



# XCESS-OS

## USER MANUAL

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# About this document

## Purpose

This document explains the process for installation and configuration of Para-fait XCESS-OS

## Revision History

2025 March. This is the first issue of the document.

## Feedback

To send us your feedback on the document, email your comments to [info@semnox.com](mailto:info@semnox.com)

# Introduction

Welcome to XCESS-OS, a device designed to enhance the experience in amusement parks and entertainment centers. Its advanced technology allows users to access and enjoy activities quickly and easily.

This manual provides detailed information on the installation and configuration of the device to make the most of its features.

## Operational description

The XCESS-OS is a device designed to grant users access to amusement park activities and rides. It features a full-screen tap area and illuminating visuals, enhancing both aesthetics and user feedback. With support for POE and Direct AC power, it offers a hassle-free 'tap-to-play' experience, along with wired and wireless connectivity for greater flexibility.

Equipped with dual-band Wi-Fi (2.4 GHz and 5 GHz), the XCESS-OS ensures seamless connectivity. It supports over-the-air firmware updates and media transmission, features a 4.5-inch touchscreen for intuitive interaction, and incorporates an advanced graphics engine for an immersive multimedia experience. Additionally, it includes functionalities such as Multi-Gameplay and Repeat Play, enhancing user engagement.

# Product specs

## Key Features

- **Intuitive 4.5-inch TFT LCD Touchscreen** – Provides an interactive and engaging user experience.
- **LED Bezel with Software-Controlled Patterns** – Offers dynamic visual feedback.
- **Tap-Anywhere Functionality** – Eliminates the need for precise tag placement.
- **Seamless Connectivity** – Supports dual-band 2.4 GHz and 5 GHz Wi-Fi (select models) and Bluetooth Low Energy (BLE).
- **OTA Firmware Updates & Media Transmission** – Ensures easy software upgrades and content delivery.
- **Customizable Display** – Supports multilingual interfaces and dynamic content for user engagement.
- **Advanced Graphics Engine** – Enhances the multimedia experience with smooth animations.
- **Multi-Gameplay & Repeat Play Features** – Optimized for amusement park interactions.



## Materials

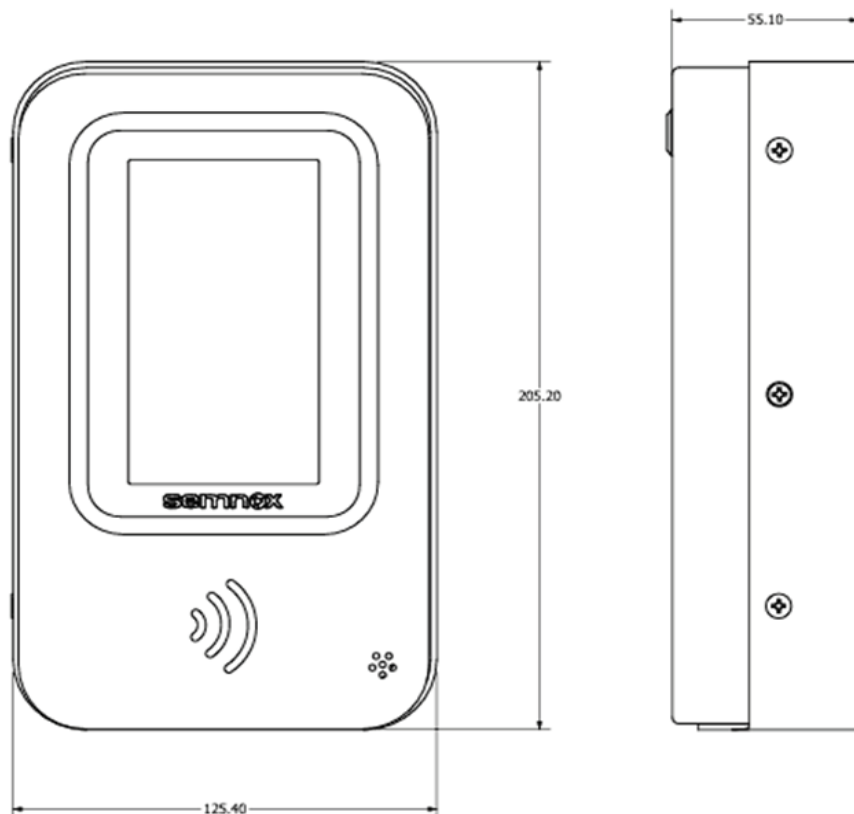
- Gorilla Glass.
- SPCC 1.6T
- AL6061
- SILICONE RUBBER SHORE 40.
- ABS

