Velleman MK179

Velleman MK179 Proximity Card Reader Kit User Manual

Model: MK179 | Brand: Velleman

Introduction

This manual provides comprehensive instructions for the assembly, operation, and maintenance of the Velleman MK179 Proximity Card Reader Kit. The MK179 is designed for various access control and security applications, including opening doors, managing security systems, and authorizing equipment use. Please read these instructions carefully before beginning assembly or operation.

Key Features

- Easy Addition and Removal of Tags
- Coil Can Be Mounted Away From the Board
- Extremely Secure and Practically Safe Operation

Setup and Assembly

The Velleman MK179 is supplied as a kit and requires assembly. Careful soldering and component placement are essential for proper functionality.

Component Identification

Before starting, identify all components against the provided parts list (not included in this manual, refer to kit packaging). The main circuit board and the proximity cards are key elements.

Image 1: The Velleman MK179 circuit board, showing various electronic components such as resistors, capacitors, integrated circuits, and a relay. This board forms the core of the proximity card reader.

Assembly Steps

1. **Prepare Workspace:** Ensure a clean, well-lit workspace with appropriate soldering tools.
2. **Solder Components:** Carefully solder all components onto the printed circuit board according to the silk screen markings and the kit's detailed instructions. Pay close attention to component orientation (e.g., diodes, ICs, electrolytic capacitors). **Caution:** Incorrect soldering can prevent the device from functioning. Double-check all solder joints for bridges or cold joints.
3. **Connect Coil:** The proximity coil can be mounted directly on the board or remotely, allowing for flexible installation options. Ensure a secure connection to the designated terminals.
4. **Power Supply:** Connect a stable 12V DC power supply to the designated input terminals. Observe correct polarity.

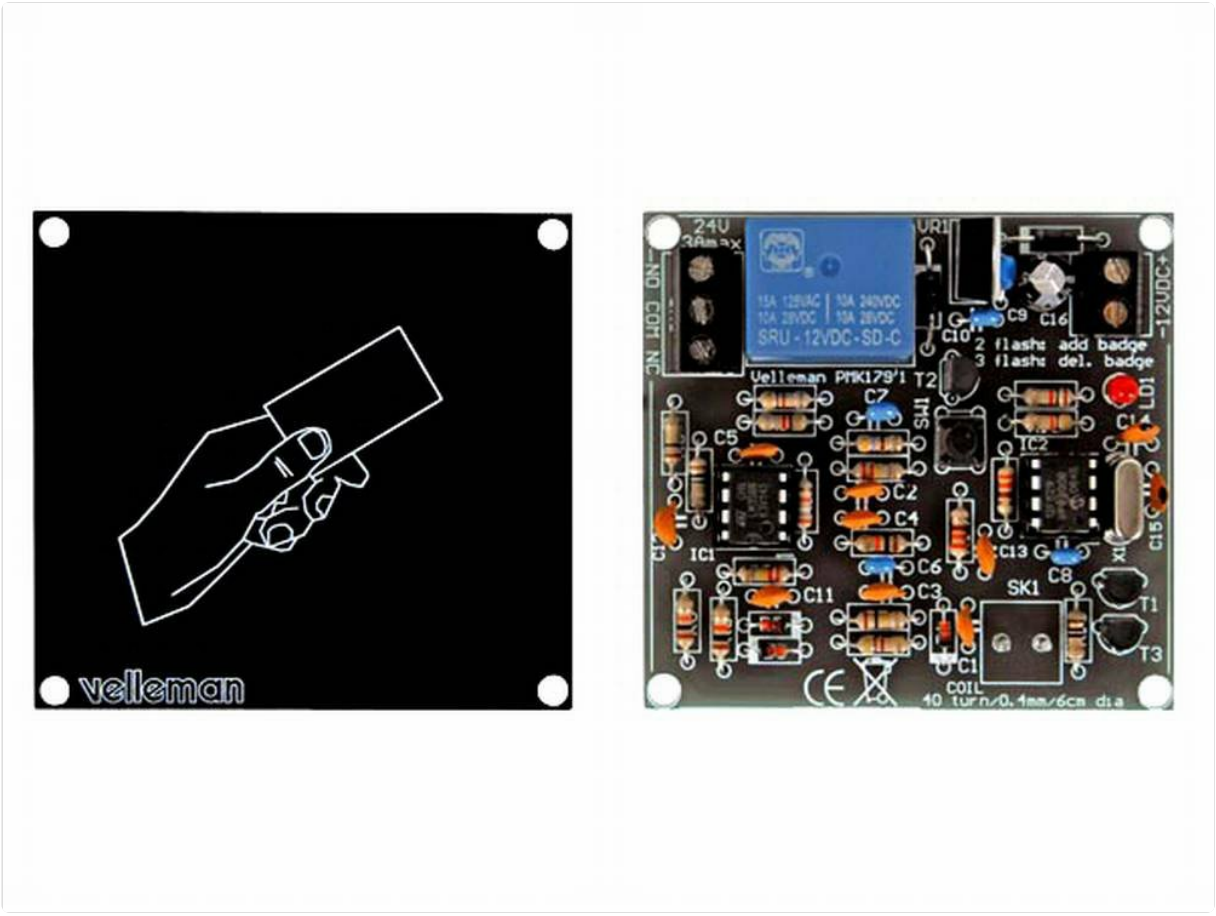


Image 2: An assembled Velleman MK179 Proximity Card Reader Kit, showcasing the compact design of the circuit board with its components and the integrated relay.

