

VIKING PRODUCT MANUAL

COMMUNICATION & SECURITY SOLUTIONS

Control Relay Contacts Across a Local Area Network

The **RC-4A** Network Enabled Relay Controller provides networked control of four relays via an easy-to-use web interface. The same interface can be used to check the status of four contact closure inputs. Relays can be toggled on or off, or activated for a length of time.

The **RC-4A** can be configured to work as a remote relay for Viking VoIP series phones, controlling door strikes and gates when a remote relay is required for security reasons. It can also be programmed to send an email or text message in response to a change in one or more of the sensor inputs. Two **RC-4A**'s can be set up so that activity on a sensor input of one unit will automatically send a message across the network to activate one of the relays on the other unit.

Two levels of user access permit selected users to have full operational and programming rights while others have operational control but not programming capability.



⚠ Installation requires a Network Administrator / IT Technician

Features

- Terminal strip connections for normally open, normally closed, and common for all four relays
- Relays can be toggled or timed closures of from 1 to 99 seconds can be activated
- Terminal strip connections for all four sensor inputs
- **Notification by email or text message of sensor input state change**
- **Can be used as a secure remote relay for Viking VoIP series phones**
- **Remote Interaction: sensor change on one RC-4A triggers relay activation of a second RC-4A across network**
- Ready-to-use webpage control interface
- Encrypted login
- Two levels of access based on login:
 - Administrator (full access)
 - Guest (programmable limits)
- Relay names, input names and input status can be customized on webpage
- Firmware updatable

www.vikingelectronics.com
Information: (715) 386-8861

Applications

Remote Control of:

- Secure building entry
- Heating/cooling equipment
- Pumps and fans
- Security system
- Gates
- Lighting
- Emergency tones

Specifications

Power: 120VAC/12VDC 500ma UL listed adapter provided

Dimensions: 5.25" x 3.5" x 1.75" (133mm x 89mm x 44mm)

Shipping Weight: 1.6 lbs (0.73 kg)

Environmental: 32 F to 90 F (0 C to 32 C) with 5% to 95% non-condensing humidity

Relay Contact Ratings: 5A @ 30VDC/120VAC

Connections: (1) 12 position screw terminal block, (1) 6 position elevated screw terminal block

LAN Interface: (1) RJ45 10Base-T/100Base-TX

Minimum Requirements: Windows XP and newer, Mac OSX or newer, Android 2.2 or newer, iOS4 or newer (iPhone requires chrome), Java-script enabled internet browser

Definitions

Authentication - Basic: Login credentials (username/password) are sent over the network in plain text. This option is less secure, but improves compatibility with some browsers.

Authentication - Digest: Login credentials are encrypted before being sent over the network. This option is more secure, but may not work with some browsers or smartphones.

Client: A computer or device that makes use of a server. As an example, the client might request a particular file from the server.

DHCP: Dynamic Host Configuration Protocol. In this procedure the network server or router takes note of a client's MAC address and assigns an IP address to allow the client to communicate with other devices on the network.

DNS Server: A DNS (Domain Name System) server translates domain names (ie: www.vikingelectronics.com) into an IP address.

Ethernet: Ethernet is the most commonly used LAN technology. An ethernet Local Area Network typically uses twisted pair wires to achieve transmission speeds up to 1Gbps.

IP Address: This is the address that uniquely identifies a host on a network.

LAN: Local Area Network. A LAN is a network connecting computers and other devices within an office or building.

DHCP Lease: The amount of time a DHCP server reserves an address it has assigned. If the address isn't used by the host for a period of time, the lease can expire and the address can be assigned to another host.

MAC Address: MAC stands for Media Access Control. A MAC address, also called a hardware address or physical address, is a unique address assigned to a device at the factory. It resides in the device's memory and is used by routers to send network traffic to the correct IP address. You can find the MAC address of your **RC-4A** printed on a white label on the top surface of the network jack.

Router: A device that forwards data from one network to another. In order to send information to the right location, routers look at IP Address, MAC Address and Subnet Mask.

Server: A computer or device that fulfills requests from a client. This could involve the server sending a particular file requested by the client.