## Operational Range

- Operational Voltage: 11.4V to 12.6V
- Operating Temperature: -20~50 °C
- RF Communication Family: Wi-Fi – 2.4 GHz, 5GHz, BLE
- Antenna Type: FPC
- RFID Reading: Mifare
- Current: 2A

## Physical Dimensions

- Dimensions: 55.10 x 205.20 x 125.40 mm.
- Connectors: Molex harness, LAN Cable.
- Connector Position: Bottom.
- Mounting Type: On the surface of the arcade machines, turnstiles, and walls.

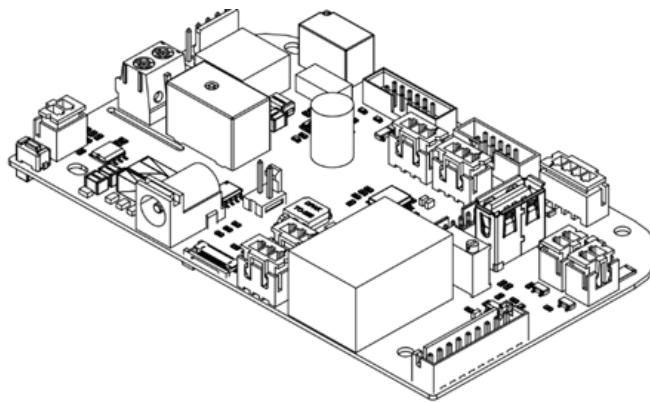


# Overview

## Hardware Components

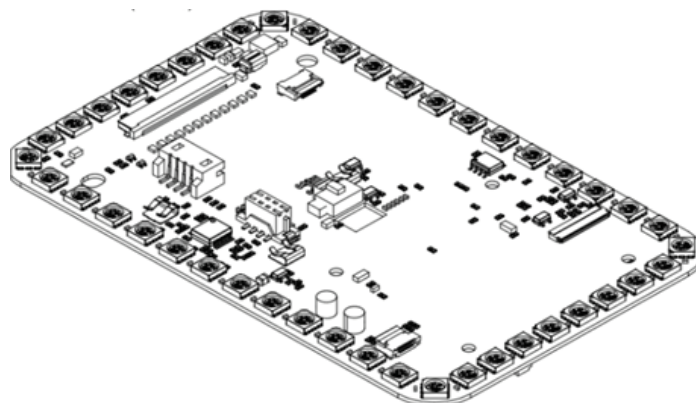
### 1. LAN Interface Board

Allows the system to communicate with a LAN network for real-time data transmission. It converts and transmits the information processed by the Main Board to servers or management systems via Ethernet. It can also include security measures such as data encryption and authentication to ensure the integrity and privacy of the transmitted information.



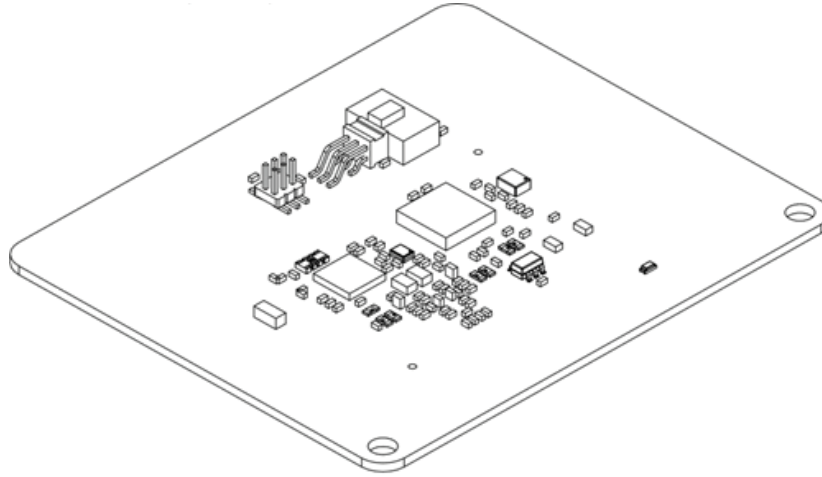
### 2. Main Board + Phycore (AM335X)

It is the core of the system and manages the information received from the MIFARE Board. Its main function is to validate credentials, process data and manage additional functions. In addition, it acts as a bridge between the RFID Reader Board and the LAN Interface Board, ensuring that the information is processed and sent correctly within the system.



