



IMPROX IC

ImproX IC LCD Keypad Controller INSTALLATION MANUAL

SPECIFICATIONS

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| Working Environment | Designed to work in an indoor (dry) environment similar to IP40. The Controller is, therefore, NOT sealed against water. | |
| Input Voltage | 10 V DC to 30 V DC. | |
| Power Requirements | Current (mA) | Power (W) |
| Supply Voltage 10 V DC | 175 | 1.75 |
| Relays all OFF | | |
| Supply Voltage 10 V DC | 270 | 2.70 |
| Relays all ON | | |
| Supply Voltage 30 V DC | 65 | 1.95 |
| Relays all OFF | | |
| Supply Voltage 30 V DC | 90 | 2.70 |
| Relays all ON | | |
| Relays | | |
| Relay Output | 2 x Relays, each with NO, COM and NC contacts. | |
| Relay Contact Ratings | 10 A at 28 V DC, 5 A at 220 V AC. | |
| Digital Inputs | | |
| Type | 4 x Dry-contact inputs. | |
| Protection Range | +15 V and -15 V continuous. | |
| Memory | | |
| RAM (Non-volatile) | 512 KBytes. | |
| Flash ROM | 128 KBytes. | |
| Battery Backup (for RAM) | | |
| Battery Type | 1 x 3.6 V, size ½ AA. | |
| Battery Life | 5 Years (with power OFF). | |

Installer Interfaces

Liquid Crystal Display (LCD)

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| Characters | 16 Characters by 4 lines. |
| Character Sets..... | English, Katakana. |
| Contrast..... | Adjustable in 8 steps via the Communications Protocol. |
| Back-lighting | Turned on and off via the Communications Protocol. |

Keypad

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| Buttons | 20 Alphanumeric and function keys. |
| Back-lighting | Turned on and off via the Communications Protocol. |

NOTE: The LCD and Keypad back-lighting operate in conjunction.

Buzzer

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| Volume and Tone | 5-Step adjustable volume, 36 tones. Selectable via the Communications Protocol. |
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LED Indicators

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| Power-on Indicator | Red LED (internally visible). |
| Incoming RS485 Data | Flashing Green LED (internally visible). |
| Outgoing RS485 Data | Flashing Red LED (internally visible). |
| Incoming RS232 Data | Flashing Green LED (internally visible). |
| Outgoing RS232 Data | Flashing Red LED (internally visible). |
| Status Indicator..... | Bi-colour Red or Green LED (externally visible), function programmable via the Communications Protocol. |

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INSTALLATION INFORMATION

Accessories

Find the following when unpacking the ImproX IC Controller:

- An ImproX IC LCD Keypad Controller housed in a Dark Grey ABS Plastic Cabinet. The Cabinet will consist of a Front and Back Cover secured with an M4 x 10 mm Screw.
- An M4 x 10 mm Screw.
- A 3.6 V, >950 mAh, ½ AA Cylindrical Lithium Battery.
- Four Wood Screws (3.5 mm x 25 mm).
- Four Wall Plugs (7 mm).
- An extra Fixed Address Label.

General

Remember the following when installing your ImproX IC Controller:

Communications Distance

The RS485 communications distance between the ImproX IC Controller and the LAST ImproX Unit in a cable run, MUST NOT exceed 1 km (1 090 yd). Achieve this by using good quality screened twisted 2-pair, twisted pair cable, EARTHED on one side.

Distance between ImproX IC Controllers

To avoid mutual interference Install the Controllers no closer than 500 mm (20 in) apart.

Termination Resistors for RS485 Bus Communications

Long transmission lines or multiple “star” connections, may cause communication problems. Placing the Terminating Resistor Jumper Link in the LAST UNIT AT THE END OF THE CABLE RUN should solve the problem (depending on the bus).

EARTH Connection

Connect the ImproX IC Controller to a good EARTH point. Using either of the RS485 Ports, connect the EARTH Lead to the “ETH” Terminal. Mains EARTH can be used, but electrical noise may exist. The EARTH Lead to the ImproX IC Controller should have a minimum cross-sectional area of 1 mm² (0.001 in²) and can be either solid or stranded.

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Installing the Battery

First Time Use

CAUTION: Insert the Battery into the Battery Holder BEFORE powering up the ImproX IC Controller.

The Battery Holder is located in the middle right-hand side of the ImproX IC Controllers Printed Circuit Board (PCB), directly below the "Bus Activity LED Indicators".

Insert the 3.6 V Lithium Battery into the Battery Holder, with the "+" Terminal facing AWAY from the Terminal Blocks.

