ELK-M1XIP M1 Network (IP) Communicator INSTALLATION INSTRUCTIONS

REQUIRES ELKRP VERSION 3.0.0 OR LATER

APPLICATION:

The ELK-M1XIP enables M1 Controls to communicate with Central Stations equipped with a Sur-Gard IP receiver while providing reliable system communication over an IP Ethernet network. Connecting directly to the M1 main board serial port, it replaces the legacy ELK-M1XEP and delivers many of the same trusted features. In addition, the ELK-M1XIP simplifies remote access with proxy-based connectivity, eliminating the need for complicated port forwarding or network configuration on the client's network.

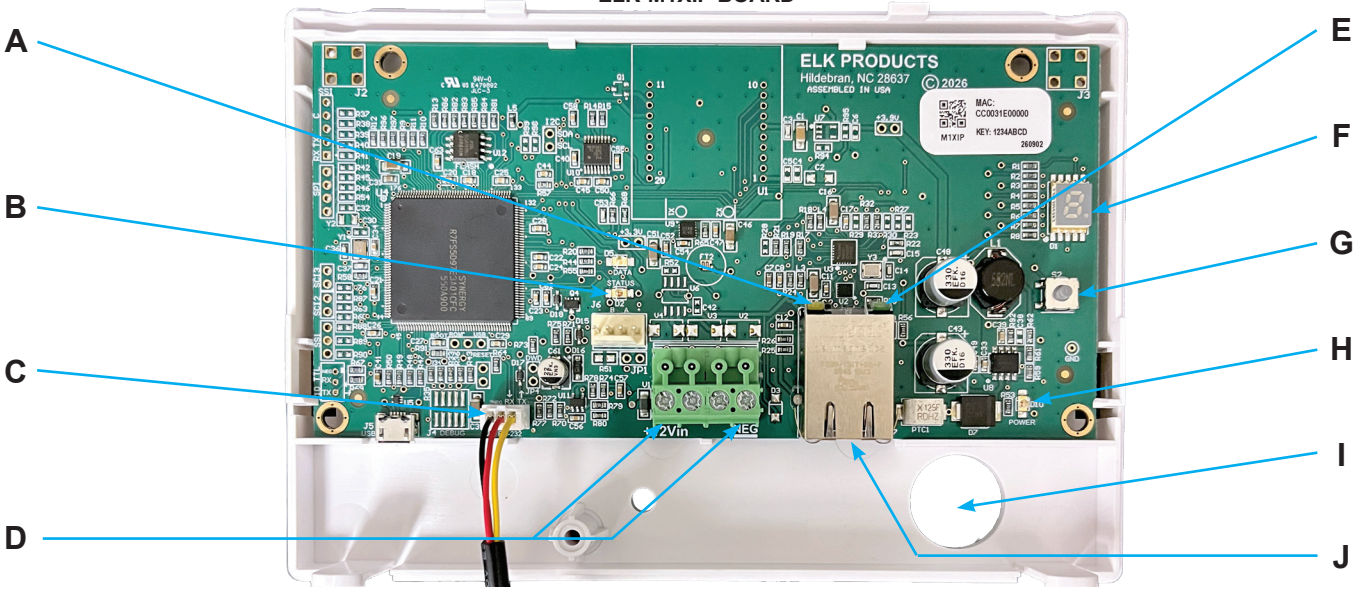


SPECIFICATIONS:

Features or Specifications subject to change without notice.

- Operating Power: 13.8 VDC
- Current draw: 50mA
- Board size: 6" x 3" x 0.6875"
- Housing Size: 6.402" x 4.352" x 1.188"

ELK-M1XIP BOARD



HARDWARE OVERVIEW:

A. ElkConnect Link Amber LED
ON = Linked with ElkConnect (for email and remote connectivity)
OFF = Not linked with ElkConnect

B. Status Red LED
Blinking = Normal state
ON solid/OFF = Processor trouble

C. RS-232 Connection
Connect this cable to M1 Main Serial Port.
DO NOT DISCONNECT FROM M1XIP OR LENGTHEN CABLE

D. 12VDC & NEG Power Terminals

E. Data Green LED
Blinking = Normal
OFF = Not communicating

F. 7 Segment Display
Sequentially displays 1 character at a time to indicate error codes and IP address. Data is grouped in short packets with a key letter prefix. See Table 1 for details.

G. Config Switch
Reset to DHCP - Press the Config Switch 3 times. Wait for the P symbol (P) to appear on the seven segment display, then press Config Switch twice to confirm. After several seconds, the M1XIP will be reset to DHCP mode and the seven segment will display the DHCP assigned IP address.

Reset to Factory Static IP Address - Press the Config Switch 5 times. Wait for the S symbol (S) to appear on the seven segment display, then press Config Switch twice to confirm. After several seconds, the M1XIP will be reset to Factory Static mode and the seven segment will display the factory default IP address (192.168.0.251).

Default All Settings - Press and hold the Config Switch for 5 seconds. Wait for the d symbol (d) to appear on the seven segment display, then press Config Switch twice to confirm. After several seconds, all settings saved in the M1XIP be erased and reset to factory defaults. This action cannot be undone. The M1XIP will reboot and display a DHCP assigned IP address.

H. Power Red LED
ON solid = Unit is powered on

I. Wire Routing Hole

J. Ethernet RJ45 Port

Table 1
Seven Segment Display Details

Indicator	Description
E	Error code will follow
A	IP address will follow
d	Awaiting approval to perform full default
P	Awaiting approval to reset to DHCP
S	Awaiting approval to set factory static IP address (192.168.0.251)

Error Code	Description
E.no	No Errors
E.01	No Internet Communication
E.02	No LAN Connection
E.03	No DHCP Server Found
E.04	Proxy Server Trouble
E.05	No DNS Server Found
E.06	Listening Socket Trouble

FOR MOUNTING INSTRUCTIONS, SEE PAGE 7

INSTALLATION & HOOKUP:

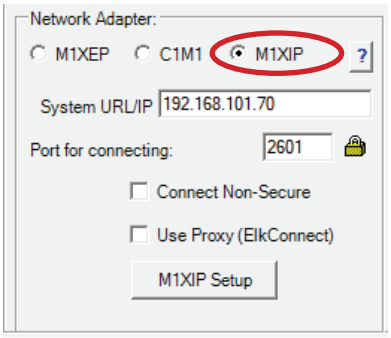
POWER DOWN THE M1 CONTROL BEFORE MAKING ANY CONNECTIONS.

