



Parklio™ Display

USER MANUAL

Table of Content

1. Foreword	3
1.1. Overview.....	4
1.2. Features.....	4
2. Warnings and General Precautions	6
2.1. Safety Instructions.....	7
2.2. Installation Warnings.....	8
3. Product Description	10
3.1. Product Components Overview.....	10
3.2. Dimensions.....	11
3.3. Technical Characteristics.....	12
4. Installation	13
4.1. Packaging Contents.....	13
4.2. Installation.....	14
4. Connecting the Display	16
4.1 Required Components for System Operation.....	16
6.2. Steps for Connecting the Display within Parklio Ecosystem.....	16
6.3. Configuring the Display.....	18
6.5. Connecting the Display to Third-Party Systems.....	19
7. Cleaning and Maintenance	21
7.2. Troubleshooting.....	22
8. Disposal of the Device	23
9. Declaration of Conformity	24

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1. Foreword

Thank you for purchasing Parklio™ Display. The Parklio Display, made using cutting-edge technology, has passed rigorous quality control methods to guarantee its excellence.

This user manual is intended to provide you with all the necessary information to ensure the proper installation, operation, and maintenance of your product. Inside, you will find detailed, step-by-step instructions accompanied by illustrations to guide you through the setup process. Additionally, we've incorporated important safety precautions to keep in mind while using the product.

Please be aware that the information in this manual is subject to possible revisions without prior notice. To ensure you have the most up-to-date information, we kindly request that you visit our official website regularly.

Attention!

- **Read the user manual and technical sheet before installing and using the Parklio Display.**
- **Always follow the safety instructions.**
- **Keep this user manual at hand for future reference.**



1.1. Overview

The Parklio™ Display is a smart parking information LED display designed to provide real-time updates on parking availability. It is suitable for both indoor and outdoor use and can be mounted on poles or walls, offering flexibility in various parking environments. The system supports multiple communication protocols, allowing seamless integration with existing parking management setups.

The Parklio™ Display is available in multiple configurations, including **vertical, horizontal, and slim housing models**, which can be customized with various LED matrix options to meet specific requirements.

1.2. Features

Explore the key functionalities of the Parklio™ Display, designed to optimize parking guidance and improve the user experience:

Key Features:

→ **Real-Time Parking Availability**

Displays up-to-date information on available parking spaces, helping drivers locate spots quickly and reducing search times.

→ **Automatic Brightness Control**

Ensures clear visibility of parking information under varying lighting conditions by dynamically adjusting the display's brightness.

→ **Customizable Housing Models**

Available in Vertical, Horizontal, and Slim configurations, with flexible LED matrix panel options to meet specific requirements.

→ **Versatile LED Matrix Panels**

Offered in Standard Performance (S-LED) for simple displays or High-Resolution (HR-LED) for detailed graphics and animations.

→ **Multiple Communication Protocols**

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Compatible with TCP/IP, REST API, MODBUS, RS-485, and other protocols for seamless integration with existing parking systems.

→ **Multi-Language and Full-Color Display**

Supports text and symbols in all languages and offers full-color modules for clear and effective communication.

→ **Flexible Control Options**

Operates via LAN, Wi-Fi, GSM, RS-485, or dry contact, providing adaptability to various system setups.

→ **System Integration**

Works seamlessly with Parklio™ PMS and Parklio™ Detect, transmitting real-time parking data via Ethernet, Wi-Fi, or GSM for efficient parking lot management.

In the following sections, this manual elaborates on each feature, enhancing your understanding of the Parklio Display.

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2. Warnings and General Precautions

This section offers safety guidelines to keep you safe from harm or property damage. All warranties will be voided if these instructions are not followed.

PARKLIO (PARKLIO D.O.O.) RESERVES THE RIGHT TO MODIFY THE DEVICE WITHOUT NOTICE. PARKLIO (PARKLIO D.O.O.) DISCLAIMS ALL LIABILITY FOR ANY DAMAGE OR INJURY TO PEOPLE OR THINGS CAUSED BY IMPROPER USE OR WRONG INSTALLATION.