Replacement

CAUTION: DO NOT disconnect Power from the ImproX IC Controller during this operation. Disconnecting the Power could result in the RAM losing data.

1. With the Controller powered up, remove the Controllers Front Cover. DO NOT disconnect the Ribbon Cable Connectors.
2. Remove the Battery from the Battery Holder.
3. Insert the new 3.6 V Lithium Battery into the Battery Holder, with the "+" Terminal facing AWAY from the Terminal Blocks.
4. Attach the Controllers Front Cover.

Mounting the Controller

CAUTION: Make certain that you mount the Controller on a vibration-free surface.

Select the mounting position of the ImproX IC Controller, considering accessibility, routing of wires and visibility of the externally visible LED.

Secure the Controller to the mounting surface, using four suitable screws and wall plugs (supplied), nuts and bolts, rivets or double-sided adhesive tape.

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ELECTRICAL CONNECTIONS

Connecting the ImproX IC Controller

Figure 1 shows various connection options for the ImproX IC Controller.

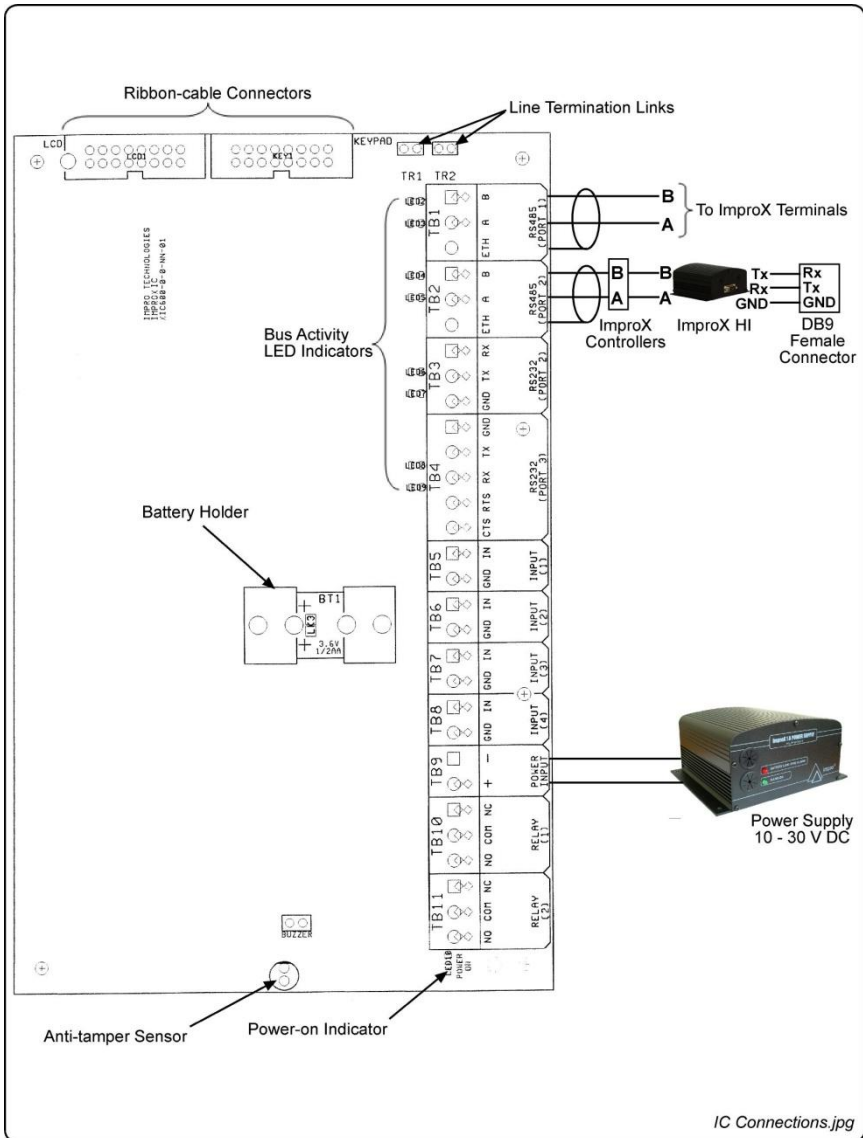


Figure 1: Typical ImproX IC Electrical Connections

Power-on Self-test

The Power-on Self-test test the RAM, Flash-ROM checksums, RTC, read/write circuitry and stuck keys.

The results of the Self-test are made available as diagnostic information via the protocol to the associated Controller or PC.

