EclypX & BasicX Keypad Access Control System By Global Electronics Ltd.
Installation & User Manual

October 2011

Global Electronics, Ltd.
500 N 56th Street
Chandler, Arizona 85226
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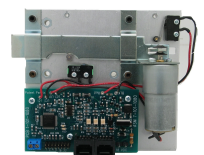sales@global-electronics.com
support@global-electronics.com

Preliminary EclypX and BasicX Digital Access Control Keypad

Global Electronics, ltd. is the Leader in Self Storage Automation and Security Technology!

e-LocX Automated Over Locking System
Axcys Integrated Over Locking Access Control and Security Software
Proxitrol Digital Individual Door Multiplexed Alarm System
EclypX Digital Access Control Keypad
US Patent No.   7221273 1 B1

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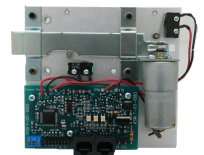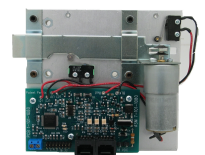**US Patent No. 7221273 1 B1**

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Product Overview

About This Manual

This manual is intended to provide the user with an overview of EclypX and BasicX features, benefits, specifications, set up/installation procedures and maintenance. It also contains important safety information.

Introduction

The performance of the **Axcys Integrated Security System Components** is far superior to any other product designed for the Self Storage Market today. Featuring complete, closed loop acknowledgement between devices and the Host PC, Axcys provides a unique, hi technology security and access control solution.

Ease of use and installation is the hallmark of the **Axcys Integrated Security System.** Axcys Software is simple, reliable and easy to use. Inexpensive and free support options are available. These options include Internet based support and updating to your computer eliminating the necessity for outside technical support or inconvenience to your manager.

The electronic hardware has been designed for years of trouble free service. If replacement or upgrade becomes necessary, due to the modular design simply unplug a card and replace with a new one – just like plugging in an electric appliance!

Both the BasicX and the EclypX Access Control Keypads are designed to be used both indoor or outdoor. Their cases feature a Weather/Water resistant design as do the electronics.

Always Observe local health, safety building and electrical code requirements and guidelines for manual material handling and installation!

Features and Benefits Summary

All Axcys Integrated Security System Components come standard with these features:

1. Perfect for Un-Attended and Manager-less site/store solutions
2. Support before, during, and after your purchase!
3. State Of the Art Technology
4. Vandal, Lightning and Water Resistant!
5. Cases and enclosures designed to resist water intrusion *including horizontal rain.*
6. Expandable – Easily without specialty tools or skills.
7. Easily Upgradeable
8. Free Support options
9. Installation guide
10. Installers Available

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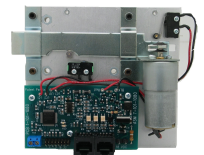
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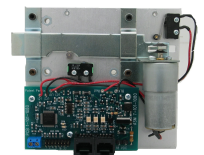
User Programmable features include:

1. Programmable Greeting [changeable a storagable list you can create!]
2. User settable messaging including:
    1. <u>Greeting</u>
    2. <u>Lockout</u>
    3. Entry
    4. Exit
    5. Past Due
    6. Invalid Code
    7. Door Open
    8. More....
1. Automatically open the gate after communication loss of x seconds [user programmable]. The setting is in Seconds and user settable from 0 to 254 where 0 is disabled. Default setting is 0 (disable feature).
2. Change the amount of time the user has to hold the touchpad button for it to be recognized. To increase the debounce setting, raise this value. This feature allows customization to suit your tenants needs – such as the elderly who may need more time.
3. How long to wait for a response from the host; displays no response from host after this timeout.
4. How long to wait for a user to finish putting their code in the touchpad (and hit the Pound key). This feature allows customization to suit your tenants needs – such as the elderly who may need more time.
5. How often to check the gate monitor. User settable from 2 to 254 seconds. This optional feature allows the keypad to check the position of the gate and report it to the Axcys Software, so even if you cannot "see" the gate, you know if it is open, closed or in the middle.

Technical Features

- Closed loop system – all components send and receive information and acknowledge all commands. No data loss due to one way communication – yields a SIGNIFICANT increase in reliability and security!
- Latest Technology
- SMT Construction
- Designed by our Staff Engineers
- Manufactured at Global Electronics, Ltd.'s Phoenix Headquarters
- Expandable, Modular Design
- 16 Mhz 8 bit Microprocessor used throughout – as many as three depending on configuration
- Optically Isolated Communications - Lightening protection and data integrity!
- Extensive lightning TVS Protection
- Multiple LED Indicators
- Fully compatible with existing MSTC Brand equipment – add onto your site with Axcys's components
- Fast communications through high data rate and small packet size
- Fused at critical points with user replaceable fuses and automatic re-setting fuses
- 3 Different Communications formats –

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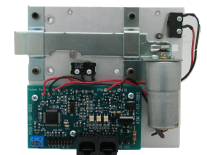
- 1200 Baud modem
- RS485 – fast, hard wired communications proven solid data transmission method
- Wireless – 1 Watt Transceiver output 900 Mhz Frequency FHSS (frequency hopping, Spread Spectrum) FH – Data Security SS – Communication Reliability
  o Embedded Acknowledgement code – 2 layers when using wireless!
  o Self Healing, Auto Routing ensures the highest reliability
  o Weather & Water resistant NEMA 4 Style Enclosures
  o Custom configurable Access Controllers Keypads
  o Water resistant semi sealed case design
  o Intercom Ready feature a waterproof speaker and sealed case design
  o Optional Magnetic Card Reader
  o Optional IC Card Reader
  o Optional Weagand interfaces available
  o Opional Touch Screen available

Axcys Software

- Built on Axcys Technology!
- Supports Windows XP
- USB Ready
- Includes a suite of prepared reports and a report writer
- Integrates with all major Management Software Systems
- Integrated Data Back Up.
- Integrated Power Back up system available
- Offsite Data Backup available
- Included DiagnostyX software included to aid in installation and hardware trouble shooting

Firmware

  o Fast communications through high data rate and small packet size
  o Checksum – Ensures Message Integrity and reliability
  o Bi Directional Acknowledgement Code (Ack Code) –Ensures Communication Reliability and Security
  o User defined Addressing capabilities included

Optional Features

- Battery-backup
- Intelligent Power Supply
- RS485 Repeater modules
- 1200 Baud Modem, 9600 Wired RS-485 or Spread Spectrum, Frequency Hopping wireless communication
- Gate Position Monitor (Open/Closed/Neither)
- Door Position Monitor (Open/Closed)

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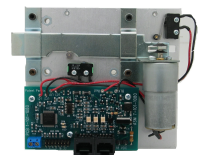
Best Practices & Precautions!

Electrostatic Discharge (ESD) precautions

Before performing any set up or placement procedures, take the precautions outlined in this section.

important

Be sure to take appropriate Electrostatic Discharge (ESD) precautions. Disconnect the power source before moving, cabling, or performing any set up procedures.

Best Practices

Note

Always remove power whenever adding or replacing modules. Do NOT hot swap!

- Always observe your local laws and ordinances.
- Use non-plenum wire unless directed by local code.
- Always use a **_Regulated_** Power Supply!
- Use Industry standard Best Practices unless specifically directed to deviate by Global Electronics, however always conform to any laws and ordinances.
- Beware Static! Always practice ESD Safe Handling
- Because each site is unique, we advise you consult with Global Electronics, Ltd. for Power supply locations, size and voltage; wire gauge and data wire specifications for **_YOUR_** unique site requirements
- Drain wire should be attached at the Keypad ground point end **_only_**. This should only ever be attached this one end, never at the PC end or at another point . If spices are made (not recommended) splice the drain wire also. Do not terminate at the splice.
- Ground wire must be attached to the rear case stud. The case MUST be properly earth grounded top prevent damage **_AND_** limit electrical shock hazard!
- An earth ground stake must located within 3 feet of each keypad and must be set at least 18" or whatever your local ordinances require. Beware of other underground objects from utilities etc. ALWAYS contact your local utilities and/or Blue Stake BEFORE digging!
- Connector Attachment - How to attach connectors to circuit boards. **The connectors supplied may physically be attached in two different**

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Connector Attachment

Quick release screw-down terminal block for the 18V power and power connections is provided for easy connection to the external power supply.   These connector block (terminal blocks) are removable and do not require the removal of the wire(s) from them to remove them from the circuit board.

The connectors supplied may physically be attached in two different orientations. HOWEVER, one method is preferred over the other. If you choose to use the NON-RECOMMENDED attachment, you may have intermittent contact, yielding un-reliable results.

This is the preferred method over the non-recommended method. Note that the wires exit the PCB parallel to the board. Not vertically.

This picture illustrates the NON-RECOMMENDED method for attachment.

