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DANOPLUS DP-419_US

DANOPLUS CO2 Controller Dual Outlets (Model: DP-419_US)

Instruction Manual

1. INTRODUCTION

The DANOPLUS CO2 Controller is designed to monitor and regulate carbon dioxide levels, temperature, and humidity in various environments such as grow rooms, greenhouses, and residential spaces. Featuring dual smart outlets and a dual-beam NDIR CO2 sensor, this controller allows for precise and automated control of CO2 equipment and exhaust fans to maintain optimal atmospheric conditions.

2. PRODUCT FEATURES

- **Dual Outlets Control:** Two independently programmable smart outlets for CO2 equipment and exhaust fans.
- **Simplified Setup:** Easy adjustment of high and low border values using dedicated knobs, eliminating complex calculations.
- **Dual-beam NDIR CO2 Sensor:** Provides accurate CO2 readings (± 50 ppm) with low drift. Automatically detects day and night in Plant Mode.
- **3-in-1 Monitoring:** Large LCD screen displays CO2 chart, CO2 reading, temperature, and humidity.
- **Multi-Functional:** Includes Plant Mode, Human Mode, Buzzer Alarm, Altitude Adjustment, Calibration Function, MAX/MIN reading, and CO2 Chart setting.
- **Extended Sensor Cable:** Comes with a 15-foot (450 cm) long sensor cable for flexible placement.



Figure 2.1: Overview of the DANOPPLUS CO2 Controller and its main features, including dual outlets, plant/human modes, NDIR sensor, long cable, CO2 chart display, audible alarm, real-time CO2 value, and temperature/humidity display.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- CO2 Controller x 1
- Remote Sensor x 1
- Screws x 4
- English Instruction Manual x 1



GREENHOUSE



RESIDENTIAL



MUSHROOM FARM



HYDROPONICS



COMMERCIAL BUILDING

Figure 3.1: The complete package contents of the CO2 Controller, showing the main unit, remote sensor, dual outlet power strip, mounting screws, and user manual.

4. SETUP

1. **Mounting:** Choose a suitable location for the main controller unit. Use the provided screws to securely mount it to a wall or vertical surface. Ensure it is away from direct heat sources or areas with high humidity.
2. **Connect Remote Sensor:** Plug the remote CO2 sensor into the designated port on the main controller unit. Position the sensor in the area where CO2, temperature, and humidity measurements are required. The 15-foot cable allows for flexible placement.
3. **Connect Power:** Plug the main controller unit into a standard electrical outlet.
4. **Connect Devices:** Plug your CO2 equipment (e.g., CO2 generator) into the 'CO2 Equipment' outlet and your exhaust fan into the 'Exhaust FAN' outlet on the dual smart plug.

CO2 CONTROLLER DUAL OUTLETS



Figure 4.1: The wall-mount design of the main controller unit and remote sensor, along with their dimensions and CO2 measurement range and accuracy.