1. Connect the RS232 cable (B) from the M1XIP to the main serial port on the M1 Control.
2. Connect a standard network patch cable from the Ethernet port on the M1XIP (I) to the LAN (local area network) switch or router.
3. To power the M1XIP from the M1, connect the 12VDC & NEG terminals of the M1XIP (C) to the +VAUX and NEG terminals on the M1 control. Be sure to observe polarity. *NOTE: The M1XIP can be powered from a separate 12VDC power supply if necessary or desired.*
4. Power up the M1 Control. (If a separate power supply is used for the M1XIP, power up the M1 Control, then power up the M1XIP)
5. The M1XIP should power up and attempt to link up with the Ethernet network.
6. Enroll the M1XIP into the M1 control to establish proper supervision of the connection. Using the keypad, access the Installation Programming menu (Menu 9). Choose Bus Module Enrollment (Menu 1) and press the right arrow key to start the enrollment. When the enrollment is complete press the ELK or * (Asterisk) key to exit.

The M1XIP does not connect to the RS-485 data bus on the control, therefore it will not appear in the list of devices enrolled on the keypad. However, the enrollment process is necessary to ensure proper supervision of the device. If the M1XIP is removed, it must be "un-enrolled" by completing the Bus Module Enrollment process to prevent an "Ethernet Trouble" from occurring. ElkRP will display the current firmware, hardware, and bootware versions of the M1XIP on the "Enroll/Update Control and Devices" screen. This screen is accessed from the Send/Rcv menu when connected to the control.

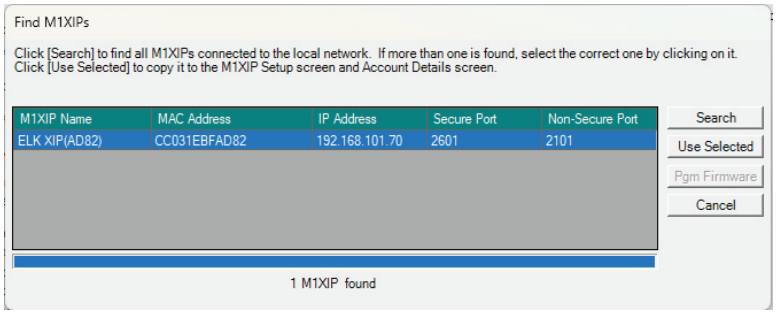
GETTING CONNECTED WITH THE ELKRP SOFTWARE:

The M1XIP requires ElkRP Version 3.0.0 or later.



Before beginning the M1XIP setup, please ensure that the Control is programmed to transmit ASCII strings at 115,200 baud for each of its available conditions to allow the M1XIP to provide access to the information. Using the Keypad Installer Programming, access the Globals Menu (Menu-07) and program yes for options 35, 36, 37, 38, 39, and 40. Verify that Option 34 is set to 115200. Alternately, from the ElkRP software, go to Globals and on the G29-G42 Special tab, set the Serial Port 0 baud rate to 115200. Enable all Serial Port 0 Transmit Options (Event log, Task changes, Zone changes, Lighting changes, Output changes, and Keypad keys).

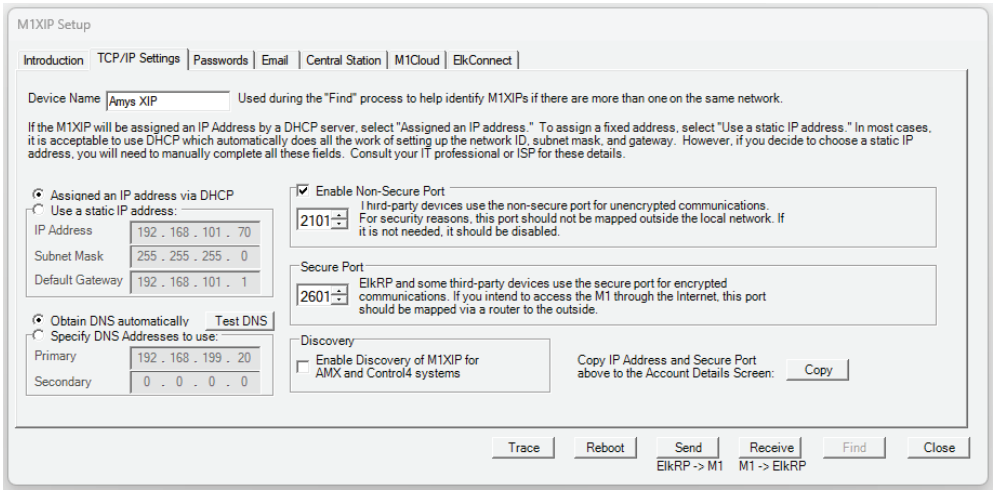
For the initial setup, ElkRP and the M1XIP must be on the same local network. ElkRP cannot "find" an M1XIP outside of the local area network. The M1XIP is shipped with DHCP enabled. If a DHCP server exists on your network the M1XIP will obtain a "*dynamic*" IP address, gateway address, and subnet mask allowing it to work on the local network. If not, use the CONFIG switch to set the M1XIP to the factory static address.



