



Uninterruptible Power Supply-Battery

User Guide

DP-MU2100

Before reading this manual

This operation manual contains basic instructions for installing and using Uninterruptible Power Supply-Battery, an IDIS product.

Users who are using this product for the first time, as well as users with experience using comparable products, must read this operation manual carefully before use and heed the warnings and precautions contained herein while using the product. Safety warnings and precautions contained in this user's guide are intended to promote proper use of the product and thereby prevent accidents and property damage. These precautions must be followed.

Once you have read this user's guide, keep it in an easily accessible location for future reference.



- Unauthorized reproduction of this manual is prohibited.
- The manufacturer is not responsible for any product damage resulting from the use of unauthorized parts and accessories or from the user's failure to comply with the instructions contained in this operation manual.
- First-time users of Uninterruptible Power Supply-Battery should seek technical assistance from their retailer regarding product installation and use.
- Before disassembling the product for functional expansion or repair purposes, contact IDIS Americas for assistance.
- Approved for commercial use only.

Safety Symbols

| Symbol | Type | Description |
|--------|----------------|--|
| | Warning | An important instruction or set of important instructions that can lead to severe injury or death if not followed. |
| | Caution | An instruction or set of instruction that can lead to personal injury and/or property damage if not followed. |

In-Text

| Symbol | Type | Description |
|--------|----------------|---|
| | Caution | Important information concerning a specific function. |
| | Note | Useful information concerning a specific function. |

FCC Compliance Statement

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT. THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE CAUSING EQUIPMENT REGULATIONS.

WEEE (Waste Electrical & Electronic Equipment)

Correct Disposal of This Product

(Applicable in the European Union and other European countries with separate collection systems)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Safety Precautions

Information contained in this section of the manual serve to prevent accidents and property damage through proper use of the product. Read and follow the instructions.



Warning Failure to comply can lead to severe injury or even death.

Installation

Turn off the product before installation. Use a dedicated power outlet.

- Presents overheating, fire, and electric shock hazards.

Do not use the product in an excessively hot, cold, or humid environment.

- Presents a fire hazard.

Set up the product in a shaded area providing protection against exposure to direct sunlight. Maintain an even ambient temperature. Do not set up the product in the vicinity of heat-generating objects and appliances.

- Presents a fire hazard.

There are high-voltage components inside the product. Do not attempt to open the cover or disassemble, repair, or modify the product.

- Presents fire, electric shock, and physical injury hazards.

Connection ports on the rear of the product protrude out slightly. Placing the back of the product too close to a wall will cause the cables to bend excessively, leading to eventual damage. Maintain a distance of at least 15cm between the back of the product and the wall it faces.

- Presents fire, electric shock, and physical injury hazards.

Do not use the product in a particularly humid, dusty, or sooty environment.

- Presents electric shock and fire hazards.

Always keep the operating environment clean and free of dust. Use a piece of dry cloth to clean the product. Do not use water, thinner, or organic solvents.

- Failure to do so can damage the product's finish and present an electric shock hazard.

Power

Do not bend the power cable excessively or place heavy objects on top of it.

- Presents a fire hazard.

Do not pull on the power cable or handle the power plug with wet hands. Do not insert the power plug into a loose power outlet.

- Presents fire and electric shock hazards.

Product Use

Do not place containers of liquid on top of the product.

- The liquid may spill and damage the product's internals and cause a fire hazard.

If unexpected noises or smells come from the product, unplug the power cable and contact the service center right away.

- Presents fire and electric shock hazards.



Caution

Failure to comply can lead to minor injury and/or product damage.

Installation

Do not set up the product in an area that is exposed or susceptible to strong magnetism, radio waves or physical impact. Avoid setting up the product in the vicinity of wireless transmission devices such as a radio and television.

- Set up the product in an area devoid of magnetic objects, radio waves, and vibrations.

Set up the product in an open and well-ventilated area.

- Environmental factors greatly affect the product's performance and durability. Allow at least 15cm of clearance behind the product and at least 5cm of clearance on either side of the product.