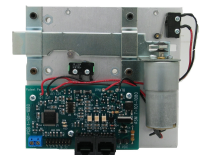*__Global Electronics, ltd. is the Leader in Self Storage Automation and Security Technology!__*

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In General

- Always use stranded wire.
- Always use cable that has a shield with a drain wire.
- Calculate voltage drops and select the correct gauge wire accordingly!
- Use 18AWG stranded wire for transmitting DC Power from keypad to keypad
- Use only RS485 Compatible wire. See the section entitled "Data Wire Specifications"
- Use no less than 20AWG stranded cable the has a shield and drain wire when your keypads are equipped with a 1200 Baud Modem.
- _Attach the Drain wire_ to the appropriate ground wire on the _Remote Device ONLY._

Power Supply

Axcys EclypX and BasicX Digital Access Control Keypad require a **regulated** 18VDC @ 1000 mA (typical minimum). Details appear below.   For new installations or re-wiring, Global Electronics, recommends that you contact a certified installer, or Global to provide specific power/communications details for your particular site. For a list of certified installation companies, please contact Global Electronics, Ltd. directly.
Power wiring (and Data Wire) may be daisy chained but keep in mind distance vs. voltage drop. Also the more remotes on the same power supply, the larger the wire must be and the more current the supply must be capable of handling.

Polarity!

Be sure to attach the positive wire to the pin labeled + and the negative to the pin labeled -.
Reversing polarity may damage the unit.

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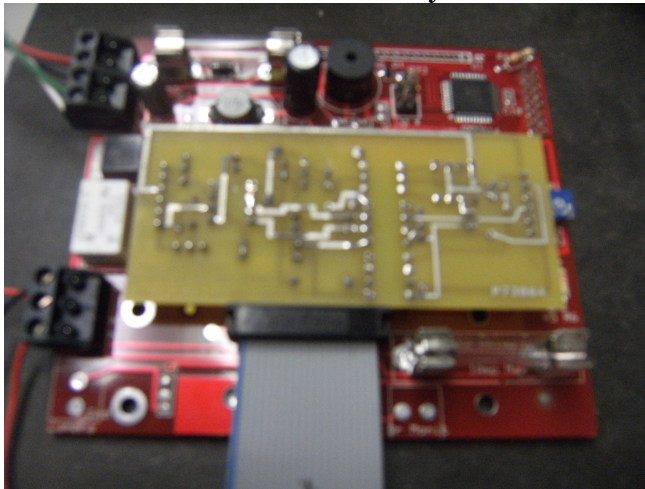**EclypX**   Digital Access Control Keypad
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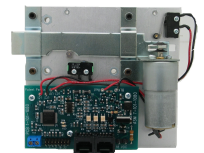
Note

Supply voltages over 18 VDC or under 12 VDC, at each device, may damage the keypad or other devices!

Electrical Specs

1. 18V *Regulated* DC – All Axcys Remotes (EclypX and BasicX Access Controller Keypad, ProXitrol Multiplexed Alarm System and Lock Controller)

2. Multiple (generally 2) **EclypX and BasicX *Digital* Access Control Keypads** can be placed on same supply (consult Global for limit).

3. Because each site is unique, we advise you consult with Global Electronics, Ltd. for Power supply locations, size and voltage; wire gauge and data wire specifications for *YOUR* unique site requirements

Power Supply Specifications

Use only Global Electronics, Ltd.'s supplies. They have been selected, and the products design has been based around, the power supplies that Global stocks and recommends. Using a power supply not obtain from Global, and meeting Global's *exact* specifications, may result in un-satisfactory results including damage to your unit(s). Further this will void the warranty.

Power Supplies available

1. 1A @ 18VDC
2. 2A @18VDC
3. 2.5A @ 18VDC
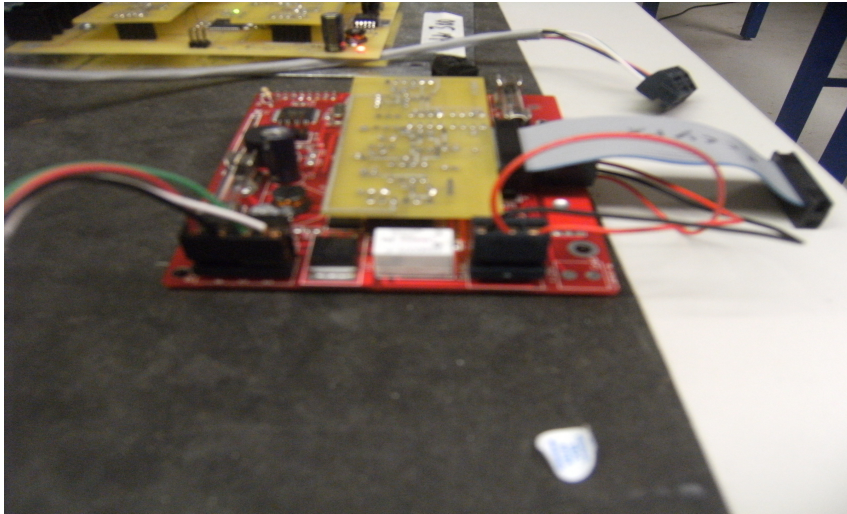4. 4 Amp Intelligent Power Supply

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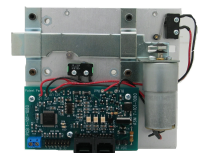
Wiring Topography

1. Power and Data wire may be run from device to device in parallel.

Gate Operator

A pair of wires from Each keypad must go to the gate operator. See your Gate Operator Manual for connection points

Exit KP

Computer

Office

Entry KP

Power and Data wires come from Office and can be paralleled Together to each keypad.

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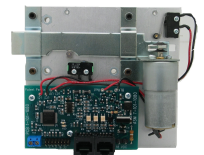
Wire Specifications

Best to request Globals' engineering department to review your site plan, then advise you of its recommendations for Power and Wire Size(s) etc. Various aspects must be considered when designing the wiring topography for a particular installation. Many elements must be taken into consideration including but not limited to:

1. Distance
2. Current Draw
3. Voltage Drop
4. Wire Gage (size)
5. Length
6. other...

Be sure to consider all of these elements when designing your installation. Consultation may be available from Global upon request.

Recommended Wire Specifications

In General

- Always use stranded wire.
- Always use cable that has a shield with a drain wire.
- Calculate voltage drops and select the correct gauge wire accordingly!
- Use 18AWG stranded wire for transmitting DC Power from keypad to keypad
- Use only RS485 Compatible wire. See the section entitled "Data Wire Specifications"
- Use no less than 20AWG stranded cable the has a shield and drain wire when your keypads are equipped with a 1200 Baud Modem.
- ***Attach the Drain wire*** to the appropriate ground wire on the ***Remote Device ONLY***.
-

Data Wire Specifications:

For data wire, we recommend only wire that conforms to RS485 specifications. At minimum, it must meet or exceed the RS485 spec, be twisted pair, stranded, shielded, with a drain wire. Although most any size wire may be used for data, it is recommended to use the largest guage possible (and reasonable) for your application. This will aid in reducing wire breakage over time. Also consider the use of "direct burial" wire when placing in old conduit.

18-02 OAS STR PVC Grn Stripe PN 014106-S
http://www.smartwire.com/PDF/014100.pdf

18-02 OAS STR PVC Pur Stripe PN 414105-B
http://www.smartwire.com/PDF/414100.pdf

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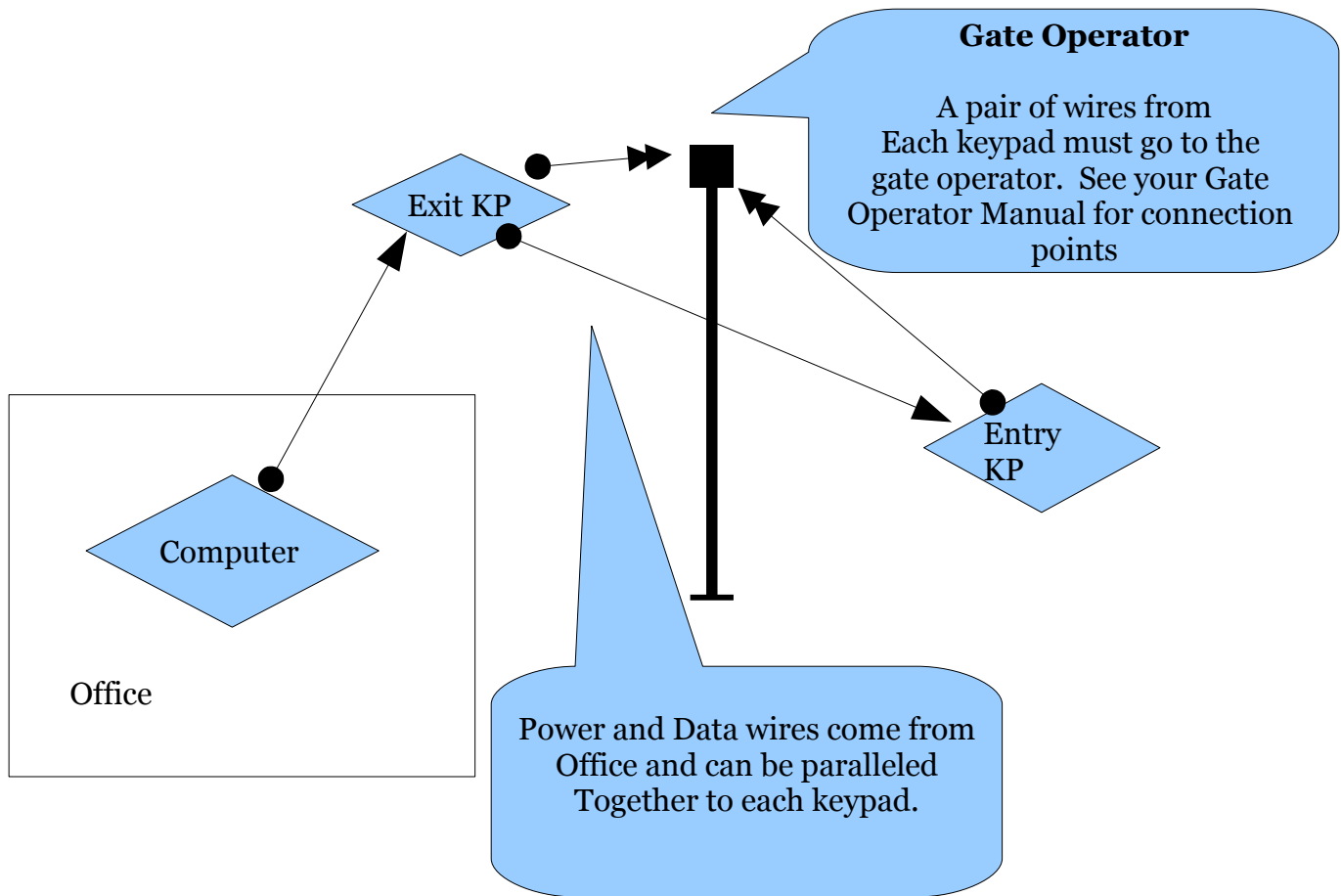