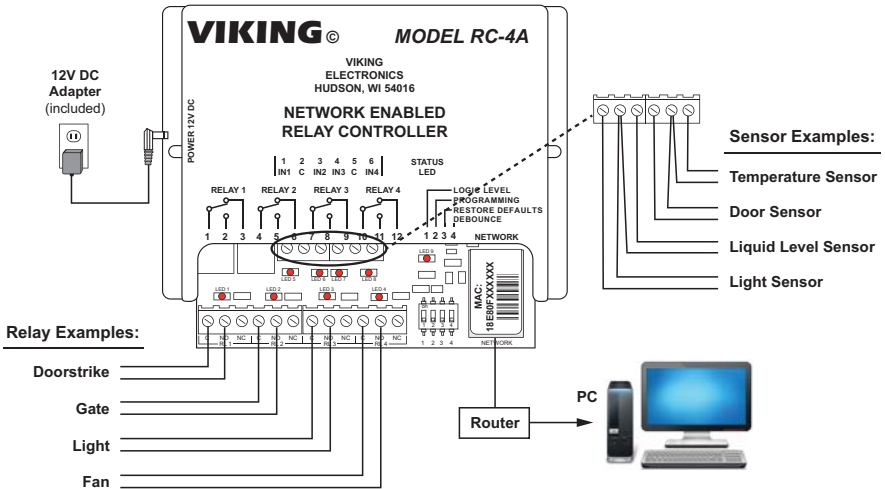
Static IP Address: A static IP Address has been assigned manually and is permanent until it is manually removed. It is not subject to the Lease limitations of a Dynamic IP Address assigned by the DHCP Server.

WAN: Wide Area Network. A WAN is a network comprising a large geographical area like a state or country. The largest WAN is the Internet.

Installation

IMPORTANT: Electronic devices are susceptible to lightning and power station electrical surges. It is recommended that a surge protector be installed to protect against such surges.

A. Installing the RC-4



Hook up the **RC-4A** as shown above. The relay outputs can be connected to devices that are controlled by contact closures, such as doorstrikes or gates. Both normally open and normally closed terminals are provided. The sensor terminals are to be connected to devices that indicate their state by either opening or closing a contact. Examples would include a maximum or minimum temperature sensor or a door sensor. When all the relay and sensor connections have been made, use a network cable to connect the network jack on the **RC-4A** to a network jack on your LAN. Plug in power to the **RC-4A**.

When **RC-4A** is powered up, it sends a request to the network server to assign it an IP address. If there are addresses available, the server assigns one and relays this information to the **RC-4A**. From this point on, this address is used by the **RC-4A** to communicate with the rest of the network.

B. Setting Up the RC-4A on the Network

1. Dynamic IP Address

The easiest way to get the **RC-4A** running on your local area network is to make use of the network's ability to automatically assign an IP address to the unit through a process referred to as DHCP. First, go to https://www.vikingelectronics.info/downloadx/install/RC-4A_Discoverer.zip and download the **Viking RC-4A Discoverer**. Next, connect the **RC-4A** to the network using a network cable and power it up. The Status LED will fast-flash for a few seconds while the unit initializes. When the Status LED is lit steady, start the discoverer by double-clicking on the icon. The discoverer displays any **RC-4**'s or **RC-4A**'s it finds on the network. If more than one is shown on the discoverer's display, you can distinguish between them by comparing the MAC address shown in the display with the MAC address printed on the unit's network jack, or by looking at the device name.

Important: *If more than one RC-4A will be installed on the network, each unit must be assigned its own unique device name to avoid unintentionally connecting with the wrong unit. See **Settings** section **C. Network Settings** for more information.*

To connect with the **RC-4A**, just click on the line corresponding to the unit you want to connect to and the authentication page appears. See section **4. Authentication**.

An **Android** version of the **RC-4 Discoverer** is available for free from the Google Play store. <https://play.google.com/store/apps/details?id=com.vikingelectronics.rc4discoverer>

2. Device Name (Windows only)

An alternative way to access the **RC-4A** is to use its device name. When the **RC-4A** is connected to a network, there is a device name associated with it. Most networks allow the user to address the unit using this device name, which is a sort of nickname that can be used instead of typing in the full four-byte IP address of the unit. The default device name of the **RC-4A** is **MYVIKING**. Type this into the address bar of your browser and press enter or click on the arrow, then proceed to section **4. Authentication**.

Important: *If more than one RC-4A will be installed on the network, each unit must be assigned its own unique device name to avoid unintentionally connecting with the wrong unit. See **Settings** section **C. Network Settings** for more information.*

3. Static IP Address

For applications that require a static IP address, first arrange with your network administrator for an address on the server to be configured as a static IP address. Then use one of the above two methods to connect to the **RC-4A**. Click on **Settings** at the bottom left of the main page, and at the bottom of the **Settings** page, click on **Network Settings**. Find the **Enable DHCP** checkbox near the middle and uncheck it. When this is done, the textboxes below the checkbox are no longer greyed out. In the **IP Address** box, enter the static IP address you want to use. The **Gateway**, **Subnet Mask**, and **Primary** and **Secondary DNS** can be left unchanged.