1. Start the ElkRP software and open the desired account.
2. On the account details screen, select M1XIP in the network adapters section.
3. Click the 'M1XIP Setup' button located near the lower right side of the screen. Click the 'Find' button to search the network for M1XIPs. If the installation and hookup procedure has been completed correctly, the M1XIP should be listed on this screen. Only one should be found, unless there are multiple units on the network.
4. Verify that the MAC address in the second column matches the MAC address of the M1XIP. The MAC address is located on a white label on the M1XIP. Note the IP address in the third column. This is the address used to connect/ communicate with the M1XIP.
5. Highlight the M1XIP to be configured and click the 'Use Selected' button. This will copy the IP address and Port settings to the ElkRP Account Details location. Click CLOSE to exit this screen.
6. On the Account Details screen, make sure that the Serial Number is correct and the "RP Access Code" is set to the correct value programmed into the control (default=246801).
7. From the toolbar at the top of the screen, click "Connection", then choose "Network"
8. If everything is setup properly ElkRP2 should now connect to the M1 control through the M1XIP.

CONFIGURATION:

Click the 'M1XIP Setup' button on the account details screen. This screen is organized with tabs at the top for different configuration sections. Click the desired tab to view current settings and make desired changes. To send changes, click the Send button at the bottom of the M1XIP setup page. This can be done for each tab, or after making configuration changes on multiple tabs. After sending some changes, a prompt may appear indicating a reboot of the M1XIP is required for the changes to take effect.



TCP/IP SETTINGS

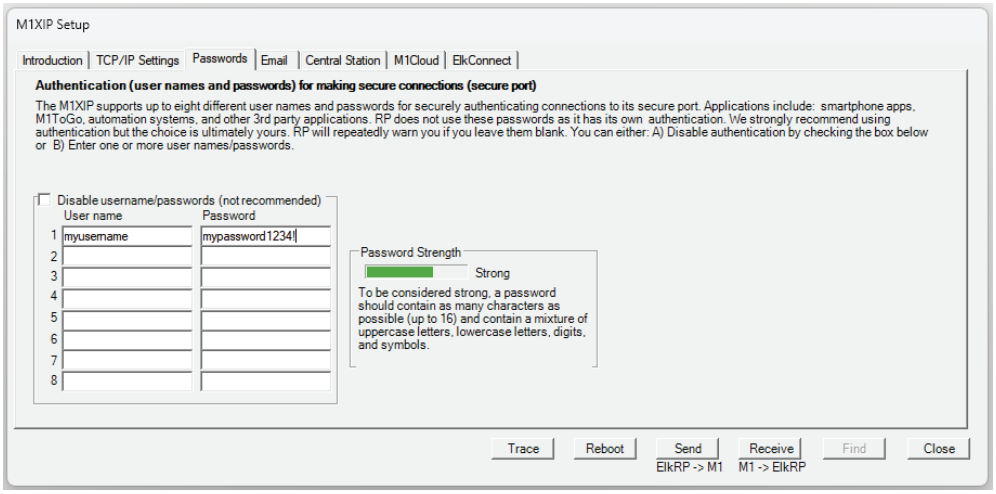
1. At the top, a device name of up to 16 characters may be entered. This name is used during subsequent "Find" processes for quick identification when there are more than one on the same network. It is also used for system identification when the M1XIP has been configured to send email notifications.
2. By default, the M1XIP is set to obtain an IP address from a DHCP server. If desired, the M1XIP can be configured with your choice of a "static" (non-changing) IP address if permitted by the network. The static IP address MUST NOT be assigned to any other device on the network. To set a static IP address, select "Use Static IP address", then

manually enter the IP address, subnet mask, and default gateway.

3. By default, the M1XIP is set to obtain DNS server addresses automatically. If desired, the Primary and Secondary DNS IP addresses may be entered manually. Valid DNS server IP addresses DO NOT end in 0, 1, 254, or 255. The primary and secondary DNS servers must be entered correctly in order for many features of the M1XIP to work correctly. To manually enter DNS IP addresses, click "Specify DNS Address to use", then enter the primary and secondary DNS server IP addresses.
4. Some third party devices use a non-secure port for standard (unencrypted) communications on the local network. If this port is needed, select "Enable Non-Secure Port" and enter the appropriate port number. Values between 1024 and 49151 are valid. The recommended (default) port is 2101. This port should not be mapped (port forwarded) outside the local network for security reasons. If the port is not needed, it should be disabled. To disable the non-secure port, remove the check from the box beside of "Enable Non-Secure Port".
5. ElkRP and some third party devices use a secure port for encrypted communications. Enter the appropriate value for the secure port. Values between 1024 and 49151 are valid. The recommended (default) port is 2601. Port forwarding is not required for remote connections from ElkRP when Proxy (ElkConnect) is used. However, some other third party devices may require port forwarding for remote access.

Do not set the secure and non-secure ports to the same value. Doing so may make it impossible to re-connect to the unit, rendering it unusable.

6. If the M1XIP will be used to integrate with Control 4 or AMX system, check the box in the Discovery section to allow those systems to find the M1XIP on the local network.
7. Send changes to the M1XIP by clicking the Send button at the bottom of the M1XIP setup page. A reboot of the M1XIP will be required.