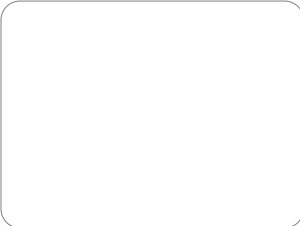
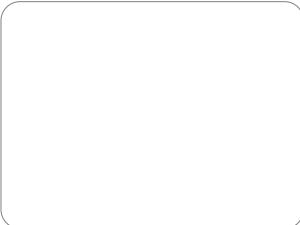
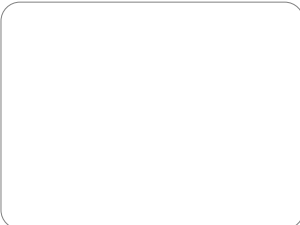
If any parameter in the Self-test fails, the Controller emits a continuous beep for 2 seconds.

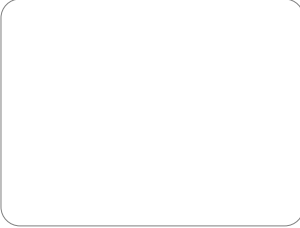
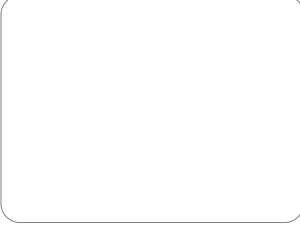
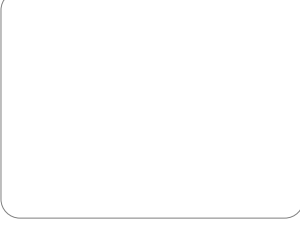
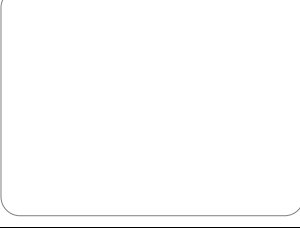

When the Controller passes the Self-test, the Controller emits two short beeps of 200 ms duration, separated by a 200 ms inter-beep pause.

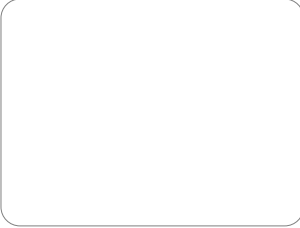
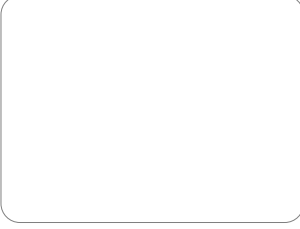
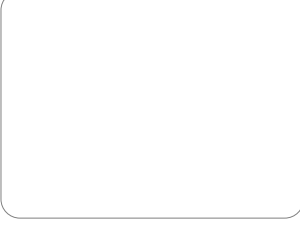
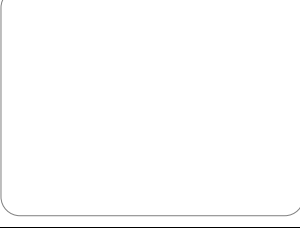

Fixed Address Label

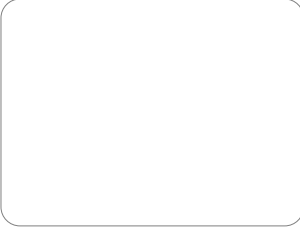
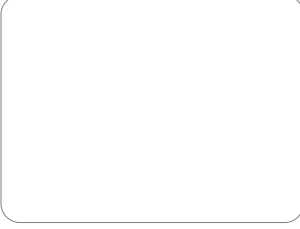
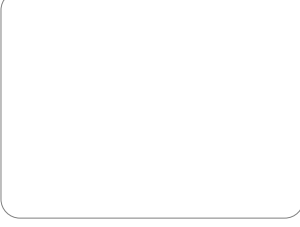
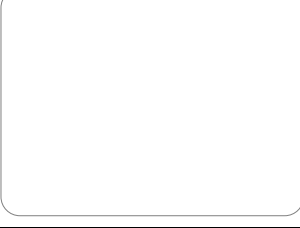

Once the ImproX IC Controller is installed attach the additional loose Fixed Address Label (packaged with the Controller) in position on the Unit Location Chart. When the system installation is complete and all the units are represented on the Unit Location Chart by their Fixed Address Labels, file the document for future reference.

