

# **RHINO** ● **RS485** **Expansion** **Module**



## **RHINO RS485 Expansion Module Owner's Manual**

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# **RHINO** ●

**RHINO RS485 Expansion Module**



## INTRODUCTION

Expansion module to the Rhino AP. Reads data from devices that support protocols Mod Bus RTU, GazModem I, GazModem II.

- Data transfer wireless via RF to the Rhino AP.
- Maximum transmission rate is 115200 b/s.
- Powered by external 5-12VDC power supply.

## DEVICE OVERVIEW



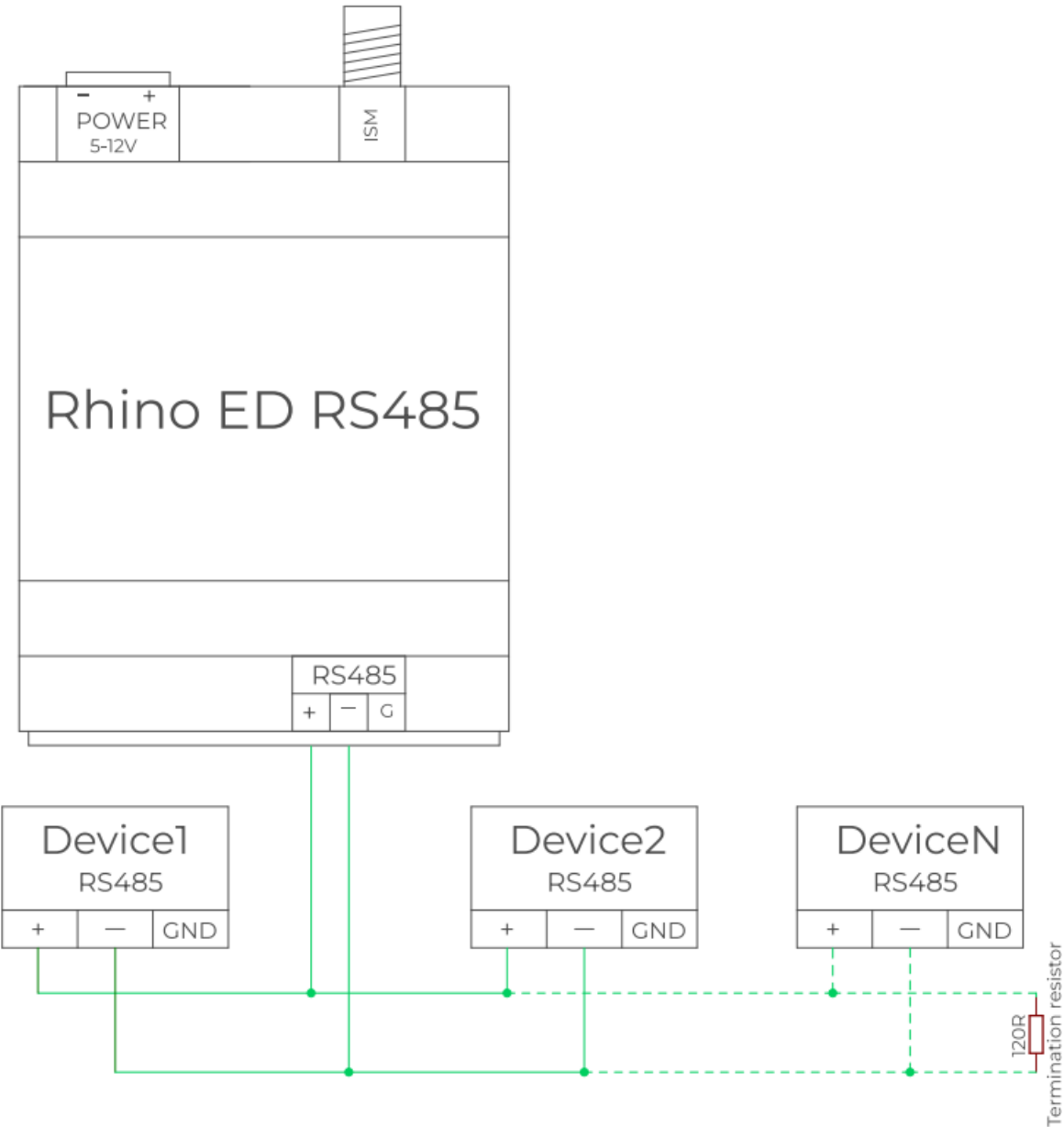
1. Power socket
2. RS485 connection
3. SMA ISM antenna connector