### 3. Mifare board - RFID reader

This board is responsible for detecting and reading RFID cards by means of radio frequency signals. It integrates an antenna and a specialized circuit that identifies the cards within its operating range, processes the information stored in them, and transmits it to the Main Board. Its function is fundamental in authentication and access control systems.



### 4. Harnesses and accessories

The device is equipped with the following accessories, which are essential to ensure correct operation.

**Buzzer:** The XCESS-OS has an internal buzzer that emits an audible signal to indicate the reading of the device.

**Ethernet Cable:** The Ethernet cable allows direct connection between the XCESS-OS and the central management system in amusement parks. Its function is to guarantee a fast and secure transmission of information, optimizing access control.

**Molex Cable:** It allows the XCESS-OS to connect to multiple external peripherals, enabling seamless and efficient integration with its environment. Its design optimizes data transmission and power supply, ensuring stable communication and reliable performance.

**Reset switch:** If it is necessary to reset the XCESS-OS, press the switch located on the back of the card reader for 5 seconds. The XCESS-OSL will restart automatically.

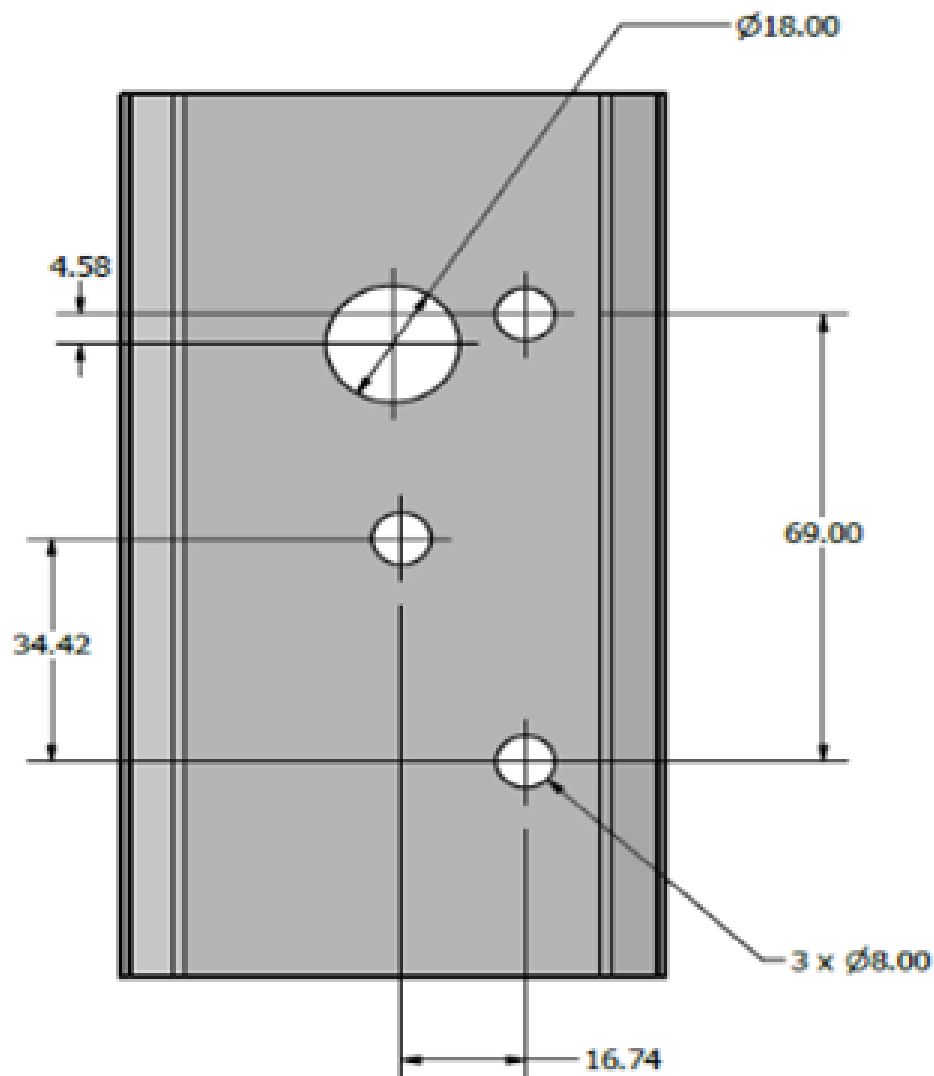


# Mounting

The XCESS-OS is designed to be easily integrated into turnstiles, allowing for a secure, practical and efficient installation that optimizes visitor flow. Below you will find detailed instructions for quick and secure setup, ensuring stable and reliable performance.

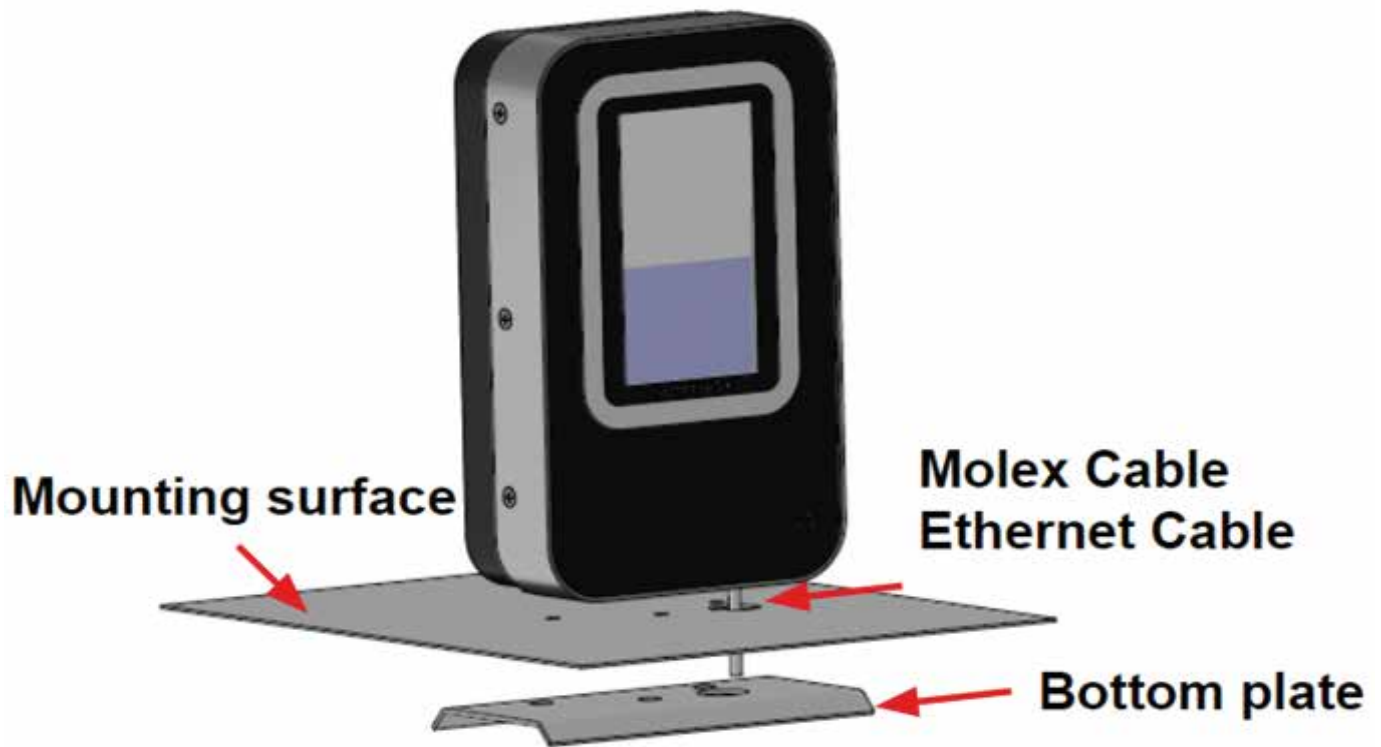
## Mounting Requirement

The XCESS-OS requires three mounting holes on the mounting surface, along with an additional hole for Molex Cable and Ethernet Cable. The vertical distances between the holes are 34.42 mm, 69 mm, and 4.58 mm.