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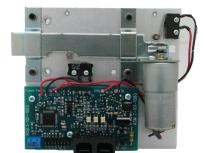
Part numbers are from Windy City Wire 1.800.379.1191
Also recommended is Belden 9841, Alpha 6412. These are 2 conductor, 24 Awg 300V 120 Ohm single, twisted pair wire – again for data wire only.
No matter which brand, data wire must meet or exceed the EIA 485 specifications. Use of other type or brands of wire may result in unsatisfactory results.

Sources for Power & Data Wire

Your regular source for wire and cable may be able to help you, however these are some alternates.
Windy City Wire 800.379.1191
Carlton Bates 888-280-7706

 Note

Phone numbers, part numbers and other data listed here may change without notice. Contact your local wire supply house or Global for more information if required.

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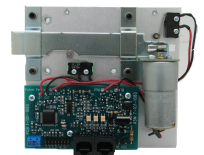
Setup and Installation Instructions

NOTE:

On start up, each keypad will display only the **DATE and TIME**. It will scroll between date/time and a BLANK screen. ***This will change only AFTER the computer sends the user defined GREETING to the keypad.***

Board Elements

The following picture shows the major board elements that the user may need to be aware of. They include:

Power/Data Connector
Gate Wire Connector
Camera Power Connector
Gate Position Detector
Door Position Detector
Power Fuse
Gate Relay Fuse

Data Indicators

There are 3 LED indicators on the back of the board. From left to right these are
1 Send (Reply to the computer)
2 Receive (Receive data from the computer)
3 Heartbeat – the keypads is alive and functioning.
Contrast Adjustment (LCD Display)
Comm Format Module Connections
Ribbon cable connection to Touchpad

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18VDC In
+
-

Data I/O
+
-

Gate Relay
Common
N/C
N/O

Optional Pin
Hole Camera
Power N/O
+
-

Txd

Rxd

Heartbeat

Contrast
Adjust

Comm
Format
Module
Connector

Touchpad
Connector
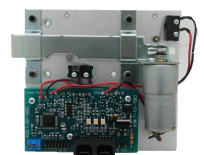
Adjust LCD Contrast

EclypX keypads are shipped with the LCD adjusted for best contrast. This however can change due to temperature and humidity changes. To adjust this setting, using a small screwdriver turn first one way, then the other to find the optimum setting.

Mounting

Mount the rear case to a goose next using your preferred mounting technique. Global installers usually use #8 or #10 Self Tapping Tek Screws. Sometimes it is possible to use the 3 key shaped holes in the rear of the case, other times, due to the mount supplied by the goose neck, it is necessary to make new holes in the rear of the case for mounting. In either case, make sure any unused holes are sealed using silicon to prevent water, bugs and other elements from entering the case.

After all wires are connected and testing is complete, Global recommends a **small** bead of silicone be placed on the top 3 surfaces (even though there is a gasket this is an extra step to prevent intrusion).

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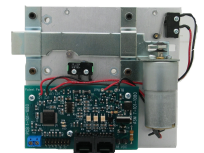
!Warning

Be certain to properly ground the keypad and the goose neck (or other mounting provision) as shown in the Earth Grounding Section!

!Warning

Be certain to firmly attach the supplied ground wire from the Keypad face plate to the ground lug inside the rear case.

Data Wire Installation

Data wires are attached the connector labeled J7 and Data. RS485 communication protocol uses polarity sensitive wiring. Communication wiring must be to the specification listed previously in this document. Attach the positive wire to the connector position Labeled Data +, the negative to the position labeled Data – and the drain wire to the position labeled GND.

At the Computer end, all data wires must be joined at a single location. Be sure to maintain proper polarity throughout. Use a terminal block or barrier strip to accomplish this. From the barrier strip, a single pair of wires need to make its way to the comunicator where it will use the supplied green connector.

!Warning

A drain wire from the shield MUST be attached to the GND Data Connector to protect the device from Lightning! Only connect this to the remote (keypad) end!

Gate Motor Relay Installation

Wiring to and from your gate motor must be attached to the connector block labeled Gate Relay. Provided are 3 pins, Common, Normally Open and Normally Closed. The relay is protected by a 1A fuse. Normal installation utilizes COM (Common) and NO (Normally Open). However your particular installation may differ. Consult your Gate Operator Manual.
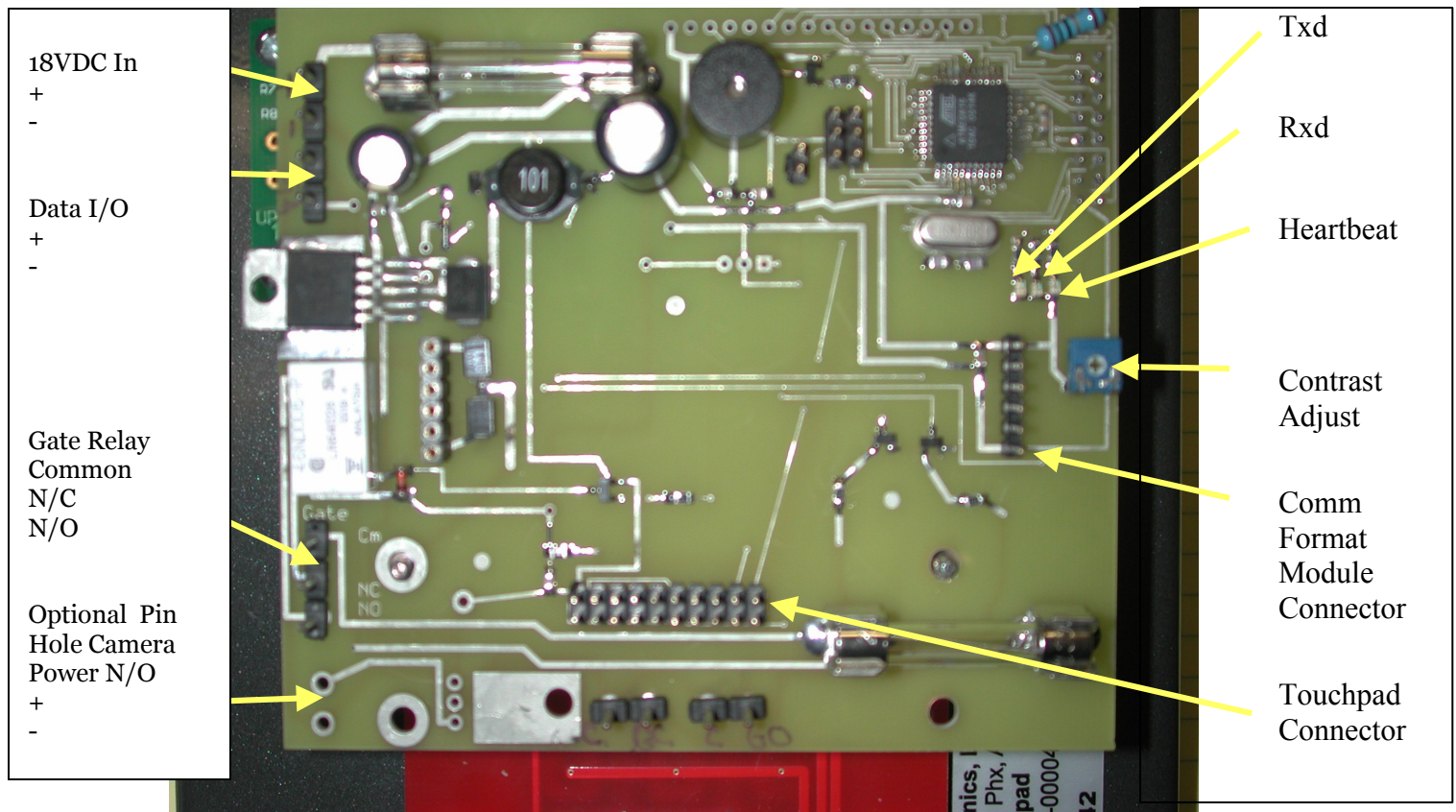
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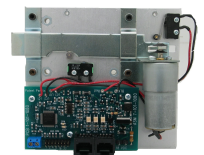
Installing Optional Pin Hole Camera

Pinhole cameras are supplied only as an option with EclypX model Keypads. They come complete with mounting power connector (to the provided on-board power supply) and a BNC video connector.

