



# **R-COM**

# **Installation**

# **Guide**

**Cellular**  
**Remote monitoring and control system.**

**Version 1.2**

Remmon Remmote Monitoring Ltd.

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# About this Guide

This guide provides the information needed to set up R-COM device. This guide includes:

- ◆ An overview of R-COM.
- ◆ Step-by-step procedures for installing, and operating R-COM.

This guide presents all the information needed to set up and configure the R-COM device using the CONFIGURATOR application.




## Audience

This guide is directed to the system integrators who are responsible for installing and setting up the R-COM system. It assumes that the user has a working knowledge of control systems, but it does not assume prior knowledge about Remmon's products.

## Document Conventions

Table 1 lists conventions that are used throughout this guide.

*Table 1: Document Conventions*

Icon	Type	Description
	Information Note	Important information that you should review before continuing.
	Warning	Alerts you to the presence of important operating instructions.
	Caution	Warns of possible damage to the equipment if a procedure is not followed correctly.

## Obtaining Technical Assistance

To obtain technical assistance regarding R-COM or CONFIGURATOR, contact Remmon Remote Monitoring at: [remmon@remmon.com](mailto:remmon@remmon.com).



# Introduction

## R-COM

R-COM is the fundamental building block of Remmon's remote intelligent monitoring and control solution.

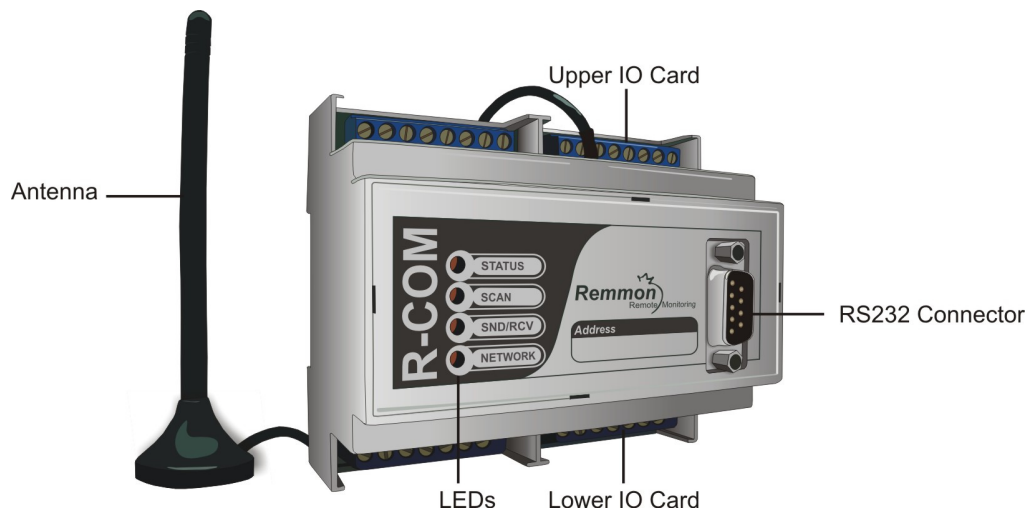


Figure 1: R-COM – Front View

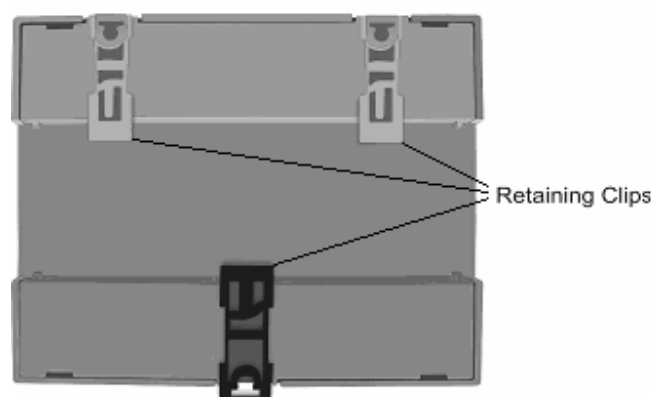



Figure 2: R-COM – Rear View



# Installing and Setting Up R-COM

Follow these safety warnings when installing R-COM:

- ◆ Select an appropriate location to install R-COM to ensure proper functioning. Note: R-COM is an **In-Door** unit.
- ◆ Installation should be performed by a qualified technician who is familiar with the devices at the remote site.
- ◆ Do not cable the IO card while R-COM is connected to power.