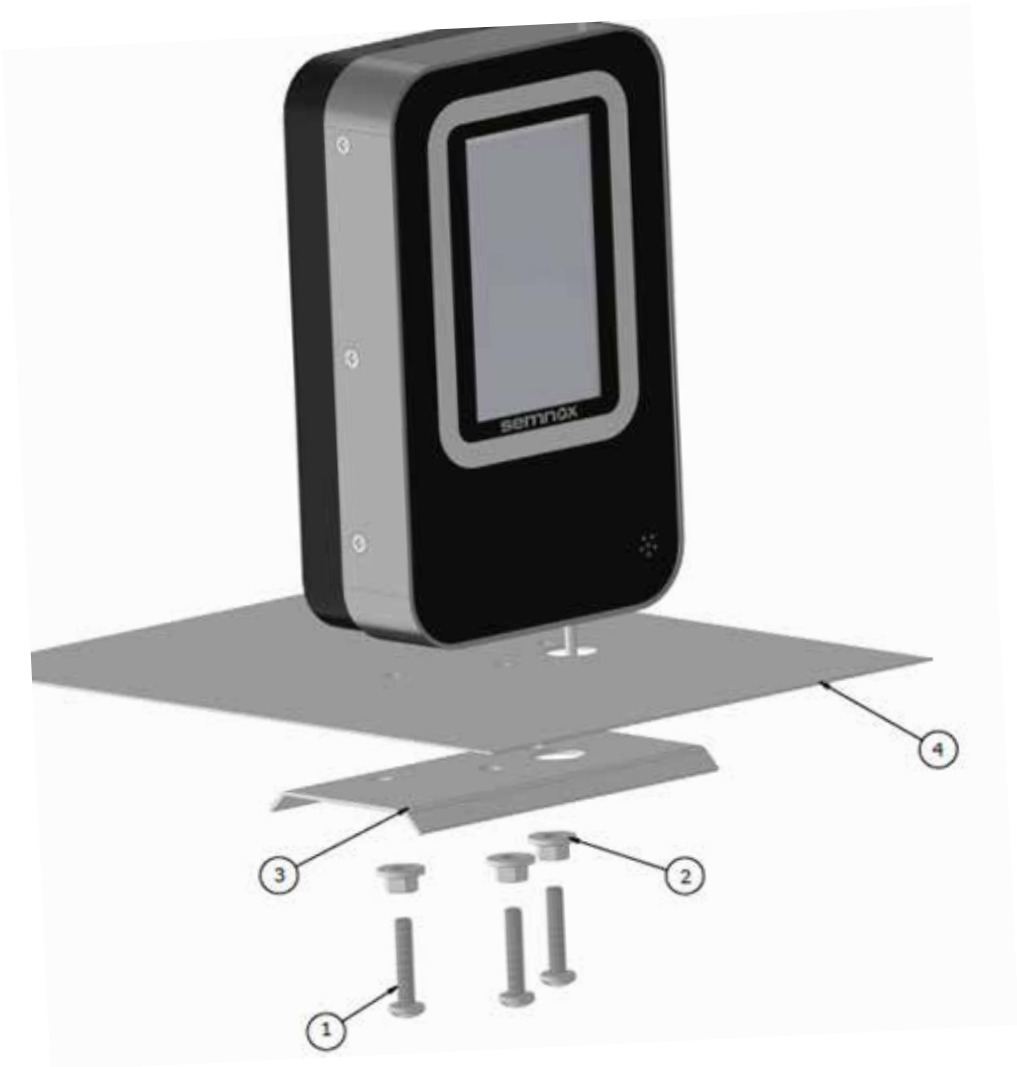


## Mounting Instructions

Pass the Molex cable and the Ethernet cable through the mounting surface hole and the bottom plate.



Screw the M6 mounting screws to secure the mounting surface to the Bottom plate and the XCESS-OS, ensuring the use of M6 nuts and washers.



| Part List |                             |     |
|-----------|-----------------------------|-----|
| Item      | Description                 | QTY |
| 1         | M6 Mounting Screw           | 3   |
| 2         | M6 Nut + M6 Lock Washer     | 3   |
| 3         | Bottom Plate                | 1   |
| 4         | Turnstile Mounting Surface1 | 1   |

# Compliance

## FCC compliance and advisory statements

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

*Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and the receiver.*
- *Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