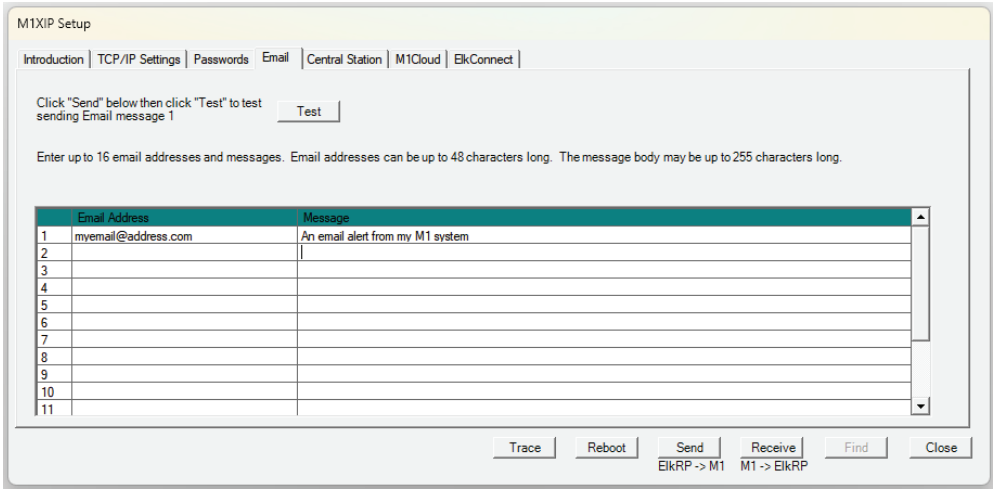


PASSWORDS

The M1XIP supports up to eight different usernames/passwords for securely authenticating connections to the secure port. These may be used with ELK touchscreens and third party applications. RP does not use these usernames/passwords. For security purposes, we recommend enabling usernames/passwords, especially for devices used outside the local network. However, you may choose to disable usernames/passwords, if desired.

- To enable usernames/passwords, enter 1 or more usernames/passwords. Each may be up to 16 characters. A password strength indicator will be displayed when entering each password.
- To disable passwords, check the Disable username/passwords box. This is not recommended, especially if remote access via third party apps and devices will be used.

Send changes to the M1XIP by clicking the Send button at the bottom of the M1XIP setup page.



EMAIL

The M1XIP can provide event notifications via email. Up to 16 messages may be configured, with each message triggered by M1 Control rules for events such as arming/disarming, alarms, zone status, etc.

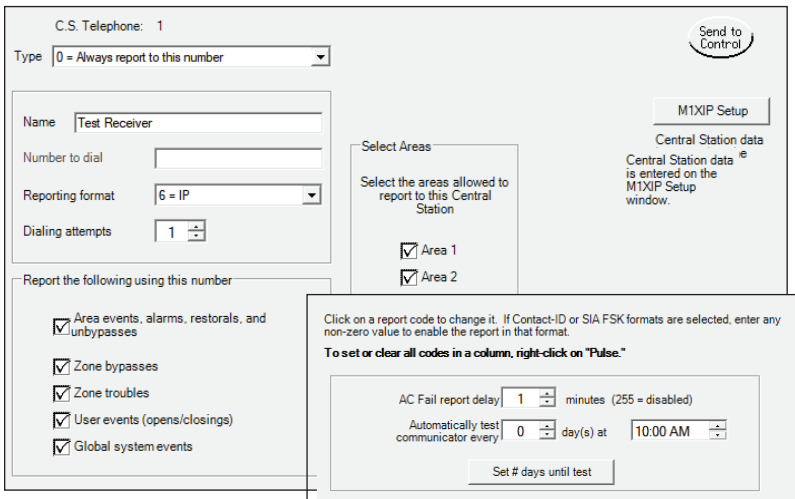
1. To enable email notifications, enter the desired email address (up to 48 characters) and message (up to 255 characters) for each entry on the Email tab, up to 16 entries. Click the Send button at the bottom of the M1XIP setup page.
2. Emails sent from the M1XIP will have a subject line of "Alert from [Device Name of M1XIP]". To test email delivery, make sure all changes have been sent to the M1XIP, then click Test. The M1XIP will attempt to send email message 1 to its configured recipient. Allow a few minutes for delivery, then check the recipient's inbox.
3. Once email notifications are enabled, create rules in ElkRP to trigger the messages. Go to Automation > Rules and create a new rule containing the appropriate WHENEVER/AND statements. In the THEN section, select Send Email Message. A dropdown will display the 16 possible email messages in order, corresponding to the entries on the M1XIP Email tab. Select the desired message and click OK, then send the Rules to the M1.

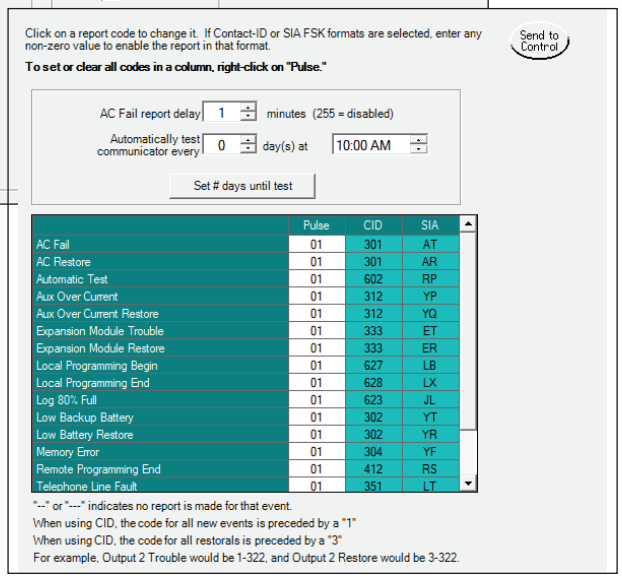
CENTRAL STATION

The M1XIP can send alarm and event reports to Central Stations with Sur-Gard or OH2000E IP receivers. To enable this feature, a Telephone entry with format “6=IP” must be configured for each Central Station receiver, and reporting codes must be enabled in the Communicator section.

In ElkRP, go to the Telephones page and create a new telephone entry. Enter the desired name. Set the Reporting Format to 6=IP. In the “Report the following using this number” section, check the box beside each category of events that should be reported. In the Select Areas section, check the box beside each area that should be reported.

In ElkRP, go to the Communicator section. The Communicator section contains pages with reporting codes for five different categories; Area RCs, User RCs, Zone RCs, System RCs, and Keypad Panic RCs. Review each of these 5 pages and enable/ disable reporting codes as desired. To enable a reporting code, enter 01 in the pulse column. To disable a reporting code, enter 00 in the pulse column.





