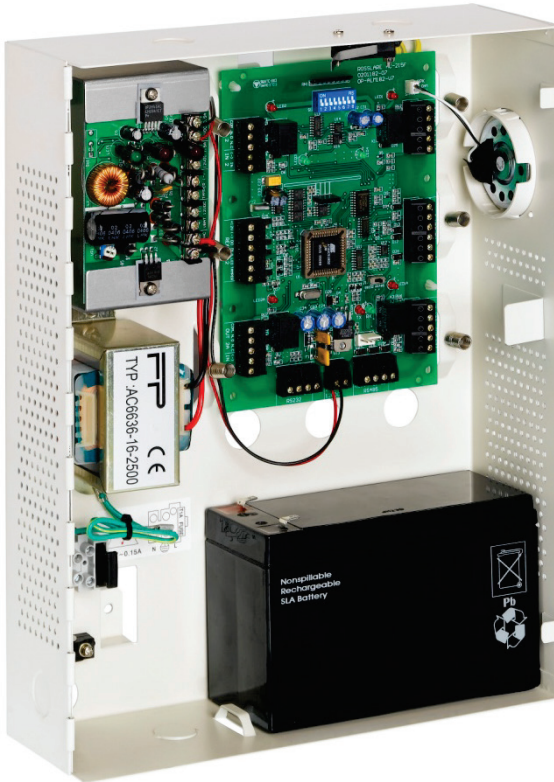


# AC-215

## Single and Double Door Access Control Unit Installation Manual



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# Notice and Disclaimer

This manual's sole purpose is to assist installers and/or users in the safe and efficient installation and usage of the system and/or product, and/or software described herein.

**BEFORE ATTEMPTING TO INSTALL AND/OR USE THE SYSTEM, THE INSTALLER AND THE USER MUST READ THIS MANUAL AND BECOME FAMILIAR WITH ALL SAFETY REQUIREMENTS AND OPERATING PROCEDURES.**

- The system must not be used for purposes other than those for which it was designed.
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- ROSSLARE ENTERPRISES LIMITED and/or its related companies and/or subsidiaries' (hereafter: "ROSSLARE") exclusive warranty and liability is limited to the warranty and liability statement provided in an appendix at the end of this document.
- This manual describes the maximum configuration of the system with the maximum number of functions, including future options. Therefore, not all functions described in this manual may be available in the specific system and/or product configuration you purchased.
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- All graphics in this manual are for reference only, some deviation between the image(s) and the actual product may occur.
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# 1. Introduction

The AC-215 Access Control System and the AxTrax™ AS-525 PC software are a combination that gives full control over the entrances of your premises. The AxTrax™ AS-525 software supports control for both single and double door entrances with which up to 255 AC-215 Access Control Units (ACUs) can be monitored.

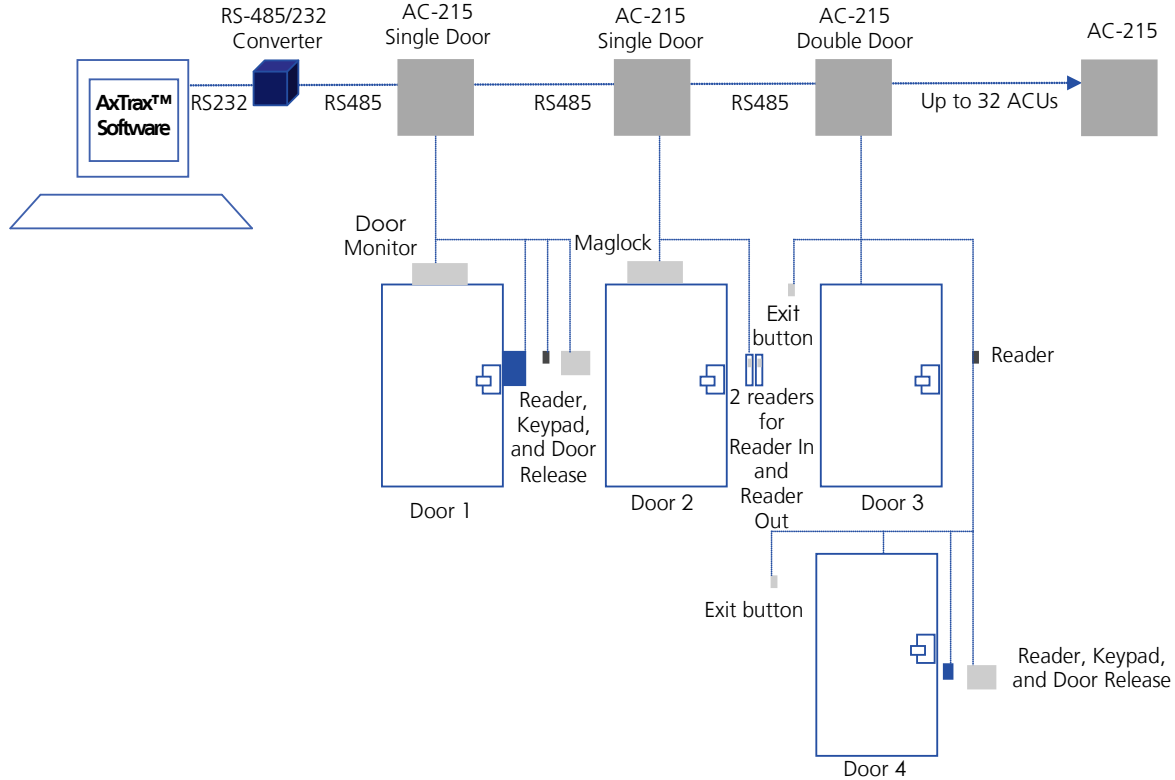
The AC-215 employs the latest technology to meet the requirements of the market. It controls one or two doors when used as a standalone controller, and up to 512 doors/256 networks and 5000 users when used as a networked controller using the AxTrax™ AS-525 software.

The AxTrax™ AS-525 software, which is user-friendly and intuitive, defines settings and event logs. A single server, communicating to and from the ACU, can serve unlimited network clients. The system's database is saved in the server. The database can be set to back up, and can import/export previous configurations. Clients are able to modify the database; for example, define new employees and/or their access permissions.

AxTrax™ AS-525 can run under Windows 98, 2000, NT or XP operating systems.

Figure 1 is an example of how the AxTrax™ AS-525 and AC-215 system can be set up.

**Figure 1: AxTrax™ AS-525 and AC-215 System**



## 1.1 Main Features

### 1.1.1 AC-215

- Two In/Out readers
- Four inputs
- Four outputs
- Optional secure mode that requires card and PIN entry
- Antipassback real and time with forgive feature
- Up to 4 different site codes
- Automatic operation by time zone for every output
- Optional first person delay before automatic door unlocking
- Optional expanded lock operation time
- Activated auxiliary output by reader transactions or authorized users
- Door and panel alarms – door forced , door held open, door held open alert and tamper alarm
- Programmable relock when opening/closing doors
- Man trap door in double door configuration
- Built-in sounder generator for chime, bell and siren signals

### 1.1.2 System

- Up to 256 access control units
- Up to 256 networks (with one controller per network)
- Up to 32 ACU in every network (64 doors in every network)
- Up to 5000 users with rights (up to 25000 users recorded)
- 5000 log events
- 64 holidays (copied from MS Outlook – option)
- 32 time zones
- 128 access groups

### 1.1.3 AC-215 Single and Double Door Access

The operation mode is first defined on the 8-Way DIP switch on the AC-215 main PCB (the third switch defines the operation mode as described in Section 4.2) and then defined as either single or double door using the AxTrax™ AS-525 software; both definitions should be correlate.

