



Installation Guide

502-002

LCI2 User Interface Module

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LCI2

The LCI2 (LCI2) is the master controller for the iWorX® product series. In one single device, it provides an integrated control center for all the HVAC controls, radiant controls, and metering on a network. It has a touch screen for on site configuration and can be remotely accessed and configured over the Internet as well.

OVERVIEW

The LCI2 is a backlit LCD touch screen interface and system configuration tool used to communicate with controllers over a LONWORKS ® network. All controllers can be completely configured and commissioned through the operator interface.

The LCI2 fully integrates the HVAC iWorX® system. The LCI2 enables an administrator to add and configure devices on the iWorX® system and then send the information to the devices over the LONWORKS network. The entire iWorX® system can be commissioned and modified using the LCI2 touch screen interface.

The LCI2 software runs within a Windows CE.net operating system and is fully upgradable.

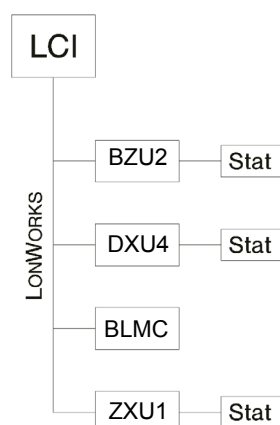
Features

- Color touch screen interface for navigation and input
- Self-configuring upon connection to the network
- Configurable user interface options
- View and configure up to 63 controllers
- Administrator and user level access
- Password protection
- Ethernet communications for PC-based configuration
- User configuration data is stored in non-volatile memory (Flash)
- Two-part connectors to facilitate installation

Applicable Documentation

Description	Audience	Purpose
<i>iWorX® LCI2 Application Guide</i> , Document No. 505-002	– Application Engineers – Installers – Service Personnel – Start-up Technicians – End user	Provides complete instructions for setting up and using the iWorX® Local Control Interface.
<i>iWorX® LCI2 Quick Start Guide</i> , Document No. 505-002a	– Application Engineers – Installers – Service Personnel – Start-up Technicians – End user	Provides brief, basic instructions for setting up and using the iWorX® Local Control Interface.
http://iWorxWizard.taco-hvac.com	– Application Engineers – Wholesalers – Contractors	An on-line configuration and submittal package generator based on user input. Automatically generates bill of materials, sequence of operations, flow diagrams, wiring diagrams, points and specifications.
Additional Documentation	<i>LonWorks FTT-10A Free Topology Transceiver User's Guide</i> , published by Echelon Corporation. It provides specifications and user instructions for the FTT-10A Free Topology Transceiver. See also: www.echelon.com/support/documentation/manuals/transceivers .	

Typical Use



REPRESENTATIONS AND WARRANTIES

This Document is subject to change from time to time at the sole discretion of Taco Electronic Solutions, Inc. All updates to the Document are available at www.taco-hvac.com. When installing this product, it is the reader's responsibility to ensure that the latest version of the Document is being used.

The iWorX® LCI2 shall only be used for the applications identified in the product specifications and for no other purposes. For example, the iWorX® LCI2 is not intended for use to support fire suppression systems, life support systems, critical care applications, commercial aviation, nuclear facilities or any other applications where product failure could lead to injury to person, loss of life, or catastrophic property damage and should not be used for such purposes.

Taco Electronic Solutions, Inc. will not be responsible for any product or part not installed or operated in conformity with the Document and instructions or which has been subject to accident, disaster, neglect, misuse, misapplication, inadequate operating environment, repair, attempted repair, modification or alteration, or other abuse. For further information, please refer to the last page of this Document for the company's Limited Warranty Statement, which is also issued with the product or available at www.taco-hvac.com.

PRECAUTIONS

General



This symbol is intended to alert the user to the presence of important installation and maintenance (servicing) instructions in the literature accompanying the equipment.



WARNING: Electrical shock hazard. Disconnect **ALL** power sources when installing or servicing this equipment to prevent electrical shock or equipment damage.

Make all wiring connections in accordance with these instructions and in accordance with pertinent national and local electrical codes.

Static Electricity

Static charges produce voltages that can damage this equipment. Follow these static electricity precautions when handling this equipment.

- Work in a static free area.
- Touch a known, securely grounded object to discharge any static charge you may have accumulated.
- Use a wrist strap when handling printed circuit boards. The wrist strap must be secured to earth ground.

Location

Avoid locations where corrosive fumes, excessive moisture, vibration or explosive vapors are present.