4. Authentication

The **RC-4A** is securely accessed using the Digest Authentication procedure. There are two levels of access, each requiring the entry of a username and password. The **Guest** level allows operation of the relays but not programming of their default closure times or changes to username and password or network settings. The **Administrator** level allows both relay operation and programming (see **Programming** sections **A** and **B**). The default usernames and passwords are listed below:

Guest username: guest

Admin username: admin

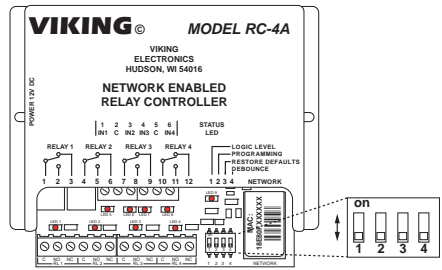
Guest password: password

Admin password: viking

There is one guest username and password available, and one admin username and password. It is recommended that these be changed to unique values for better security. If you forget your username and password, see **C. DIP Switch Programming**, Switch 3 to return to the original factory settings and reprogram the usernames and passwords. **Note:** *If secure login is not required, the **RC-4A** can be programmed to skip authentication. See **Operation Without Authentication** on page 8.*

C. DIP Switch Programming

Switch	Position	Description
1	OFF	Logic Level 12V with a 6V trip point
1	ON	Logic Level 5V with a 2.5V trip point
2	OFF	Programming access is enabled
2	ON	Programming access is blocked
3	OFF	Normal operation
3	ON	Restore factory programming defaults
4	OFF	Normal email notification
4	ON	10 second email debounce



Note: The default setting for all dipswitches is OFF.

Switch 1 – Logic Level

This dipswitch lets you set the logic level for the contact closure inputs. In the default OFF position, the logic level is 12V with a 6V trip point, which is best for long, relatively noisy runs. The higher trip point makes the input more immune to noise. Closing the switch sets a 5V logic level with a 2.5V trip point. This is the preferred level for a short run to another device with a similar logic level.

Switch 2 – Programming

Dipswitch 2 allows programming on the Set Defaults and Network Configuration pages. It works in conjunction with the user's authentication level. If the user is logged in as a Guest, no programming is possible. The programming pages can be accessed, and the programmable values are visible in their textboxes, but they are greyed out and can't be changed. It's when the user is logged in as an Administrator that Dipswitch 2 makes a difference. If Dipswitch 2 is OFF, programming is permitted. If Dipswitch 2 is ON, programming is blocked, even when the user is logged in as an Administrator. This hardware switch provides an additional level of security against hacking. To take advantage of this feature, turn Dipswitch 2 ON when programming is completed to lock the settings. If security is less of a concern, Dipswitch 2 could be left OFF and remote programming will always be permitted if the user is an Administrator.

Switch 3 – Restore Defaults

Dipswitch 3 allows a partial or complete return to factory defaults. To start the return to defaults procedure, turn Dipswitch 3 on. The Status LED will go out for four seconds, and then start flashing at a slow rate for eight seconds. If Dipswitch 3 is turned off during this eight seconds, the programmed usernames, passwords, and network settings will be returned to their default values, but any other programmable settings will remain unchanged. The Status LED begins fast-flashing when Dipswitch 3 is turned off, and after a few seconds it is lit steady. The return to defaults procedure is complete. If Dipswitch 3 is not turned off during the eight-second slow-flash window, the Status LED starts flashing at a faster rate. Turning Dipswitch 3 off at this point sets all RC-4A programmable parameters to their factory settings. The Status LED starts fast-flashing for a few seconds and then is lit steady, and the return to defaults procedure is complete.

Switch 4 – Email Debounce

With Dipswitch 4 OFF, an input state change results in the RC-4A sending an email with minimal delay. With Dipswitch 4 ON, a 10 second debounce is required in order for the email to be sent. If the state change lasts less than 10 seconds, an email is not sent.

Operation

Connect to the **RC-4A** webpage as described in **Installation B. Setting up the RC-4A on the Network** on page 3. The **RC-4A** access page appears.



Model: RC-4A
Device Name: MYVIKING

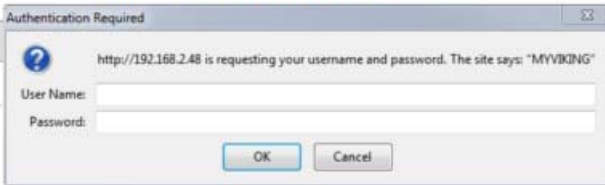
[Click here for access](#)

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Near the top of the page, locate and click on **Click here for access**. The browser's authentication dialog appears.