## Introduction

---

### 1.1.3.1 Single Door Controller

This access type has two readers – In or Out

<b>Outputs</b>	<b>Inputs</b>
Door lock strike	Release to exit
Auxiliary output	Door monitor input
Alarm output	Tamper input
General purpose output	General purpose input

### 1.1.3.2 Double Door Controller

This access type has two readers – In or Out

<b>Outputs</b>	<b>Inputs</b>
Door 1 lock strike	Release to exit door1
Door 1 alarm output	Door 1 monitor input
Door 2 lock strike	Release to exit door 2
Door 2 alarm output	Door 2 monitor input

## 1.2 Software

The AxTrax™ AS-525 software is user-friendly and intuitive. Its graphic interface is used to define settings, which are downloaded to the ACU and event logs which are uploaded to the PC to generate reports. A single server, which communicates to and from the ACU, can serve unlimited network clients.

The system's database is saved in the server. The database can be set to backup and can import/export previous configurations. Clients are able to modify the database, for example, define new employees and their access permissions.

The software enables features to be added as and when they are required. The modular software enables the user interface to be as powerful and strong as required and yet remains simple to use. The software can be set for automatic backup on a periodic basis.

AxTrax™ AS-525 can be run on Windows 98, 2000, NT and XP.



For UL installations, the installer must configure the system as fail-safe to comply with NFPA (National Fire Protection Association) regulations.

## 2. Technical Specifications

This chapter discusses the technical specification required for the system.

### 2.1 Electrical Specifications

#### 2.1.1 Main Unit

<b>Operating Voltage</b>	12 VDC 0.5A From PS-14
<b>Maximum Input Current (not including attached devices)</b>	Standby: 125 mA Maximum: 325 mA

#### 2.1.2 Outputs

<b>Relay Outputs</b>	5 A Relay N.O. and N.C. options
----------------------	---------------------------------

#### 2.1.3 Inputs

<b>General Inputs:</b>	High impedance active low inputs. Maximum voltage: 5 VDC
<b>Reader's Electrical requirements:</b>	Voltage: 12 VDC Max Current: 300 mA

#### 2.1.4 Indicators and Annunciators

<b>Visual:</b>	8 on board LEDs as well as three PS LEDs (power, Low Battery, output (V) Fail)
<b>Audio:</b>	Built-in sounder (Bell, Chime and Siren)
<b>Speaker's Electrical Characteristics:</b>	8 Ohm, 250 mW

#### 2.1.5 Environmental Specifications

<b>Operating Temperature:</b>	0°C to 49°C (32°F to 120.2°F)
<b>Operating Humidity:</b>	0 to 85% (non-condensing)

#### 2.1.6 Mechanical Specifications

<b>Enclosure's Dimensions (LxWxD):</b>	264 x 334 x 84.5 mm (10.4 x 13.2 x 3.4 in.)
<b>Weight:</b>	3.77 kg (8.31 lbs)

### 3. Inputs and Outputs

This chapter discusses the AC-215 ACU input and output requirements.

#### 3.1 Inputs

##### 3.1.1 Release to Exit Button (REX)

REX enables quick exit from a premises. The following should be defined:

<b>Single door controller:</b>	Door 1 – IN1
<b>Double door controller:</b>	Door 1 – IN 1 Door 2 – IN 2

Usually the REX input is connected to a push button that is located inside the premises. The push button opens a door without reading a proximity card or PIN code.

Generally, the REX is located in a convenient position such as near the reception area, and is always set as enabled in the AxTrax™ AS-525 software.

##### 3.1.2 Door Monitor

The Door Monitor connects to a door's micro switch for door status monitoring. The following should be defined:

<b>Single door controller:</b>	Door 1 – IN1A
<b>Double door controller:</b>	Door 1 – IN 1A Door 2 – IN 2A

Two alarm states can be generated:

- Forced alarm- When the door is forcibly opened by unauthorized persons
- Door held open alarm- When the door is open for a period exceeding the lock strike programmed open time

A Door held open alert can be generated by activating chime on speaker to remind that the door should be close.

After the ACU enables access, the lock is activated according to its programmed time until one of the following occurs:

- The ACU stops lock activation immediately after the door opens
- The ACU waits for the door to close. (This can help to reduce tailgating)

When the door open time period expires the ACU ends lock activation.

## Inputs and Outputs

### 3.1.3 Tamper

The Tamper input connects to a tamper micro switch assembled within the ACU panel.

The following should be defined:

<b>Single door controller</b>	Door 1 – IN2
-------------------------------	--------------

Tamper input is activated when the panel is opened through vandalism. The system has two additional tamper inputs on the reader terminals.

### 3.1.4 General

The General input connects to any general-purpose dry contact input.

<b>Single door controller</b>	Door 1 – IN2A
-------------------------------	---------------

This function can be used when activating the general-purpose output connections (for example, alarm sensors, monitoring power supply failure, etc.). The ACU reports activation if this input changes status.

The system has four output relays. Their contacts are voltage free and rated 5A at 12V AC or DC. This indicates that output is very versatile and can operate virtually any electrical equipment including Fail Open and Fail Close locks, electric gates and so on.

### 3.1.5 Outputs

We recommend using a suppression diode for all outputs.

### 3.1.6 Door Lock

There are two types of door locking devices:

- Fail open (fail secure)
- Fail close (fail safe)



**Note**

The user can select either normally open or normally closed output contacts.

The following should be defined:

<b>Single door controller</b>	Door 1 – OUT1
<b>Double door controller</b>	Door 1 – OUT1 Door 2 – OUT2

The output can sink current from any power supply (see Appendix C). In a time zone door locking is activated in the following modes:

- Grant Access
- Automatic Relock

### 3.1.7 Door Alarm

This output is activated when either an alarm occurs in the system, or automatically by a time zone. The following should be defined:

## Inputs and Outputs

---

<b>Single door controller</b>	Door 1 – OUT1A
<b>Double door controller</b>	Door 1 – OUT1A Door 2 – OUT2A

The output can be activated for a specified time and closes when the timer ends.

### 3.1.8 Auxiliary

This output is activated when a transaction occurs in the readers that are either associated with auxiliary, or automatically by a time zone. The following should be defined:

<b>Single door controller</b>	Door 1 – OUT2
-------------------------------	---------------

The output has two activations modes:

- Time – active for a specified time and closes when the timer ends
- Toggle – active for every change in the output trigger – the trigger changes state

### 3.1.9 General

This output is usually related to the general input or automatically by a time zone.

The following should be defined:

<b>Single door controller</b>	Door 1 – OUT2A
-------------------------------	----------------

The output has three activation modes:

- Follow input – output follows the input state
- Toggle – active for every change in the output trigger – the trigger changes state
- Time – active for a specified time and closes when the timer ends

### 3.1.10 Card Readers

Two card readers can be connected to the ACU. The following should be defined:

<b>Single door controller</b>	Door 1 – Reader 1 IN/OUT/Auxiliary Reader 2 IN/OUT/auxiliary
<b>Double door controller</b>	Door 1 – Reader 1 IN/OUT Door 2 – Reader 2 IN/OUT

The readers can be assigned to a single or double door controller's door as an IN or OUT reader and can activate the auxiliary output in a single door configuration.

The reader's tamper connects to the ACU and can generate an alarm. The reader's green LED input is activated by the ACU when in the Card and PIN secure mode to inform the user to enter his personal PIN number after entering his card.