THE DISPLAY WAS MADE IN ACCORDANCE WITH ALL IMPORTANT SAFETY CRITERIA AND STANDARDS. CHILDREN, PERSONS WITH DISABLED PHYSICAL, MOTOR, OR PERSONAL EQUALITY, AND RELATED PEOPLE WITHOUT PREVIOUS EXPERIENCE OR KNOWLEDGE SHOULD NOT USE THE DISPLAY WITHOUT THE REQUIRED HELP AND SUPERVISION.

EXCEPTION: DEVICE USE UNDER ADEQUATE SUPERVISION, IF THEY HAVE RECEIVED SAFETY INSTRUCTIONS AND TRAINING, OR IF THEY HAVE BEEN INFORMED ABOUT THE DANGER CAUSED BY IMPROPER USE. THE SAME RECOMMENDATION APPLIES TO JUVENILE USAGE OF THE DEVICE. CHILDREN SHOULD NOT BE ALLOWED TO PLAY WITH THE DEVICE. DO NOT ALLOW CHILDREN TO CLEAN, USE, OR MAINTAIN THE DEVICE.



2.1. Safety Instructions

Do not use the Display if you have not read and understood the operating instructions. If you have any questions, please contact our technical support or sales department for further explanations.

This product was designed and produced strictly for the use indicated in this manual. Any other use other than the ones expressly indicated may damage the product and/or be a source of danger, invalidating the warranty.

Only the Display's manufacturer's plugs, replacement components, and power supply should be utilized. The **use of non-manufacturer-provided components results in warranty termination.**

The [warranty](#) does not cover consumable parts of the device, color fading and chipping, and other aesthetic effects that do not affect its functionality or safety.

The equipment is designed for outdoor use.

The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

Parklio is not liable for the incorrect use of this product or another use other than the one for which it was designed.

Keep this guide in a safe place for future reference (care and maintenance) and in case of sale or disposal of the modules.



2.2. Installation Warnings

Check that all of the elements listed in these instructions are still within the original package before using the Display for the first time. Installers should become familiar with the mechanical and electrical requirements for such a system.

Always have instructions on hand.

Ignoring use instructions, as well as inappropriate installation and use of the display, may result in gate damage or user injury.

Parklio is not liable if the safety standards were not taken into account when installing the equipment to be automated or for any deformation that may occur to it.

Parklio is not liable for the safety and proper installation of the product when using components that were not supplied by Parklio.

Never expose the inner workings to water.

Keep children well away from the system while transporting and installing mechanical and electrical components.

Abide with the safety regulations for all other components used in the system, including wiring and cables, connectors, charging regulators, inverters, storage batteries, rechargeable batteries, etc.

Use only insulated tools that are approved for working on electrical installations.

Never touch uninsulated cable ends.

Always use the same type of module within a particular photovoltaic system.

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The device and external supply must be disconnected from the power supply during installation, maintenance, cleaning, and repairs. Also, disconnect any buffer batteries used.

Do not wear metallic rings, watchbands, ear, nose, lip rings, or other metallic devices while installing or troubleshooting photovoltaic systems.

Completely cover the module with an opaque material during installation to keep electricity from being generated.

The installer should inform the customer how to operate the product in emergencies and provide him with a manual of use.

The customer shall not, in any circumstance, attempt to repair or tune the Display. For this purpose, he must call a qualified technician. Improper repairs may result in an accident or an equipment breakdown.



3. Product Description

This section provides a complete description of the Parklio™ Display physical characteristics and technical specifications.

3.1. Product Components Overview

Parklio™ Display is available in three primary housing models, each designed to support multiple LED matrix configurations to suit various size and layout requirements for effective parking guidance.



VERTICAL HOUSING MODEL



HORIZONTAL HOUSING MODEL



SLIM HOUSING MODEL

Each model is compatible with customizable S-LED and HR-LED panels, allowing for flexible display options tailored to specific parking facility needs.

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The LED matrix panels form the core display components of the Parklio™ Display, offering flexibility for customization based on the specific visibility and informational needs of your parking facility. Each Parklio™ Display can be configured with either the S-LED or HR-LED matrix panels, depending on the required clarity, resolution, and level of detail.

