# MCRN7 RFID & QR Terminal

PoE-Ethernet, Embedded Linux


The **MCRN7** is our cutting-edge RFID terminal, designed to redefine access control and time management solutions. Equipped with a powerful RFID card reader, QR scanner, TFT display with capacitive touch screen and advanced connectivity options including PoE-Ethernet and Wi-Fi, this terminal is built for versatility.

## Key features

- **3.5" TFT Touch-Display**
  Equipped with a capacitive touchscreen for smooth and responsive operation
- **RFID-Interface**
  MIFARE® Family DESFire, NTAG, I-CODE
  Optional 125KHz, HID, Legic...
- **Dual Speakers**
  Integrated stereo speakers for clear voice and audio feedback
- **Wi-Fi Connectivity (2.4 GHz / 5 GHz)**
  Reliable Wi-Fi connection for flexible installation
- **Integrated QR-Code Scanner**
  Reads QR codes directly within the device, enabling quick data capture without extra hardware
- **PoE-Enabled Ethernet**
  Delivers power and data over a single connection for easy installation
- **Inputs & Outputs**
  Multiple inputs and outputs for external device control
- **Developer friendly**
  Run your own applications on our embedded Linux system, based on Ubuntu OS, with full SDK support

## Ideal for

- Clubs & Fitness Studios
- Time and Attendance
- Access Control
- Event Management

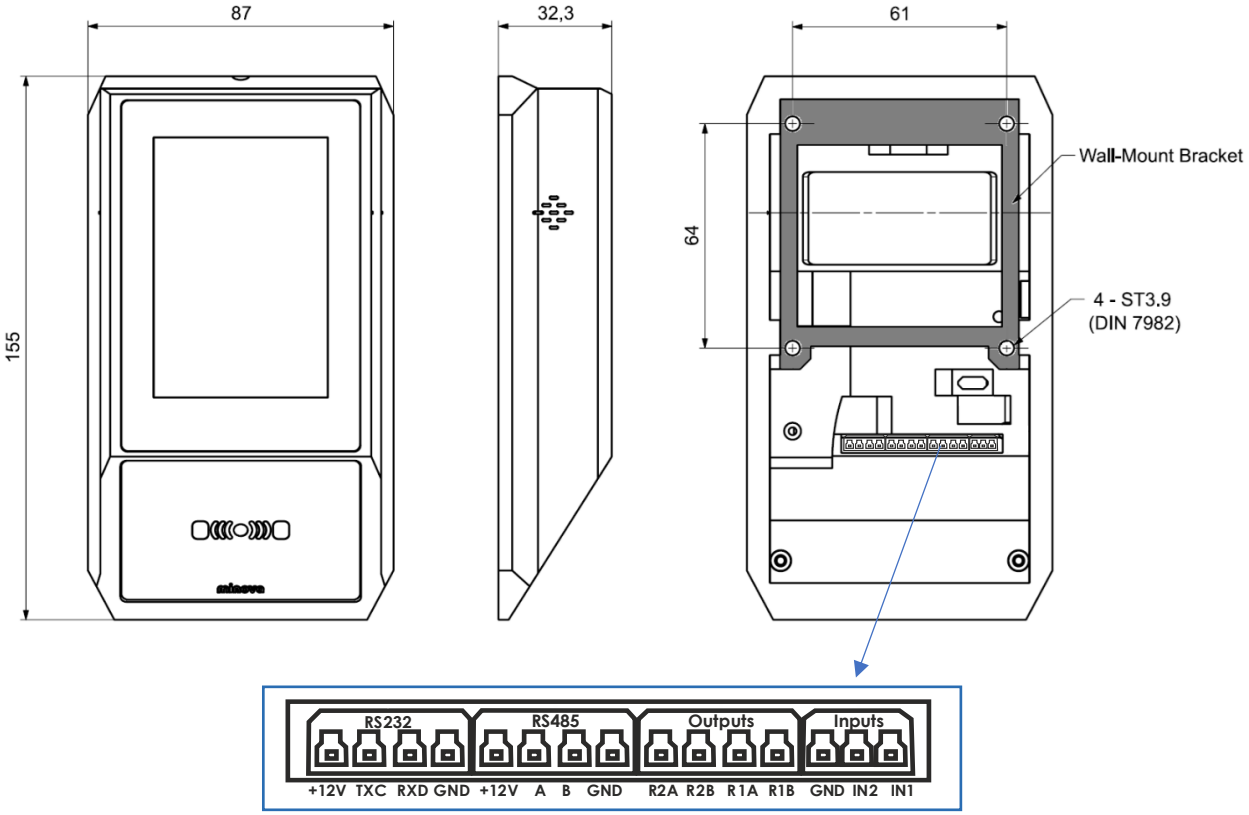
Access Systems · Logistik Supply chain · EV-Charger · Industrial Automation · Time Tracing · Healthcare · Shop PoS · Public Transport · Parking · ATM · Library · Home Automation · Telemetry Systems