### 3.1.11 Keypad

Two keypads can be alternatively connected to the ACU on Reader1 and Reader2 terminals. The following should be defined:

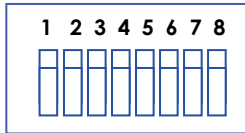
<b>Single door controller</b>	Door 1 Keypad – Reader 1 IN/OUT Keypad – Reader 2 IN/OUT
<b>Double door controller</b>	Door 1 Keypad – Reader 1 IN/OUT Door 2 Keypad – Reader 2 IN/OUT

The keypad type must be a Rosslare format keypad.

A keypad has to be connected for any reader mode that requires PIN code entries, such as Card or PIN, PIN only or Card and PIN (Secured mode).

# 4. DIP Switch Settings Configuration

The ACU Dipswitch controls a number of operating parameters including the device address and baud rates for serial communication.



Power down the ACU before making changes in the dipswitch settings. Restart the ACU after modifications are made. The new settings are automatically defined after power up.

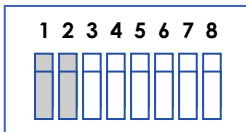
The following is a list of dipswitch numbers and their functions:

**Table 1: DIP Switches and their Functions**

DIP Switch	Function
1-2	Set ACU baud rate
3	Sets ACU type (single door or double door controller)
4-8	Set ACU address

### 4.1 ACU Baud Rate

The ACU serial port baud rate, set in dipswitches one and two, defines the communication speed for connecting with a PC in a network connection.



The following lists switch 1 and 2 status and baud rate:

**Table 2: Switch Baud Rates**

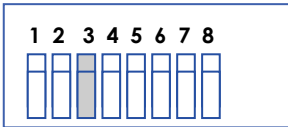
	Switch 2	Baud Rate	Switch 1	Switch 2	Baud Rate
Off	Off	9600	On	Off	38400
Off	On	19200	On	On	57600



The ACU baud rate must be identical to the host PC's serial port baud rate.

## 4.2 ACU Type

The ACU type is defined using the third DIP switch. Both the single and double can be set.



- **Off** – defines single door controls
- **On** – defines a double door controls

### 4.2.1 Single Door Controller

This access type has two readers, IN and OUT, as follows:

- Outputs:
  - Door lock strike
  - Auxiliary output
  - Alarm output
  - General purpose output
- Inputs:
  - Release to exit
  - Door monitor input
  - Tamper input
  - General purpose input

For more information, see Chapter 3.

### 4.2.2 Double Door Controller

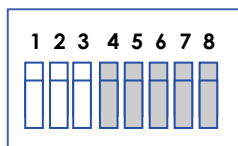
This access type has two readers, IN and OUT, as follows:

- Outputs
  - Door 1 lock strike
  - Door 1 alarm output
  - Door 2 lock strike
  - Door 2 alarm output
- Inputs
  - Release to exit door1
  - Door 1 monitor input
  - Release to exit door 2
  - Door 2 monitor input

## DIP Switch Settings Configuration

### 4.3 ACU Addressing

The DIP switch is used to select the binary coded ACU address.



Note

The ACU address is defined in the AxTrax™ AS-525 software. For successful communications, the dipswitch must be defined with the same address.

Table 3 displays the 32 address settings available:

**Table 3: Available Panel Addresses**

Address	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8
1	Off	Off	Off	Off	Off
2	Off	Off	Off	Off	On
3	Off	Off	Off	On	Off
4	Off	Off	Off	On	On
5	Off	Off	On	Off	Off
6	Off	Off	On	Off	On
7	Off	Off	On	On	Off
8	Off	Off	On	On	On
9	Off	On	Off	Off	Off
10	Off	On	Off	Off	On
11	Off	On	Off	On	Off
12	Off	On	Off	On	On
13	Off	On	On	Off	Off
14	Off	On	On	Off	On
15	Off	On	On	On	Off
16	Off	On	On	On	On
17	On	Off	Off	Off	Off
18	On	Off	Off	Off	On
19	On	Off	Off	On	Off
20	On	Off	Off	On	On
21	On	Off	On	Off	Off
22	On	Off	On	Off	On
23	On	Off	On	On	Off
24	On	Off	On	On	On
25	On	On	Off	Off	Off
26	On	On	Off	Off	On

## DIP Switch Settings Configuration

<b>Address</b>	<b>Switch 4</b>	<b>Switch 5</b>	<b>Switch 6</b>	<b>Switch 7</b>	<b>Switch 8</b>
<b>27</b>	On	On	Off	On	Off
<b>28</b>	On	On	Off	On	On
<b>29</b>	On	On	On	Off	Off
<b>30</b>	On	On	On	Off	On
<b>31</b>	On	On	On	On	Off
<b>32</b>	On	On	On	On	On

# 5. Communications

Communication lines are used to upload and download information between the ACU and the AxTrax™ AS-525 software. Communication between the ACU and PC is displayed by the system's two LEDs.

- The RX LED flashes when the controller receives data
- The TX LED flashes when the controller transmits data



The ACU address is defined in the AxTrax™ AS-525 software. For successful communications, the dipswitch must be defined with the same address.

**Note**

There are three connection modes:

- Serial
  - RS232
  - RS485
- Modem
- LAN

## 5.1 Serial Connection

The PC Serial Port controlling the ACU is assigned in the Network Properties in the AxTrax™ AS-525 software. By default the default is set to 9600 for direct connection to the PC using the standard RS-232 interface.

### 5.1.1 RS-232 Connection

**Table 4: RS-232 Connection**

<b>ACU</b>	<b>DB9 Connector</b>	<b>DB25 Connector</b>
<b>GND</b>	Pin 5	Pin 7
<b>Tx</b>	Pin 2	Pin 3
<b>Rx</b>	Pin 3	Pin 2
<b>DTR</b>	Pin 4	Pin 20



The RS232 connection can only be used for one ACU. The distance between the PC and ACU can be no more than 150 feet (50 meters). If the baud rate is increased to 57600 the distance can be up to 30 feet (10 meters). J1 must be in the RS232 position to select the RS232 communication.

**Note**

### 5.1.2 RS-485 Connection to the PC

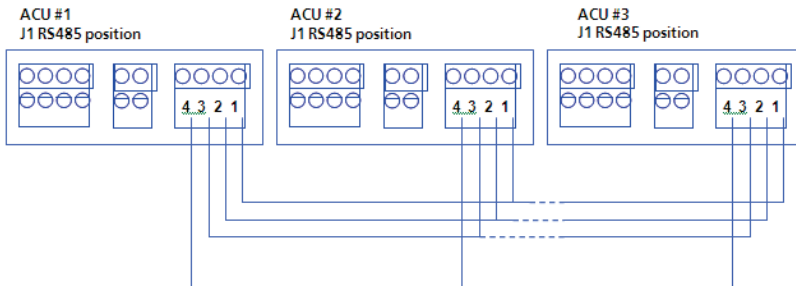
Up to 32 ACUs can be linked together and connected to a single communication port on the PC.

The RS485 interface must be used when multiple controllers are connected. The serial port used to control the ACU is assigned in the AxTrax™ AS-525 software Network Properties dialog box.

ACU supports the two-wire RS485 interface. RS485 interface enables the distance between the ACU and PC to be extended up to 4000 feet (1300) meters. The data line wiring must be in daisy chain formatting with one control unit following another. The first ACU connecting to the PC must use the MD-14, RS485 to RS232 adaptor.

