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PNI DK220

PNI DK220 Standalone Outdoor & Indoor IP65 Access Control Keyboard User Manual

Model: DK220

1. Introduction

This manual provides detailed instructions for the installation, setup, operation, and maintenance of the PNI DK220 Standalone Outdoor and Indoor IP65 Access Control Keyboard with 2 Relays. Please read this manual thoroughly before installation and use to ensure proper functionality and safety.

2. Safety Information

- Ensure the power supply is disconnected before any installation or wiring procedures.
- The device operates on 12V DC. Connecting to an AC power source may damage the unit, despite some labels indicating AC/DC compatibility. Always use a 12V DC power supply.
- Installation should be performed by qualified personnel to prevent electrical hazards.
- Do not expose the device to extreme temperatures or corrosive environments beyond its specified operating range (-26°C to +80°C).
- The IP65 rating provides protection against dust and water jets, but the device should not be submerged.

3. Package Contents

Verify that all items are present in the package:

- PNI DK220 Access Control Unit
- Installation Accessories (screws, wall plugs)
- Wiring Harness
- RFID Card (for testing/initial setup)
- Hex Key (for securing the unit)



Figure 3.1: Contents of the PNI DK220 package, including the access control unit, wiring harness, an RFID card, and a hex key.

4. Product Overview

The PNI DK220 is a robust access control keypad designed for both outdoor and indoor environments. It features a zinc alloy housing, an IP65 protection rating, and an illuminated keypad for ease of use in low-light conditions.



Figure 4.1: Front view of the PNI DK220 Access Control Keyboard, showing the numeric keypad and function buttons.



Figure 4.2: Overview of PNI DK220 key features, including IP65 waterproof rating, zinc alloy case, and multiple access methods.

Key Features:

- **IP65 Protection:** Dust and water jet resistant, suitable for outdoor installation.
- **Zinc Alloy Housing:** Durable and vandal-resistant construction.

- **Illuminated Keypad:** Keys light up for visibility in dark conditions. Lighting can be set to always on, off, or motion-activated.
- **Multiple Access Methods:** Supports RFID card, PIN code, or a combination of card and PIN.
- **Two Relays:** Allows control of two separate doors or devices.
- **Anti-Sabotage Alarm:** Triggers if the device is tampered with (requires external siren connection).
- **Anti-Passback Function:** Prevents re-entry without a valid exit registration.
- **User Capacity:** Supports up to 2000 users.

5. Installation

The PNI DK220 is designed for surface mounting. Follow these general steps for installation:

1. Choose a suitable mounting location, ensuring it is flat and secure.
2. Use the back plate of the unit as a template to mark drilling points on the wall.
3. Drill holes and insert wall plugs if necessary.
4. Route the wiring harness through the wall or conduit to the back of the unit.
5. Secure the back plate to the wall using the provided screws.
6. Connect the wiring harness to the unit as described in the "Wiring Diagram" section.
7. Attach the main unit to the back plate and secure it using the hex key.

6. Wiring Diagram

Carefully connect the wires according to the diagram below. Incorrect wiring can damage the device or connected equipment. Ensure power is disconnected before wiring.



Figure 6.1: Back panel of the PNI DK220 showing the wiring terminal block and connection labels.

Terminal Connections:

Wire Color	Label	Function
Red	+12V	Power Input (12V DC)
Black	GND	Ground
Green	D0	Wiegand Data 0
White	D1	Wiegand Data 1
Yellow	OPEN2	Door Open Signal 2
Brown	OPEN1	Door Open Signal 1
Grey	ALARM1	Alarm Output 1
Blue	NO1	Relay 1 Normally Open

Wire Color	Label	Function
Purple	COM1	Relay 1 Common
Orange	NC1	Relay 1 Normally Closed
Pink	BELL A	Doorbell Output A
Light Blue	BELL B	Doorbell Output B
Red (thin)	ALARM2	Alarm Output 2
Brown (thin)	NO2	Relay 2 Normally Open
Green (thin)	COM2	Relay 2 Common
Blue (thin)	NC2	Relay 2 Normally Closed

Note: The doorbell circuit has an internal resistance. If connecting a doorbell with significant current consumption, an external relay may be required to prevent damage to the keypad.