Installing Optional Intercom Option

The Intercom ready option only as an option with EclypX model Keypads.   It includes the necessary components to make the keypad a station ready to work with an Aiphone Brand LEF system.

! Warning

The purchase of this option does NOT provide a complete Intercom. The option requires the use of an Aiphone LEF Intercom system.

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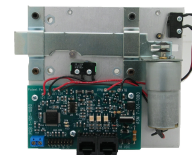
Proper Earth Grounding

A ground lug is provided on the inside rear enclosure. Additionally, a ground wire should be attached from any available screw in the front enclosure housing to the rear enclosure lug. Then a ground wire from the rear enclosure lug to earth ground. This will provide a path for lightning and static electricity.

A proper Earth Ground Rod must be installed to ensure proper grounding and prevent damage to keypads. You should use 1 ground rod for each keypad.

EARTH GROUND ROD INSTALLATION

Proper grounding gives an electrical charge, such as from an electrical static discharge or a near lightning strike, a path from which to dissipate its energy safely into the earth.

Without this path, the intense energy generated by lightning could be directed towards the gate operator. Although nothing can absorb the tremendous power of a direct lightning strike, proper grounding can protect the gate operator in most cases.

The earth ground rod must be located within 3 feet from the gate operator. Use the proper type earth ground rod for your local area.

The ground wire must be a single, whole piece of wire. Never splice two wires for the ground wire. If you should cut the ground wire too short, break it, or destroy its integrity, replace it with a single wire length.

⚠ WARNING

To AVOID damaging gas, power or other underground utility lines, contact underground utility locating companies BEFORE digging more than 18" (46 cm) deep.

Single piece of 12 gauge copper wire attached to the operator's chassis ground.

Check local codes for proper depth.
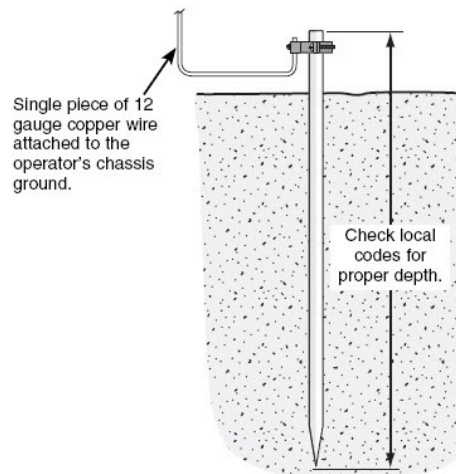
! Warning

Improper grounding may cause personal or property damage or injury. Global not responsible for any injury or damage!

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e-LocX Automated Over Locking System
Axcys Integrated Over Locking Access Control and Security Software
Proxitrol Digital Individual Door Multiplexed Alarm System
EclypX Digital Access Control Keypad
US Patent No. 7221273 1 B1
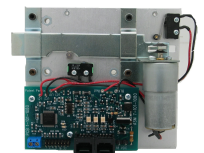
Converting From MSTC Keypad
Replacing an MSTC keypad with a BasicX or EclypX keypad
NOTE:

On start up, each keypad will display only the **DATE and TIME**. It will scroll between date/time and a BLANK screen. ***This will change only AFTER the computer sends the user defined GREETING to the keypad.***

WARNING!
Never plug in, unplug, remove PCB modules when the unit is powered on. You may unplug only the power connector while power is turned on.

Step 1.
Remove the 4 pin black connector from the MSTC keypad by pulling the black connector directly up from the board.

Step 2.
Remove the 7 position connector from the bottom of the MSTC board.

Step 3.
Rotate the 4 position black connect as shown (180 degrees from what it was before) then and insert into the pins. Power should now be on.

Step 4.
Connect one of the wires from the 7 position connector on the MSTC keypad to the position marked 'C' and the other wire to the position marked with a "NO".

Preliminary EclypX and BasicX Digital Access Control Keypad

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US Patent No. 7221273 1 B1

Power & Data Connections

Pin 4 Data Line 1

Pin 3 Data Line 2

Pin 2 15 v PS Gnd

Pin 1 + 15v PS Supply

NC – no connect Pin7

NO Pin6

Gate Relay Common Pin5

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+18v
-18v

Data1
Data2

Gate Relay
Common

NC – no
connect

NO

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EclypX Digital Access Control Keypad
US Patent No. **7221273 1 B1**

What the lights mean

There are 3 LED indicator lights.
1 – Heart Beat
2 – Receive Data
3 – Reply back to computer

When working properly the receive data LED will go on then immediately after the Reply LED will go on. The heart beat blinks periodically to indicate that the brains are working.
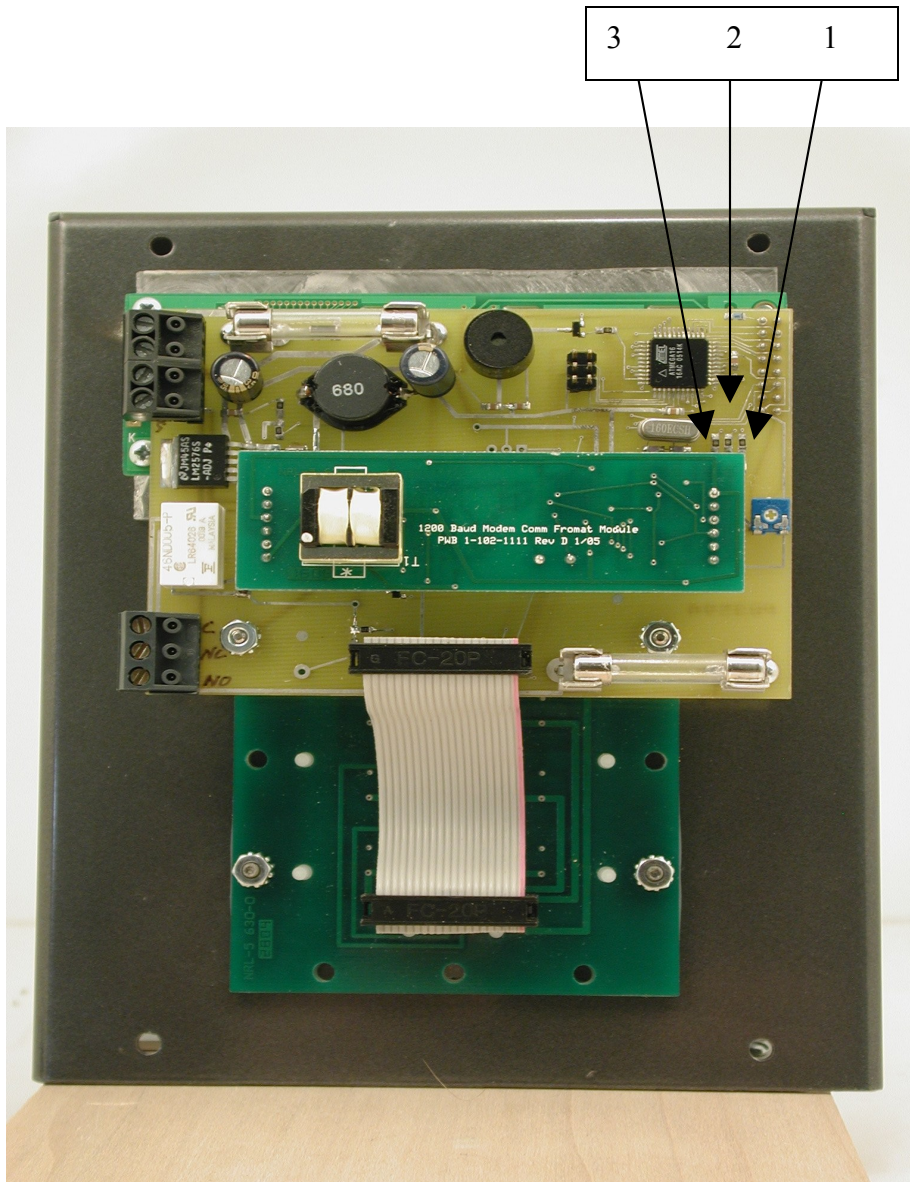
Preliminary **EclypX and BasicX Digital Access Control Keypad**

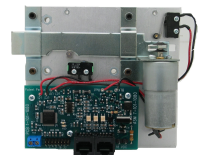***Global Electronics, ltd. is _the Leader_ in Self Storage Automation and Security Technology!***