Avoid electrical noise interference. Do not install near large contactors, electrical machinery, or welding equipment.

This equipment is intended for indoor use only. Operate where ambient temperatures do not exceed 113 °F (45 °C) or fall below 32 °F (0 °C) and relative humidity does not exceed 80%, non-condensing.

FCC Compliance

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference. This equipment 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 or more of the following measures:

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

You are cautioned that any changes or modifications to this equipment not expressly approved in these instructions could void your authority to operate this equipment in the United States.

BEFORE INSTALLING

About this Document

The instructions in this document are for the LCI2 module which provides interfacing and scheduling of HVAC.

Inspecting the Equipment

Inspect the shipping carton for damage. If damaged, notify the carrier immediately. Inspect the equipment for damage. Return damaged equipment to the supplier.

What is Not Included with this Equipment

- A power source for the equipment electronics and peripheral devices.
- Tools necessary to install, troubleshoot and service the equipment.
- The screws needed to mount the device.
- Peripheral devices, such as sensors, actuators, etc.
- Cabling, cabling raceway, and fittings necessary to connect this equipment to the power source, FTT-10A network and peripheral devices.

Equipment Location



Abide by all warnings regarding equipment location provided earlier in this document.

The equipment should be installed in a secure area like an office or lockable closet.

The LCI2 should be mounted where all operators can easily access it and should not under any circumstances be mounted outside. The LCI2 should not be mounted where it is subjected to excessive heat, moisture, corrosive or hazardous materials. To ensure that operators of all sizes can easily access the LCI2, mounting should be approximately 4 feet (1.2 meters) from the floor. Note that product mounting may be subject to local and national persons with disabilities acts.

Selecting a Power Source

This equipment requires a UL recognized external Class 2 power source (not supplied) to operate. The LCI2 power input requires a voltage of 28 to 36 volts DC or 24 volts AC.

INSTALLATION



Warning: Electrical shock hazard. To prevent electrical shock or equipment damage, disconnect **ALL** power sources to controllers and loads before installing or servicing this equipment or modifying any wiring.