Model: RC-4A
Device Name: MYVIKING



For User Name, enter **admin**, and for Password, enter **viking**. The main page appears. Note that all four remote sensor inputs are shown Open and the relays are all Off.



Model: RC-4A
Device Name: MYVIKING

Input Status

Input 1: Open
Input 2: Open
Input 3: Open
Input 4: Open

Relays



Relay 1: Off
Relay 2: Off
Relay 3: Off
Relay 4: Off

Timed Activation

2
2
2
2

The relays may be toggled On or Off, or they can be programmed to provide a timed closure of from 1 to 99 seconds. Relay 1 is red, indicating that it is Off. Click on the image of the red circle next to Relay 1. The circle changes from red to green, and Relay 1 is turned on.



Model: RC-4A
Device Name: MYVIKING

Input Status

Input 1: Open
Input 2: Open
Input 3: Open
Input 4: Open

Relays



Relay 1: On
Relay 2: Off
Relay 3: Off
Relay 4: Off

Timed Activation

2
2
2
2

To toggle Relay 1 back off, click on the green circle, it changes to red, and Relay 1 turns off.

To activate a timed closure, click on the Start button next to the relay. The closure is activated for the number of seconds shown in the box.

In the picture to the right, all four relays have had timed closures activated. Relay 1 and Relay 2 had short closures and have already returned to the Off state. Relay 3 and Relay 4 had longer times programmed and are still in the On position. When their times are up, they will return to the Off position.



Model: RC-4A
Device Name: MYVIKING

Input Status	Relays	Timed Activation
Input 1: Open	Relay 1: Off	2 <input type="button" value="Start"/>
Input 2: Open	Relay 2: Off	10 <input type="button" value="Start"/>
Input 3: Open	Relay 3: On	50 <input type="button" value="Start"/>
Input 4: Open	Relay 4: On	99 <input type="button" value="Start"/>

The RC-4A also provides a status indication for the four inputs on the input terminal block. In the picture below, Input 1 and Input 3 are shown as Open and Input 2 and Input 4 are shown as Closed. This indication is constantly refreshed so that the input status indication is always current.



Model: RC-4A
Device Name: MYVIKING

Input Status	Relays	Timed Activation
Input 1: Open	Relay 1: Off	2 <input type="button" value="Start"/>
Input 2: Closed	Relay 2: Off	2 <input type="button" value="Start"/>
Input 3: Open	Relay 3: Off	2 <input type="button" value="Start"/>
Input 4: Closed	Relay 4: Off	2 <input type="button" value="Start"/>

Programming

A. Settings Page

From the main page, click on **Settings**. The **Settings** page appears. **Note:** Only a user logged in as administrator can make changes on the Settings pages. Guest users cannot make changes and will get a "Programming pages are locked" message at the bottom of the Settings pages.



Model: RC-4A
Device Name: MYVIKING

Settings

This page allows setting of the input and relay names, default relay closure times, and guest access control.

Inputs		Status Phrasing	
Names		Open:	Closed:
Input 1: <input type="text" value="Input 1"/>		Open:	Closed: Closed
Input 2: <input type="text" value="Input 2"/>		Open:	Closed: Closed
Input 3: <input type="text" value="Input 3"/>		Open:	Closed: Closed
Input 4: <input type="text" value="Input 4"/>		Open:	Closed: Closed

Relays		Closure Times	
Names		Relay 1:	2 Seconds
Relay 1: <input type="text" value="Relay 1"/>		Relay 2:	2 Seconds
Relay 2: <input type="text" value="Relay 2"/>		Relay 3:	2 Seconds
Relay 3: <input type="text" value="Relay 3"/>		Relay 4:	2 Seconds
Relay 4: <input type="text" value="Relay 4"/>			

Guest Access Control		Function Control	
Input Visibility / Relay Control		Toggle Relays:	<input checked="" type="checkbox"/>
Input 1: <input checked="" type="checkbox"/> Relay 1: <input checked="" type="checkbox"/>		Timed Activation:	<input checked="" type="checkbox"/>
Input 2: <input checked="" type="checkbox"/> Relay 2: <input checked="" type="checkbox"/>		Edit Activation Time:	<input checked="" type="checkbox"/>
Input 3: <input checked="" type="checkbox"/> Relay 3: <input checked="" type="checkbox"/>			
Input 4: <input checked="" type="checkbox"/> Relay 4: <input checked="" type="checkbox"/>			

Important: Be sure to click on the Apply button at the bottom of the page when finished making changes.

1. Input Names

The input names displayed on the main page can be customized by entering new names in the **Input Names** group textboxes. Up to 16 characters are permitted, including upper and lower case alphabet, numbers, spaces and the underscore character.