### 5.1.3 Daisy Chain

Communication lines must be wired in a daisy chain format with one ACU following another. J1 must be in the RS485 position.



### 5.1.4 Termination Resistors

At each end of the data line a termination resistor of 130 Ohm is required across the L1 and L2 connections.

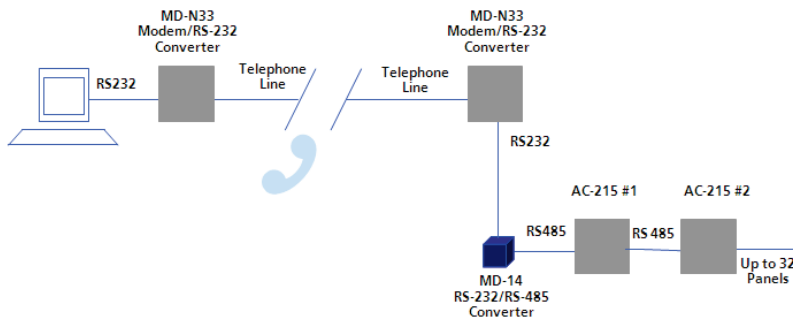
## 5.2 Modem

The PC modem connection, used to control the ACU, is assigned in the AxTrax™ AS-525 software’s Network Properties dialog box.

The modem is used when the distance between the ACU and the PC is greater than the recommended serial connection distance or in an application where an alternative RS232/RS485 network is unavailable.

Figure 2 illustrates remote site modem configuration with AC-215.

**Figure 2: Remote Site Modem Configuration**



For more information, see Appendix B.

### 5.3 Communication through the Local Area Network (LAN)

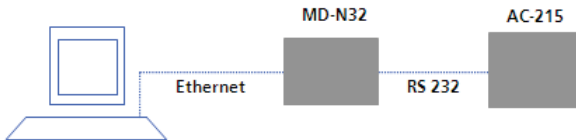
The TCP/IP connection, used to control the ACU, is assigned in the AxTrax™ AS-525 software's Network Properties dialog box.

The PC running the AxTrax™ AS-525 software can communicate with the ACU through the LAN card inside the PC. The ACU connects to the LAN using Rosslare MD-N32, TCP/IP to RS232 gateway converter. MD-N32 can be connected in any legal network address in the Local Area Network.

The following type of connection is used when a LAN network already exists and therefore the long RS485 network is not required. This schematic illustrates the connection of a single AC-215 to the PC using the LAN network.

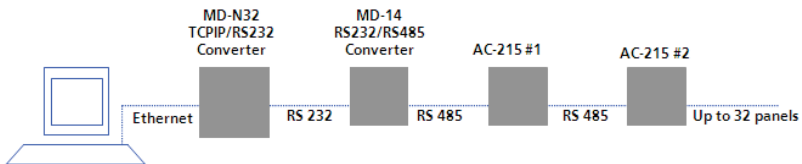
MD-N32 must be first configured by Rosslare's Netconfig software. The setting is stored in a non-volatile memory in the MD-N32.

**Figure 3: MD-N32 Configuration Connecting a Single Panel**



Multiple ACUs can be connected by adding an RS485 converter (MD-14) between the RS485 ACUs network and MD-N32 converter.

**Figure 4: Connecting Multiple Access Control Panels with MD-N32**



For more information, see Appendix A.

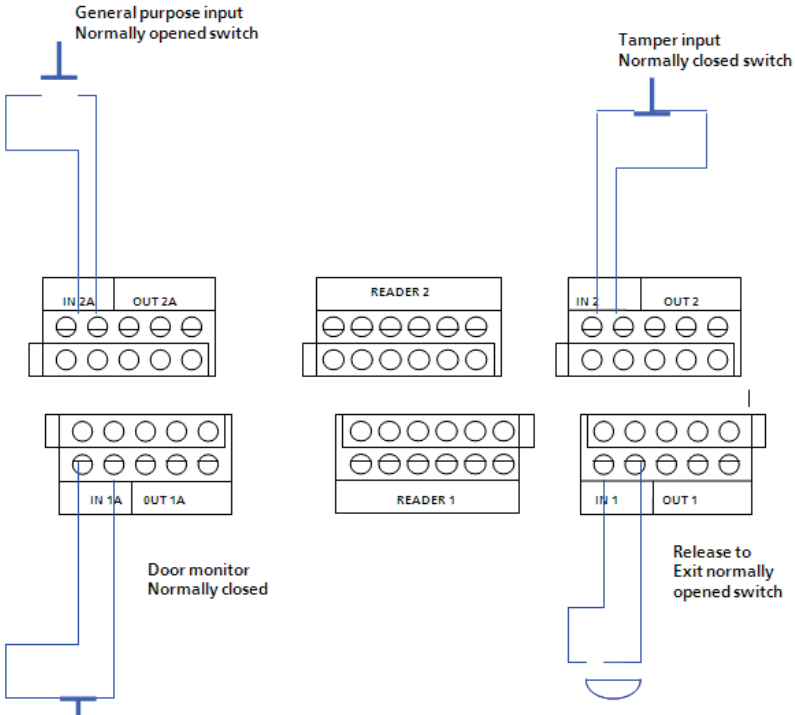


## 6. Wiring

### 6.1 Inputs

Figure 5 illustrates wiring for four AC-215 inputs. For further details, see Chapter 3.

Figure 5: Wiring Four AC-215 Inputs



### 6.2 Outputs

Figure 6 and Figure 7 illustrate wiring for two main types of 12VDC electric release mechanisms. Other electrical devices can be switched using the voltage free relay contacts.

Figure 6: Door Lock – Fail Closed

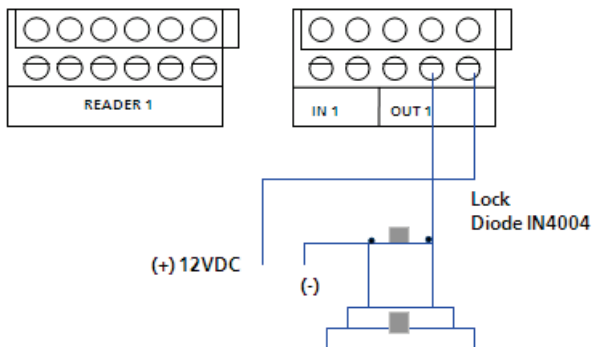
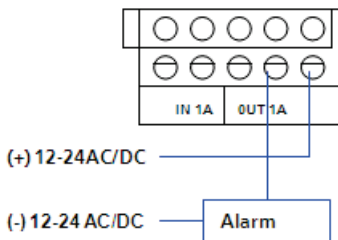
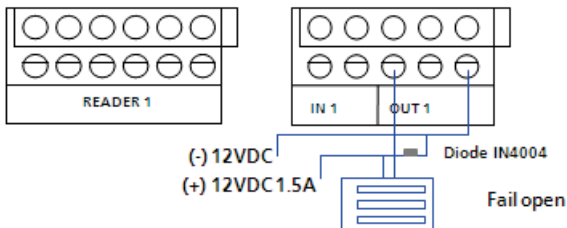


Figure 7: Door Lock – Fail Open



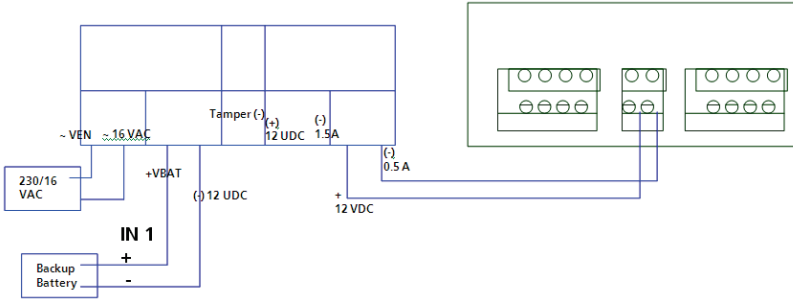
### 6.2.1 Power Supply

Figure 8 illustrates wiring between the PS-14 power supply and the AC-215. It is recommended to add a 12 VDC lead acid backup battery to backup power if the main fails.