 **Warning:** Read this guide before installing R-COM.

## Mounting the R-COM

The R-COM can be secured to a panel using DIN standard mounting rails. To prevent R-COM from sliding along the rail, install end brackets on each side of the R-COM.

*To secure R-COM to a mounting rail:*

- ◆ Place the R-COM onto the rail and gently push the retaining clips to lock it onto the rail.

 **Note:** The retaining clips are located on the R-COM's rear side, as shown in Figure 2.

*To remove R-COM from a mounting rail:*

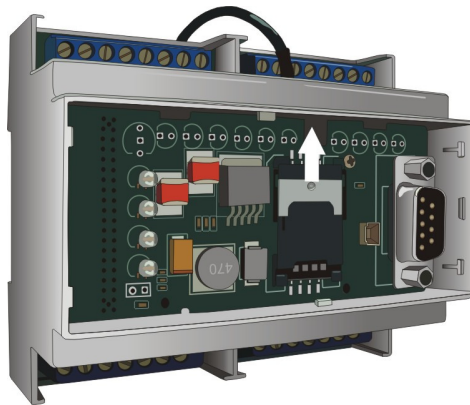
- ◆ Gently pull down the retaining clips and remove the R-COM from the rail.

## Installing the SIM Card

The SIM card is required for R-COM to communicate over the GSM cellular network. The SIM card contains the R-COM's telephone number.

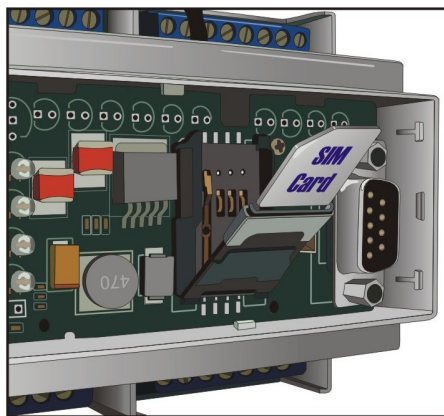
### *To install the SIM card:*

1. Remove the R-COM's front panel by placing a screwdriver into the slots along the edge of the panel and pushing upwards.
2. Push up the latch that locks the SIM card holder in place, and open the holder.



*Figure 3: Unlocking the SIM Card Holder*

3. Insert the SIM card into the holder so that the connector on the card faces the connector in the holder.



*Figure 4: Inserting the SIM Card*

4. Close the holder and push down the latch to lock the holder.
5. Replace the front panel.

## Cabling R-COM

In order for R-COM to monitor data from the remote site, you must connect the R-COM to the site's analog and digital sensors, as well as the site have controlled accessories In order for R-COM to control them. You also need to connect R-COM to a power source (refer to *Connecting R-COM to Power* on page 4).

R-COM provides:

- 8 digital inputs
- 6 analog inputs
- 2 relay outputs
- 1 RS232 port

## Cabling the IO Cards

R-COM contains two IO cards, as shown in Figure 5.