Set up the product on a flat and stable surface. Do not stand the product on its side or at an angle.

- The product may tip over or drop on the floor, which can lead to a malfunction and/or personal injury.

Ensure the product's power plug is easily accessible.

- It must be easy to pull out the power plug in the event of a serious malfunction or fire.

Do not set up the product in an area susceptible to strong impact or vibrations.

- Failure to do so can cause the product to malfunction.

Product Use

Do not allow conductive objects to enter inside the product's openings.

- Failure to do so can cause the product to malfunction.

Do not place heavy objects on top of the product.

- Failure to do so can cause the product to malfunction.

Do not unplug the power cable or pick up/move the product while it is in operation.

- Failure to do so can cause the product to malfunction.

Regularly inspect the operating status of the product and contact the retailer or service center right away if any issues are identified.

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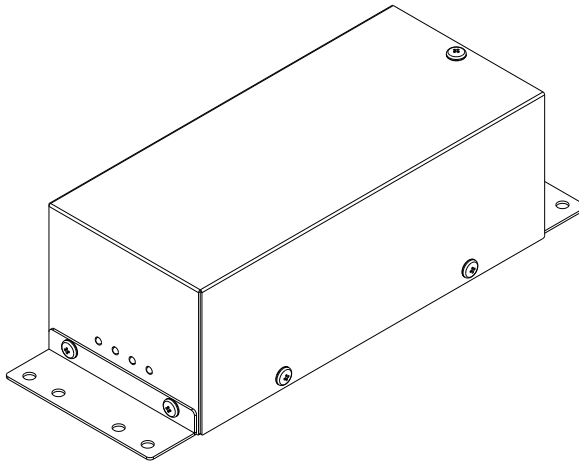
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Part 1 - Introduction

Product Features

The DP-MU2100 is a short-term, backup power supply specifically designed for mobile applications. It is intended for use with video recorders.

Once fully charged, the DP-MU2100 can power the video recorder and all connected cameras for up to fifteen (15) minutes during a vehicle power loss event.



Accessories

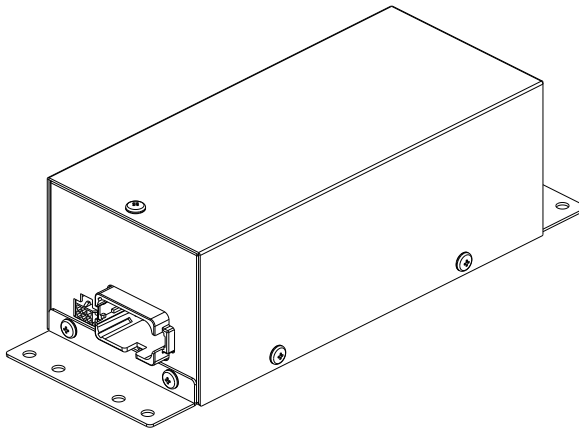
Upon unpackaging the product, check the contents inside to ensure that all the following accessories are included.

- Mounting Bracket (Qty 2)
- User Guide (this document)

Installation

Installing the Uninterruptible Power Supply

- 1 Determine mounting location of the DP-MU2100. The DP-MU2100 includes two (2) mounting brackets that enable vertical installation.
- 2 Use the provided drill template to mark the spots on the mounting surface for drilling.
- 3 Attach the mounting brackets to the selected location.
- 4 Attach the power connector and the additional connectors (if applicable) to the DP-MU2100.
 - If the video recorder has already been installed, unplug its power before connecting it to the UPS.
- 5 Secure the unit to the mounting brackets.



■ Installation Verification

- 1 Turn on vehicle power.
- 2 Turn on vehicle ignition (if different from power).
- 3 Verify that the unit initializes. (Check that the Power LED is on.)
- 4 Verify that the DP-MU2100 is charging normally and will fully charge. (Check that the Charge LED is on or flashing. For LED status indications, refer to the next page.)
- 5 Completely remove power from the DP-MU2100 (UPS). (Check that the Backup LED is on.)
- 6 Verify the video recorder remains running.