# Technical Data

| | | |
|---|---|---|
| **Operating Frequency** | 13.56 MHz | |
| **Platform**<br>**Linux OS** | iMX.6ULL 528 MHz CPU, 512 MB RAM, 4 GB | |
| **Dimensions** | 155x87x32,3 | |
| **IP Protection** | IP54 | |
| **Colors** | Black, gray and optional other colors | |
| **MTBF** | 500.000h | |
| **Interfaces** | PoE-Ethernet<br>Wi-Fi 6 (2.4G & 5G)<br>RS232, RS485,USB device and host | |
| **Supported Cards & Transponders** | MIFARE®-Family Classic, Plus, DESFire etc.<br>NTAG<br>I-Code<br>Optional 125KHz, HID or Legic | |
| **Antenna** | Integrated | |
| **Temperature** | -20°C to +70 °C | |
| **Relative Air Humidity** | 5% up to 95% (non-condensing) | |
| **Power Supply** | +8V to +48V DC<br>+12V DC nominal | |
| **Current Consumption** | ~650mA @12VDC | |
| **Weight** | 216 g | |
| **Supported Standards** | ISO14443A/B<br>ISO15693 | |
| **Certifications** | USA<br>Europe/UK | FCC 47 CFR Part 15 (in progress)<br>CE/RED |
| **Compliances** | Cyber Security<br><br>EMC<br><br><br><br>Environment | EN 18031-1<br><br>EN 301489<br>EN 55022<br>EN 300330<br>RED 2014/53/EU<br><br>RoHS Compliance<br>REACH 1907/2006 |
| **Device Photos** |  | |

# Dimensions and Pinouts

The following views illustrate the precise dimensions and physical layout of the **MCRN7 RFID & QR Terminal** designed for seamless integration into various environments. All measurements are in millimeters. The housing is optimized for wall mounting and device integration, following standard industrial dimensions.



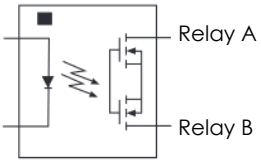

**Interface Ports**

| Pin | RS232 Port | RS485 Port | Output Port | Input Port |
|---|---|---|---|---|
| **1** | GND | GND | Relay 1B | Input 1 |
| **2** | RXD Serial Input | B | Relay 1A | Input 2 |
| **3** | TXD Serial Output | A | Relay 2B | GND |
| **4** | VIN (+12VDC) Input | VIN (+12VDC) Input | Relay 2A | |

# Interface Port Details

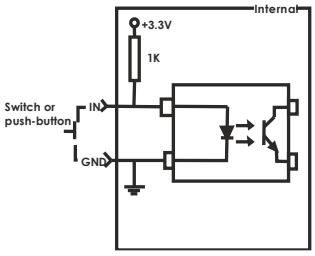
**USB Ports**
There are two USB ports available:
A device port and a host port. The device port is used to load a new image onto the system, while the host port allows for connecting peripheral devices like Memory stick, LTE-modem etc.