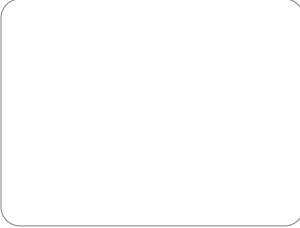
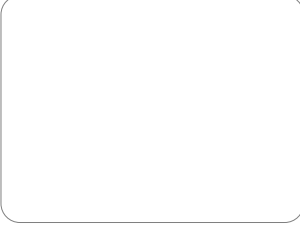
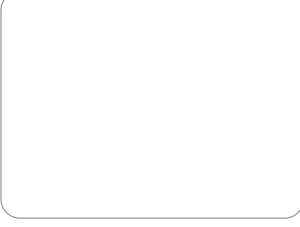
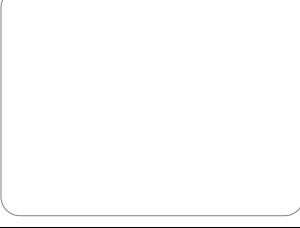

Unit Location Chart

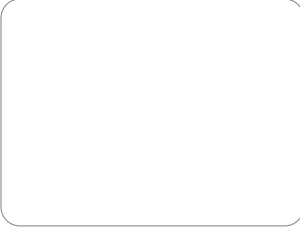
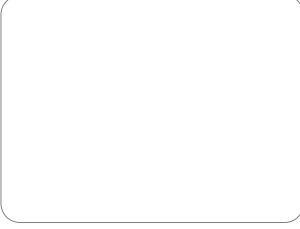
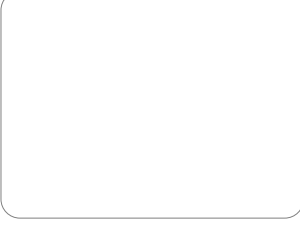
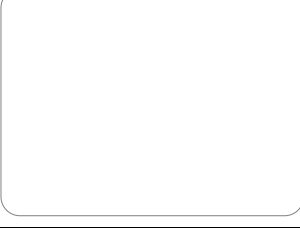

| Fixed Address Label | Unique Location Description |
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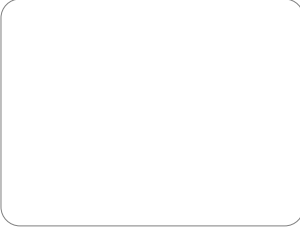
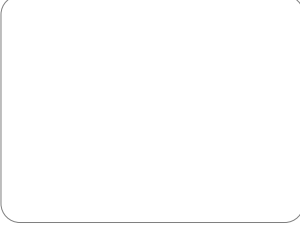
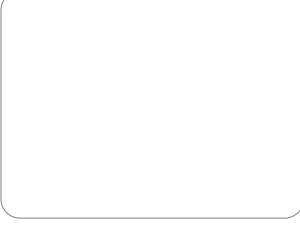
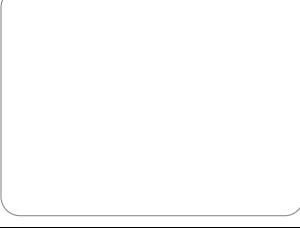

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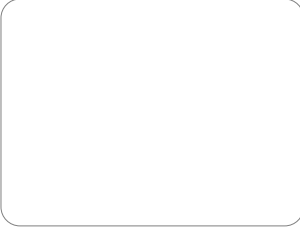
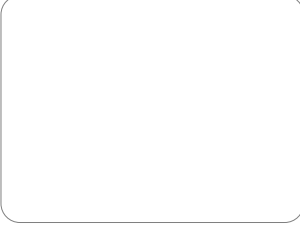
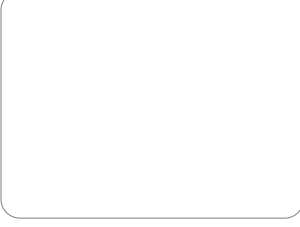
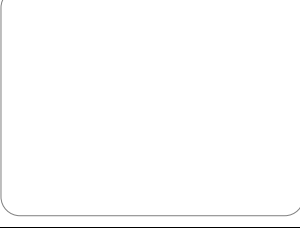

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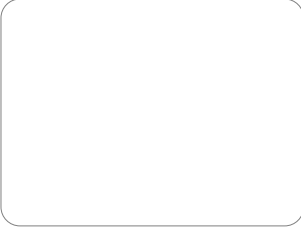
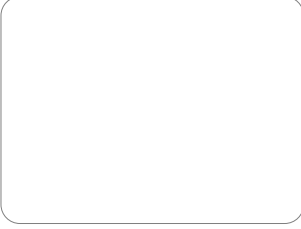
| Fixed Address Label | Unique Location Description |
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Table 1: Unit Location Chart

GUARANTEE OR WARRANTY

This product conforms to our Guarantee or Warranty details placed on our Web Site, to read further please go to www.impro.net.

USER NOTES

USER NOTES



This manual is applicable to the ImproX IC LCD Keypad Controller, XIC900-1-0-GB-00. (The last two digits of the Impro stock code indicate the issue status of the product).

XIC300-0-0-GB-07

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