■ Power Connector

The Power connector links the UPS (DP-MU2100) to both the video recorder and vehicle power input. The power cable splits into two connectors; one for the vehicle power, the other connecting to the Video Recorder.

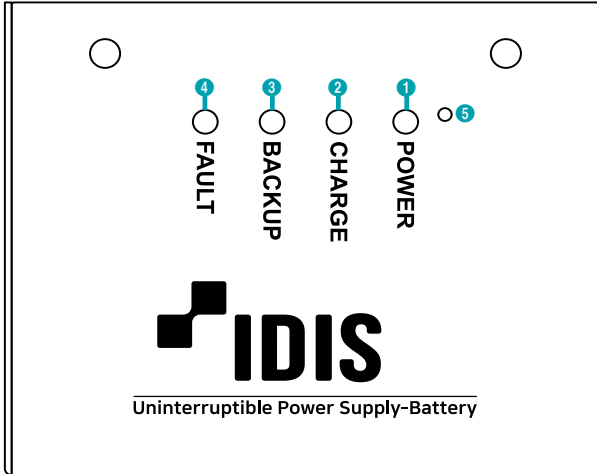
When the vehicle's battery voltage falls below 9V, the UPS (DP-MU2100) automatically switches to backup mode.

■ I/O Connector

The I/O (Input/Output) connector allows the video recorder to expand its capabilities to interface with other devices

Indicators and Connections

Front Panel Indicators

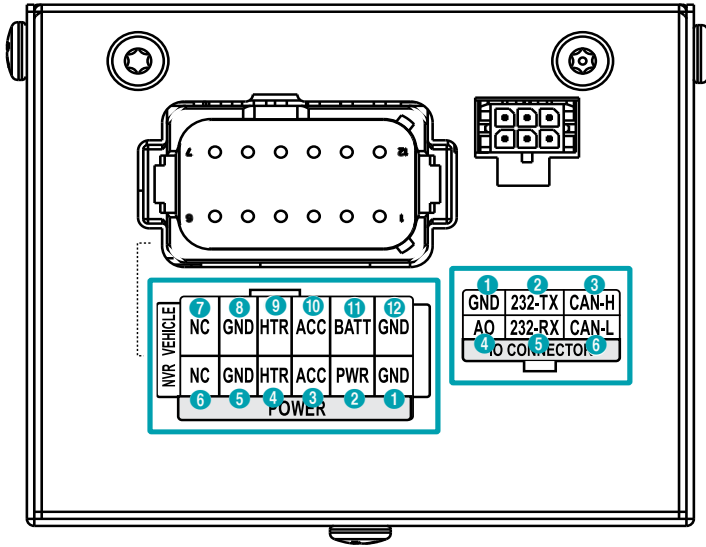


| Indicator | LED Status | Description |
|------------------------|------------|--|
| 1 POWER | On | Power from ignition |
| | Off | No power from ignition |
| 2 CHARGE | Flashing | Actively charging |
| | On | Batteries fully charged |
| | Off | Not actively charging |
| 3 BACKUP | On | Back Up Mode |
| | Off | Backup inactive (Has input power) |
| 4 FAULT | On | Fault has occurred, see section 4.0 for troubleshooting |
| | Off | No fault is detected |
| 5 Factory Reset Switch | | Insert a straightened paperclip into the factory reset switch hole. Release the reset switch, and the UPS will reboot. If a backup is in progress during the reboot, it will not continue functioning. |



During booting, all LEDs are on.

