

Model: C28

1. Overview



The LIHAN 7-in-1 Cigarette Lighter Splitter is a power adapter designed to expand your vehicle's single 12V/24V cigarette lighter socket into multiple power outlets. It provides three additional socket outlets and four USB charging ports for simultaneous power delivery to multiple devices.

Key capabilities include:

- Expanding one vehicle socket to three 12V/24V socket outlets
- Providing four USB charging ports with fast-charging technology
- Monitoring vehicle battery voltage via LED display
- Individual control of each power outlet
- Extended 3.3-foot power cord for flexible placement

2. Package Contents

- Cigarette Lighter Splitter × 1
- Adhesive Tape (Velcro strip) × 1
- Spare Fuses × 2
- User Manual × 1

3. Product Features

3.1 Physical Layout and Components



The main unit contains the following elements:

- **Three 12V/24V Socket Outlets:** Standard cigarette lighter-style sockets for powering various automotive accessories.

- **Four USB Ports:**
 - 1 × USB-C port with PD30W fast charging
 - 1 × USB-A port with QC3.0 fast charging
 - 2 × Standard USB-A charging ports
- **LED Voltage Display:** Digital screen showing real-time vehicle battery voltage.
- **Individual Power Switches:** One switch for each of the three socket outlets.
- **Master Power Switch:** Located on the side of the unit to control all power simultaneously.
- **3.3-Foot Extension Cord:** Flexible cable connecting the unit to your vehicle's cigarette lighter socket.

3.2 Technical Specifications

Specification	Details
Input Voltage	12V/24V DC (Vehicle Standard)
Total Output Power	127W Maximum
Socket Outlet Power	80W Total (Three sockets combined)
USB-C Port	PD30W Fast Charging
QC3.0 Port	Quick Charge 3.0 Compatible
Cable Length	3.3 Feet (Approximately 1 meter)
Product Dimensions	7.1 × 3.42 × 1.37 inches
Item Weight	8.4 ounces

3.3 Safety Features

- Smart chip protection circuits
- Built-in safe fuses
- Protection against overcurrent, overvoltage, overheating, overloading, over-charging, and short-circuiting
- Individual and master power switches for controlled operation

4. Installation and Use Guide

4.1 Initial Setup

1. Ensure your vehicle is turned off or in accessory mode during installation.
2. Insert the unit's plug firmly into your vehicle's cigarette lighter socket.
3. The LED voltage display will illuminate, showing your vehicle's current battery voltage.
4. Use the included adhesive tape (Velcro strip) to secure the unit in your desired location if needed.

4.2 Using the Socket Outlets

1. Plug your device into one of the three socket outlets.
2. Press the corresponding individual power switch to turn that specific outlet ON.
3. The switch will illuminate when the outlet is active.
4. To conserve power when not in use, turn off individual outlets using their switches.

Compatible devices include: Air purifiers, dash cams, tire inflators, car vacuums, portable refrigerators, humidifiers, air pumps, GPS units, and satellite navigation devices.

4.3 Using the USB Charging Ports

1. Connect your USB device to the appropriate port:
 - For fastest charging of compatible devices, use the USB-C PD30W port or USB-A QC3.0 port
 - For standard charging, use either of the two regular USB-A ports
2. USB ports are always active when the unit is plugged in and receiving power from the vehicle.
3. The smart IC chip will automatically detect your device and deliver optimal charging current.

4.4 Understanding the Voltage Display

The LED display shows your vehicle's battery voltage in real-time:

- **For 12V vehicles:** Normal range is 11.5V to 14.9V
- **For 24V vehicles:** Normal range is 23.1V to 27.3V

Warning indications:

- If voltage drops below 11.5V (12V system) or 23.1V (24V system), your battery may be undercharged.
- If voltage rises above 14.9V (12V system) or 27.3V (24V system), your charging system may be overcharging.
- Consult your vehicle manual or a professional if readings are consistently outside normal ranges.