If the main output is 12 VDC wire it to the (PS-14), otherwise support your power supply according to output requirements.

For further information, see Section 2.1.2.

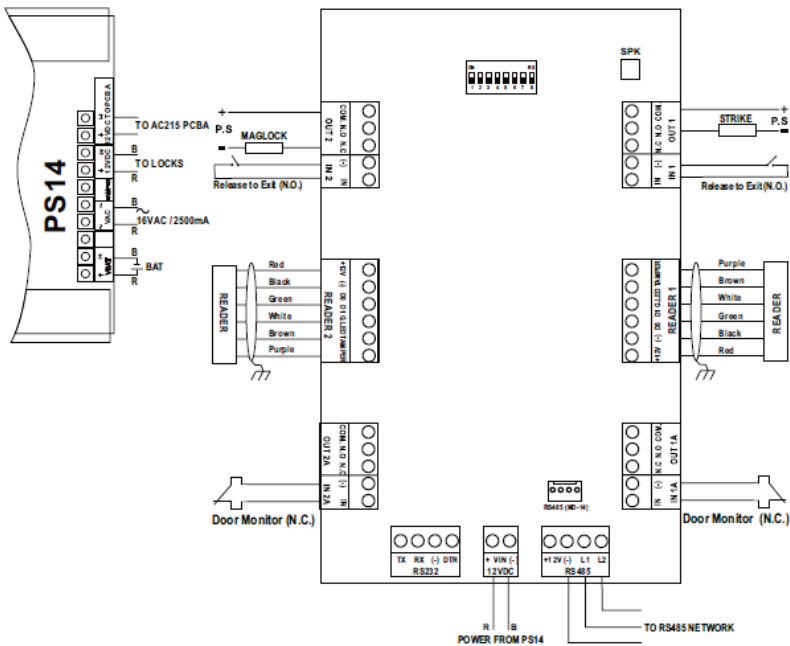
Figure 8: AC-215 Wiring to Power Supply



### 6.3 AC-215 Access Control Panel Diagram

Figure 9 presents a complete view of the AC-215 control panel's PCB, including all connector buttons and LED schematics (not to scale).

Figure 9: AC-215 Wiring Communications



## Wiring

### 6.4 Reader

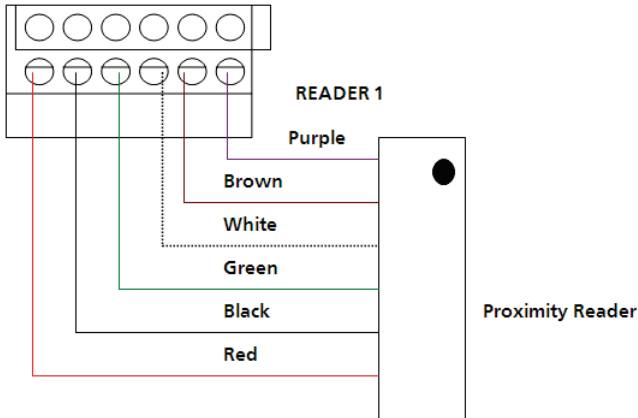
Proximity and keypad readers are supplied with a limited cable. The color of the cable covering represents the cable's function.



Note

□ When extending cable distance be careful with the color of the cable cover. The distance is limited by the Wiegand standard.

Figure 10: Reader Cable Coloring



#### Key:

<b>+V</b>	Red
<b>(-)</b>	Black
<b>D0</b>	Green
<b>D1</b>	White
<b>G.LED</b>	Brown
<b>Tamper</b>	Purple

## 7. Accessories (Proximity Readers)

### 7.1 AY-C09, AY-D09 PIN Readers



- For indoor use
- Slim stylish design (Mullion)
- Includes LED indicator
- Audible buzzer indicator
- Built in tamper (w/ Rosslare controllers)
- Includes bell button (w/ Rosslare controllers)

### 7.2 AY-C11 / AY-D11 Prox Readers with Bell



- Reading distance: 8 to 10cm
- RF modulation: ASK at 125 kHz
- For indoor use
- Slim stylish design (USA gang box)
- Bi-color light indicator
- Audible buzzer indicator
- Built in tamper (w/ Rosslare controllers)
- Includes bell button (w/ Rosslare controllers)

## Accessories (Proximity Readers)

---

### 7.3 AY-C11 / AY-D11 Prox Readers



- Reading distance: 8 to 10cm
- RF modulation: ASK at 125 kHz
- For indoor use
- Slim stylish design (USA gang box)
- Bi-color light indicator
- Audible buzzer indicator (w/ Rosslare controllers)
- Built in tamper (w/ Rosslare controllers)

### 7.4 AY-H12, AY-J12, AY-K12, AY-L12, AY-M12 Prox Readers



- Reading distance: 7 to 12cm
- RF modulation: ASK at 125 kHz
- For outdoor use
- Slim stylish design (UK or USA gang box, Mullion)
- Bi-color light indicator
- Includes LED control input
- Audible buzzer indicator
- Built in tamper output

### 7.5 AY-C19 / AY-D19 PIN & Prox Readers



- Reading distance: 8 to 10cm
- RF modulation: ASK at 125 kHz
- For indoor use
- Slim stylish design (USA gang box)
- Bi-color light indicator
- Audible buzzer indicator
- Built in tamper (w/ Rosslare controllers)
- Includes bell button (w/ Rosslare controllers)

### 7.6 AY-L23 RF Reader



- Read range: 70 meters (200 feet)
- For outdoor use (waterproof)
- Frequency 433MHz
- Slim stylish design (Mullion)
- Bi-color LED indicator
- LED control
- Audible buzzer indicator
- Size: 145mm x 43mm x 20mm
- Used with the SA-26 wireless remote

# A. Connecting between MD-N32 and AC-215

This manual is written as step by step instruction. It is very important to follow the right order.

### A.1 Hardware Requirements

- Standard LAN cable – RJ45 plugs in both sides.
- Rosslare's MD-14 (RS232 to RS485 converter).
- Rosslare's MD-N32 (TCP/IP to serial gateway).
- Rosslare's AC-215 panel.

### A.2 Topics

- Before setting, ask your network administrator for one, free IP address and subnet mask, which has to be used here.
- The IP addresses shown in the examples below are for illustration purpose only.

### A.3 Connections – PC Side

Connect the PC using the internal network card (Mostly in the rear side of the PC) to the LAN network with regular network cable.

(If the PC is already identified and known in the local network, it is already connected and you do not need any further installation).