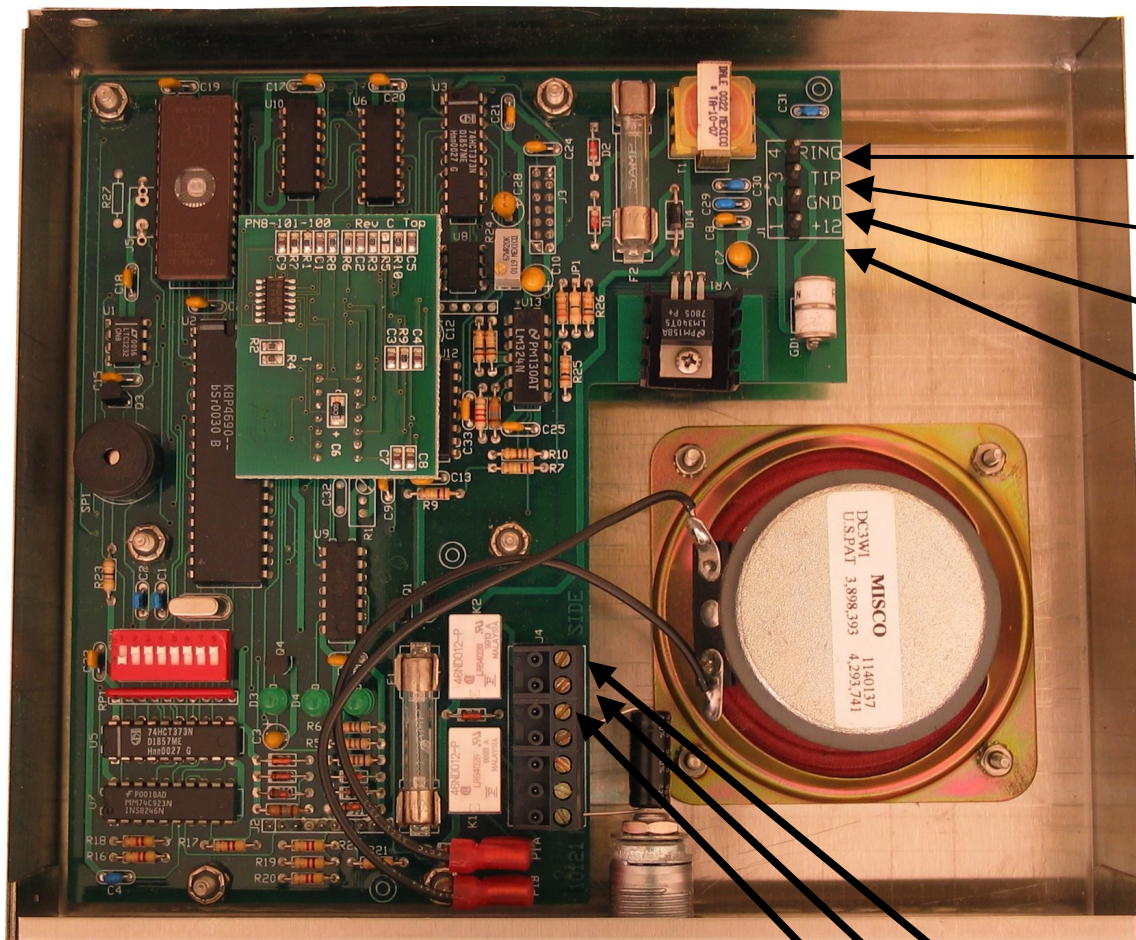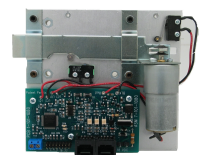**e-LocX** Automated Over Locking System
Axcys Integrated Over Locking Access Control and Security Software
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EclypX Digital Access Control Keypad
US Patent No. 7221273 1 B1

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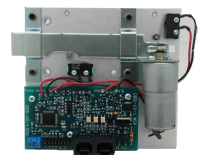
Getting Ready To Run!

Programming EclypX and BasicX Digital Access Control Keypad Address

Programming the address for each of your keypads must be done using our DiagnostyX software.   By default, the keypad is shipped with an address of 52719.
You MUST disconnect ALL other devices that are new and/or are on this address. If you do not, they ALL will be changed! Disconnection can happen by either removing power or data from those you do not want to program.

To change this set address, start DiagnostyX. Enter the address 52719 on the screen and click the button **Start Polling**. You will see records appearing on the main screen showing good or bad communication. Also the Red/Green box in the bottom of the screen will be green if good. If you are not receiving good communication, go to the trouble shooting part of this document for more help.

Once good polling is being achieved, click on the tab marked **Test Axcys**.

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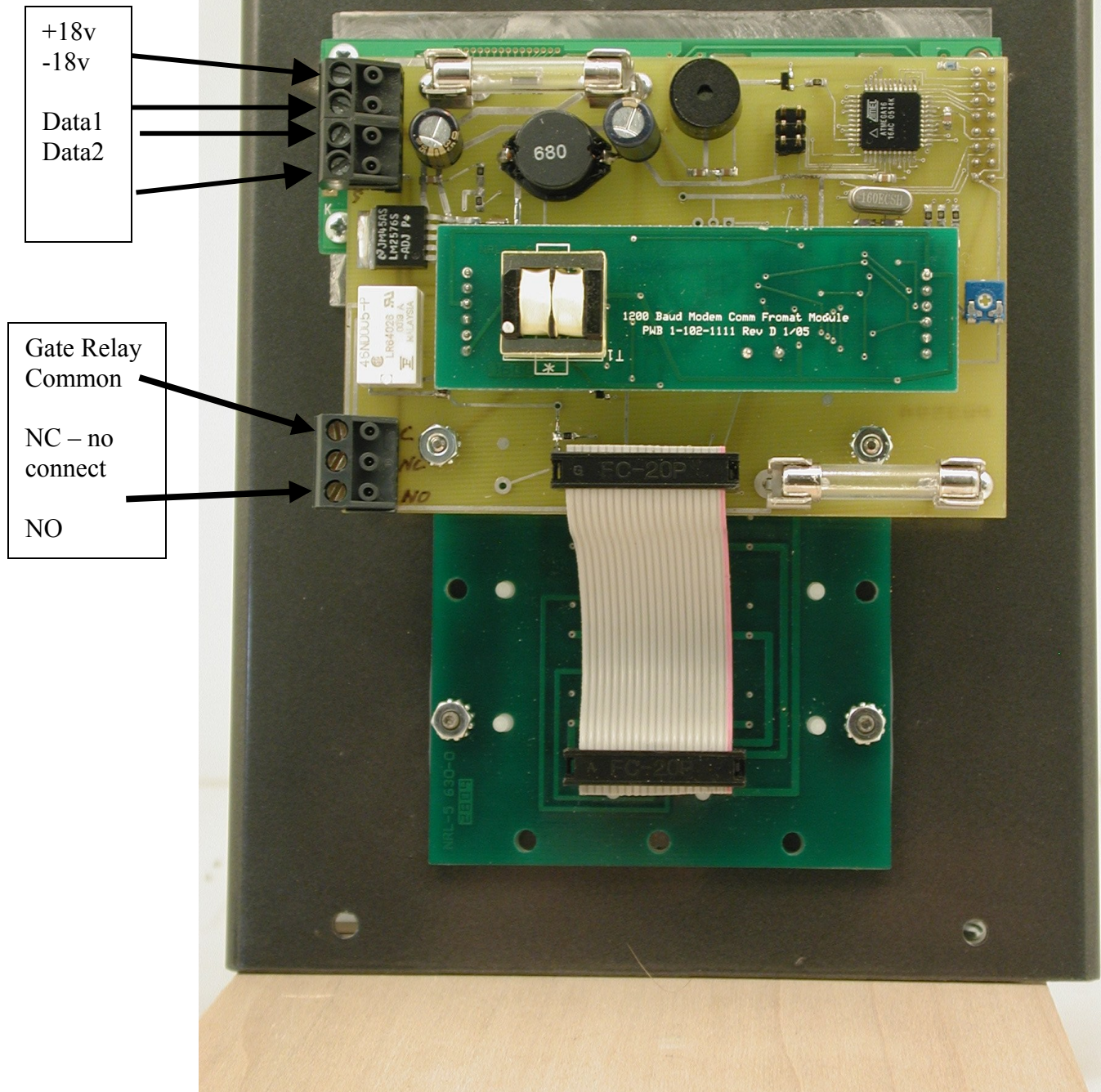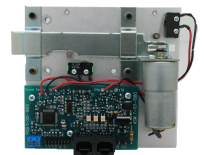 1. **Axcys**   Integrated Over Locking Access Control and Security Software
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**US Patent No. 7221273 1 B1**
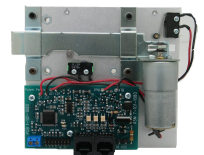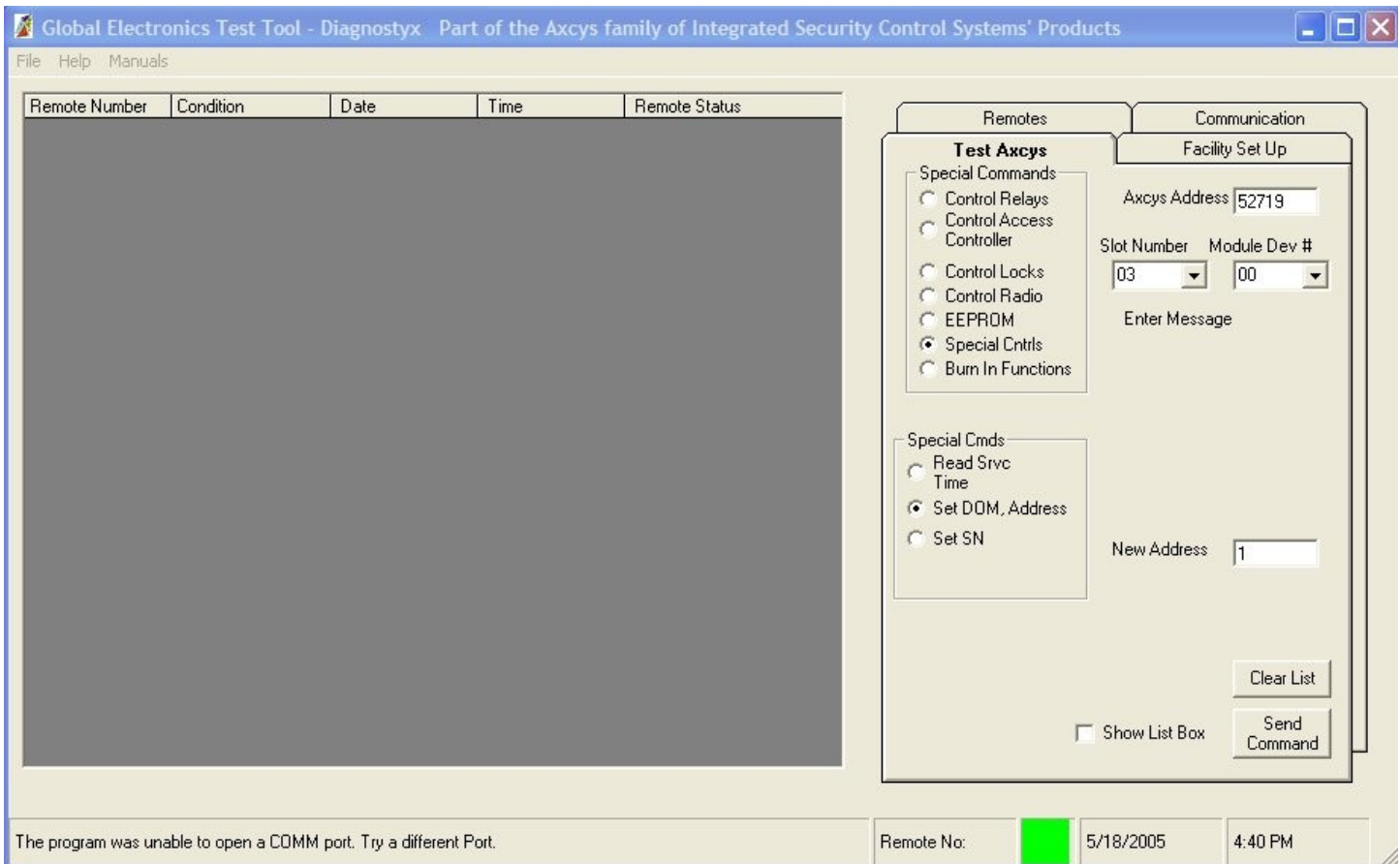
Enter the address 52719 into the field **Axcys Address**. Click on **Special Controls**. Then click on **Set DOM, Address**. Enter the NEW address you want this device to be set at in the field labeled **New Address**. Click **Send Command** button.

