Dieffematic EKOS M2 230V

Dieffematic EKOS M2 230V Swing Gate Control Unit User Manual

Model: EKOS M2 230V

1. Introduction

This manual provides essential instructions for the proper installation, setup, operation, and maintenance of the Dieffematic EKOS M2 230V control unit for swing gate automation. Please read this manual thoroughly before beginning any installation or operation to ensure safe and efficient use of the product. This control unit is designed to manage the movement of swing gates, providing reliable and secure automation for residential or commercial applications.

2. Safety Information

WARNING: Improper installation or use can lead to serious injury or property damage. Always follow local electrical codes and safety regulations.

- Installation must be performed by qualified personnel only.
- Disconnect power before performing any maintenance or installation procedures.
- Ensure all wiring connections are secure and properly insulated.
- Keep children and pets away from the gate area during operation.
- Do not attempt to repair the control unit yourself. Contact qualified service personnel.
- Install safety devices such as photocells and safety edges as required by local regulations to prevent entrapment.

3. Package Contents

Verify that all components are present and undamaged upon unpacking:

- Dieffematic EKOS M2 230V Control Unit
- Instruction Manual (this document)
- Mounting hardware (screws, anchors)
- Terminal block connectors (if applicable)

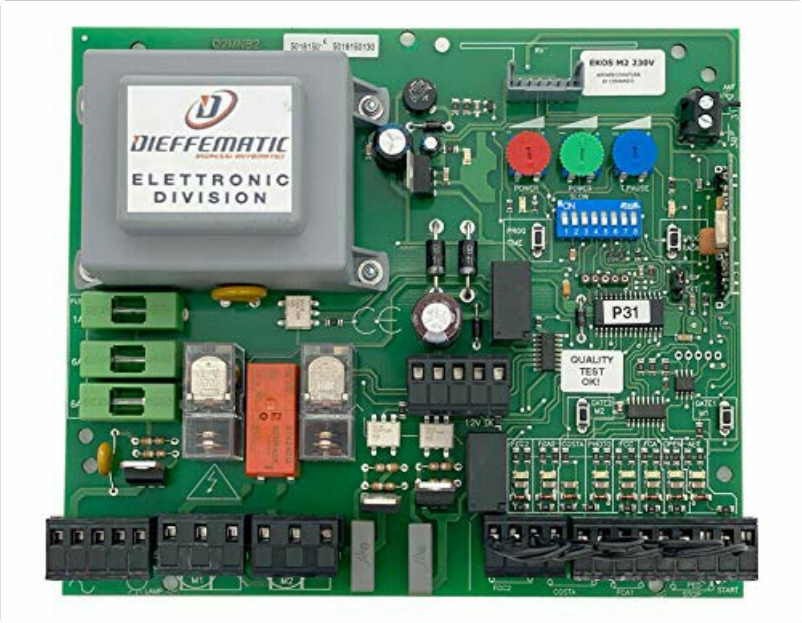

Image 1: Dieffematic EKOS M2 230V Control Unit. This image shows the main control board, typically housed within a protective enclosure, with various connection terminals visible.

4. Installation

4.1 Mounting the Control Unit

1. Choose a suitable location: The control unit should be mounted in a dry, protected area, close to the gate motors and power supply, but away from potential mechanical damage or excessive vibration.
2. Ensure adequate ventilation: Allow sufficient space around the unit for heat dissipation.
3. Secure mounting: Use the provided mounting hardware to firmly attach the control unit enclosure to a stable surface (e.g., a wall or post). Ensure it is level.

4.2 Electrical Connections

All electrical connections must be made with the main power supply disconnected. Refer to the wiring diagram in Section 5 for detailed connection points.

- **Main Power Supply:** Connect the 230 Vac power supply to the designated terminals. Ensure proper grounding.
- **Motor Connections:** Connect the swing gate motor(s) to the motor output terminals. Pay attention to motor direction for opening and closing.
- **Safety Devices:** Connect photocells, safety edges, and emergency stop buttons to their respective safety input terminals.
- **Command Devices:** Connect push buttons, key switches, or radio receivers to the command input terminals.
- **Accessories:** Connect any optional accessories such as flashing lights or courtesy lights to the auxiliary output terminals.

5. Wiring Diagram

A detailed wiring diagram is crucial for correct installation. Due to the specific nature of electrical connections, a generic diagram cannot be provided here. Always refer to the diagram printed inside the control unit's enclosure or the dedicated wiring schematic provided with your specific product package. This diagram will illustrate the precise terminal layout for:

- 230 Vac Main Power Input (L, N, PE)
- Motor 1 and Motor 2 Connections (Common, Open, Close)
- Photocell Inputs (TX, RX, Common)
- Safety Edge Inputs
- Command Inputs (Open, Close, Pedestrian, Stop)
- Flashing Light Output
- Auxiliary Power Outputs (e.g., 24Vdc for accessories)

Note: Ensure all connections are made according to the diagram and local electrical standards. Incorrect wiring can damage the unit or cause safety hazards.