**Output port**
The relays are single pole, normally open solid-state type



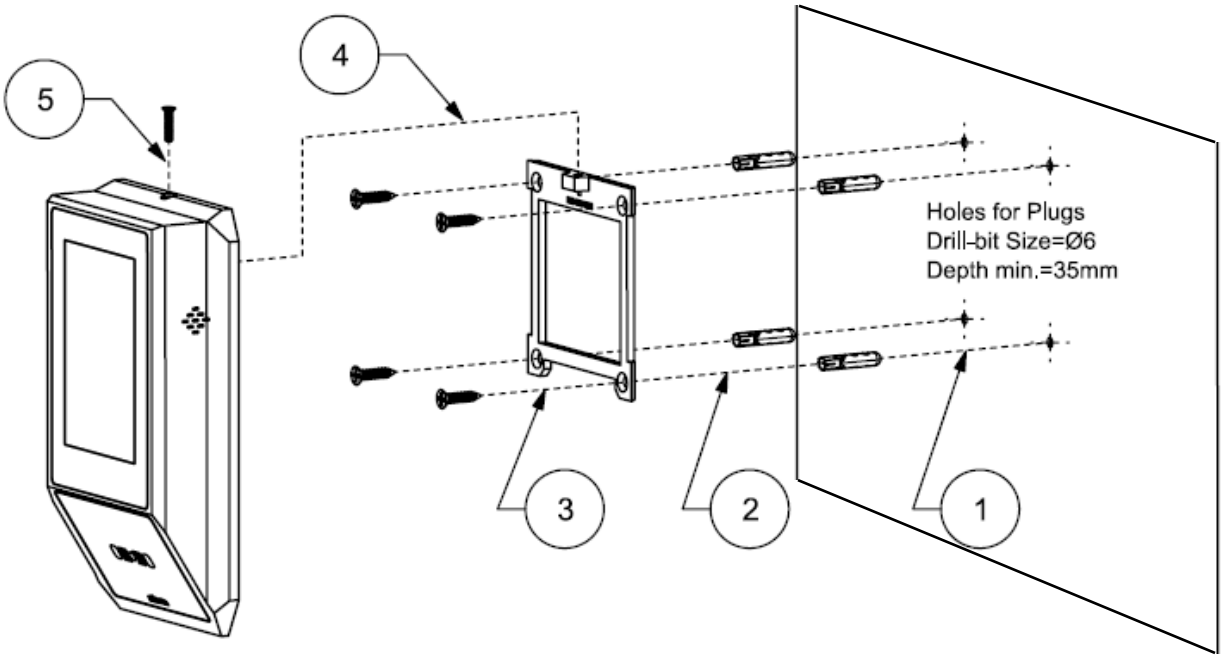

| Parameter | Rating | Units |
|---|---|---|
| **Blocking Voltage** | 30 | $V_P$ |
| **Load Current** | 1.2 | $A_{DC}$ |
| **On-Resistance (max)** | 0.25 | Ω |

**Input port**
Each input pin consists of a phototransistor optically coupled to an infrared LED, suitable for pushbuttons or input-switches activated by a low signal or by pulling the pin to ground



## Wall-mount Installation instructions

This picture explains how to install the device using the wall-mount bracket.




## Ordering Codes

| Article Nr. | Ethernet | Power Supply | Relays | Inputs | RS232 | RS485 | QR-reader |
|---|---|---|---|---|---|---|---|
| **MCRN7-1100** | Passive-PoE | +12V | ✓ | ✓ | ✓ | ✓ | |
| **MCRN7-1200** | Passive-PoE | +12V | ✓ | ✓ | ✓ | ✓ | ✓ |
| **MCRN7-1110** | PoE | PoE | ✓ | ✓ | ✓ | ✓ | |

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