S-LED Matrix Panel

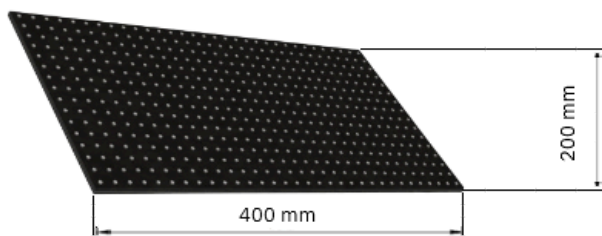
The Standard Performance LED (S-LED) panel is suitable for general use, providing reliable performance for displaying basic text and numerical information.

HR-LED Matrix Panel

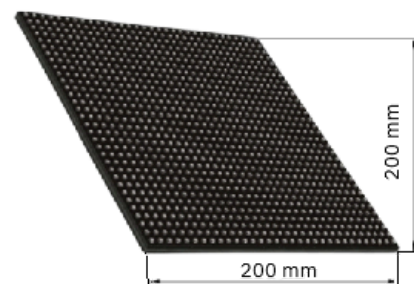
The High-Resolution LED (HR-LED) panel offers enhanced clarity with a denser diode structure, making it suitable for detailed graphics, animations, and intricate signage.

Both panel types are customizable and can be arranged in vertical, horizontal, or slim configurations to create the desired Display layout.

3.2. Dimensions



S-LED Matrix Panel



HR-LED Matrix Panel

*The dimensions depicted in the image are presented in millimeters.

3.3. Technical Characteristics

Parameter	S-LED Matrix Panel	HR-LED Matrix Panel
Resolution	32 x 16 pixels	32 x 32 pixels
Dimensions	400 mm x 200 mm / 15.75 in x 7.87 in	200 mm x 200 mm / 7.87 in x 7.87 in
Pixel pitch	12.5 mm / 0.49 in	6.25 mm / 0.25 in
Brightness	4500 cd/m ²	4000 cd/m ²
Horizontal viewing angle	170°	120°
Vertical viewing angle	170°	120°

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4. Installation

This section describes the Parklio™ Display packing contents and provides detailed instructions on how to install the parking Display.

The installation process is identical for all Parklio™ Display models and LED matrix configurations.

4.1. Packaging Contents

Please check that the package contains all the necessary parts.

The packaging should contain the following:

- 1 x Parklio Display
- 1 x User manual

If any of the parts are incorrect, missing, or damaged, contact your Parklio™ dealer. Keep the cardboard package, including the original packing materials, in case you need to return the product for repair.

4.2. Installation

The Parklio™ Display can be mounted to either a pole or a wall, depending on your setup requirements.

The following optional accessories are available:

- **Pole Mounting Kit:** Includes 2 x Pole Clamps for pole mounting.
- **Wall Mounting Kit:** Includes 2 x Mounting Rails for wall mounting.

These kits are sold separately, providing you with the flexibility to select the components necessary for your specific installation method.

Mounting to a Pole

STEP 1. Identify the desired mounting height on the pole and mark the positions for the pole clamps.

STEP 2. Slide the pole clamps into the mounting rails on the back of the Parklio™ Display. Ensure they are positioned evenly for balanced installation.

STEP 3. Place the Parklio™ Display with the attached clamps onto the pole.

STEP 4. Tighten the screws on the pole clamps to secure the Display to the pole. Ensure the screws are fully tightened and the Display is stable.

STEP 5. Adjust the Display orientation if necessary to ensure optimal visibility.

STEP 6. Verify that the Display is securely mounted and will remain stable under various weather conditions.

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Mounting to a Wall

STEP 1. Select the optimal mounting location on the wall. Mark the points for drilling, ensuring the Display will be clearly visible.

STEP 2. Drill holes at the marked points using an appropriate drill bit for the wall material.

STEP 3. Insert the wall anchors into the drilled holes.

STEP 4. Slide the wall mounting brackets into the mounting rails on the back of the Parklio™ Display.

STEP 5. Align the mounting brackets with the wall anchors and secure the Display using the screws. Tighten all screws firmly.

STEP 6. Confirm that the Display is level and properly positioned.

Final Check

Regardless of the mounting method:

- Ensure all screws are securely tightened.
- Verify the Display is stable and properly oriented.
- Test the Display to confirm functionality before completing the installation.

This standardized installation process ensures a secure and efficient setup for all Parklio™ Display configurations.