After setting the address, return to the remotes tab and click the **Stop Polling** button. It will then be necessary to stop and re-start the program.

!Warning

DiagnostyX was NOT designed to be a commercial product. While we have made every attempt to remove problems you may still encounter Issues. Please forward any concerns to suggestions via email.

!Warning

It is possible to have more than one remote device installed with identical addresses. Units normally ship with a default address of

Preliminary **EclypX and BasicX Digital Access Control Keypad**

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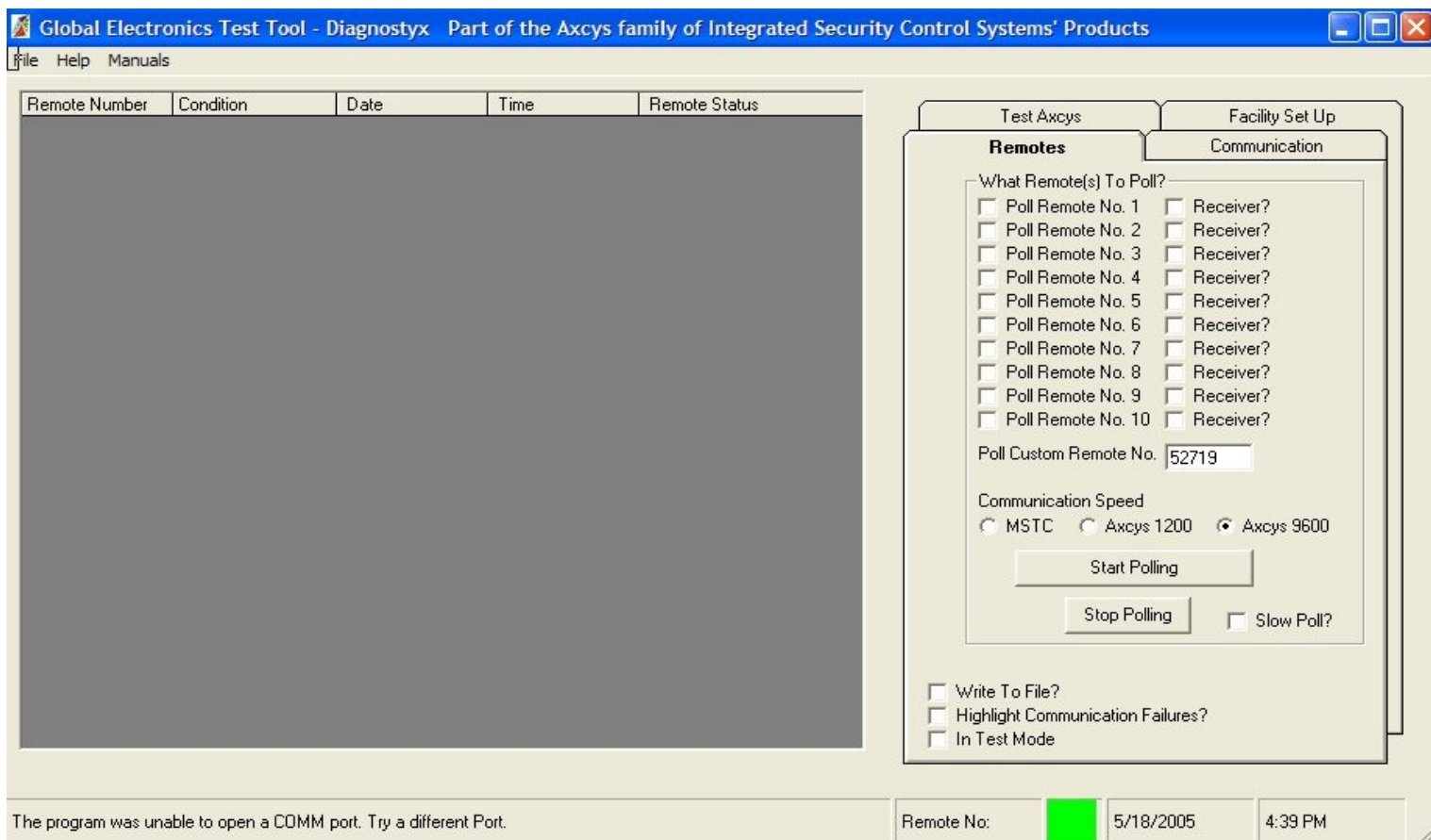**EclypX** Digital Access Control Keypad
US Patent No. 7221273 1 B1
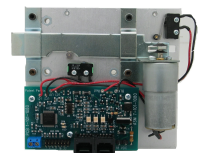
52719. However, we occasionally pre-set the addresses for units upon request by the customer.

!Warning

Disconnect all remotes having the same address number from the daisy chained line by either removing their power or data cable.

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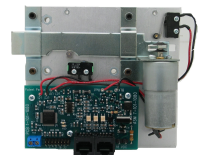
Programmable Features:

> ### İmportant
>
> Some features available only on models shipped after 3/09 – or
> having been re-programmed after 3/09

Both the BasicX and EclypX models include programmable features to allow the user to customize the look and feel of these keypads. These features are programmed using Diagnostics and and Axcys / Axcys Embedded. All may be "reset" to factory using Diagnostyx. The features include:

1. Date & Time Format – User can select either US or UK/EU date and time formats.
    1. UK/EU Format: Date: Day/Month/Year Time: Hrs: Minutes Hrs   Example "19:50 Hrs"
    2. US Format: Date: Month/Day/Year Time: Hrs: Minutes Am/Pm   Example "7:50 PM"

2. Keypad Display Language – All Global Electronics' keypad products can be customized with the users language. The user is able to "free-form" enter messages for the tenant to see and understand in their own language. Certain characters however cannot be display such as certain Russian and German characters.

3. play Messaging – There are several levels of display messaging available to the facility. The two main types of messaging are Response Messages to tenant input, and Instruction Messages. - NEW 10/10/11 Axcys Ver 5.1 and higher

    **Note ** if you elect to use custom messaging, ALL messages must be used – you cannot use a combination of custom and non-custom. Although, you CAN copy the standard messages and utilize them if you like.

    1. Response Messages – There are many available. The main Response Messages include messages for "Locked out", "Invalid Code", "Greeting" and "Good Bye". These are all set up in the main software (Axcys or Axcys Embedded).

    2. Instruction Messages – These are messages that are programmed into the Keypad. Although all keypads are typically set up the same, each keypad can be differently but requires a little more set up work to accomplish. Global recommends keeping all keypads the same.

        Instruction messages include -
        *All are customizable with your language as you see fit. The following demonstrate examples only.

        *All but the second line of PIN Code Entry may have 20 Characters available. PIN code entry may have at most 8 characters.