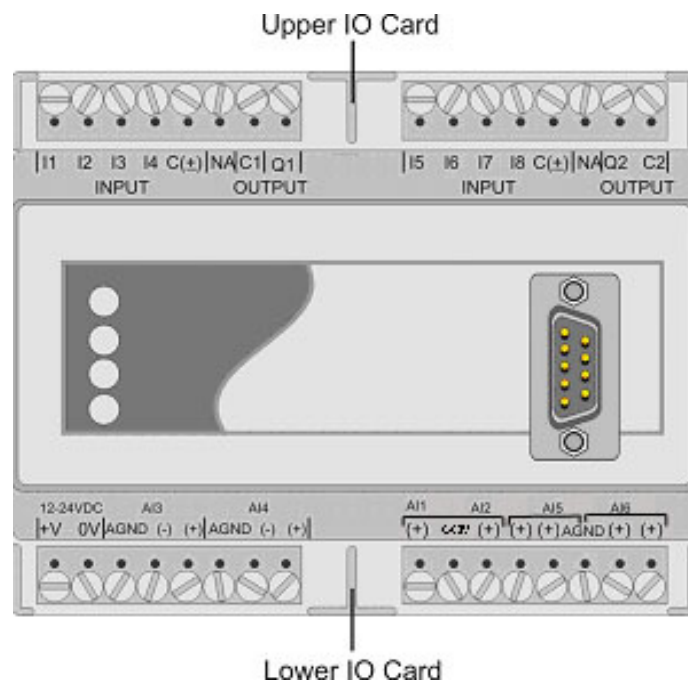


Figure 5: Upper and Lower IO Cards

## 1 Cabling a Digital Input (Switch)

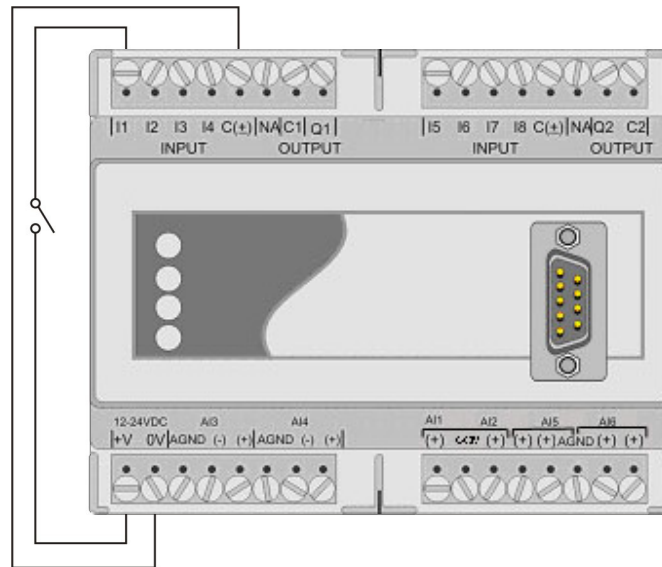


Figure 6: Cabling a Switch as a Digital Input

The digital inputs can be cabled in one of the following ways:

- ◆ The input's COM is connected to 0V, and the contact switch is connected between +V and the required input.
- ◆ The input's COM is connected to +V, and the contact switch is connected between 0V and the required input.

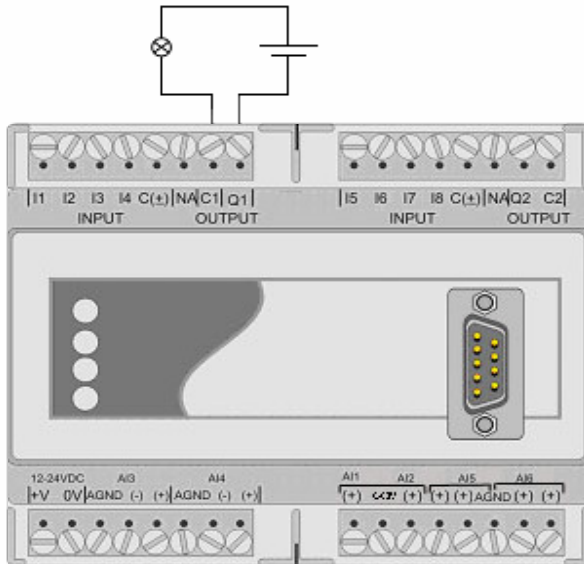
**Note:** Inputs 1,2,3,4 share a COM, and Inputs 5,6,7,8 share another COM.