4. Connecting the Display

This section provides step-by-step instructions for connecting and configuring the Parklio™ Display within your Parklio parking management system or third-party setup.

4.1 Required Components for System Operation

Before beginning the setup, ensure the following:

- Internet Connection
- Power Supply (220V AC)
- Computer connected to the same network as the Display unit

For connecting with Parklio™ PMS, the following prerequisites must be met:

- A parking lot is defined in the Parklio™ PMS system.
- Parklio™ Detect, Parklio ANPR or any other similar system with the capability to display parking availability is configured and running.

For instructions on connecting to an external parking management system, refer to **Section 6.5**.

6.2. Steps for Connecting the Display within Parklio Ecosystem

STEP 1. Connect the Parklio™ Display to a power source using a 220V AC connection.

STEP 2. Connect the Display to the internet via an Ethernet cable or a Wi-Fi connection.

STEP 3. On a computer connected to the same network as the Display, open a web browser and enter the following address: <http://192.168.0.11/>



STEP 4. This will open the system setup page. You should now see the configuration interface (see the image below).

The screenshot displays the RGB Technology system setup interface. At the top, there is a navigation menu with tabs for Status, Settings (selected), Display, Reset, Security, and Date & time. The main content is organized into four sections:

- General settings:** A text input field for 'Name' containing 'Parklio Display' and a 'Save' button.
- Network settings:** Fields for 'DHCP' (Disabled), 'IP Address' (192.168.0.11), 'Subnet mask' (255.255.255.0), and 'Gateway' (192.168.0.1), with a 'Save' button.
- mDNS:** A dropdown menu for 'mDNS' set to 'Disabled' and a 'Save' button.
- Mode settings:** A complex section with multiple dropdowns and input fields:
 - 'Mode' set to 'Client REST'
 - 'Fade to black' set to 'Disabled'
 - 'Composition synchronization' set to 'Disabled'
 - 'Parameter timeout' set to 'Disabled'
 - 'Compositions' set to '/freeSpots/freeSpots' with a 'Refresh composition files' button
 - 'Data refresh time' set to '10' second(s)
 - 'Retry time if refresh fails' set to '20' second(s), 0 for no retries
 - 'Request timeout' set to '5' second(s)
 - 'Update policy' set to 'Discard old parameters'
 - 'Auth method' set to 'None'
 - 'Xml indexing' set to 'None'
 - 'Json indexing' set to 'None'
 - 'Number of parameters' set to '1' with a 'Change' button
 - Parameter 1** details: Value: Unknown, Last update: Unknown, Server URL: /v2/lots/fid/rgbCount, Param ID: (empty field)

6.3. Configuring the Display

STEP 1. In the system setup page, locate the Server URL field. Replace the `/id/` with the Parking Lot ID obtained from the Parklio™ PMS system.

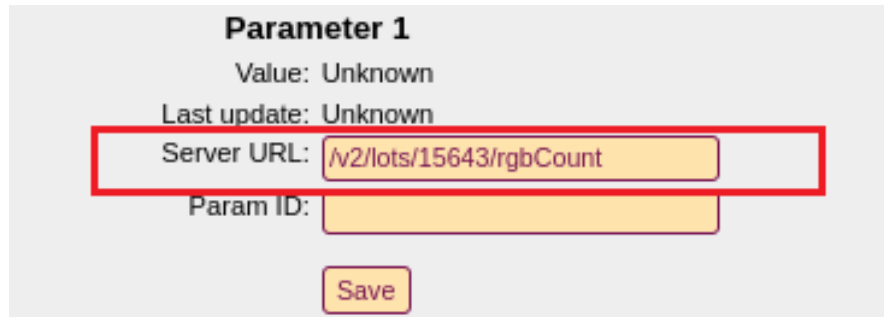
Parameter 1
 Value: Unknown
 Last update: Unknown
 Server URL:
 Param ID:
 Save

STEP 2. To locate your Parking Lot ID, log into the Parklio™ PMS system using your user credentials and proceed to your defined parking lot.