## TECHNICAL PARAMETERS

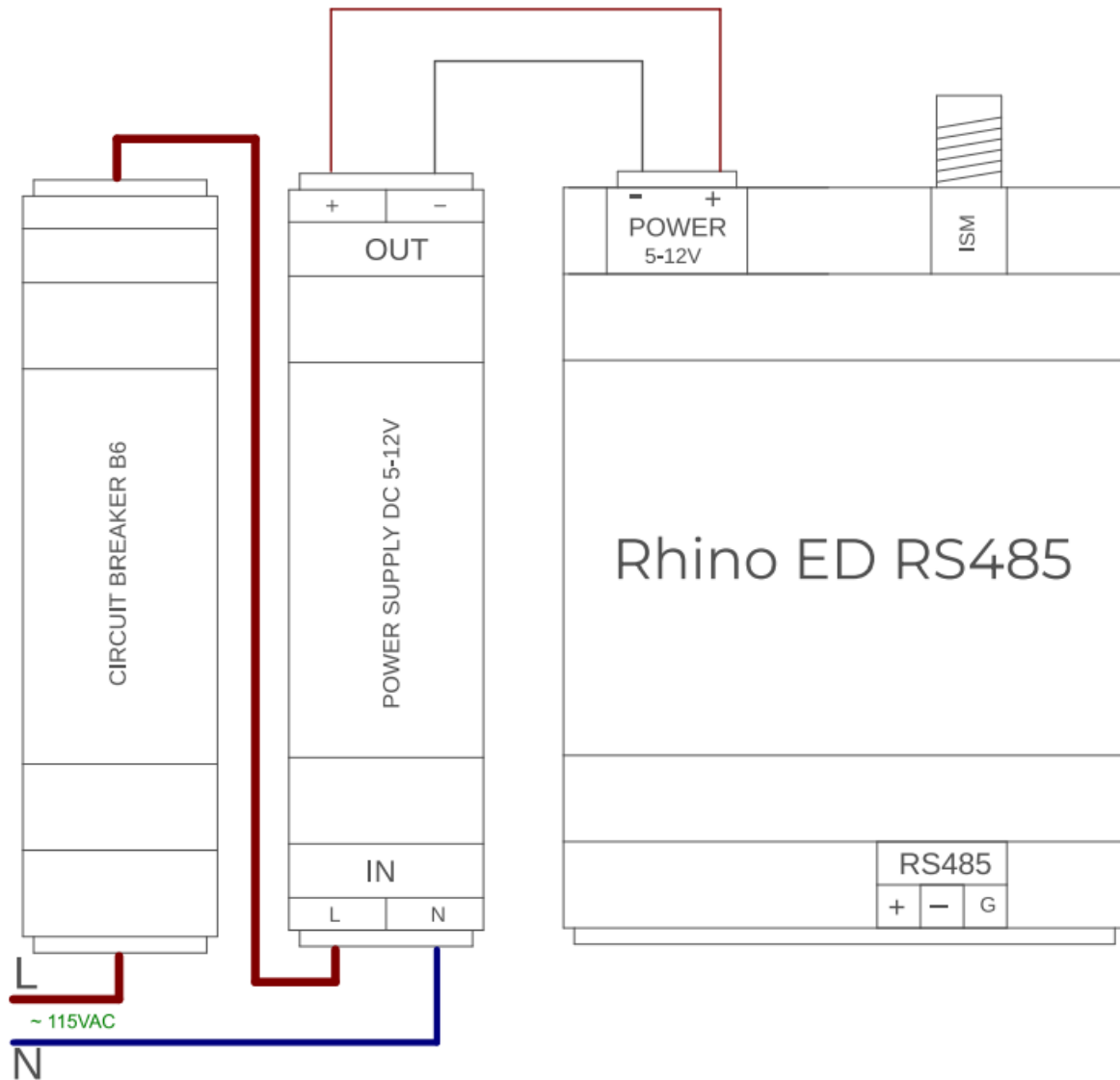
- **Rhino communication:** Frequency range: 915 MHz, ISM 2 channel
- **Power supply:** 5-12VDC (0.5A)
- **Supported communication protocols:** ModBus RTU, GazModem I, GazModem II
- **Configuration:** Over the Air (OTA)
- **Operating temperature range:** 0 ° C – 85 ° C (depending upon installed environment)
- **IP Class:** IP40 (not suitable for outdoor use)
- **Dimensions:** 52.5 mm x 90 mm x 65 mm (3 DIN modules)
- **Weight:** ~0.1 kg
- **Additional Equipment:** 1 x ISM antenna with 3m cable and magnetic base
- **Required cable types:**
  - **Signals thickness:** 0.129-1.31  $\text{MM}^2$  – 26-16AWG
  - **Power supply thickens:** 0.205-3.31  $\text{MM}^2$  – 24-12AWG
- **Certifications:** CE, FCC, ISED, RoHS