Operating Instructions

The MK179 operates by reading unique identification codes from proximity cards (tags).

Image 3: Two white proximity cards, included with the Velleman MK179 kit, used for activating the reader.

Adding and Removing Tags

The MK179 features an easy method for programming and de-programming proximity tags. Refer to the detailed instructions provided with your kit for the specific button presses and LED indicators for adding or removing tags. Generally, this involves:

- **To Add a Tag:** Activate the programming mode (e.g., by pressing a button for a specific duration), then present the new tag to the reader coil. The device will confirm successful addition (e.g., via an LED flash).
- **To Remove a Tag:** Activate the removal mode, then present the tag to be removed. The device will confirm removal.

Normal Operation

Once tags are programmed, simply present a valid tag to the reader coil. The device will recognize the tag and activate its output (e.g., a relay closure) for a pre-set duration, allowing it to control connected devices like door locks or alarms.

Maintenance

The Velleman MK179 Proximity Card Reader Kit is designed for reliable operation with minimal maintenance.

- **Cleaning:** Keep the circuit board and reader coil free from dust and debris. Use a soft, dry cloth for cleaning. Avoid using liquids or abrasive cleaners.
- **Environmental Conditions:** Ensure the device is operated within its specified environmental conditions (temperature, humidity) to prevent damage.

- **Power Supply:** Use only a stable and correctly rated 12V DC power supply. Fluctuations or incorrect voltage can damage the unit.

Troubleshooting

If you encounter issues with your Velleman MK179, consider the following troubleshooting steps:

- **Device Not Powering On:**
  - Check power supply connections and ensure correct voltage (12V DC) and polarity.
  - Inspect for any short circuits or incorrect component placement on the assembled board.
- **Tags Not Being Read:**
  - Ensure the tag is presented within the effective reading range of the coil.
  - Verify that the tags have been correctly programmed into the device.
  - Check the coil connection to the main board.
- **Incorrect Output Behavior:**
  - Confirm the relay connections to the external device are correct.
  - Review the programming steps for adding/removing tags to ensure no errors occurred.
- **Assembly Issues:**
  - If the device does not function after assembly, carefully inspect all solder joints for quality. A common issue is a solder bridge between traces or a "cold" solder joint that doesn't make proper electrical contact.
  - Verify that all components are in their correct positions and orientations.

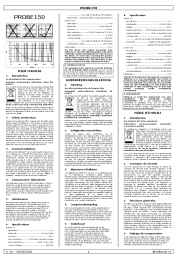
Specifications

Item Model Number	MK179
Product Dimensions	0.98 x 4.76 x 7.87 inches
Item Weight	2.56 ounces
Brand	Velleman
Manufacturer	Velleman
ASIN	B004XZPW0G
UPC	836479009196
Country of Origin	Poland

Support and Contact

For further assistance or detailed technical support regarding your Velleman MK179 Proximity Card Reader Kit, please refer to the official Velleman website or contact their customer service.
Note: Specific warranty information is typically provided with the product packaging or on the manufacturer's official website.

Related Documents - MK179

	Velleman HQM122C USB 3.0 Card Reader - User Manual and Specifications Comprehensive user manual for the Velleman HQM122C USB 3.0 card reader. Learn about its features, specifications, safety guidelines, cleaning, and maintenance. Supports SD and Micro SD cards.
	Velleman PCUSBGO1 USB 2.0 SD/microSD Card Reader User Manual User manual for the Velleman PCUSBGO1, a USB 2.0 SD and microSD card reader. Includes introduction, safety instructions, general guidelines, and cleaning/maintenance information.
	Velleman K8095 MP3 Player Kit - Assembly and User Guide Comprehensive guide for assembling and operating the Velleman K8095 MP3 Player Kit. Features detailed instructions, component lists, specifications, connection diagrams, and testing procedures for building a custom home audio system.
	Velleman K5201 Light Computer - Illustrated Assembly Manual Detailed illustrated assembly manual for the Velleman K5201 Light Computer kit. Learn how to build and use this electronic project featuring 16 patterns and 7 outputs for creating unique light shows.
	Velleman PROBE150 Oscilloscope Probe User Manual Comprehensive user manual for the Velleman PROBE150 oscilloscope probe, detailing specifications, safety instructions, and maintenance for accurate signal measurement.
	Velleman K5201 Light Computer Illustrated Assembly Manual Detailed illustrated assembly manual for the Velleman K5201 Light Computer kit, including features, specifications, component lists, assembly instructions, hook-up diagrams, and safety information.