6. Setup and Configuration

After completing all electrical connections, the control unit requires initial setup. The exact procedure may vary slightly based on the firmware version, but generally involves:

1. **Power On:** Restore main power to the control unit.
2. **Motor Direction Check:** Manually operate the gate (if possible) or use a temporary command to verify that the motors move in the correct open/close direction. Adjust wiring if necessary.
3. **Limit Switch Adjustment:** Set the mechanical or electronic limit switches to define the gate's fully open and fully closed positions.
4. **Automatic Learning Procedure:** Many modern control units feature an auto-learning function. Activate this mode (refer to the unit's specific button/jumper settings) to allow the unit to automatically detect gate travel limits, motor force, and obstacle detection sensitivity.
5. **Parameter Adjustment:** Use the onboard display or dip switches to fine-tune parameters such as:
    - Opening/Closing speed
    - Pause time before automatic closing
    - Obstacle detection sensitivity
    - Operating logic (e.g., step-by-step, automatic, condominium)
6. **Remote Control Pairing:** If using remote controls, follow the specific instructions to pair them with the control unit's radio receiver.
7. **Test Safety Devices:** Thoroughly test all connected safety devices (photocells, safety edges) to ensure they function correctly and stop/reverse the gate when activated.

7. Operating the Gate

Once installed and configured, the gate can be operated using various command devices:

- **Remote Control:** Press the designated button on your remote control to initiate an open/close cycle or stop the gate.
- **Push Button/Key Switch:** Activate the external command device to operate the gate.

- **Automatic Closing:** If enabled, the gate will automatically close after a set pause time once it has reached the fully open position.
- **Safety Interruptions:** If photocells or safety edges detect an obstruction during closing, the gate will stop or reverse. During opening, an obstruction may cause the gate to stop.
- **Emergency Stop:** In an emergency, press the emergency stop button (if installed) to immediately halt all gate movement.
- **Manual Release:** In case of power failure or malfunction, use the manual release mechanism on the gate motors to operate the gate manually. Refer to your motor's specific manual for this procedure.

8. Maintenance

Regular maintenance ensures the longevity and safe operation of your gate automation system. Perform the following checks periodically:

- **Monthly:**
  - Check photocells: Ensure they are clean and unobstructed. Test their function by breaking the beam while the gate is closing.
  - Inspect safety edges: Verify they are free from damage and activate correctly when pressed.
  - Observe gate movement: Listen for unusual noises, check for smooth operation, and ensure the gate stops correctly at its limits.
- **Every 6 Months:**
  - Check all electrical connections for tightness and corrosion.
  - Clean the interior of the control unit enclosure, removing dust and insects.
  - Inspect the gate's mechanical components (hinges, wheels, motor mounts) for wear and tear. Lubricate as recommended by the gate manufacturer.
- **Annual Professional Inspection:** It is recommended to have a qualified technician inspect the entire automation system annually.

Always disconnect power to the control unit before performing any cleaning or inspection inside the enclosure.

9. Troubleshooting

Before contacting technical support, review the following common issues and solutions:

Problem	Possible Cause	Solution
Gate does not move.	No power; Emergency stop active; Safety device triggered; Remote control battery flat.	Check power supply; Reset emergency stop; Check photocells/safety edges for obstructions; Replace remote control battery.
Gate opens but does not close.	Photocells obstructed or misaligned; Safety edge activated; Automatic closing disabled.	Clean/align photocells; Check safety edges; Verify automatic closing setting.
Gate stops unexpectedly.	Obstacle detection triggered; Loose wiring; Motor overheating.	Check for obstructions; Inspect wiring connections; Allow motor to cool down.
Remote control not working.	Flat battery; Not paired; Out of range; Receiver fault.	Replace battery; Re-pair remote control (see Section 6); Move closer to receiver; Contact support if receiver fault suspected.

If the problem persists after attempting these solutions, contact Dieffematic technical support or a qualified service technician.

10. Specifications

Parameter	Value
Model	EKOS M2 230V
Power Supply	230 Vac, 50/60 Hz
Motor Output	230 Vac (for 1 or 2 motors)
Max Motor Power	[Specific value, e.g., 600W per motor] *(Actual value not provided in input, placeholder for specific product data)*
Auxiliary Output	24 Vdc (for accessories)
Protection Rating	IP55 (or similar, depending on enclosure) *(Actual value not provided in input, placeholder for specific product data)*
Operating Temperature	-20°C to +55°C
Dimensions	[Specific dimensions] *(Actual value not provided in input, placeholder for specific product data)*

11. Warranty and Support

Warranty Information: Dieffematic products are covered by a standard manufacturer's warranty against defects in materials and workmanship. The warranty period typically begins from the date of purchase. Please retain your proof of purchase for warranty claims. For specific warranty terms and conditions, refer to the documentation provided with your product or visit the official Dieffematic website.
Technical Support: For technical assistance, troubleshooting beyond this manual, or to inquire about spare parts, please contact Dieffematic customer support. Contact details can usually be found on the product packaging, the official website, or your purchase invoice.
Online Resources: Visit the official Dieffematic website for updated manuals, FAQs, and additional product information.

12. Additional Media

No additional official product videos from the seller were provided in the product data for embedding in this manual.