### To cable a switch as a digital input:

1. Connect one of the switch's wires to the digital input I1, and the second wire to the +V power terminal.
2. Connect the digital input's shared COM terminal (C±) to the 0V power terminal.

## 2 Cabling a Digital Output (Light)

### Option 1 – External power supply



### Option 2– Internal power supply

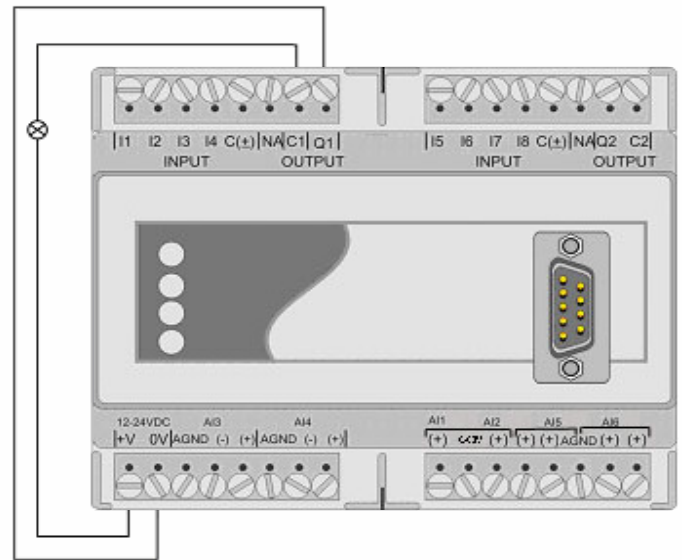


Figure 7: Cabling a Light as a Digital Output

### To cable a light as a digital output:

1. Connect one wire of the light to the digital output terminal Q1, and the second wire to the +V power terminal.
2. Connect the digital output's COM terminal (C1) to the 0V power terminal.