2. Input Status Phrasing

This refers to the way the states of the inputs are described on the main page and in emails. The default state descriptions are Open/Closed, but other possibilities might be Running/Stopped, Up/Down or In/Out. Up to 12 characters are allowed with the same list of characters as input names.

3. Relay Names

The procedure for customizing relay names is the same as for input names, with 16 characters allowed and the same list of permitted characters.

4. Closure Times

The times for timed closures are shown in this group. The time shown in the box next to a relay on the main page is the time that relay remains activated when the Start button is clicked. Note that these times can be overridden by entering another value in the timed closures box on the main page and clicking Start. The next time the main page is activated, however, the default time value will appear again in the box. The default closure time values are what is being set here.

5. Guest Access Control

The checkboxes below allow precise control of which functions are allowed when the user is logged in as guest. These limitations apply only to the guest login; users logged in as admin retain full privileges and functionality.

Input Visibility / Relay Control: The Input Visibility / Relay Control group lets you decide which inputs or relays appear on the main page. If an input or relay is checked, it appears on the main page; if not, it does not appear on the main page for those logged in as guest, and consequently it is not accessible to them.

Function Control: The function control group allows for control of specific relay functions for guest logins. The ability to toggle relays, activate timed relay closures or edit the relay activation time on the main page can be turned on or off.

B. Security

At the bottom of the Settings page, click on Security.



Model: RC-4A
Device Name: MYVIKING

Security

This page allows setting of usernames and passwords, and security settings.

Usernames and Passwords

Admin Username and Password	
New Username:	<input type="text" value="admin"/>
New Password:	<input type="password" value="*****"/>
Confirm Password:	<input type="password" value="*****"/>

Guest Username and Password	
New Username:	<input type="text" value="guest"/>
New Password:	<input type="password" value="*****"/>
Confirm Password:	<input type="password" value="*****"/>

Security	
Basic Authentication	<input type="checkbox"/>

Important: Be sure to click on the Apply button at the bottom of the page when finished making changes.

1. Usernames and Passwords

To change the username and password for either admin or guest, enter the new text in the textboxes on the Security page. Permitted characters are upper and lowercase alphabet (case sensitive), numbers and the underscore character. Up to 32 characters per box are allowed. When you click on the Apply button the new values are stored, and if the admin values were changed, the browser's username/password dialog comes up again to allow re-authentication with the new values.

2. Operation Without Authentication

In the event that secure login is not required, the **RC-4A** can be programmed to skip the authentication step and go directly from the Click here for access landing page to the main page. To do this, go to the **RC-4A** Security page. Blank out all three admin textboxes and all three guest textboxes and click on the Apply button. This warning appears:

Warning: Username and/or Password is blank, hit OK to accept or cancel to change.

Click on OK. On the dialog that appears next, check the box for Prevent this page from creating additional dialogs. It should be noted that this method of operation is not secure and should only be used on networks where unauthorized use would not be a problem.

3. Basic Authentication

The **RC-4A** uses Digest Authentication by default, but checking this box tells it to use Basic Authentication instead. While Basic Authentication is less secure, it may be preferred for use with some browsers or smartphones for compatibility reasons.

C. Network Settings

At the bottom of the Settings page, click on Network Settings.



Model: RC-4A
Device Name: MYVIKING

Network Settings

This page allows the configuration of the RC-4A's network settings.

CAUTION: Incorrect settings may cause the board to lose network connectivity. Recovery options will be provided on the next page.

Enter the new settings for the board below:

MAC Address:	18:E8:0F:50:07:DD
Device Name:	MYVIKING
Port Number:	80
Enable DHCP	<input checked="" type="checkbox"/>
IP Address:	192.168.2.48
Gateway:	192.168.2.254
Subnet Mask:	255.255.255.0
Primary DNS:	192.168.2.254
Secondary DNS:	0.0.0.0
	<input type="button" value="Save Settings"/>

The following items are displayed:

MAC Address: This is for display only, since the MAC address cannot be changed.

Device Name: The current device name appears in this box. The default device name, MYVIKING, can be changed to a more user-specific name if desired. If there are multiple **RC-4A**'s on a network, each unit must be given a unique device name to avoid unintentionally connecting with the wrong unit. The device name can be 1 - 15 characters long, must begin with a letter, cannot contain any spaces, is not case-sensitive and can include the underscore character.

Port Number: This should be left set to 80.

Enable DHCP: With the Enable DHCP box checked, all of the addresses below and the subnet mask are greyed out because they have already been fixed by the DHCP server. Unchecking the DHCP box disables DHCP and makes it possible to set the addresses manually in order to have a static IP address. These changes should only be made by a qualified network administrator.