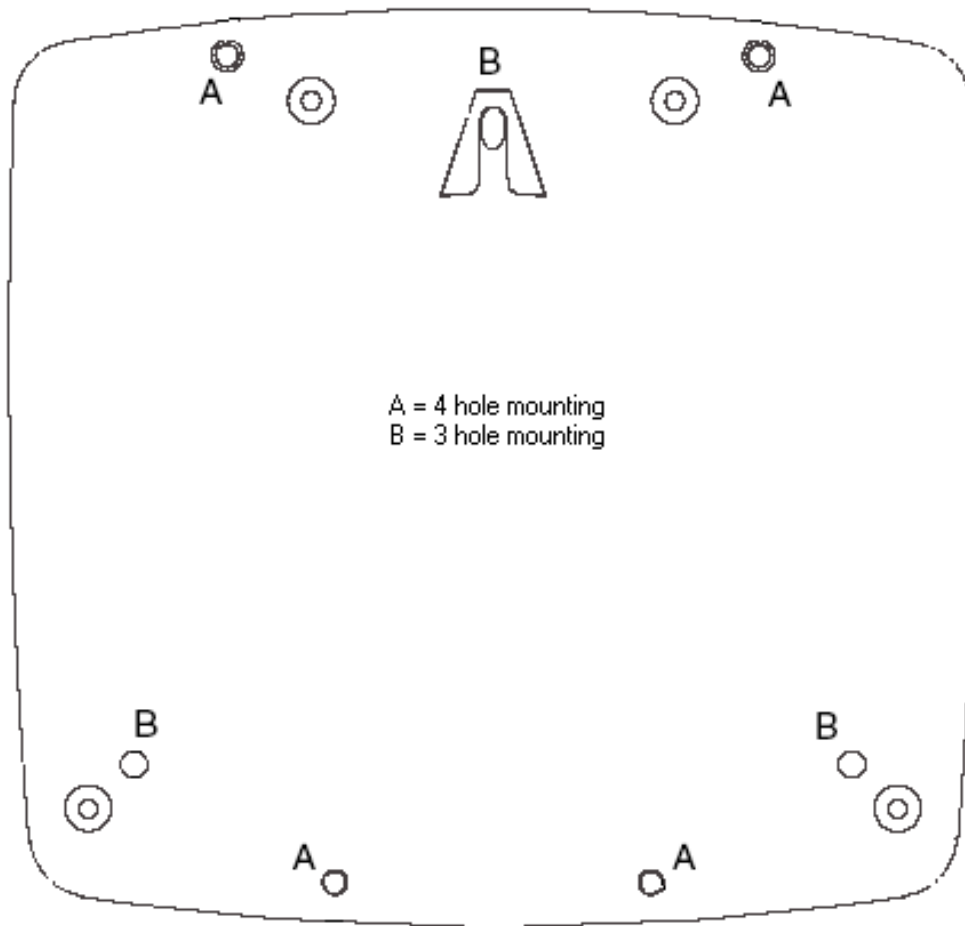
Mounting the Device

The LCI2 can be either 3-point mounted (on a wall) or 4-point mounted (on a panel).

The 3-point method uses M4, 5, 6 or No. 10 or 12 screws. A ramped keyhole slot in the top back center of the unit slips over a screw head and as the unit is lowered the unit clamps onto the wall creating a seal around the rear aperture. Then, the two lower fixing holes can be used to spot their fixing positions.

The 4-point method uses 4 off M4 x 16 mm screws with a maximum panel thickness of 10 mm.

Figure 1: Mounting



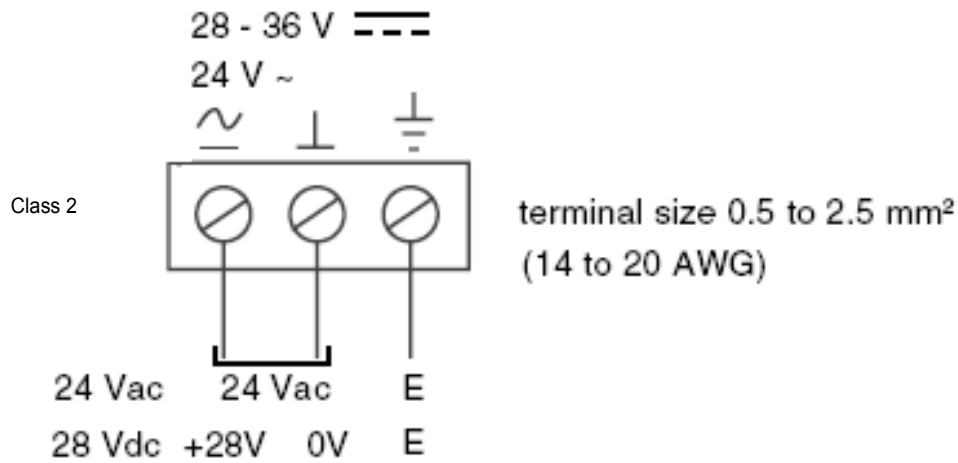
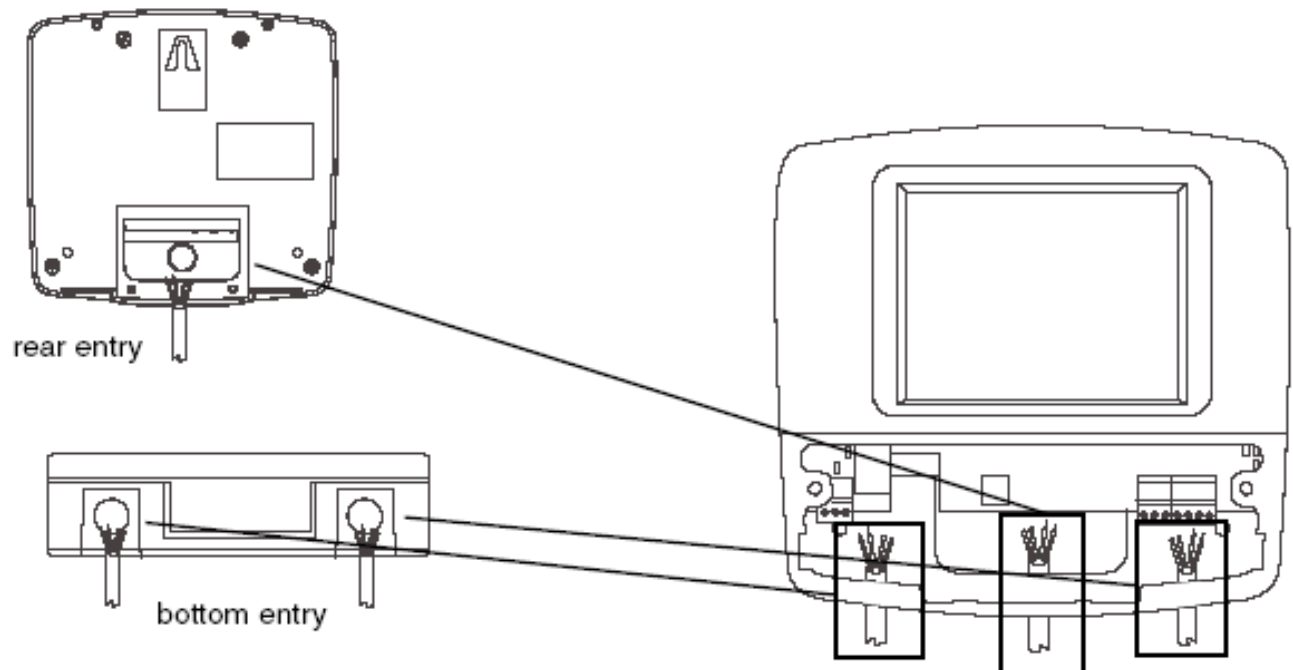
DEVICE CONNECTIONS