### A.4 Connections – AC-215 Panel Side

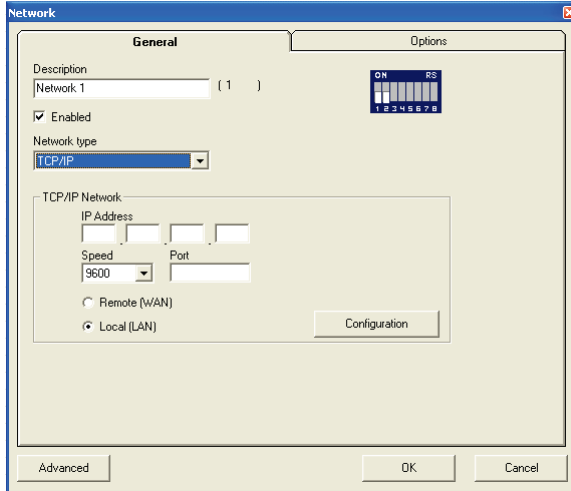
1. Connect a 9 VDC adapter to the MD-N32. Check that the power LED (Red) is on.
2. Connect the MD-N32 to the LAN by using a regular network cable through the MD-N32's RJ-45 connector. Check that the link LED (Green) is on.
3. Connect MD-N32's DB9 male jack to MD-14's DB9 female jack with cross serial cable.
4. Connect the AC-215's RS-485 outlet to MD-14 4 wires cable.
5. Make sure that J1 (on the AC-215) is set to RS485 Mode.
6. If the jumper was not set properly, make the change, turn the power of AC-215 off, wait few seconds and turn it on.

### A.5 MD-N32 Configuration with AxTrax™ AS-525

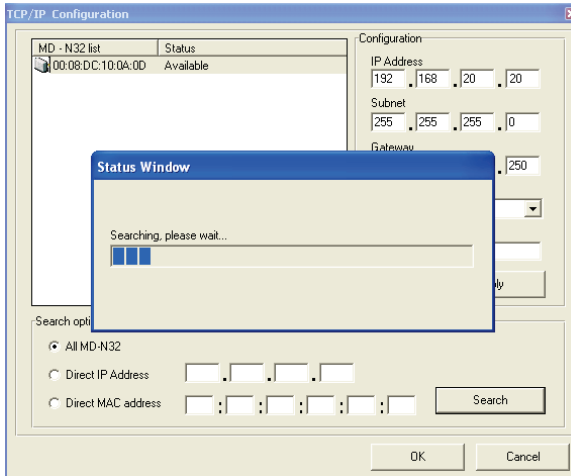
1. Add a new network using the AxTrax™ AS-525 software (for more details, see the AxTrax™ user manuals.)



The network type should be selected as TCP/IP.



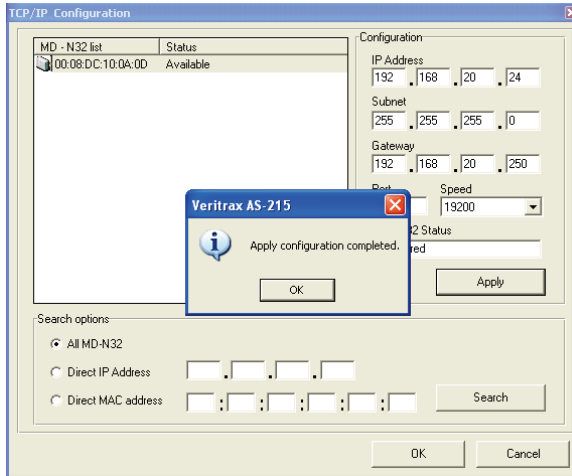
- Click the configuration tab and wait until "searching" is complete.



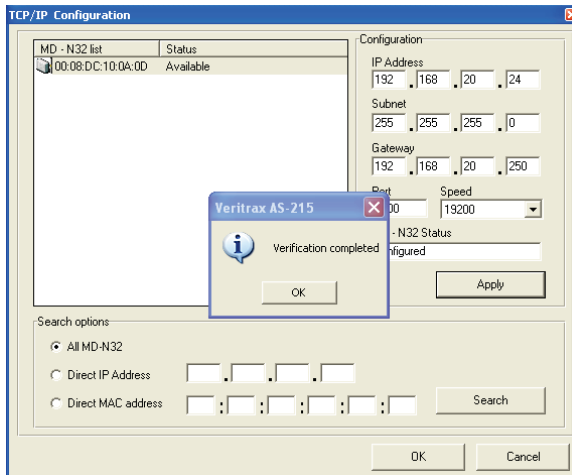
- Click **OK**.
- Select the suitable MAC address from the MD-N32 list. The MD-N32's MAC address should be labeled on the MD-N32's box.
- In the Configuration area, type the IP Address and Subnet that the network administrator supplied you.
- In the Port field, enter **1000**.
- In the Speed area, select the speed of your serial connection (9600/19200/38400/57600).

## Connecting between MD-N32 and AC-215

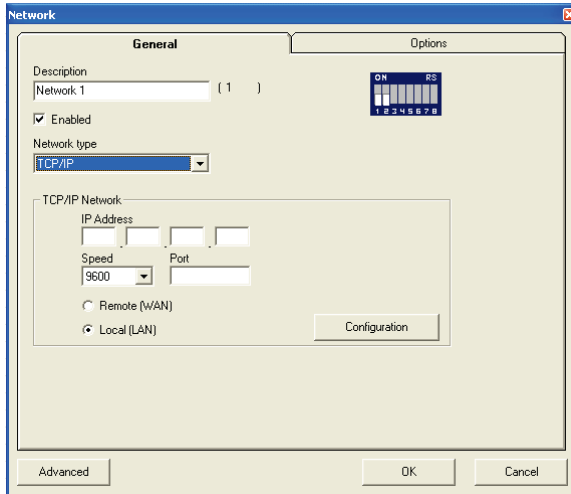
- Click **Apply** to send the configuration to the unit and wait for following message:



- Click **OK** to start verification process and wait for the following message:



- Click **OK** twice and verify that the configuration was accepted by the AxTrax™ AS-525 software.



The MD-N32 and AxTrax™ AS-525 software are now configured ready for testing.

From this stage, you can continue working per the procedure for adding a new panel to the AxTrax™ AS-525.

# B. Connecting between MD-N33 and AC-215

This manual is written as step by step instruction. It is very important to follow the right order.

### **B.1 Hardware Requirements**

- 2 Standard Telephone cables – RJ11 plugs in both sides.
- Standard Serial cable D-type 9 pin (Female connectors at both sides)
- Rosslare's MD-14 (RS232 to RS485 converter).
- 2 Rosslare's MD-N33 (Modem to serial gateway).
- Rosslare's AC-215 panel.

### **B.2 Topics**

- The telephone numbers shown at the examples below are for illustration purpose only.
- Before permanent modem installations, the modem that has to be connected to the panel must initialize at PC running the AxTrax™ AS-525 software.

### **B.3 Connections – PC Side**

1. Connect a 9 VDC adapter to the first MD-N33.
2. Make sure that the power LED (Red) is on.
3. Connect the PC, using a free COM port, to the MD-N33 with cross serial cable.
4. Connect the MD-N33's RJ11 jack to telephone line using the telephone cable.

