay itself might have internal contact issues and should be replaced.

If troubleshooting does not resolve the issue, it is recommended to consult a professional automotive technician.

7. Warranty and Support

For information regarding product warranty, returns, or technical support, please refer to the purchase documentation or contact HiSport customer service directly. Details can often be found on the seller's page or the official HiSport website. You can visit the HiSport Store on Amazon for more information and to explore other products.