	Pulse	CID	SIA
AC Fail	01	301	AT
AC Restore	01	301	AR
Automatic Test	01	602	RP
Aux Over Current	01	312	YP
Aux Over Current Restore	01	312	YQ
Expansion Module Trouble	01	333	ET
Expansion Module Restore	01	333	ER
Local Programming Begin	01	627	LB
Local Programming End	01	628	LX
Log 80% Full	01	623	JL
Low Backup Battery	01	302	YT
Low Battery Restore	01	302	YR
Memory Error	01	304	YF
Remote Programming End	01	412	RS
Telephone Line Fault	01	351	LT

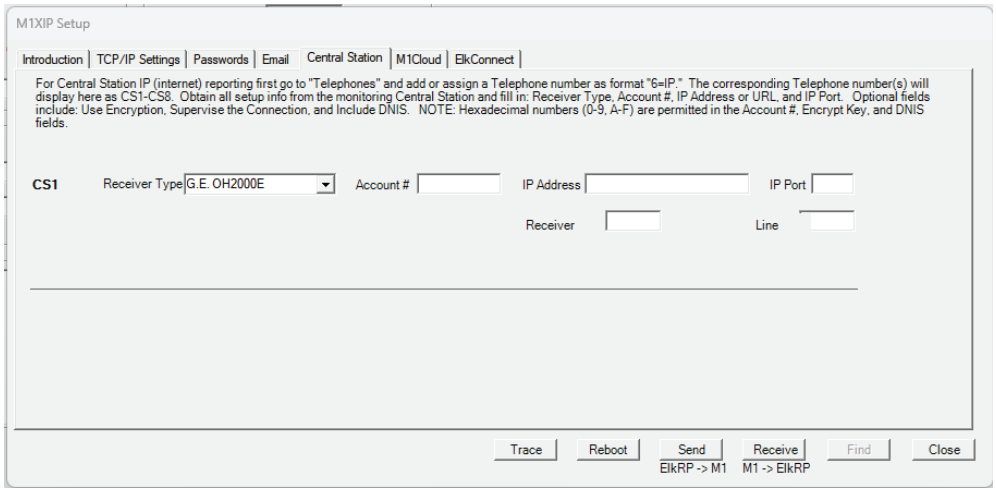
Important: Event reports are sent only when the applicable reporting category and area are enabled in the Telephone Configuration and the corresponding reporting code is enabled in the Communicator section. If either setting is disabled, the event will not be reported.

The receiver type, account number, IP address or URL, and IP port number for the Central Station are entered on the Central Station tab of the M1XIP Setup screen. This information is obtained from the Central Station. Note that the IP Port is the port number the receiver listens on, not the port number the M1XIP sends on.

Select the receiver type specified by the Central Station. Based on the receiver type selected, different options will appear.

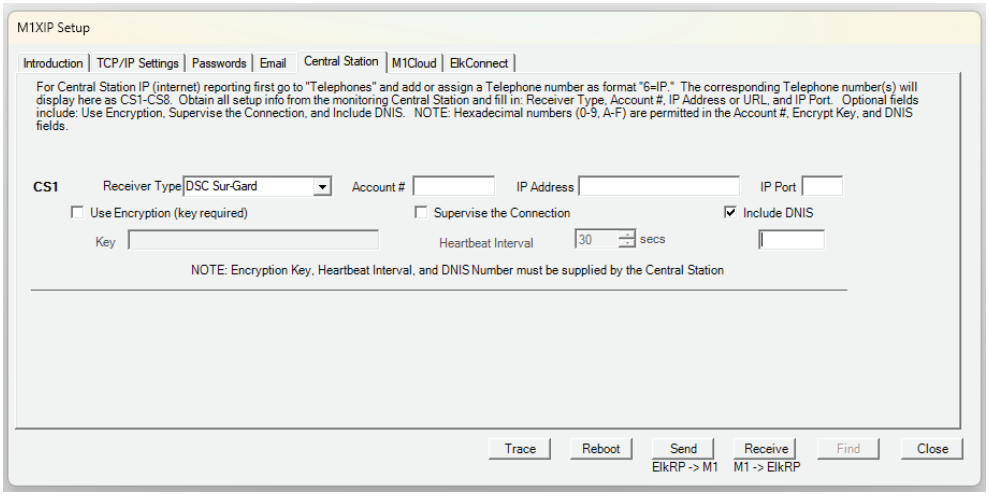
<u>OH2000E Receivers</u>

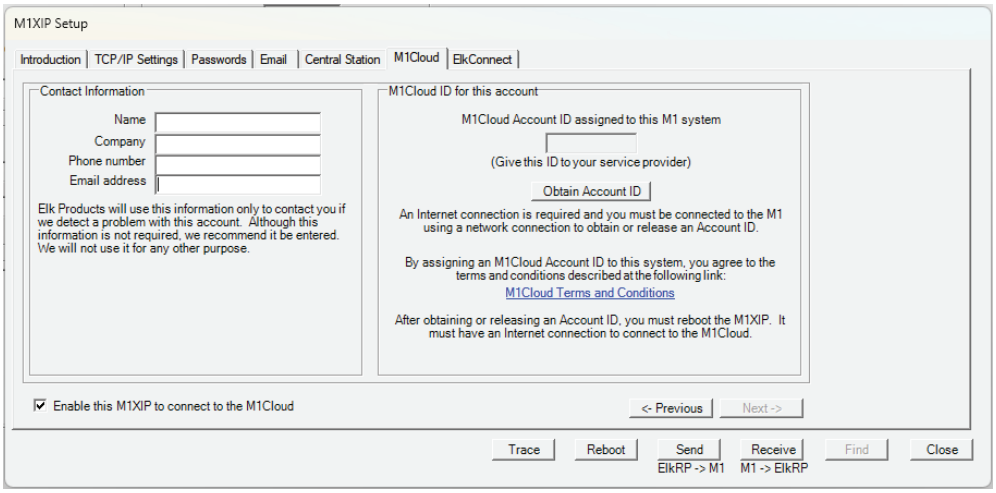
1. Enter the reporting account number. The Account Number must be a decimal value (not hexadecimal) between 0001 and 9999.
2. Enter the receiver IP address and port.
3. Line and Receiver numbers may also be entered as specified by the Central Station.