PLANT MODE

EXAMPLE DIAGRAM FOR DUAL OUTLET CONTROL

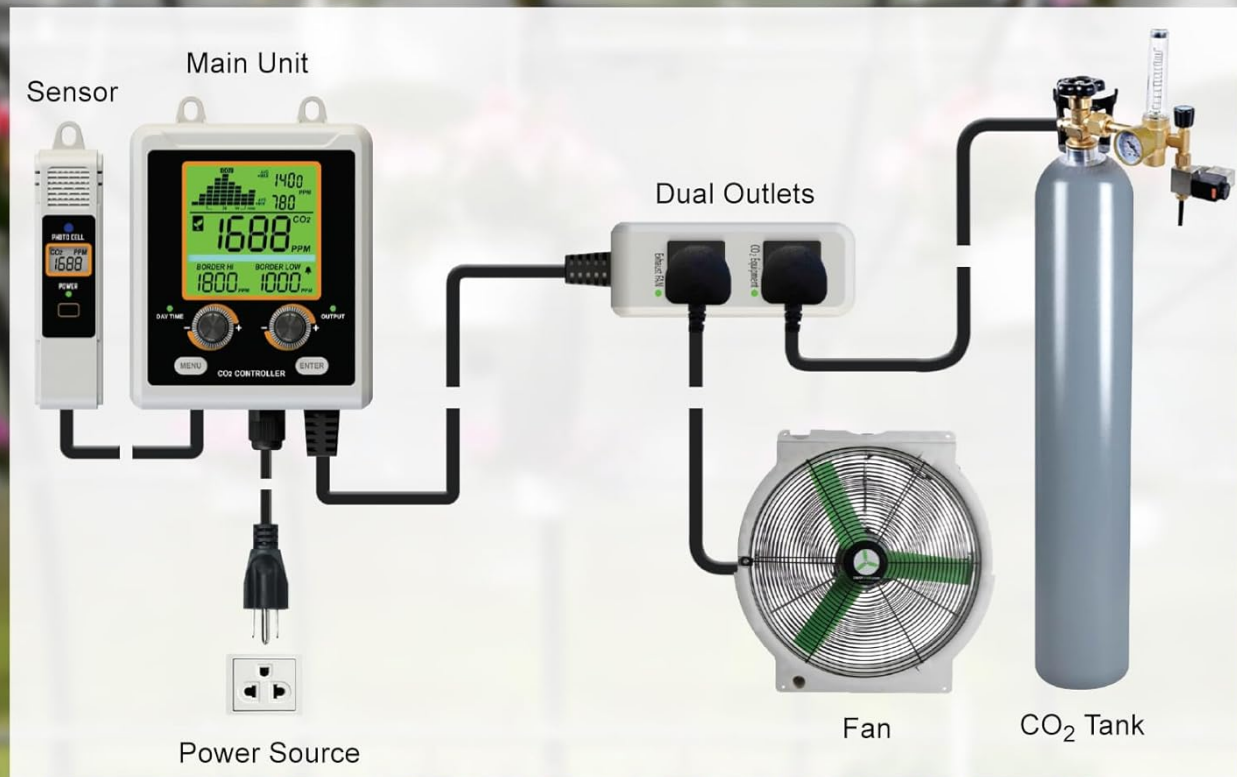


Figure 4.2: Example setup for Plant Mode, showing connections for the main unit, remote sensor, dual outlets, CO2 tank, and exhaust fan.