- IP Address**
- Gateway**
- Subnet Mask**
- Primary DNS Server**
- Secondary DNS Server**

To save network configuration settings, click on **Save Settings**. The Reboot page appears and the **RC-4A** makes the changes, reboots, and displays the device name. Reconnection instructions are offered in the event the changes result in a loss of connection.

D. Email Notification

At the bottom of the Settings page, click on Email Notification.



Model: RC-4A
Device Name: MYVIKING

Send E-Mail

This page is used for setting up email notification of input events.

Enter the appropriate settings in the fields below:

Email server settings

SMTP Server:

Port:

Username/From:

Password:

To:

Send email when:

Input 1 Opens <input type="checkbox"/>	Input 1 Closes <input type="checkbox"/>
Input 2 Opens <input type="checkbox"/>	Input 2 Closes <input type="checkbox"/>
Input 3 Opens <input type="checkbox"/>	Input 3 Closes <input type="checkbox"/>
Input 4 Opens <input type="checkbox"/>	Input 4 Closes <input type="checkbox"/>

This page is for setting up email notification of input events. The **RC-4A** can be programmed to send an email if one of the inputs closes, and also if it opens. As described in **Programming A. Settings, 2. Input Status Phrasing**, the input status can be described as something other than “open” or “closed”, and this customized description is used in the email.

SMTP Server: smtp.gmail.com is filled in as the SMTP server because Google offers this as a free service and gmail email accounts are free and easy to set up. It is likely that other SMTP servers could be used, but they might not be as universally accessible as gmail.

Port: Use 587 for STARTTLS (most servers), 465 for SSL, or 25 for unsecured.

User Name: This is the email address being used to send the email notification. The domain part is already filled in; adding the username completes the email address. Example: bob@gmail.com

Password: Fill in the password of the email account the **RC-4A** is using to send the email.

To: Enter the destination email address

Test: After saving your settings, you can send a test email using this button.

The remaining checkboxes let you decide which inputs will trigger an email notification, and whether an open contact produces an email, or a closed contact, or both. Note that it is the state change that actually triggers the email, and the **RC-4A** sends just one email when the state change happens.

Example: Input 1 Opens is checked, Input 1 Closes is unchecked

Assuming that the Input 1 sensor is normally open, an email will be sent when the contact opens. Nothing will be sent when the contact closes, but once this has happened, an email will be sent when the contact opens again.

Example: Input 3 Opens is checked, Input 3 Closes is checked

An email is sent when the contact closes, and another email is sent when it opens again. If these state changes happen just a few seconds apart, more than one notification may be included in a single email.

E. Text Message Notification

The **RC-4A** can also notify you of a change in any of the inputs by sending a text message. Just fill in the textboxes on the Send E-Mail page (see page 9), but in the To: box for the email destination enter instead the cellphone number you want to notify along with the cellphone carrier, for example, 7155551212@txt.att.net. Here is a partial list of carriers:

Alltel	phonenumber@sms.alltelwireless.com
AT&T	phonenumber@txt.att.net
Boost mobile	phonenumber@sms.myboostmobile.com
Cricket Wireless	phonenumber@mms.cricketwireless.net
MetroPCS	phonenumber@mymetropcs.com
Project Fi	phonenumber@msg.fi.google.com
Republic Wireless	phonenumber@text.republicwireless.com
Sprint	phonenumber@messaging.sprintpcs.com
T-Mobile	phonenumber@tmomail.net
U.S. Cellular	phonenumber@email.uscc.net
Verizon Wireless	phonenumber@vtext.com
Virgin Mobile	phonenumber@vmobl.com

If your carrier is not on this list, try contacting them for this information.

F. Remote Interaction

Remote interaction allows one **RC-4A** to control the relays of another across a network or the internet in response to activity on the inputs of the first **RC-4A**. The first **RC-4A**, referred to as the controlling unit, is situated near a device or area to be monitored. One or more of its four inputs are connected to sensors that provide a contact closure (or open) in response to certain conditions, for example, temperature change or a door being opened. The controlling unit responds to a contact closure on one of its inputs by sending a message to the other **RC-4A**, referred to as the controlled unit, telling it to perform a programmed action on one of its relays. There are four possible user-programmed actions: toggle the relay, turn the relay on, turn the relay off, or provide a timed relay closure.

At the bottom of the Settings page, click on Remote Interaction.



Model: RC-4A
Device Name: MYVIKING

Remote

This page is used for setting up remote interaction. This feature allows one RC-4A to control another.