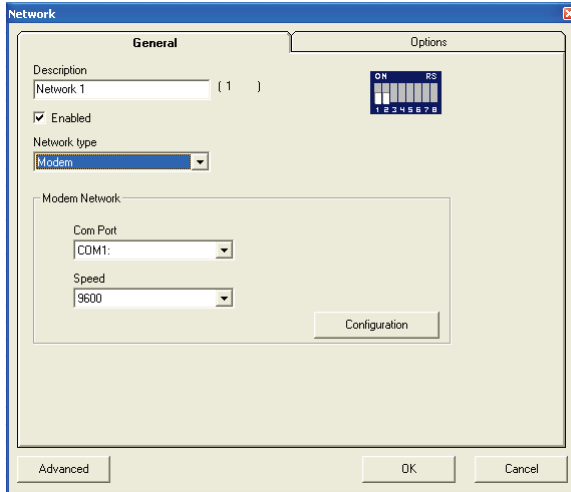
### **B.4 Connections – AC-215 Panel Side**

1. Connect a 9 VDC adapter to the second MD-N33.
2. Make sure that the power LED (Red) is on.
3. Connect the MD-N33's DB11 jack to telephone wall mount using the telephone cable.
4. Connect MD-N33's DB9 female jack to MD-14's DB9 female jack.
5. Connect the AC-215's RS-485 outlet to the MD-14 4-wire cable.
6. Make sure that J1 (on the AC-215) is set to RS-485 Mode.
7. If the jumper was not set properly, make the change, turn the power of AC-215 off, wait few seconds and turn it on.

## B.5 MD-N33 Configuration with AxTrax™ AS-525

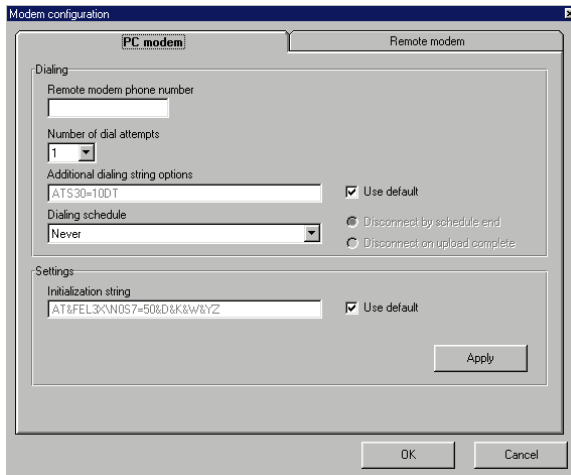
1. Add a new network using the AxTrax™ AS-525 software (for more details see the AxTrax™ user manuals).

The network type should be selected as Modem.



## B.6 PC modem – configuration and initialization

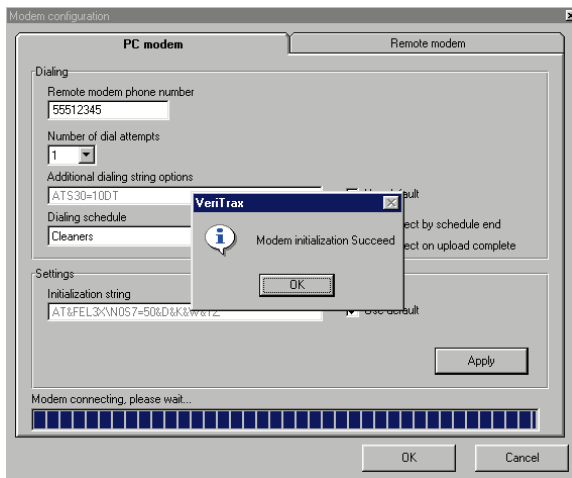
1. Click the Configuration tab to get the *Modem configuration* screen.



2. In the Dialing section:
  - a. In the "Remote modem phone number" field, enter the destination telephone number to call.

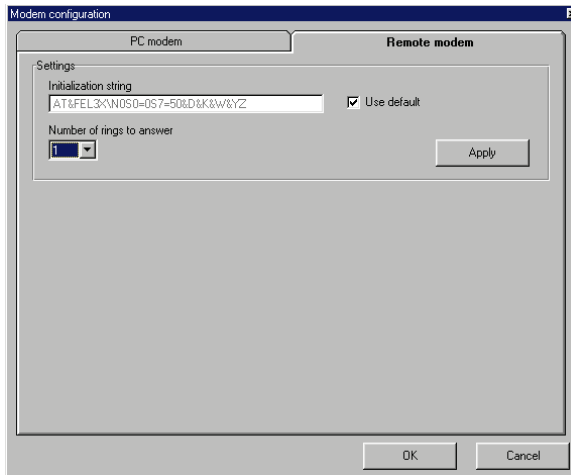
## Connecting between MD-N33 and AC-215

- b. Change the "number of dial attempts" as needed.
  - c. In the Additional dialing string options field, for most applications, the default dialing string of AS-525 is enough.  
The dialing string is displayed in the window.  
Adding or editing dialing string is allowed by clearing the "Use default" checkbox and typing the AT command in the dialing string window.
  - d. In the "Dialing schedule" dropdown, select the proper time zone.  
The disconnecting condition can be chosen: "Disconnect by schedule end" or "Disconnect on upload complete". (It is allowed when the selected time zone is different than the default time zones (Always & Never).
3. In the Settings section:  
For most applications, the default initialization string of AS-525 is enough.  
The initialization string is displayed in the window.  
Adding or editing initialization string is allowed by clearing "Use default" and type the AT command in the "Initialization string" window.
  4. Connect the PC modem to the PC via the selected com port and click **Apply** to initialize the PC modem.
  5. Click **OK** for the successful initialization.  
If a failure message appeared, check the modem connections and repeat the last steps.



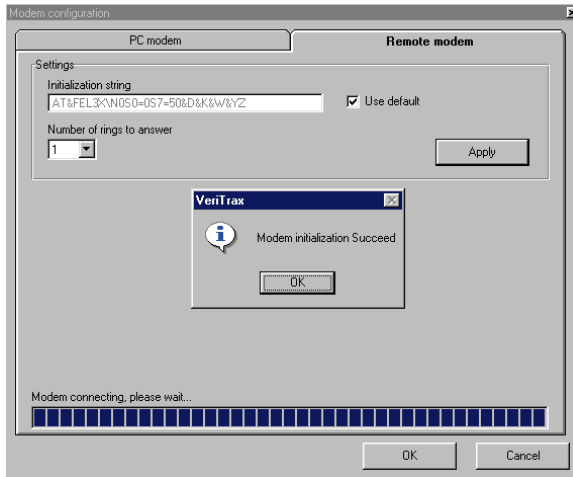
## B.7 Remote modem – configuration and initialization

1. Click the Remote modem tab to configure the remote modem.



2. In the Settings section:  
For most applications, the default initialization string of AS-525 is enough. The initialization string is displayed in the window. Adding or editing initialization string is allowed by uncheck "Use default" and type the AT command in the "Initialization string" window.
3. Set the number of rings before the PC modems will answer.
4. Connect the remote modem to the PC via the selected com port and click **Apply** to initialize the PC modem.
5. Click **OK** for the successful initialization.  
If a failure message appeared, check the modem connections and repeat the last steps.

## Connecting between MD-N33 and AC-215



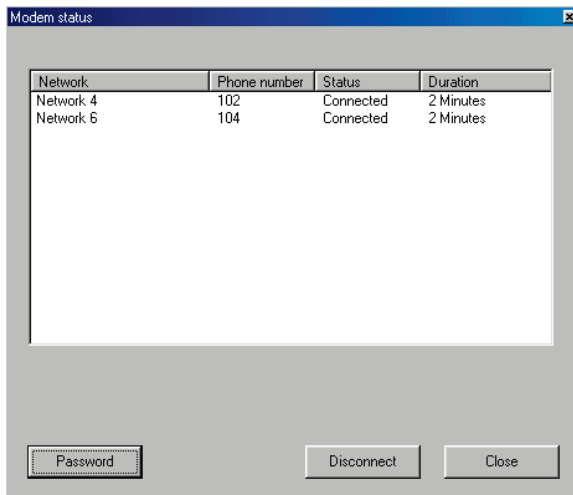
The MD-N33 and AxTrax™ AS-525 software are now configured ready for testing.