<u>Sur-Gard Receivers</u>

1. Enter the reporting account number. The Account Number must be a hexadecimal value consisting of characters 0-9 and A-F. Note: The Contact ID format treats the character A as a 0.
2. Enter the receiver IP address and port.
3. If required by the Central station, an encryption key can be entered.
4. If supervision of the connection is required by the Central Station, check the Supervise the Connection box and enter the heartbeat interval provided by the Central Station.
5. If the Central station requires DNIS to be included, check the Include DNIS box and enter the DNIS value provided by the Central Station in the box below.



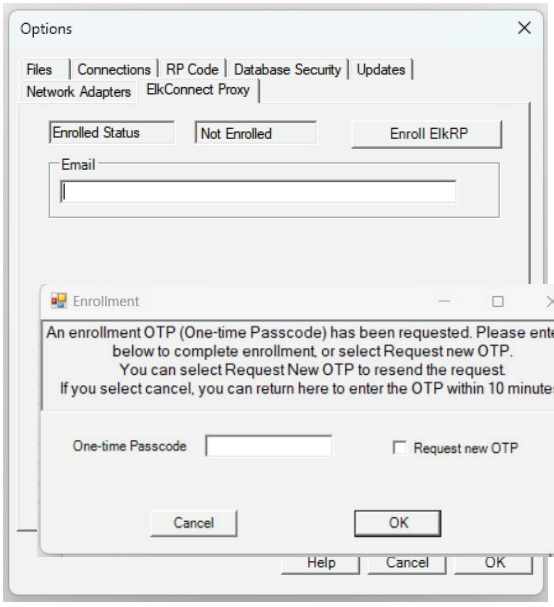


M1 Cloud
M1 Cloud is an optional, value added service that enables customers to access and control their M1 system utilizing third-party service providers like Connect One and Planet M1 (M1 Touch Cloud). To enable these services, the M1XIP must be configured to obtain an M1 Cloud Account ID.

1. Check the box beside “Enable this M1XIP to connect to the M1 Cloud” at the bottom of the M1 Cloud page in the M1XIP setup. Then click Next.
2. In the Contact Information field, enter your name, Company Name, phone number, and email address. This information is not required, but is recommended so the ELK support may contact you in the event we detect an issue with the account.
3. Click the Obtain Account ID button. ElkRP will connect to the M1 Cloud server and obtain an M1 Cloud Account ID.
4. The M1XIP requires a reboot after obtaining the Account ID.
5. The M1 Cloud Account ID will be displayed on the M1 Cloud tab of the M1XIP setup. This ID must be provided to the service provider to enable their services.

Remote Connectivity via Proxy through ElkConnect:

The M1XIP supports remote connectivity with ElkRP via Proxy through ElkConnect. This eliminates the need for port forwarding to connect with ElkRP off site. The feature does not require an ElkConnect account and does not incur any fees. However, ElkRP must be enrolled with ElkConnect to enable this feature.