Diagrams

Connection Diagram



Power Supply Diagram



## FCC STATEMENT

### US Compliance

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 interference to radio and 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 receiver.
- Connect the equipment into 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 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

2. This device must accept any interference received, including interference that may cause undesired operation.

## **WARNING**

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification or Declaration of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. This equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## **FCC ID:**

- 2BE63EDRS915V14

## **Canada Compliance**

### **INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT CANADA STATEMENT**

This device complies with RSS-210 of the Innovation, Science and Economic Development Canada Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

## **Radiation exposure statement**

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the antenna of this device and all nearby persons. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

## **IC ID:**

- 32201-EDRS915V14

## **Rhino System Topology**

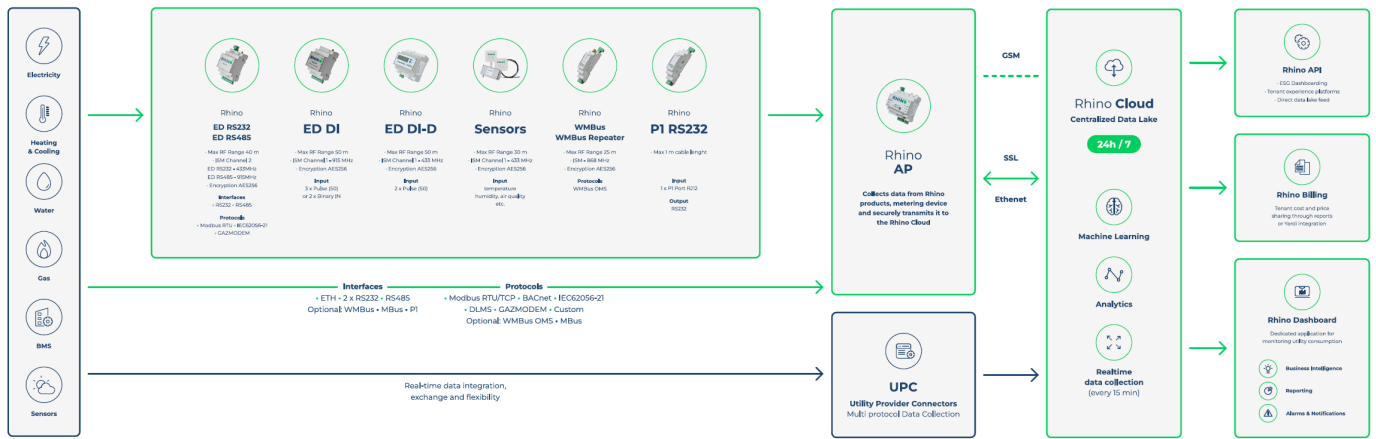
- Up to 50 devices connected on every RF channel
- Clear line of sight RF range max. 300 m
- RF range data only applicable per building level



**External inputs**



**Rhino Ecosystem**



## Contacts

*Got questions?*

**Contact us!**

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- [www.rhino.energy](http://www.rhino.energy)

## Documents / Resources

**RHINO RS485 Expansion Module [pdf] Owner's Manual**  
RS485, RS485 Expansion Module, Expansion Module, Module

## References

- [User Manual](#)

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