From this stage, you can continue working per the AxTrax™ AS-525 adding new panel procedure.

### B.8 Remote Modem Status

When a panel is connected to a modem network, you can see the status of the modem by clicking the phone icon in the toolbar.

There is a manual option to dial or disconnect the modem.

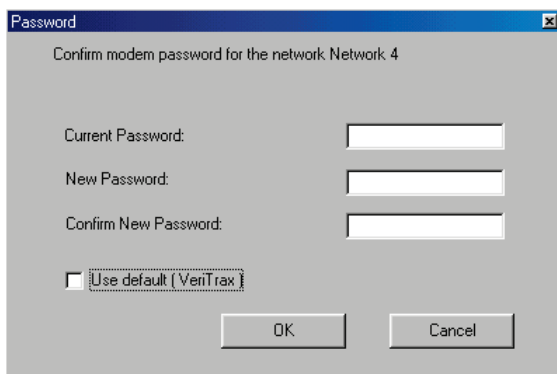




To prevent access to AxTrax™ AS-525 data from non-authorized users, the AC-215 contains a password that can be changed only when the modem is connected and there is a link with AC-215.

The default password is AxTrax.

You may be asked to enter the password during first data configuration like adding a new panel or downloading a new firmware.



### B.9 Restoring factory default configuration

If you forgot the existing password, there is an option to return AC-215 to factory default (with password: AxTrax)



Caution

Returning to factory default changes also all the doors and readers configuration to factory default and clears all the users' properties.

#### *To return to default:*

1. Turn off the supply power.
2. It is recommended to disconnect the doors and readers wiring.
3. Connect Data 0, Data 1 and Tamper inputs to GND (-) in both Reader 1 and 2 (totally 6 wires!)
4. Power up the supply power for few seconds and wait for the control LEDs to flash.
5. Turn off the supply power.
6. Connect the doors and readers wiring again.
7. Delete the panel by clearing the **Enable panel** checkbox in the panel screen and clicking **OK**.
8. Check **Enable panel** in the panel screen and click **OK**. This action causes a full setting of the AC-215 with the pervious configuration.
9. Dial the proper AC-215 ACU and click **password** in the *modem status* screen. You may enter the "current password" as AxTrax™ and change the password to a new one.

### C. Power Supply Specifications

ACU uses the PS-14 power supply.

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<b>Transformer</b>	
<b>AC Transformer</b>	120/220 VAC, 16 VAC 2.5 A (40 VA), Class 2 (not included)

---

<b>PS-14 Power Supply Specifications</b>	
<b>Input Voltage</b>	16 VAC, 2.5 A
<b>From Transformer – Backup Battery Charger</b>	12 VDC, 300 mA
<b>From Transformer – Output Voltage 1</b>	13.8 V
<b>Access control panel – Output Voltage 2</b>	12 VDC, 0.5 A
<b>From ACU (to lock strike) – Output Voltage 3</b>	12 VDC, 1.5 A

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<b>Power Supply Indication</b>	
<b>Tamper Output (open collector)</b>	Indicates faulty power

---

<b>Power LEDs</b>	
<b>Power In (AC) – Green LED1</b>	Main power
<b>Power Out (DC) – Red LED2</b>	Low voltage
<b>Charger (BAT) – Red LED3</b>	Backup battery low voltage

---

### D. Limited Warranty

ROSSLARE'S TWO-YEAR LIMITED WARRANTY is applicable worldwide. This warranty supersedes any other warranty. ROSSLARE'S TWO-YEAR LIMITED WARRANTY is subject to the following conditions:

#### **WARRANTY**

Warranty of ROSSLARE'S products extends to the original purchaser (Customer) of the ROSSLARE product and is not transferable.

#### **PRODUCTS COVERED BY THIS WARRANTY AND DURATION**

ROSSLARE warrants the AC-215 Single and Double Door Access Control Unit to be free from defects in materials and assembly in the course of normal use and service. The warranty period commences with the date of shipment to the original purchaser and extends for a period of 2 years (24 months).

#### **WARRANTY REMEDY COVERAGE**

In the event of a breach of warranty, ROSSLARE will credit Customer with the price of the Product paid by Customer, provided that the warranty claim is delivered to ROSSLARE by the Customer during the warranty period in accordance with the terms of this warranty. Unless otherwise requested by a ROSSLARE representative, return of the failed product(s) is not immediately required.

If ROSSLARE has not contacted the Customer within a sixty (60) day holding period following the delivery of the warranty claim, Customer will not be required to return the failed product(s). All returned Product(s), as may be requested at ROSSLARE'S sole discretion, shall become the property of ROSSLARE.

To exercise the warranty, the user must contact ROSSLARE Enterprises Ltd. to obtain an RMA number after which, the product must be returned to the Manufacturer freight prepaid and insured.

In the event ROSSLARE chooses to perform a product evaluation within the sixty (60) day holding period and no defect is found, a minimum US\$ 50.00 or equivalent charge will be applied to each Product for labor required in the evaluation.

ROSSLARE will repair or replace, at its discretion, any product that under normal conditions of use and service proves to be defective in material or workmanship. No charge will be applied for labor or parts with respect to defects covered by this warranty, provided that the work is done by ROSSLARE or a ROSSLARE authorized service center.

## Limited Warranty

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### **EXCLUSIONS AND LIMITATIONS**

ROSSLARE shall not be responsible or liable for any damage or loss resulting from the operation or performance of any Product or any systems in which a Product is incorporated. This warranty shall not extend to any ancillary equipment not furnished by ROSSLARE, which is attached to or used in conjunction with a Product, nor to any Product that is used with any ancillary equipment, which is not furnished by ROSSLARE.

This warranty does not cover expenses incurred in the transportation, freight cost to the repair center, removal or reinstallation of the product, whether or not proven defective.

Specifically excluded from this warranty are any failures resulting from Customer's improper testing, operation, installation, or damage resulting from use of the Product in other than its normal and customary manner, or any maintenance, modification, alteration, or adjustment or any type of abuse, neglect, accident, misuse, improper operation, normal wear, defects or damage due to lightning or other electrical discharge. This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument, or any modification or abuse of, or tampering with, the Product if Product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.

ROSSLARE does not warrant the installation, maintenance, or service of the Product. Service life of the product is dependent upon the care it receives and the conditions under which it has to operate.

In no event shall ROSSLARE be liable for incidental or consequential damages.

### **LIMITED WARRANTY TERMS**

THIS WARRANTY SETS FORTH THE FULL EXTENT OF ROSSLARE'S WARRANTY.

THE TERMS OF THIS WARRANTY MAY NOT BE VARIED BY ANY PERSON, WHETHER OR NOT PURPORTING TO REPRESENT OR ACT ON BEHALF OF ROSSLARE.

THIS LIMITED WARRANTY IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES. ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE SPECIFICALLY EXCLUDED.

IN NO EVENT SHALL ROSSLARE BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, OR FOR ANY OTHER INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF TIME, COMMERCIAL LOSS, INCONVENIENCE, AND LOSS OF PROFITS, ARISING OUT OF THE INSTALLATION, USE, OR INABILITY TO USE SUCH PRODUCT, TO THE FULLEST EXTENT THAT ANY SUCH LOSS OR DAMAGE MAY BE DISCLAIMED BY LAW.

THIS WARRANTY SHALL BECOME NULL AND VOID IN THE EVENT OF A VIOLATION OF THE PROVISIONS OF THIS LIMITED WARRANTY.



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