Dashboard Parking Lots
 Parklio Showroom Products ANPR Lot Access Lot Management
 Info
 Parking Managers
 Zones
 ANPR Image Storage
 Lot
 ID: 15643
 Name: Parklio
 Address: Parking Lot Address 15
 Time Zone: (GMT) Western Europe Time, London...
 Description: Our Parklio Parking Lot
 Coordinates
 Latitude: 48.16360973291346
 Map Satellite
 Oberse...
 Karlsfeld
 EELMOGCHING-HASENBEI...
 MOOSACH
 Schloss Nymphenburg
 PASING-OBERMENZING
 PASING LAIM
 Alling Germering Gräfelfing

Note: If you haven't set up a parking lot in the PMS system yet, please refer to the [Parklio™ PMS User Manual](#) for detailed instructions on how to set it up.

STEP 3. Enter the Parking Lot ID from the Parklio™ PMS into the Server URL field as shown in the system setup page.



Parameter 1
Value: Unknown
Last update: Unknown
Server URL: /v2/lots/15643/rgbCount
Param ID:
Save

STEP 4. Click **Save** to apply your changes.

6.4. Final Check

Once the configuration is saved, the Parklio™ Display should begin displaying real-time parking data from the Parklio™ PMS system. If any issues arise, verify your network connection and ensure the correct Parking Lot ID has been entered.

6.5. Connecting the Display to Third-Party Systems

The Parklio™ Display is capable of integrating with external parking management systems by adhering to their designated integration protocols. All system setup pages typically require input of various connection parameters, including API endpoints, authentication tokens, custom URLs, and other communication protocols (e.g., MODBUS, REST API, TCP/IP).

Integrating with external systems necessitates ensuring compatibility. Prior to making a purchase, consult with the Parklio Sales Team to:

- **Confirm Compatibility** with your third-party system.
- **Recieve Guidance** on setup and configuration.
- **Discuss custom solutions** if required.

This process secures efficient integration, enabling full functionality of the Parklio™ Display in alignment with your setup.



7. Cleaning and Maintenance

i Only use original spare parts when repairing or replacing products.

Regular cleaning and maintenance of the Parklio™ Display ensure optimal performance and extend the lifespan of the device. This section provides guidelines for keeping the Display in good working condition.

- **Safety Precaution:** Always disconnect the device from the power supply before performing any maintenance or cleaning. Only a qualified professional should carry out repairs or internal maintenance.
- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Avoid using chemical solvents, as they can damage the surface or cause malfunction. Disconnect the Parklio™ Display from its power source before cleaning.
- **Maintenance:** Inspect the device periodically to ensure that all components are functioning correctly. Ensure all mounting hardware (pole clamps, wall brackets) remains secure. Verify the IP67-rated housing is intact and no water or dust has entered the Display. Confirm that the Display is properly connected to the network (LAN, Wi-Fi, GSM) and transmitting real-time data accurately. Inspect the power supply for any signs of damage or wear.

7.2. Troubleshooting

If the Display shows incorrect data or fails to operate:

1. **Recheck the Configuration:** Ensure the correct Parking Lot ID is entered in the Parklio™ PMS system.
2. **Verify Network Connection:** Confirm the device is connected to the internet.
3. **Restart the Display:** Power off the Display, wait 10 seconds, and turn it back on.

If issues persist, contact Parklio™ support or your authorized dealer for assistance.

By following these guidelines, you can extend the lifespan and maintain the performance of your Parklio™ Display, ensuring reliable operation in your parking management setup.



8. Disposal of the Device

Proper disposal of the Parklio™ Display is important to ensure environmental safety and compliance with local regulations. This section provides guidelines on how to responsibly dispose of the device when it reaches the end of its operational life.

This product consists of numerous different materials.

Some of these materials can be recycled, while others are to be disposed of correctly at the specific recycling or waste management facilities indicated by local legislation applicable to this category of product.

Do not dispose of this product as domestic refuse.

Observe local legislation for differentiated refuse collection, or hand the product over to the vendor when purchasing an equivalent new product.

Local regulations might entail heavy penalties for inappropriate disposal of this commodity.



Some parts of this product contain substances that are harmful to the environment or dangerous and can cause damage to the environment or health risks if disposed of incorrectly.

9. Declaration of Conformity

The Parklio™ Display has been tested and found to be compliant with the essential requirements of the relevant CE directives. This product bears the CE marking and is subject to quality control processes to maintain compliance.