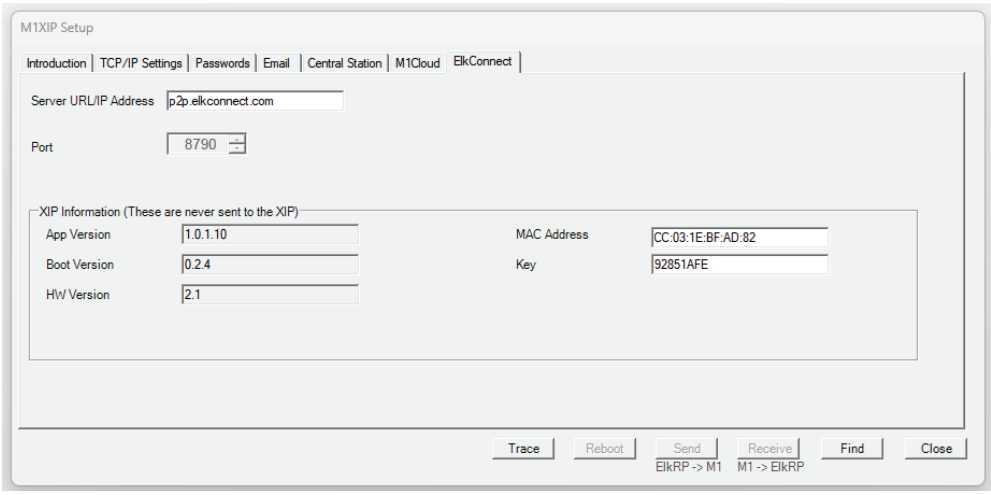


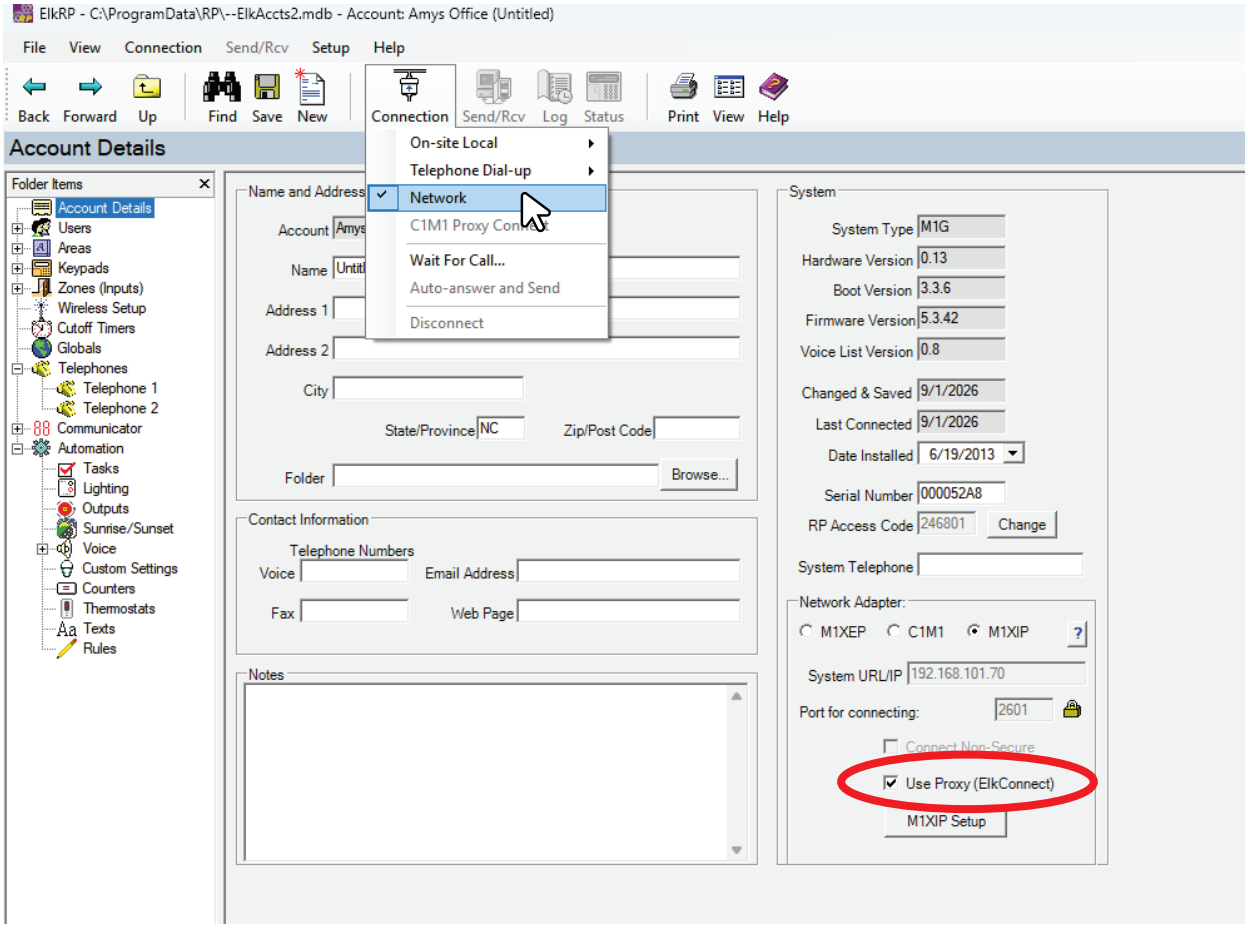
Enrolling ElkRP with ElkConnect
1. In ElkRP, go the Setup menu and choose Options
2. Click on the ElkConnect Proxy tab.
3. Enter your email address. A one-time passcode (OTP) will be sent to this address.
4. Click the Enroll ElkRP button. A confirmation pop-up will be displayed. Click OK to allow ElkConnect to send the OTP (one-time passcode). The OTP will be sent to the email address provided. Check the email inbox for this code. It may take several minutes for the email to be delivered. Check your spam folder. If you do not receive the OTP after 10 minutes, please double check the email address entered and check the Request new OTP box to send a new code.
5. Enter the one-time passcode in the field provided and click OK.
6. An Enrollment Complete pop-up will appear to confirm successful enrollment. Also, the Enrolled status on the ElkConnect Proxy tab will change to “Enrolled”.

ElkConnect Tab in the M1XIP Setup
At the top of this tab, the ElkConnect Proxy server URL and port information is displayed.

DO NOT CHANGE THESE VALUES unless specifically instructed to do so by ELK Products technical support. Changing these values will result in a loss of remote connection capability.

- If you have connected to this M1XIP locally, the M1XIP Information section of this page will display information specific to the M1XIP. This includes version info, MAC address, and Key. Verify the MAC and key match the label on the M1XIP board.
- In the event you are remotely connecting to the M1XIP, without having connected locally beforehand, the MAC address and Key must be entered manually on this screen. Enter the MAC address and Key found on the label on the M1XIP board.





Connecting via ElkConnect Proxy

1. In ElkRP, on the Account Details screen, check the box for Use Proxy (ElkConnect) located just above the M1XIP setup button.
2. Go to the Connection menu at the top and choose Network.
3. ElkRP will establish a connection to the M1XIP through the ElkConnect Proxy. Once connected, use ElkRP to send/receive configuration .changes to the M1 and/or M1XIP as needed.

LIMITED WARRANTY

The ELK-M1XIP IP Communicator is warranted to be free from defects and workmanship for a period of 2 years from date of manufacture. Elk makes no warranty, express or implied, including that of merchantability or fitness for any particular purpose with regard to batteries used with wireless devices. Refer to Elk's website for full warranty statement and details.