HUMAN MODE

EXAMPLE DIAGRAM FOR DUAL OUTLET CONTROL

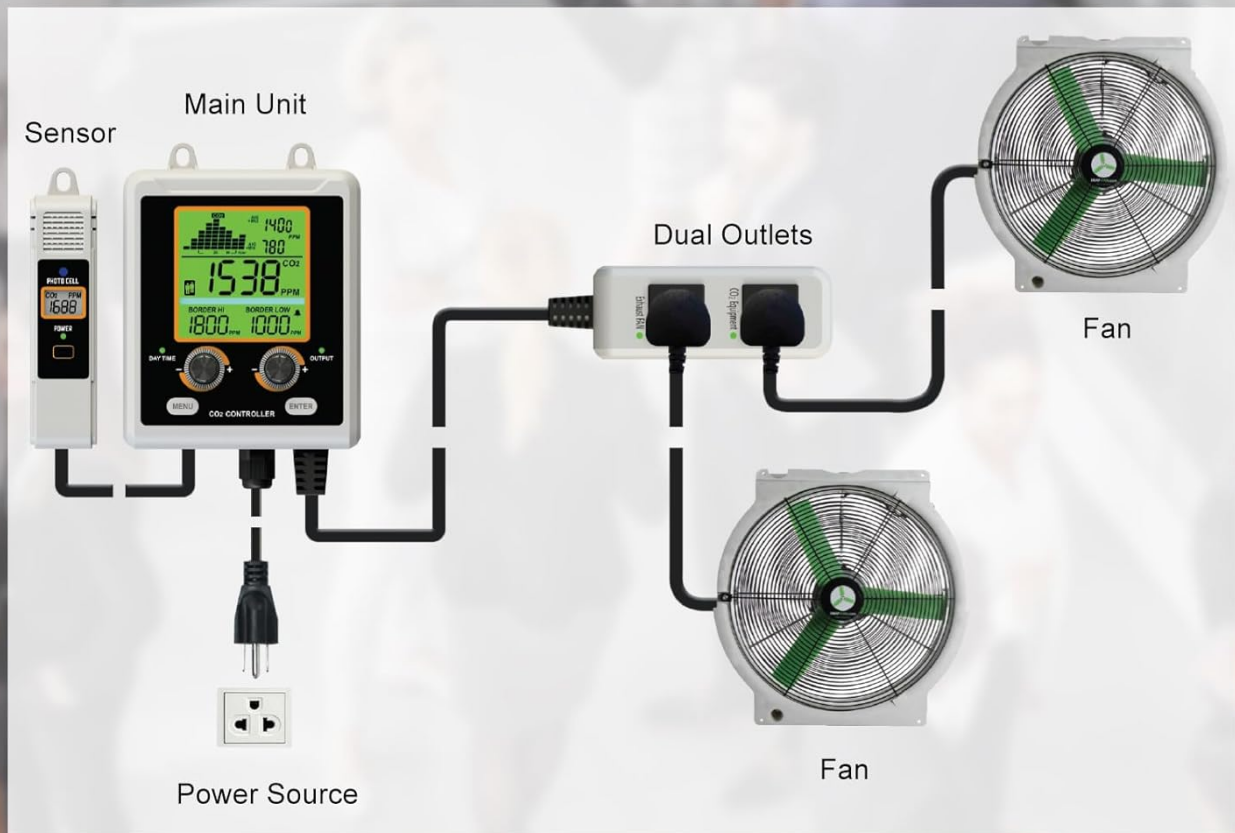


Figure 4.3: Example setup for Human Mode, showing connections for the main unit, remote sensor, dual outlets, and two exhaust fans.

5. OPERATING INSTRUCTIONS

The controller features a large LCD screen and two control knobs for easy operation.

