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GYPNS 20FT10AWG

GYPNS 20FT 10AWG Solar Panel Extension Cable User Manual

Model: 20FT10AWG

1. Introduction

This manual provides essential information for the safe and efficient use of your GYPNS 20FT 10AWG Solar Panel Extension Cable. This cable is designed to extend the reach of your solar panels, facilitating flexible placement for various applications including home, RV, and marine solar systems. It features MC4 connectors and a durable construction for reliable power transmission.



Image 1.1: The GYPNS 20FT 10AWG Solar Panel Extension Cable, coiled and ready for use.

2. Product Features

- **Length and Gauge:** 20 feet long, 10AWG wire for efficient power transfer.
- **MC4 Connectors:** Equipped with standard MC4 connectors for compatibility with most solar panels and charge controllers.
- **Durable Construction:** Made from thermoplastic elastomer material with excellent elastic recovery, corrosion resistance, and electrical insulation.
- **Enhanced Protection:** Features a flame-retardant protective fiberglass sleeving to prevent fraying and enhance safety.
- **Tinned Copper Conductors:** Aluminum wire with a tin plating layer for good electrical conductivity and minimized energy loss.
- **Weather Resistance:** Designed for outdoor use, offering UV protection, high temperature resistance, and rain/water resistance.
- **Easy Installation:** Self-locking system on connectors ensures secure and straightforward connections.



Image 2.1: Illustration of the cable's 20-foot length, 10AWG gauge, waterproof design, and high flame retardancy, with a temperature range of -40° to 120°C.



Image 2.2: Overview of key features including UV protection, high temperature resistance, rain and water resistance, quick assembly, high current capacity, insulation protection, corrosion resistance, and long service life.

3. Safety Information

Please read and understand all safety instructions before installing or using the solar panel extension cable. Failure to follow these instructions may result in electrical shock, fire, or serious injury.

- Always disconnect power from solar panels and charge controllers before making or breaking connections.
- Ensure all connections are secure and properly seated to prevent arcing and overheating.
- Do not exceed the cable's rated voltage (1000V) or current capacity.
- Avoid bending the cable sharply or placing heavy objects on it, which could damage the insulation.
- Keep the cable away from sharp edges, moving parts, and extreme heat sources.
- Inspect the cable regularly for any signs of damage, wear, or corrosion. Replace immediately if damage is found.
- Installation should be performed by qualified personnel if you are unsure about any steps.

4. Package Contents

Verify that all items are present and undamaged upon opening the package.

- 1 x GYPNS 20FT 10AWG Solar Panel Extension Cable (Red and Black twin wire)

5. Setup and Installation

Follow these steps to properly install your solar panel extension cable:

1. **Plan Your Layout:** Determine the optimal placement for your solar panels and charge controller, ensuring the 20-foot cable provides sufficient reach without excessive slack or tension.
2. **Ensure Power Disconnection:** Before making any connections, ensure that all power sources from your solar panels and charge controller are disconnected to prevent electrical hazards.
3. **Identify Connectors:** The cable features MC4 male and female connectors. The red wire typically connects to the positive (+) terminal, and the black wire to the negative (-) terminal.
4. **Connect to Solar Panel:** Connect one end of the extension cable to the output terminals of your solar panel. Ensure the MC4 connectors click securely into place.
5. **Connect to Charge Controller:** Connect the other end of the extension cable to the input terminals of your solar charge controller. Again, ensure a secure, self-locking connection.
6. **Verify Polarity:** Double-check that the positive (+) and negative (-) connections are correctly matched throughout your system to avoid damage to components.
7. **Cable Management:** Secure the cable along its path using appropriate cable ties or clips to prevent tripping hazards, damage from wind, or accidental disconnections.



Image 5.1: Schematic diagram illustrating the connection of the solar panel to a power station via the extension cable, showing positive and negative terminals.

6. Operation

Once the GYPNS Solar Panel Extension Cable is correctly installed, its operation is passive. It functions as a conduit for electrical current from your solar panels to your charge controller or power system.

- Ensure all connections remain tight and free from debris.
- Monitor your solar charge controller for proper power input from the panels.
- The cable is designed to operate efficiently within its specified voltage and temperature ranges.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your extension cable.

- **Visual Inspection:** Periodically inspect the entire length of the cable for any signs of physical damage, cuts, cracks, or fraying of the protective sleeve.
- **Connector Check:** Ensure MC4 connectors are clean, dry, and free from corrosion. Re-seat them if they appear loose.
- **Cleaning:** If the cable becomes dirty, wipe it with a damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Environmental Exposure:** While designed for outdoor use, prolonged exposure to extreme conditions (e.g., standing water, direct sunlight for decades) can affect material integrity over time. Consider routing to minimize unnecessary exposure where possible.
- **Storage:** If storing the cable, coil it neatly and store it in a dry, protected area away from direct sunlight and extreme temperatures.

8. Troubleshooting

If you encounter issues with your solar panel extension cable, consider the following:

- **No Power Output:**
  - Check all MC4 connections to ensure they are fully seated and secure.
  - Verify that the solar panels are receiving adequate sunlight.
  - Confirm correct polarity (+ to + and - to -) throughout the system.
  - Inspect the cable for any visible damage that might interrupt the circuit.
- **Reduced Power Output:**
  - Ensure solar panels are clean and free from obstructions.
  - Check for any partial shading on the solar panels.
  - Verify that the cable is not overheating, which could indicate a poor connection or excessive load.
- **Loose Connections:**
  - MC4 connectors are designed to be self-locking. If a connection feels loose, disconnect and reconnect, ensuring you hear a click.
  - Avoid pulling on the cables directly; always grasp the connector housing when disconnecting.

If problems persist after following these steps, contact customer support.

9. Specifications

Attribute	Value
Model Number	20FT10AWG
Length	20 Feet

Attribute	Value
Wire Gauge	10 AWG
Connector Type	MC4 (Male-to-Female)
Rated Voltage	1000 Volts
Conductor Material	Tinned Copper
Insulation Material	PE (Polyethylene)
Sheath Material	XLPE (Cross-linked Polyethylene)
Protective Sleeve	Fiberglass Braided Sleeve
Operating Temperature	-40°C to 120°C
Product Dimensions	0.1 x 0.1 x 0.1 inches (approximate, cable diameter)
Item Weight	1.92 pounds



Image 9.1: Detailed diagram showing the construction of the cable, including the tinned copper wire conductor, PE insulation, XLPE sheath layer, and fiberglass braided sleeve.

10. Warranty and Support

For warranty information or technical support, please refer to the product packaging or contact GYPNS customer service through your retailer's support channels. Ensure you have your product model number (20FT10AWG) available when seeking assistance.

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