Preliminary EclypX and BasicX Digital Access Control Keypad

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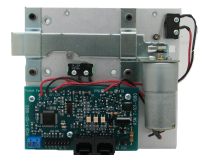
Line 2 Instruction -   The default for this instruction is: "Press * Your Code #". This instruction appears under the Date and Time. It rotates with your greeting screen.

Pin Code Entry Instruction
1. Line 1 - "Enter access code   "
2. Line 2 – "Code:"

Sending PIN Notification
1. Line 1 - "Sending access code "

1. Security PIN Mask Entry– The PIN code may be masked by any character the user desires OR the actual PIN may be displayed. The default setting is to display the PIN on entry. Mask characters include characters such as * & # $. However there is no limit to which character may be chosen providing virtually all ASCII character, aside from special Russian, German or Chinese characters.

2. Set Display time - Default is 3 Seconds per message. This number may be over ridden by user action (a key press for example).

3. Automatically open the gate after communication loss of x seconds. Settings are between 0 and 254 seconds where 0 has the affect of disabling the option. The default is zero(0) – disabled. If this is set to zero (0), the device will automatically re-start itself approximately every 120 seconds (added 9/28/09)

4. Adjusting the Touch pad "Feel"   is accomplished by adjusting the interval in which the keypad checks to see if a user is depressing a touchpad button. The setting is in milliseconds and user settable from 0 to 65535. Default is 70mS. Making this value HIGHER will have the result of lessening multiple entries for the same keypress (111, 22 etc). Making the value lower will have the result of a more sensitive touchpad.

5. KEY UP – New 9/15/11 – KEY UP is a feature that combines "Touch pad Feel" with forcing the user to **release** the touch pad Key before it is recognized. No audible "beep" or number will be displayed on the LCD without the key being release. For those customers who have particularly slow tenants, or are used to a "press and hold" configuration, this feature allows you to adjust the keypad to your tenants particular taste. This feature is the default of the keypad (beginning 9/15/11) and is coupled with the touch pad "feel" setting. Touch pad feel settings below 2000 automatically incorporate KEY UP. Values over 2000 do not use KEY UP.

6. How long to wait for a response from the host; displays no response from host after this timeout. Default is 15 seconds

7. How long to wait for a user to finish putting their code in the touchpad (and hit the Pound key). The default is 15 Seconds, maximum is 60 seconds.

8. How often to check the gate monitor. User settable from 0 to 254 seconds where 0 has the affect of disabling the option. The default is disabled. ***This should only be used when the***

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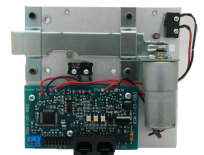
options have been purchased. Otherwise false signals may be sent to the computer.

9. **_Reset_** to factory default settings. If you are using certain features, such as a gate or door monitor, you will need to adjust these settings back to your preferences. The reset command returns all saved EEPROM settings back to default

10. Communication Settings:
    1. **Beginning 10/20/09** both the BasicX and the EclypX have user programmable RTS delay settings. These are used to customize the speed for polling and responding to the computer. In some cases, such as a slower computer or older Communicator, may require these settings to be altered from their factory settings in order to make communications solid between the KP and the computer.
    2. There are 3 settings, RTS1, RTS2 and RTS3.
        1. RTS 1 is before replying to the computer **_and_** before setting the state of RTS
        2. RTS2 is also before replying to the computer, but it is **_after_** setting the state of RTS.
        3. RTS3 is after the reply is sent to the computer, and determines how long to hold the state of RTS before changing it to be ready for the next poll by the computer

        The factory defaults for the three settings are:

        If Modem: RTS1 =30 RTS2= 90 and RTS3 = 25   'revised 5/4/10 from 30/30/25
        If RS485: RTS1 = 0 RTS2= 90 and RTS3 = 5 (10 in the case of Muxes)

        Use these in conjunction with Delay 1 for FSK Modem Communication settings. Lowering Delay1 Setting to 50 mS may help speed up and better communication with modems.

!Warning

Changing these settings can cause the unit to NEVER respond! Make changes in very small increments (like 1 or 2) and very carefully! **_If communications are stopped, make the sum of RTS 1 and RTS2 greater than 150 then follow the steps below_**.
Next turn off the power to the KP, wait 10 seconds, then turn power back on. This will force these settings back to the original factory settings. You may also use the "Re-Start Device" command within DiagnostyX to perform a system re-start. This will accomplish the same result.

Reading Settings at the keypad

Certain settings can be read at the keypad others require the use of the DiagnostyX Software. However, all settings can be programmed (and RESET to factory default) and read using the DiagnostyX Software.   These are those that can be read on the keypad display. They can be

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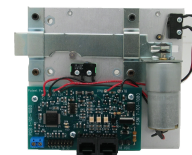
displayed by entering * then # on the touchpad will provide information about the settings of the KP including:

1. Comm Format = MDM, 485, Wireless
2. CE = Max User Time (from #4 above)
3. NP = No Poll(no comm setting #1 above)
4. TP = Touchpad Delay (#2 from above)
5. Adr= Address of device
6. Date and version of firmware.

Special Functions

Display Settings

Some programmable KP settings are visible by first pressing the Star (*) key then immediately afterward pressing the Pound (#) key.

Release Disabled Touchpad

To prevent the user from entering two PINs prior to the Keypad receiving a response from the computer, the touchpad is temporarily disabled. The amount of time to disable the Touchpad is programmable (#3 from list above). However, this setting can be over ridden by pressing the Star (*) key 5 times consecutively.

General Operation

All code entries MUST begin with the user pressing the Star (*) key. After the entry of the user enters their PIN, the user MUST enter the Pound (#) key.
All PIN codes are an Integer Value – which means that they may only be WHOLE numbers. Leading ZEROS are not counted in Integer values (the number 000999 IS the number 999). Although it will not hurt the system to have LEADING zeros entered, they will not count in the ultimate code. Therefore it is advised not to use them in the management system since it would be possible to have 2 different tenants with the same code!

Software and Support

Both the BasicX and the EclypX Access Control Keypads are designed to be used either alone or in combination with existing MSTC brand Keypads. However both the BasicX and the EclypX keypads require the use of Globals Axcys Gate and Security Software. Manuals for installation, set up and configuring Axcys are available on line at www.global-electronics.com

Support

Support is available from several sources. Some are pay for service others are free. Free system software and documentation updates available on our web site and

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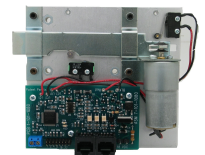
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http://finance.groups.yahoo.com/group/Global-Electronics/

Pay for service available from our support by phone, fax, or email
Phone 602-437-8005

Support@global-electronics.com

Trouble Shooting

I. First you must identify what the problem is, before a cause and solution may be found. There are three basic causes for keypads not working

   i. **Power** – revealed when the device appears off, without display and does not make any noise when the touchpad is used.

   ii. **Data** – revealed when looking at Axcys in the lower right corner of the screen, the system shows Remote X where X is a number such as 1, 2, 3 etc. To the right of that is either a RED or GREEN box. Green indicates the remote is responding to polls, having good communication, RED indicates lack of communication. An occasional Red blink is not cause for concern.

   iii. **Tenant Information** (unit ID and/or PIN) - A PIN is entered in the keypad but the computer rejects the PIN as an invalid code, invalid area or closed (time).
NOTE: Power and Data trouble shooting are handled together. Tenant Information is handled separately.
   iv. **Gate Does Not Open** - The Keypad Communicates properly and the PIN is accepted (Keypad Screen Reads "Access granted" or your custom text message) , but the gate does not open.

II. **Tenant Information:**

   i. Invalid Code - When a PIN is entered in the keypad but the computer rejects the PIN as an invalid code, verify that the PIN is properly set up in Axcys. On the main screen go to Tenants->Accounts. Push F12, then type the PIN and press the enter key. If the record shows up in the box, click on it. If not, the PIN has not been given to Axcys by the management system OR has been improperly entered (NRC codes and users without Management Systems).

   ii. When a PIN is entered in the keypad but the computer rejects the PIN as closed (time), on the main screen go to Tenants->Accounts. Push F12, then type the PIN and press the enter key. If the record shows up in the box, click on it. Verify that the correct time permission are set. For example if a tenant has 24 hour access, and they are set to standard gate hours, this would be incorrect. Adjust the settings for this tenant in the Management System

   iii. When a PIN is entered in the keypad but the computer rejects the PIN as an invalid area this can be caused by:

      1. A missing Unit ID (Tenant not assigned a unit)

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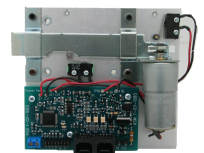
2. Keypad Zones set up and this Tenant is either not assigned any Zone or not assigned to the correct zone(s).

On the main screen go to Tenants->Accounts. Push F12, then type the PIN and press the enter key. If the record shows up in the box, click on it.

The Keypad ZONE number is listed top center of the screen. This zone number MUST match the zone number assigned to the Keypad being used.

Note: Zone numbers are NOT mandatory!

To check on the Unit ID assignment, click on the button "Show Units Assigned to Account ..." If no units appear,either the Tenant information was incorrectly set up, or, when using a management system an information transfer failure occurred.