7. Setup and Programming

The PNI DK220 offers various operating modes and programming options. Refer to the detailed programming guide (usually a separate document or advanced section of the manual) for specific codes and sequences. Below are general steps and features:

7.1 Initial Setup

1. **Enter Programming Mode:** Typically involves a default master code (e.g., 123456) followed by a specific key.
2. **Change Master Code:** For security, immediately change the default master code.
3. **Set Operating Mode:** Choose from 7 available modes, including:
    - Wiegand card reader
    - Standalone for one door
    - Independent for two doors
    - External card reader for two doors
    - Two connected devices for two doors
    - Anti-passback for one door
    - Anti-passback for two doors

7.2 User Management

- **Adding Users:** Use a master card or master code to quickly add new RFID cards or PIN codes.
- **Deleting Users:** Use a master card or master code to quickly delete existing users.
- **User Capacity:** The system supports up to 2000 users.

7.3 Keypad Illumination

The illuminated keys can be configured:

- Always On
- Always Off

- On when motion is detected (Human-Approach On)

8. Operating Instructions

Once configured, users can gain access using their assigned credentials:

- **RFID Card Access:** Present your registered RFID card to the keypad's reader area. The door will unlock if the card is valid.
- **PIN Code Access:** Enter your registered PIN code followed by the '#' key. The door will unlock if the PIN is valid.
- **Card + PIN Access:** Present your registered RFID card, then enter your PIN code followed by the '#' key. This method provides enhanced security.
- **Anti-Passback:** If enabled, a user must register an exit (e.g., by swiping out or using an exit button) before they can register a second entry. This prevents unauthorized sharing of credentials.

9. Maintenance

- **Cleaning:** Wipe the keypad surface with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Periodically check for any signs of damage to the housing or wiring.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates, if applicable.

10. Troubleshooting

Problem	Possible Cause	Solution
Keypad does not power on.	No power, incorrect voltage, or AC power supply.	Verify 12V DC power supply is connected correctly. Ensure it is not an AC power source.
Door does not unlock with valid card/PIN.	Incorrect wiring to lock, lock malfunction, or user not properly registered.	Check wiring to the electric lock. Verify user credentials are correctly programmed. Test the lock independently.
Sabotage alarm sounds unexpectedly.	Loose mounting, tampering attempt, or faulty sensor.	Ensure the unit is securely mounted. Inspect for any signs of tampering. If persistent, contact support.
Doorbell does not ring or rings weakly.	Doorbell wiring issue, doorbell requires more current.	Check doorbell wiring. If the doorbell has high current consumption, an external relay may be needed for the doorbell circuit.

11. Specifications

Feature	Detail
Model	PNI DK220
Power Supply	12V DC
Standby Consumption	< 25 mA

Feature	Detail
Material	Zinc Alloy
Protection Rating	IP65 (Dust and Water Jet Resistant)
Card Reader Type	EM - 125 KHz
User Capacity	2000 users
Operating Temperature	-26°C ~ +80°C
Dimensions (L x W x H)	75 x 25 x 120 mm (2.95 x 0.98 x 4.72 inches)
Weight	500 gr (1.1 lbs)
Relays	2
Special Features	Key Unlock, Illuminated Keyboard, Anti-Vandal, Anti-Passback

12. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the documentation provided with your purchase or contact your retailer. You may also visit the official PNI website for further assistance.
Manufacturer: Onlineshop SRL, Olteniei 26A, Piatra Neamt, Neamt 610206, Romania.
Product Code: PNI-DK220
Note: The product label includes a barcode with the numberK221121286. This may be useful for product identification.

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