Enter the appropriate settings in the fields below:

Remote server settings

Remote Address:

Port:

User Name:

Password:

<p>Edge trigger <input checked="" type="checkbox"/></p> <p>Relay</p> <p>Input 1: <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4</p> <p>Input 2: <input type="radio"/> 1 <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4</p> <p>Input 3: <input type="radio"/> 1 <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4</p> <p>Input 4: <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4</p>	<p>State trigger <input type="checkbox"/></p> <table border="0"> <thead> <tr> <th>Trigger</th> <th>Action</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>Open <input type="checkbox"/></td> <td>Off -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Close <input type="checkbox"/></td> <td>On -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Open <input type="checkbox"/></td> <td>Off -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Close <input type="checkbox"/></td> <td>On -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Open <input type="checkbox"/></td> <td>Off -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Close <input type="checkbox"/></td> <td>On -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Open <input type="checkbox"/></td> <td>Off -</td> <td><input type="text" value="1"/></td> </tr> <tr> <td>Close <input type="checkbox"/></td> <td>On -</td> <td><input type="text" value="1"/></td> </tr> </tbody> </table>	Trigger	Action	Time	Open <input type="checkbox"/>	Off -	<input type="text" value="1"/>	Close <input type="checkbox"/>	On -	<input type="text" value="1"/>	Open <input type="checkbox"/>	Off -	<input type="text" value="1"/>	Close <input type="checkbox"/>	On -	<input type="text" value="1"/>	Open <input type="checkbox"/>	Off -	<input type="text" value="1"/>	Close <input type="checkbox"/>	On -	<input type="text" value="1"/>	Open <input type="checkbox"/>	Off -	<input type="text" value="1"/>	Close <input type="checkbox"/>	On -	<input type="text" value="1"/>
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Remote (Controlled) Address: The controlling **RC-4A** uses this address to send commands across the network to the controlled **RC-4A**. If both **RC-4A**'s are on the same LAN, enter the IP address displayed by the **RC-4A** Discoverer for the controlled **RC-4A** (see **RC-4A** product manual Installation B. Setting Up the **RC-4A** on the Network 1. Dynamic IP address). Note that the IP address of the controlled unit and not its host name should be used here. If the **RC-4A**'s are to be connected to the internet, contact your network administrator or internet service provider for this address.

Port: The port number shown on the Network Settings page of the controlled unit should be entered here.

User Name: This is the admin user name of the controlled **RC-4A**.

Password: This is the admin password for the controlled **RC-4A**.

Edge Trigger vs State Trigger: When remote interaction is edge triggered, each time an input transitions from open to closed or from closed to open a user-programmed relay command is sent once. The response by the controlled relay is nearly immediate following a short debounce unless the units are connected to the internet, in which case normal internet latency of 200 to 300 ms should be expected. The selected relay may be toggled, turned on or off, or a timed closure can be activated.

With state triggering, the inputs are polled every ten seconds and the corresponding programmed commands are sent, repeating every ten seconds. Since the commands are resent every 10 seconds, relay toggling and timed closures are not permitted.

Action Programming Grid: The lower part of the Remote page is a programming grid with inputs shown on the lines and relays in the columns. Clicking on a button selects which relay is to be controlled by a given input. For each input the controlling **RC-4A** can be programmed to send a command to the controlled **RC-4A** to take one of four actions on the selected relay when the controlling input is open, and one of the same four actions when it is closed. The four actions are: toggle the relay, turn the relay on, turn the relay off, and timed relay closure. The toggle and timed relay actions are not available when state trigger is selected because of the nature of the state trigger input-checking process.

Note: *If the User Name and Password fields are empty when you click on Save Settings your settings will not be saved.*

Action Programming Examples:

On the Remote page diagram, note that Relay 1 has been selected for Input 1. When Input 1 opens, the controlling **RC-4A** sends a message to the controlled **RC-4A** to turn Relay 1 off. When Input 1 closes, Relay 1 on the controlled **RC-4A** is turned on.

Input 2 is associated with Relay 2. If the input goes from closed to open, nothing happens. If the input goes from open to closed, Relay 2 on the controlled **RC-4A** is turned on.

Input 3 is also associated with Relay 2. If Input 3 goes from closed to open, nothing happens. If the input goes from open to closed, Relay 2 on the controlled **RC-4A** is turned off.

Input 4 has Relay 4 selected. Nothing happens when Input 4 goes from closed to open, but when it goes from open to closed the controlling **RC-4A** sends a message to the controlled **RC-4A** to turn on Relay 4 for 30 seconds.

G. Viking IP Phone Relays

For Viking IP phone applications requiring an extra level of security, the **RC-4A** can function as a remote relay, with the **RC-4A** securely mounted inside the building. At the bottom of the Settings page, click on VoIP Relay.