### 3 Cabling an Analog Input

#### 3.1 Cabling a 0-20 mA Sensor as an Analog Input

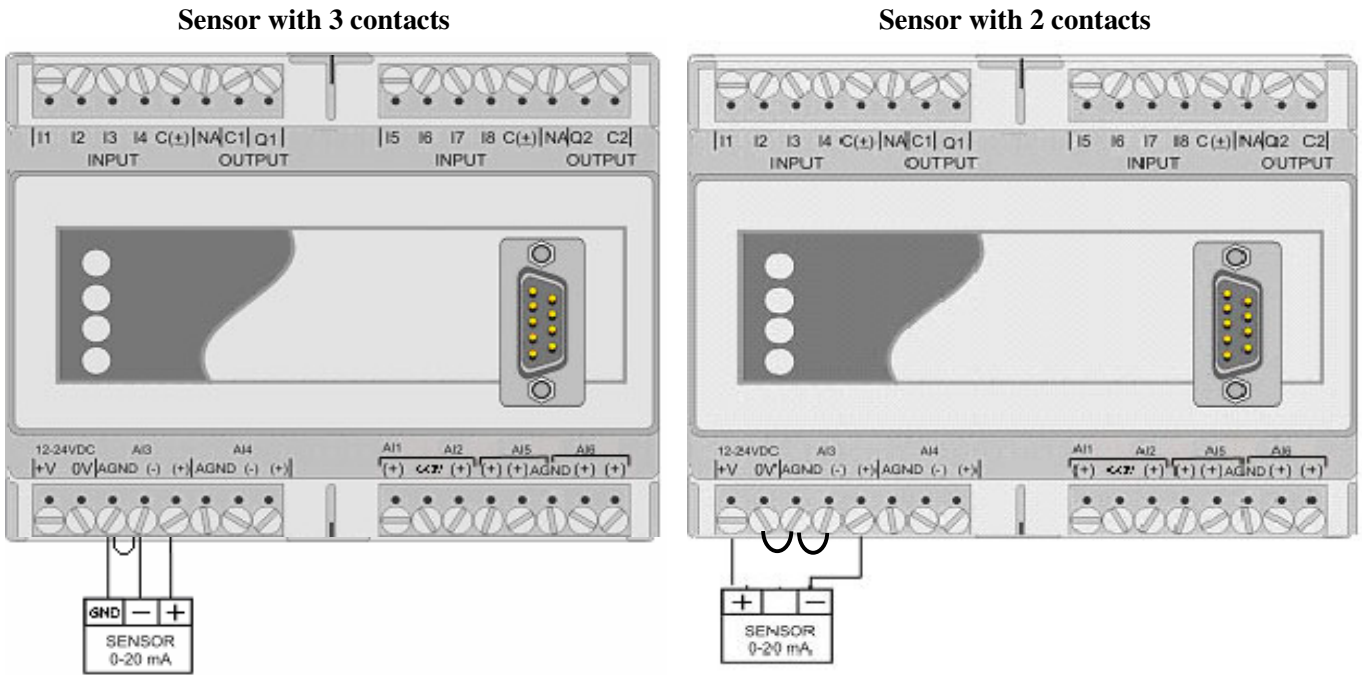


Figure 8: Cabling a 0-20 mA Sensor as an Analog Input

#### To cable a 0-20 mA sensor as an analog input:

1. Connect the R-COM's AI3 AGND and (-) terminals.
2. Connect the GND from the sensor to the R-COM's AI3 AGND terminal.
3. Connect a wire from the (-) terminal of the sensor to the R-COM's AI3 (-) terminal.
4. Connect a wire from the (+) terminal of the sensor to the R-COM's AI3(+)

### 3.2 Cabling a 0-10 V Sensor as an Analog Input

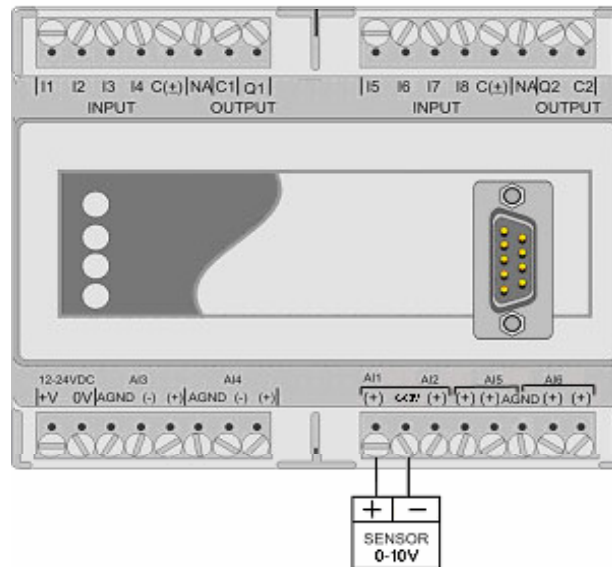


Figure 9: Cabling a 0-10 V Sensor as an Analog Input

*To cable a 0 -10 V sensor as an analog input:*

1. Connect a wire from the (-) terminal of the sensor to the AI1 (-) terminal of the R-COM.
2. Connect a wire from the (+) terminal of the sensor to the AI1 (+) terminal of the R-COM.

### 3.3 Cabling a PT100 Sensor as an Analog Input

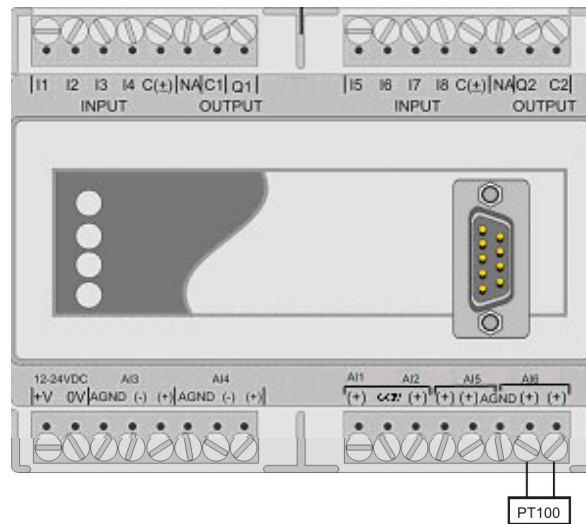


Figure 10: Cabling a PT100 Sensor as an Analog Input

#### *To cable a PT100 sensor as an analog input:*

1. Connect one wire from the PT100 to the R-COM's AI6 (+) terminal.
2. Connect the other wire from the PT100 to the R-COM's AI6 (-) terminal.