To correct, first try performing an initial load from your Management System (each Management System provider calls this a different name. Some use initial load, others refer to it as a full gate download). Once this is performed, recheck the tenant data in Axcys. If still not working, consult your Management System Supplier or Global support for more help.

 Note

ALL changes to tenant information MUST be made in the Management System. If made in Axcys, these changes will be over written by the Management System during its next update to Axcys.

III. **Power and Data trouble shooting**

 Note

If the receive LED goes on, but the Reply never goes on, either the data wires are reversed polarity (RS485 only) or the keypad is not addressed properly.

1. **Does the Keypad have power?** Generally, if the LCD is on, there is power to the device.

If so go to #2

If not, check fuses, if fuses (1Amp) are good check the power supply with a Volt Ohm Meter (VOM).   The power should be 12VDC or Greater but not to exceed 18VDC.

If fuses are good and power supply is good, this unit will need to be returned to the factory for repair.

2. Power cycle the device by removing power, wait 30 seconds, then apply power again. Is the problem fixed? If not go to #3

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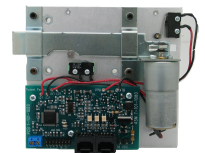
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US Patent No.   7221273 1 B1

3. Is it communicating?
If so good - Go on to #4

If not, on the KP hit the * key then the # key. Read the top and bottom lines. The top should say MDM or 485 Or 900 . The bottom line will have the address (Adr=) then the number (1 in your case). If other than 1, say 52719, this means that the address got scrambled from a lightning strike or other power surge. We can re-program the address easily using Axcys Support & DiagnostyX.
If the address is correct, then most likely it has suffered a more severe hit from the storm and its on-board surge protectors need to be looked at. This will require a return to us.

4. At this point most common issues will have been addressed. If you have technical support, please call our tech support at 602-437-8005.

I. **Gate Does Not Open** - The Keypad Communicates properly and the PIN is accepted (Keypad Screen Reads "Access granted" or your custom text message) , but the gate does not open.
i. There may be several causes for this problem including
   1. Wires broken or otherwise disconnected from the keypad Gate Relay.
   2. Gate fuse blown – use a volt/ohm meter to verify good or not.
   3. Problem in the Gate Operator (part that moves the gate).
ii. To check these , you will need to remove the Keypad Cover from its rear case. On a BasicX or EclypX keypad, the Gate wires should be in the first and third pins (labeled COM and NO on the main board).
iii. You can also check the operation of the Gate Operator by shorting the two wires together that go to the gate operator. Use a paper clip to touch the Comm and NO pins together. If the Gate Operator is GOOD, the gate will open. If not the problem will lie somewhere in the gate operator. Trouble shooting that aspect is out of the scope of this document.

Replacing Fuses

All fuses are 1Amp AGC type.

!Warning

Use ONLY fuses obtained from Global. Use of incorrect fuse may damage the unit.
Using fuses NOT obtained by Global will result in a voided warranty!

Replacing Components

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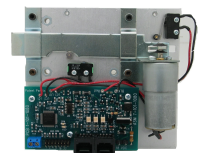
!Warning

There are No components available from sources other than Global Electronics, Ltd. Use of components obtained from other sources will void warranty!

FAQ's

Environmental

To ensure optimum product operation you must maintain the operational environmental specifications listed in the table below.

Environmental SpecificationsStandard Temp Products	Extended Temp Products
Ambient Temperature0 to 70◇ C The internal temperature must not exceed +70° C. Relative Humidity0 to 90% relative humidity Not to exceed 90% noncondensing	Extended temperature range is optional **Note:** Refer to your product manual, or contact Customer Service at Global Electronics if the environmental temperature of the location is in doubt. Not to exceed 90% noncondensing.

Global Electronics, ltd. is the Leader in Self Storage Automation and Security Technology!

e-LocX Automated Over Locking System
  1. **Axcys**   Integrated Over Locking Access Control and Security Software
Proxitrol Digital Individual Door Multiplexed Alarm System
EclypX   Digital Access Control Keypad
US Patent No.   7221273 1 B1
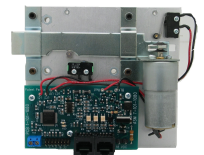
Feedback and Updates to this manual

To help our customers make the most of our products, we are continually making additional and updated resources available on the Global Electronics, Ltd. web site at

www.global-electronics.com
Check the support section

These include manuals, application notes, programming examples, and updated software and firmware. Check in periodically to see what's new!

When we are prioritizing work on these updated resources, feedback from customers (and prospective customers) is the number one influence. If you have questions, comments, or concerns about your **Axcys EclypX Digital Access Control Keypad**, **please let us know**. Details for contacting us are listed in the front of this manual.

support@global-electronics.com
customercare@global-electronics.com

Policies

Return Policy

There is NO refund or credit for Software, Support or Warranty products.

Unless a contract has been executed with the purchaser wherein specific return and/or refund provisions are contained, Global Electronics, Ltd. will accept a return of Electronic Products only, within the first 30 days from date of first shipment (Return Period). If there have been multiple shipments, the Return Period begins from the date of the first shipment. All requests for return must be made in writing and be received by Global Electronics prior to the expiration of the Return Period.   A Return Merchandise Authorization Number will be issued and must accompany all returns. All returned material MUST be in its *original* packaging *AND* in saleable *NEW/UNUSED* condition. In addition:

✱ Equipment MUST be in the original, unopened, undamaged packaging
✱ Equipment MUST be in new condition with NO evidence of use or installation
✱ Equipment MUST be received by Global within 60 days of original purchase
✱ Return AND credit must be approved by Global prior to return

Preliminary EclypX and BasicX Digital Access Control Keypad

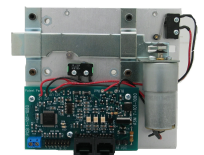*Global Electronics, ltd. is the Leader in Self Storage Automation and Security Technology!*

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To effect a return and receive a credit, all accessories, Hardware, CD's License Disks and Instructions must be returned.   The CREDIT amount is exclusive of freight and a 25% restocking fee.

If contract has been executed, the terms of the contract shall govern returns.

Policies are subject to change without notice.

Limited Warranty

For warranty information, visit   www.global-electronics.com

Not Covered

The limited warranty does not cover damages resulting from lighting or other power surges, misuse, abuse, abnormal conditions of operation, or attempts to alter or modify the function of the product. Items considered to be **wear items,** such as touch pads are also not covered.

ımportant

This warranty is limited to the repair or replacement of the defective unit. In no event shall Global Electronics, Ltd. be liable or responsible for any loss or damages, including but not limited to any lost profits, incidental or consequential damages, loss of business, or anticipatory profits arising from the use or inability to use this product.

Repairs

If failure occurs during the products warranty period please call 602-437-8005 to obtain a Repair Number.   Upon receipt of your product, Global will examine and make a determination as to the cause of the defect. If, in Globals sole discretion, it has been determined that the product has failed from a defect, Global will repair or replace the part, free of charge. Replacement parts may be either new or factory rebuilt. Replacement parts are warranted only for the remaining portion of the original warranty period. Equipment requiring warranty work must be returned to Global freight pre-paid.   Return freight to you will be by UPS ground (or equivalent) and will be paid by Global.

In Warranty Repairs

During this warranty period Global Electronics, Ltd. will repair or replace the defective unit in accordance with the following process:

Preliminary EclypX and BasicX Digital Access Control Keypad

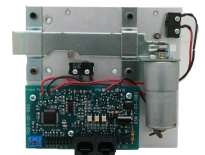***Global Electronics, ltd. is the Leader in Self Storage Automation and Security Technology!***

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A copy of the original invoice must be included when returning the defective unit to Global Electronics, Ltd. at the address below.

Please contact Global Electronics, Ltd. to arrange for any repair service and to obtain repair charge cost information.

Out-of-Warranty Repairs

Repairs made after the expiration of the warranty period are subject to a repair charge and the cost of return shipping. Obtain a Repair Number PRIOR to shipment and include this Repair Number clearly printed on your letterhead. Include your name, company, address and telephone number.

Please contact Global Electronics, Ltd. to arrange for any repair service and to obtain repair charge cost information.

FCC Advisory Statement

❗Warning

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly (that is, in strict accordance with the manufacturer's instructions), may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the owner at his own expense will be required to correct the interference.

If this equipment does cause interference, which can be determined by turning the unit on and off, the user is encouraged to try the following measures to correct the interference: Reorient the receiving antenna.

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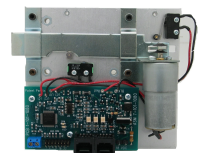
Relocate the unit with respect to the receiver.

Plug the unit into a different outlet so that the unit and receiver are on different branch circuits.

Ensure that mounting screws and connector attachment screws are tightly secured.

Ensure that good quality, shielded, and grounded cables are used for all data communications.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The following booklets prepared by the Federal Communications Commission (FCC) may also prove helpful:

How to Identify and Resolve Radio-TV Interference Problems

(Stock No. 004-000-000345-4)

Interface Handbook

(Stock No. 004-000-004505-7)

These booklets may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402

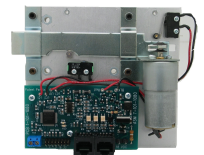*Global Electronics, ltd. is the Leader in Self Storage Automation and Security Technology!*

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Contact Information

Global Electronics, Ltd.
Quality ~ Price ~ Service

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Phone: 602-437-8005
Support@global-electronics.com

www.global-electronics.com

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