4.5 Power Management

- **Individual Control:** Each socket outlet has its own ON/OFF switch for independent operation.
- **Master Control:** The side-mounted master switch turns all power (sockets and USB ports) ON or OFF simultaneously.
- Use the master switch when parking overnight or leaving the vehicle unused for extended periods to prevent battery drain.

4.6 Cable Management

The 3.3-foot extension cord allows placement flexibility:

- Route the cord to provide power to backseat passengers
- Position the unit for easy access to all switches and ports
- Secure loose cables to prevent interference with vehicle controls

5. Safety Instructions

Important Safety Information

- This product is designed for use in 12V or 24V DC automotive electrical systems only.
- Do not exceed the total maximum output of 127W across all ports simultaneously.
- The three socket outlets have a combined maximum output of 80W.
- Do not use with devices that exceed the power rating of individual outlets.
- Regularly check the voltage display to monitor your vehicle's electrical system health.
- If the unit becomes hot to the touch, disconnect it immediately and allow to cool.
- Keep the unit away from water and excessive moisture.
- Do not attempt to disassemble or modify the unit.
- Use only the included spare fuses for replacement if needed.
- When not in use for extended periods, disconnect the unit from your vehicle's socket.

6. Troubleshooting

Issue	Possible Cause	Solution
No power to any ports	Vehicle socket not providing power Blown fuse in vehicle Master switch turned OFF	Check vehicle ignition is in accessory mode Check vehicle fuse box Ensure master switch is ON
Specific socket not working	Individual switch turned OFF Device power requirement too high Faulty device	Check individual switch is ON Try a different device Test device in another outlet
USB ports not charging	Device not compatible Cable issue USB port overload	Try different cable Try different USB port Disconnect some devices
Voltage display not working	Poor connection to vehicle socket Display malfunction	Re-seat plug in vehicle socket Contact support if issue persists
Unit gets hot during use	Total power draw too high Poor ventilation Faulty device connected	Disconnect some devices Relocate unit to better ventilated area Remove recently connected device

6.1 Fuse Replacement

If the unit stops working completely and vehicle power is confirmed:

1. Unplug the unit from your vehicle.
2. Locate the fuse compartment (typically near the plug).
3. Replace the blown fuse with one of the included spare fuses.
4. Replug the unit and test operation.

Note: Repeated fuse failures indicate an overload condition. Reduce the number or power requirements of connected devices.

7. Compatibility

7.1 Vehicle Compatibility

- All 12V DC vehicles (most cars, SUVs, light trucks)
- All 24V DC vehicles (some trucks, RVs, commercial vehicles)

- Vehicles with standard cigarette lighter sockets

7.2 Device Compatibility

- **USB-C PD30W Port:** Compatible with phones, tablets, and laptops supporting Power Delivery fast charging
- **QC3.0 Port:** Compatible with Quick Charge 3.0 devices from Samsung, Motorola, LG, and others
- **Standard USB Ports:** Compatible with all USB-charged devices
- **Socket Outlets:** Compatible with standard 12V/24V automotive accessories with cigarette lighter plugs

8. Care and Maintenance

- Regularly wipe the unit with a dry, soft cloth to remove dust and debris.
- Do not use liquid cleaners or sprays directly on the unit.
- Periodically check all connections for secure fit.
- Store the unit in a cool, dry place when not in use for extended periods.
- Inspect the cable regularly for signs of wear or damage.

9. Warranty Information

This product includes a 12-month limited warranty from the date of purchase. The warranty covers defects in materials and workmanship under normal use.

Warranty does not cover:

- Damage from misuse, abuse, or neglect
- Damage from unauthorized modifications or repairs
- Damage from use with incompatible devices or power sources
- Normal wear and tear
- Consumable components (fuses)

For warranty service or support, contact the seller through your point of purchase.

10. Technical Support

For additional assistance:

- Refer to this manual for troubleshooting steps
- Contact the seller through your original point of purchase

- Have your product model number (C28) and purchase information available when contacting support

11. Specifications Reference

Manufacturer	DongGuan DeRuiChen Electronics Co., Ltd.
Brand	LIHAN
Model Number	C28
ASIN	B0BQRD41GH
Date First Available	December 21, 2022

Warning

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