Rear Panel Connections



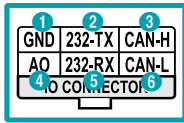
Power Connector, DTF13-12PB, TE Connectivity

| Name | PinMap | | | | | |
|---------|--------|-------|-------|--------|---------|--------|
| VEHICLE | 7 NC | 8 GND | 9 HTR | 10 ACC | 11 BATT | 12 GND |
| NVR | 6 NC | 5 GND | 4 HTR | 3 ACC | 2 PWR | 1 GND |

| Name | Description |
|----------------------|--------------------------|
| NC (6 / 7) | NOT CONNECTED |
| GND (1 / 5 / 8 / 12) | GROUND |
| HTR (4 / 9) | HEATER, BYPASS |
| ACC (3 / 10) | ACCESSORY |
| BATT (11) | BATTERY FROM BUS VEHICLE |
| PWR (2) | POWER TO RECORDER |

Part 1 - Introduction

I/O Connector, 43045-0600, Molex



| Name | Description | |
|----------|-----------------------------------|----------------------------|
| ③ CAN_H | CAN(Controller Area Network) High | Do not use |
| ⑥ CAN_L | CAN Low | Do not use |
| ⑤ 232-RX | RS-232 Receive | Port for NVR Communication |
| ② 232-TX | RS-232 Transmit | Port for NVR Communication |
| ④ AO | ALARM OUT | Do not use |
| ① GND | GROUND | - |

Part 2 - Miscellaneous





Troubleshooting

The rate at which the FAULT LED flashes will indicate which error code exists. The slow-rate flashes indicate the first digit of the error code, while the fast-rate flashes indicate the second digit.

For instance, if the FAULT LED flashes slowly, two (2) times, followed by three (3) fast flashes, the error code is 23.

| Code | Description |
|------|--|
| 22 | T_SHUT, Operation halted due to high temperature |
| 23 | T_HOT, Charge disabled due to high temperature |
| 24 | T_COLD, Charge disabled due to low temperature |
| 32 | CHARGE_TIMER, Charging takes too long |
| 33 | CHARGE_FAULT, Charging disabled |
| 42 | IBAT_OC, Battery Overcurrent |
| 43 | VBAT_OV, Battery Overvoltage |
| 44 | VBAT_UV, Battery Undervoltage |
| 52 | VIN_OV, Input Overvoltage |
| 53 | VIN_UV, Input Undervoltage |
| 54 | VIN_DPM, Input Voltage Regulated |
| 55 | IIN_OC, Input Overcurrent |
| 56 | VOUT_OV, Output Overvoltage |
| 57 | VOUT_UV, Output Undervoltage |
| 58 | ACC_UV, ACC Undervoltage |
| 59 | ACC_OV, ACC Overvoltage |

Specifications

| | | |
|-----------------------------------|---------------------------------------|--|
| Model | | DP-MU2100 |
| Electrical Properties | Power Input | 9-36V  , 22A, 200W |
| | Battery Charging Voltage | 10-36V  |
| | Output Voltage | Bypass(Normal), 24V  (Emergency) |
| | Backup Output | 24V  , 4.2A, 100W Maximum |
| | Quiescent Current | 35mA at Knife SW ON 3mA at Knife SW OFF |
| | Back-up Time | 15mins |
| | Time to Charge | 60mins |
| Interfaces | Power | 1, DTF13-12PB, TE Connectivity |
| | IO | 1, 43045-0600, Molex |
| Mechanical Properties | Weight | 1.75 kg(3.86 lb), with Battery Pack 1.16 kg(2.56 lb), without Battery Pack |
| | Dimensions (W x H x D) | 90 x 74 x 203.5 mm (3.54 x 2.91 x 8.01 inches) |
| Environment | Operating Temperature | -20°C to 55°C (-4 to 131°F) |
| | Charging Temperature | 0°C to 40°C (32 to 104°F) |
| Battery Pack | Battery Pack Type | 7S1P, Li-ion |
| Protection | BMS(Battery Management System) | Overcharge Protection Over Discharge Protection Over Current Protection Short Circuit Protection Over Temperature Protection |
| Testing and Certifications | Standard | FCC Part 15.109 Subpart B Class A |
| | | EN61000-4-2 ESD |
| | | ISO 16750-2 Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 2: Electrical loads |
| | | MIL-STD-810G Vibration and shock |



• These product specifications may change without prior notice.



IDIS Co., Ltd.

For more information, please visit at
www.idisglobal.com