The LCI2 functions as part of a LonWorks Network using the integral FTT-10 Free Topology communications transceiver. Connections are on the bottom of the LCI2.

Power

The LCI2 requires class 2 power supply: 24 Vac, 50/60 Hz, or 28 to 36 Vdc. The maximum consumption is 13 VA. Use a separate power source—do not use a controller's auxiliary supply output.

NOTE You must ground the LCI2 using a supply earth terminal.

Figure 2: Power**Figure 3: Routing cables**

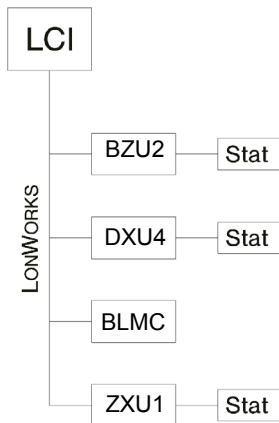
Ethernet (LAN)

The LCI2 uses a standard RJ-45 jack for connection to 10BaseT or 100Base TX (10/100Mb) Ethernet. Plug the LAN connector into the RJ-45 receptacle on the bottom of the LCI2.

Network (LON)

The LCI2 requires twisted pair network wire. When connecting the FTT-10A network to connector, connect the twisted pair to pins NB and NA. These positions are Network B and Network A respectively. Polarity is not an issue since an FTT-10A network is used for communications.

Figure 4: Simple architecture



Grounding the Device



The COM pin must be securely connected to earth ground. Failure to properly ground this equipment may increase the risk of electrical shock and may increase the possibility of interference to radio/TV reception.



Connecting the device common to earth ground will also connect the power source to earth ground.

SPECIFICATIONS

Electrical

Power

Power Requirements

- 28 to 36 Vdc, or 24 Vac +/- 10%, 50 to 60 Hz (requires a class 2 external supply)

Power Consumption

- 13 VA

Fusing

- Input supply is protected by a 1.6 A self-resetting electronic circuit breaker.

Battery

- 3V Lithium for SRAM Backup

Display

- 256 color LCD display (320 x 240 pixels) with touch screen and digital contrast.

Backlight

- Electroluminescent (CCFL) with auto-dimming feature. Life of 50 Khrs at 20 °C (68 °F).

Ethernet

- One RJ45 connector, unshielded or shielded twisted pair (UTP or FTP) cable.

Recommended Sensor Wire

Cable Type	Pairs	Details	Taco Catalog No.
18AWG	1	Stranded Twisted Shielded Pair, Plenum	WIR-018

FTT-10A Network

- Speed: 78KBPS
- Cabling: Maximum node-to-node distance: 1312 feet (400 meters)
- Maximum total distance: 1640 feet (500 meters)

Cable Type	Pairs	Details	Taco Catalog No.
Level 4 22AWG (0.65mm)	1	Unshielded, Plenum, U.L. Type CMP	WIR-022

For detailed specifications, refer to the *FTT-10A Free-Topology Transceiver User's Guide* published by Echelon Corporation (www.echelon.com/support/documentation/manuals/transceivers).