Model: **RC-4A**
Device Name: **MYVIKING**

VOIP Relays

The RC-4A can be configured to work as a remote relay for Viking VOIP series phones. This can be useful for controlling door strikes and gates or when a remote relay is required for security reasons. One RC-4A can connect to and be controlled by up to eight Viking VOIP phones.

The RC-4A automatically scans the local network for Viking VOIP phones once a minute. To select a phone, check its checkbox. Then, enter that phone's security code in its security code box. If your phone is on a different subnet or on the internet, you can use the Add Manual Entry to manually enter a phone's IP. After all phones are selected and all manual entries configured, click either apply button to save your settings and connect to the selected phones. The connection status will be updated once the phones are connected.

NOTE: The connection status only indicates that the phone and RC-4A are communicating over the network. It does not indicate functionality. The phones will connect, but will not be able to activate the relay if the security code is wrong. The phone must be configured in the Viking IP Programming software and operation should be verified with a phone call.

Available phones	
<input checked="" type="checkbox"/> Front gate 18:E8:0F:50:02:52 192.168.2.36	Connected Security Code: *****
<input checked="" type="checkbox"/> Rear entrance 18:E8:0F:50:06:24 192.168.2.60	Connected Security Code: *****
<input type="checkbox"/> Remote 18:E8:0F:50:14:7F 192.168.2.75	Not Connected Security Code: *****
<input checked="" type="checkbox"/> Garage 18:E8:0F:50:15:6B 192.168.2.76	Connected Security Code: *****

Manual Entries	
<input checked="" type="checkbox"/> IP Address: 192.168.210.61	Connected Security Code: *****
<input type="checkbox"/> IP Address: 192.168.210.50	Not Connected Security Code: *****

The VoIP Relays page provides a real-time display of the Viking IP series phones currently available for connection to the **RC-4A**. For each phone, the device name, MAC address and network IP address are shown. To enable a phone to connect to the **RC-4A**, click on its checkbox. The Security Code box, which was greyed out, is now white. Enter the phone's security code. Repeat this procedure for any other phones that are to be connected to the **RC-4A**. When you click on Apply, the **RC-4A** attempts to connect to the phone or phones that have been enabled. This process typically takes 5 to 10 seconds but may take up to a minute. When the connection has been made, the status indicator changes to Connected. Up to eight phones can be connected to one **RC-4A**.

If a Viking IP phone is on a different subnet than the **RC-4A**, it can be set up to control the **RC-4A** using the Manual Entries at the bottom of the page. Click on Add Manual Entry, check the box, enter the phone's IP address and security code and click on Apply. Additional manual entries are possible as long as the total of connected phones does not exceed eight.

In operation, the phones control the **RC-4A** remotely. For example, if a visitor is to be let in, the user inside the building dials a door strike command and an encrypted command string is sent across the network to the **RC-4A**, telling it which relay to close and how long to keep it closed. For more information, see the product manual for the Viking IP phone being used.

Note: The connection status only indicates that the phone and **RC-4A** are communicating over the network. It does not indicate functionality. The phones will connect, but will not be able to activate the relay if the security code is wrong. The phone must be configured in the Viking VoIP Programming software and operation should be verified with a phone call.

H. Link Creation

At the bottom of the settings page, click on Create Link.

Select the relay and the action to perform and click on Create Link. The link will appear just below the button, and can be pasted into the address bar to produce the programmed action.



Model: RC-4A
Device Name: MYVIKING

Link Creation

This page allows the creation of a link to use to activate a relay.

Select relay to control:

- Relay 1
- Relay 2
- Relay 3
- Relay 4

Select the action to perform

- Turn On Relay
- Turn Off Relay
- Toggle Relay
- Timed Closure

Create Link

Link will appear here

Warranty

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, CONTACT: VIKING TECHNICAL SUPPORT AT (715) 386-8666

Our Technical Support Department is available for assistance Monday to Friday 8am - 5pm central time. So we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Product Manual in front of you.
3. It is best if you are on site.

RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:

1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer **MUST** have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to: **Viking Electronics, 1531 Industrial Street, Hudson, WI 54016**
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a PO Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer **MUST** be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the Viking product using the same R.A. number.
4. **The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.**

TWO YEAR LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of two years from the date of purchase from any authorized Viking distributor. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI., 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number.

This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others. This warranty does not cover non-EWP products that have been exposed to wet or corrosive environments. This warranty does not cover stainless steel surfaces that have not been properly maintained.

NO OTHER WARRANTIES. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

EXCLUSION OF CONSEQUENTIAL DAMAGES. VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER, OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY. WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.

PART 15 LIMITATIONS

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Product Support: (715) 386-8666

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