FCC AND IC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

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

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage;
- L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3 (B)/NMB-3(B)

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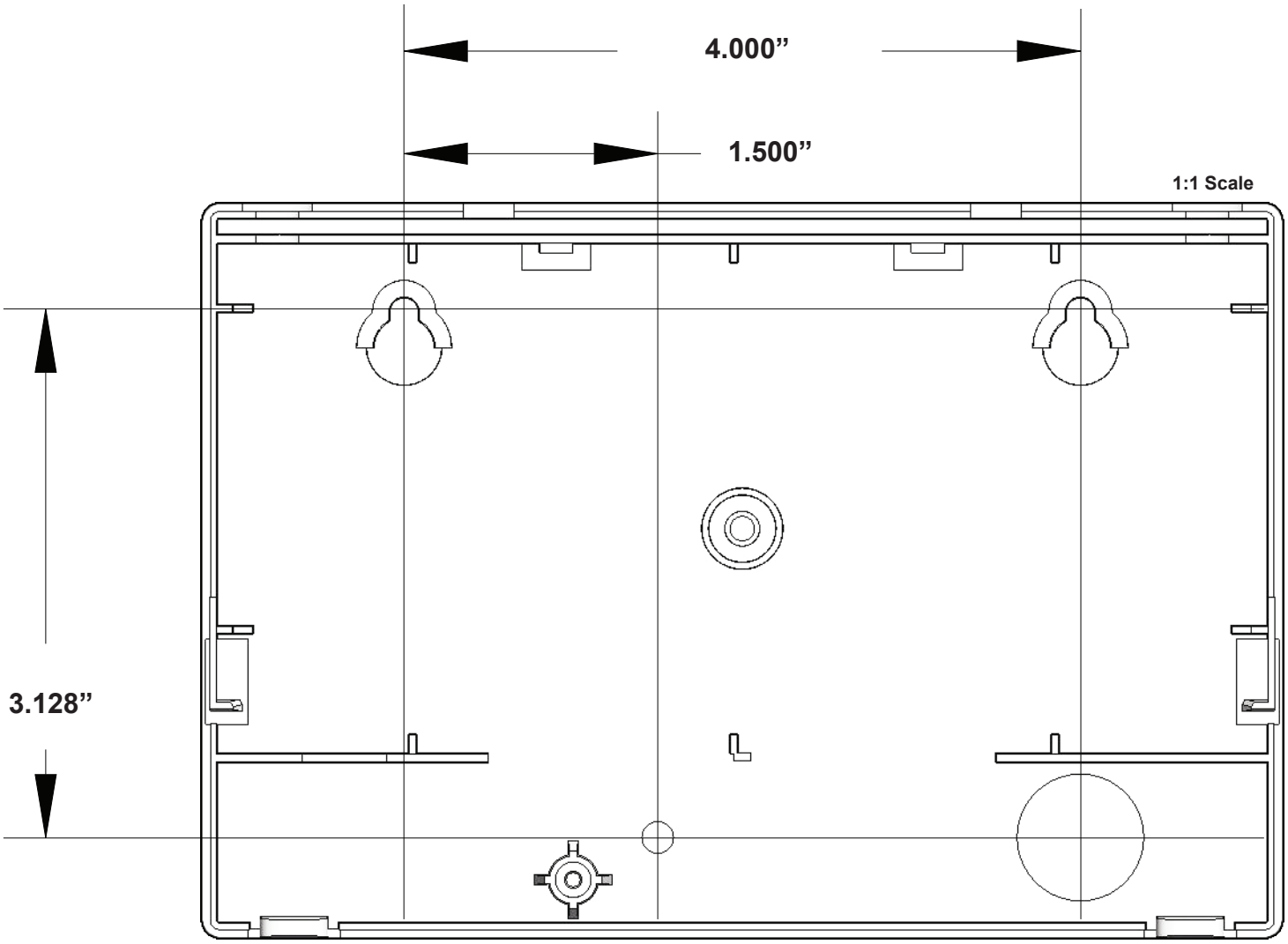
Mounting Template & Instructions for ELK-M1XIP Housing



Mounting Location Guidelines

When choosing an appropriate mounting location for the Network (IP) Communicator, please consider the following guidelines.

- **Environmental conditions:** Mount indoors in a protected area. Avoid areas with excessive heat, humidity, or vibration. Do not mount near HVAC ducts or in direct sunlight.
- **Distance from interference sources:** Avoid mounting near AC power lines, circuit breakers, fluorescent lights, motors, or other devices that generate electrical noise interference.
- **Accessibility for service:** Install the unit where it can be easily accessed for future maintenance or troubleshooting.
- **Mounting surface:** Choose a solid, stable wall or surface that can support the device and ensure secure screw anchoring.

Follow the steps below for mounting the M1XIP housing.

1. Gather tools & parts: the provided hardware pack (containing screws and anchors), drill and appropriate drill bits, screwdriver, pencil, tape measure, and a small level.
2. Remove the front cover from the M1XIP housing by locating the two oval-shaped latches on the bottom of the unit. Press inward on both latches while pulling the cover away from the backplate.
3. Hold the backplate in the desired mounting location to get a general reference of where the mounting keyholes will be located. Take into account required clearances and the location of any wiring that needs to come in through the backplate. Using the supplied template or measure directly to mark the two upper screw locations spaced 4.00” (4 inches) apart horizontally. Use a level so those two marks are perfectly horizontal. Mark the lower mounting hole.
4. Drill pilot holes appropriate for the surface and the anchors you will use:
   - For mounting into a stud or solid wood, drill a pilot hole sized for the supplied screws (#6 x 3/4” pan head sheet metal screws)
   - For drywall or masonry walls, install supplied wall anchors (#6 x 1” plastic anchors).
5. Install the two upper screws into the top pilot holes/anchors, leaving the screw heads protruding approximately 3/16” (about 5 mm) from the wall — enough for the keyhole slots to catch, but not so far they hold the backplate from the wall.
6. Route any required wiring through the hole in the backplate. Hang the backplate by engaging the keyhole slots over the two screw heads and sliding the plate down until the screws seat in the narrow portion of the keyholes. Make any necessary adjustments to the mounting screws to ensure the backplate is hanging flat with the wall and the screws are not too tight when engaging the keyholes. Ensure that any wiring routed through the backplate is not pinched. Check that the backplate is level.
7. With the backplate hanging and level, install the lower screw through the standard lower hole into the wall or anchor. Tighten this lower screw until the backplate is pulled snug to the wall — do not over tighten (tighten by hand or with light torque to avoid cracking the plastic).
8. After completing wiring and installation, replace the front cover. If desired, secure the front cover to the backplate using the remaining #6 x 3/4” screw. The screw recess is located just below the label on the front cover.