LARGE LCD SCREEN

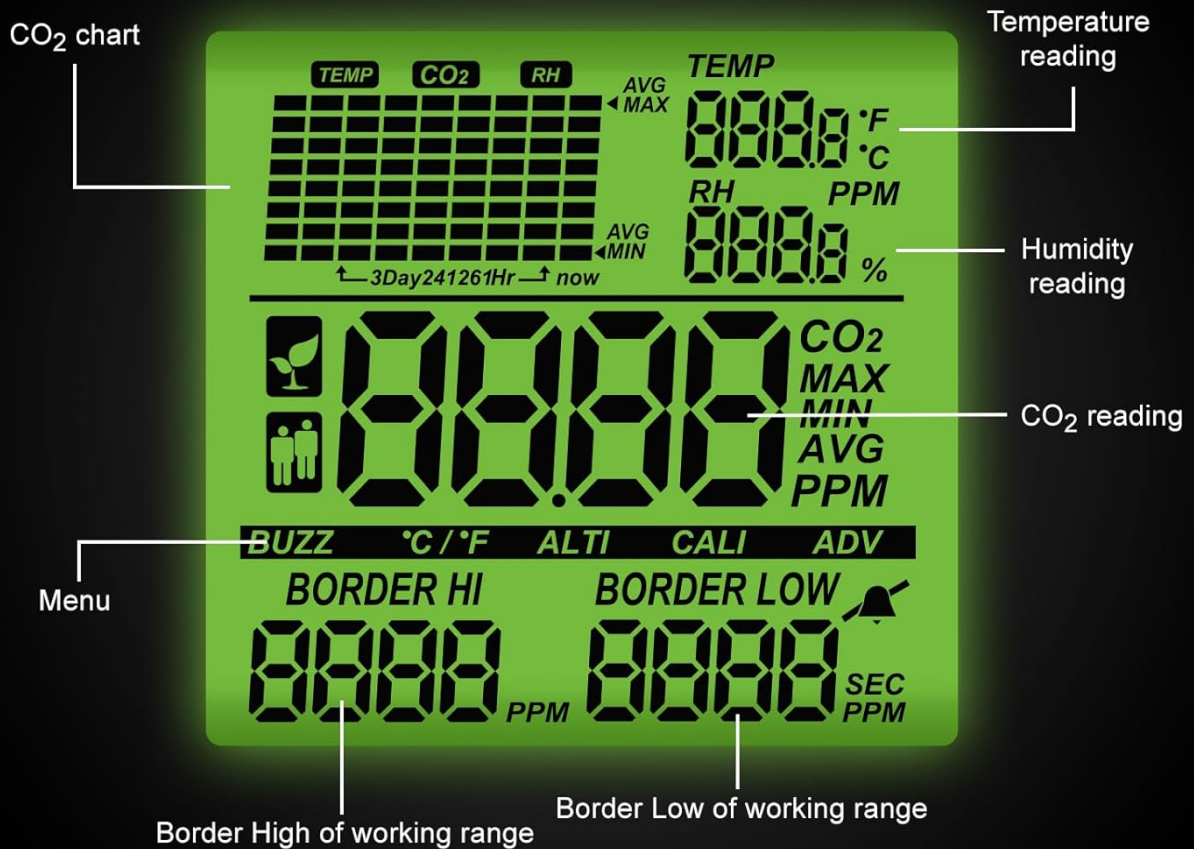


Figure 5.1: Detailed view of the LCD screen displaying CO2 chart, temperature, humidity, and control settings.

5.1 Setting Border Values (HI and LOW)

The controller uses two knobs, BORDER HI and BORDER LOW, to set the CO2 thresholds for activating connected devices.

1. **Set BORDER LOW Value:** Rotate the BORDER LOW knob. The value will flash. Adjust to your desired low CO2 threshold. Press the knob again to save and exit.
2. **Set BORDER HI Value:** Rotate the BORDER HI knob. The value will flash. Adjust to your desired high CO2 threshold. Press the knob again to save and exit.

DESIGNED WITH TWO KNOBS NO COMPLEX CALCULATIONS!



BORDER HI and BORDER LOW, simply rotate to control the CO2 regulators and exhaust fans. No complex calculations for zone and center values needed.



Figure 5.2: The two control knobs for setting BORDER HI and BORDER LOW values, simplifying CO2 regulation.

5.2 Advanced Settings and Modes

The following video demonstrates how to access and adjust various advanced settings and operating modes:

Your browser does not support the video tag.

Video 5.1: This video provides a step-by-step guide on how to set the BORDER LOW and BORDER HI values, adjust L1 H (Limit High) and L1 L (Limit Low) values, switch between Plant Mode and Human Mode, perform a factory reset, enable or disable the buzzer alarm, set the temperature unit (°C/°F), and adjust the altitude setting on the DANOPLUS CO2 Controller.

General Steps for Advanced Settings (as shown in video):

1. Press the **MENU** button repeatedly until the desired setting (e.g., ADV, BUZZ, ALTI, CALI, °C/°F) blinks.
2. Press **ENTER** to access the setting.
3. Rotate the **BORDER Low** or **BORDER Hi** knob (as indicated) to adjust the value or switch modes.
4. Press **ENTER** to confirm and exit. For some settings like Plant Mode (PL), Human Mode (HU), or Factory Reset (RES), you may need to press and hold **ENTER** for 3 seconds to activate.