## Connecting R-COM to Power

R-COM is powered by stable 12 - 24 VDC power source. The power input terminals are located on the left side of the lower IO card.

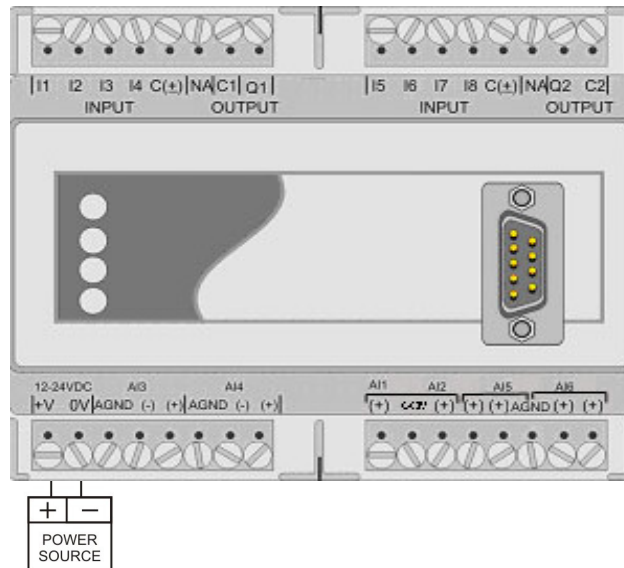





Figure 11: Connecting the R-COM to a Power Source

### To connect R-COM to a power source:

1. Connect the (+) terminal of the power source to the +V terminal on R-COM.
2. Connect the (-) terminal of the power source to the 0V terminal on R-COM.

 **Note:** It is highly recommended to use the stabilized PS provided by Remmon.

 **Note:** In case of connecting **backup battery** in parallel, make sure the PS suitable for the battery as a charger.

 **Note:** If R-COM is connected to a PLC that is using a transformer with a ground, R-COM must also use a transformer with a ground.

## Using the R-COM LEDs

R-COM contains four LEDs on the front panel (as shown in Figure 1). Table 2 describes the LED indications.

Table 2: LED Indications

LED	State	Description
<b>STATUS</b>	Blinking fast	R-COM is initializing.
	'ON' Flash (Most of the time OFF)	R-COM is running properly.
	'OFF' Flash (Most of the time ON)	A project has not yet been downloaded to R-COM.
	Blinking slowly	R-COM is downloading information.
<b>SCAN</b>	Blinking fast	R-COM is performing a scan.
	Off	Scan was completed successfully.
	On	Scan was not completed successfully.
<b>SND/RCV</b>	Blinking fast	Data is being sent.
	Off	Data is not being sent. The previous data transmission was successful.
	On	Data is not being sent. The previous data transmission was not successful.
<b>NETWORK</b>	'ON' Flash (Most of the time OFF)	R-COM is connected to the cellular network.
	On	R-COM is not connected to the cellular network.



# R-COM Technical Specifications

Table 3: Specifications for R-COM

<b>Specifications</b>	
Communication Protocol	Modbus, Matsushita, Cruzet, etc.
Cellular Networks	GSM.
Cellular Modem	Telit 864.
Dimensions	10.6 cm (L) x 9 cm (w) x 6.3 cm (h) Weight: 240 g
Power Requirements	12 - 24 VDC
IO Cards	8 digital inputs 2 0-20 mA inputs 2 0-10 V inputs 2 PT100 inputs {sensors} 2 0.5 A relay outputs
Serial Connector	RS232
<i>Environmental Requirements</i>	
Temperature	25° - 55°C
Humidity	5% - 95%