Mechanical

Housing

- Dimensions: 8.94" (227mm) x 8.58" (218mm) x 2.36" (60mm).
- Weight: 1lb 5 oz. (.6 kg)
- ABS

Environmental

- Temperature: 32 to 113 degrees F (0 to 45 degrees C)
- Humidity: 0 to 80 percent, non-condensing

Agency Listings

- UL Listed for US and Canada, Energy Management Equipment PAZX and PAZX7

Agency Compliances

- FCC Part 15

TROUBLESHOOTING TIPS

This section provides common problems and remedies for the controller.

Problem	Solution
Nothing appears on the LCI2 screen once it is powered up.	This is most likely related to the input power for the LCI2, ensure the following. A blue LED should be visible on the front of the unit, indicating that the power is on. – Is the power source turned on? – Is the LCI2 powered using 12-24 VDC or 24 VAC? – Is the power connected to the correct pins? – Is the contrast adjusted?
I can't log on to the LCI2, is there a default password?	The LCI2 has two (2) default passwords, one for the user and one for the administrator. The default user password is LCI2user and the default administrator is LCI2. To reset the password, please read the Restore LCI2 factory defaults section. Be aware that ALL custom settings such as IP Address will also be reset.
I can't communicate to any controllers on the network.	– Ensure that the communications cable is connected to the FTT-10A connector pins NA & NB. – Were the service pins on the controllers depressed after the network was configured? – Is the FTT-10A Network Resistor Termination Configuration Jumper set properly?

Problem	Solution
I am not receiving service pings at the LCI2.	– Ensure that the communications cable is connected to the FTT-10A connector pins NA & NB. – Were the service pins on the controllers depressed after the network was configured? – Is the FTT-10A Network Resistor Termination Configuration Jumper set properly?
After powering down the LCI2, the database has been cleared.	Check the battery voltage and ensure that it is above 2.7 VDC.
The screen seems too sensitive to my touch or is not sensitive enough for my touch.	From the main menu you need to select the Utilities: LCI Setup menu and configure the touch screen. When reconfiguring the screen you need to apply the pressure that you would normally use when using the LCI2.

Getting Help

Components within iWorX® LCI2 controller cannot be field repaired. If there is a problem with a controller, follow the steps below before contacting your local TES representative or TES technical service.

1. Make sure controllers are connected and communicating to desired devices.
2. Record precise hardware setup indicating the following:
 - Version numbers of applications software.
 - Controller firmware version number.
 - A complete description of difficulties encountered.

Notes:

LIMITED WARRANTY STATEMENT

Taco Electronic Solutions, Inc. (TES) will repair or replace without charge (at the company's option) any product or part which is proven defective under normal use within one (1) year from the date of start-up or one (1) year and six (6) months from date of shipment (whichever occurs first).

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the local TES stocking distributor or TES in writing and promptly deliver the subject product or part, delivery prepaid, to the stocking distributor. For assistance on warranty returns, the purchaser may either contact the local TES stocking distributor or TES. If the subject product or part contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Any TES product or part not installed or operated in conformity with TES instructions or which has been subject to accident, disaster, neglect, misuse, misapplication, inadequate operating environment, repair, attempted repair, modification or alteration, or other abuse, will not be covered by this warranty.

TES products are not intended for use to support fire suppression systems, life support systems, critical care applications, commercial aviation, nuclear facilities or any other applications where product failure could lead to injury to person, loss of life, or catastrophic property damage and should not be sold for such purposes.

If in doubt as to whether a particular product is suitable for use with a TES product or part, or for any application restrictions, consult the applicable TES instruction sheets or in the U.S. contact TES at 401-942-8000 and in Canada contact Taco (Canada) Limited at 905-564-9422.

TES reserves the right to provide replacement products and parts which are substantially similar in design and functionally equivalent to the defective product or part. TES reserves the right to make changes in details of design, construction, or arrangement of materials of its products without notification.

TES OFFERS THIS WARRANTY IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY WARRANTY IMPLIED BY LAW INCLUDING

WARRANTIES OF MERCHANTABILITY OR FITNESS IS IN EFFECT ONLY FOR THE DURATION OF THE EXPRESS WARRANTY SET FORTH IN THE FIRST PARAGRAPH ABOVE.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR STATUTORY, OR ANY OTHER WARRANTY OBLIGATION ON THE PART OF TES.

TES WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF ITS PRODUCTS OR ANY INCIDENTAL COSTS OF REMOVING OR REPLACING DEFECTIVE PRODUCTS.

This warranty gives the purchaser specific rights, and the purchaser may have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts or on the exclusion of incidental or consequential damages, so these limitations or exclusions may not apply to you.

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