5.3 Plant Mode Application

In Plant Mode, the controller optimizes CO2 levels for plant growth. CO2 supplementation can enhance photosynthesis, increase growth and yield, improve water use efficiency, and strengthen resistance to pests and diseases.

5.4 Human Mode Application

In Human Mode, the controller helps maintain safe CO2 levels for human occupancy. High CO2 levels can lead to discomfort, drowsiness, and health issues in enclosed spaces.

6. APPLICATIONS

The DANOPLUS CO2 Controller is suitable for a wide range of applications:

- Greenhouses
- Grow Rooms
- Hydroponics Setups
- Mushroom Farms
- Residential Homes
- Commercial Buildings
- Laboratories
- Gyms
- Conference Rooms



Figure 6.1: Diverse applications of the CO2 controller in environments such as greenhouses, residential areas, mushroom farms, hydroponics, and commercial spaces.

7. SPECIFICATIONS

Feature	Specification
Brand	DANOPLUS
Model Number	DP-419_US
Display Type	LCD
Product Dimensions	4.92 x 4.33 x 1.37 inches (12.5 x 11 x 3.5 cm)
Item Weight	1.54 pounds (700g)
Voltage	12 Volts (DC)
Material	Acrylonitrile Butadiene Styrene (ABS)

CO2 Measurement Range	0-5000 ppm
CO2 Accuracy	±50ppm or ±5% of reading (0-3000ppm); ±7% (over 3000ppm)
CO2 Repeatability	20ppm at 400ppm (standard of 10 readings in 1 minute)
CO2 Resolution	1ppm (0-1000); 5ppm (1000-2000); 10ppm (>2000)
Sensor Cable Length	15 feet (450 cm)

8. MAINTENANCE

To ensure optimal performance and longevity of your DANOPLUS CO2 Controller, follow these maintenance guidelines:

- **Cleaning:** Regularly wipe the main unit and remote sensor with a soft, dry cloth. Do not use abrasive cleaners or solvents, as these can damage the display or housing.
- **Sensor Care:** Keep the remote sensor free from dust, debris, and moisture. Avoid placing it in areas where it might be exposed to direct water spray or extreme temperatures.
- **Calibration:** The NDIR CO2 sensor is designed for low drift. If you suspect inaccurate readings, refer to the advanced settings in the operating instructions (Video 5.1) for calibration procedures.
- **Storage:** If storing the device for an extended period, disconnect it from power, clean it thoroughly, and store it in a cool, dry place away from direct sunlight.

9. TROUBLESHOOTING

If you encounter issues with your CO2 Controller, refer to the following common troubleshooting steps:

- **No Power:** Ensure the power cord is securely plugged into both the controller and a functional electrical outlet. Check the power source.
- **Inaccurate CO2 Readings:** Verify the remote sensor is clean and properly connected. Ensure it is not placed in an area with poor air circulation or near a direct CO2 source/sink that might skew readings. Consider performing a calibration if available (refer to Video 5.1).
- **Devices Not Activating/Deactivating:** Check that the CO2 equipment and exhaust fan are correctly plugged into the respective smart outlets. Review your BORDER HI and BORDER LOW settings to ensure they are within the desired operating range. Confirm the controller is in the correct operating mode (Plant Mode or Human Mode).
- **Buzzer Alarm Issues:** If the alarm is not sounding or sounding unexpectedly, check the buzzer alarm settings (refer to Video 5.1) to ensure it is enabled and configured correctly.
- **Display Not Working:** If the LCD display is blank or malfunctioning, try power cycling the device. If the issue persists, contact customer support.
- **Factory Reset:** If settings become erratic or you wish to return to default configurations, perform a factory reset (refer to Video 5.1).

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact DANOPLUS customer service through the retailer where the product was purchased or visit the official DANOPLUS website. Keep your purchase receipt and model number (DP-419_US) handy for faster service.

You can also find additional resources and software updates at cd50.net/419/.

