

i-3 Quick Commissioning Guide

i-3[®] Control Technology V2

Instruction Manual

Order # LVQC-COMGU-0112

www.usa.siemens.com/i-3

SIEMENS

P1 Panel with i-3 Control Technology™



Safety Precautions

(a) Only qualified persons familiar with the construction and operation of this equipment should perform work described in this set of instructions. Such work should be performed only after reading this complete set of instructions.

(b) Follow safety related work practices, as described in NFPA 70E, part II, at all times.

(c) Hazardous voltages in electrical equipment can cause severe personal injury or death. Energizing this equipment for the first time after initial installation or maintenance is potentially dangerous. Inspection and maintenance should be performed on this equipment and equipment to which power has been cut off, disconnected, and electrically isolated so that no accidental contact can be made with energized parts.

(d) Some types of electrical equipment will cause harmonics in the electrical system which may result in overheating. Consider this condition when determining

this equipment loading, as possible de-rating of equipment may be necessary.

Important

The information contained herein is general in nature and not intended for specific application purposes. It does not relieve the user of responsibility to use sound practices in application, installation, operation, and maintenance of the equipment purchased. Siemens reserves the right to make changes in the specifications shown herein or to make improvements at any time without notice or obligations. Should a conflict arise between the general information contained in this publication and the contents of drawings or supplementary material or both, the latter shall take precedence.

For the purpose of this manual and product labels, a qualified person is one who is familiar with the installation, construction, operation or maintenance of the equipment and the hazards involved. In addition, this person has the following qualifications:

(a) is trained and authorized to de-energize, clear, ground, and tag circuits and equipment in accordance with established safety practices.

(b) is trained in the correct care and use of protective equipment such as rubber gloves, hard hat, safety glasses or face shields, flash clothing, etc., in accordance with established safety practices.

(c) is trained in rendering first aid.

Signal Words

The signal words “Danger”, “Warning” and “Caution” used in this manual indicate the degree of hazard

that may be encountered by the user. These words are defined as:

Danger - Indicates an imminently hazardous situation which if not avoided, will result in death or serious injury.

Warning - Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution - Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Dangerous Procedures

In addition to other procedures described in this manual as dangerous, user personnel must adhere to the following warnings:

(a) **Danger! High Voltage.** Qualified personnel only. Lock off all power to this equipment before working inside. Always work on de-energized equipment. Always de-energize equipment before performing any tests, maintenance or repair.

(b) **Warning!** Always perform maintenance on the interrupting device after the closing mechanism(s) are discharged.

(c) **Caution!** Always let an interlock device or safety mechanism perform its function without forcing or defeating the device.

(d) **Caution!** Hydrocarbon spray propellants and hydrocarbon compounds will cause degradation of certain plastics. Contact your local Siemens representative before using these products to clean or lubricate components during installation or maintenance.

Input / Output Controller Commissioning

(Modbus and BACnet versions only)

1. Follow the instructions for safe and proper installation of the panel and the safety procedures to energize it.

Note: If the I/O controller does not power ON after the panel has been energized, follow the safety procedures to de-energize the panel and remove the trim and the dead front (Figure 1) to verify if the power switch on the I/O controller is ON (Figure 2).

2. Place the power switch on the I/O controller in the ON position (Figure 2). If the switch is ON, but the controller remains OFF; check the fuse. It should be inserted with the narrow tip toward the controller. (The fuse is 2 Amp, class CC.)
3. Place the ALL ON-AUTO-ALL OFF switch on the I/O controller in the middle 'Auto' position (Figure 2). The switch should remain in the "AUTO" position during the commissioning process.
4. Install the dead front and trim before energizing.

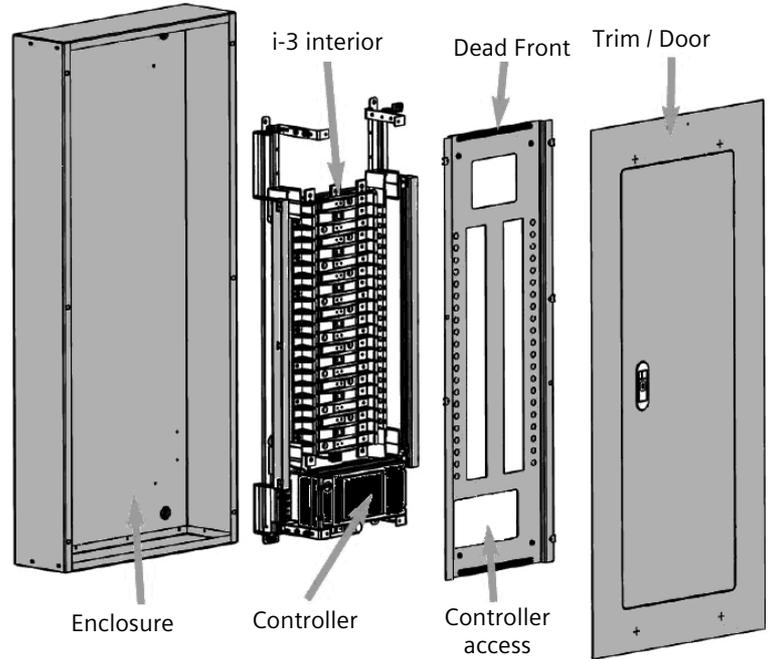


Figure 1

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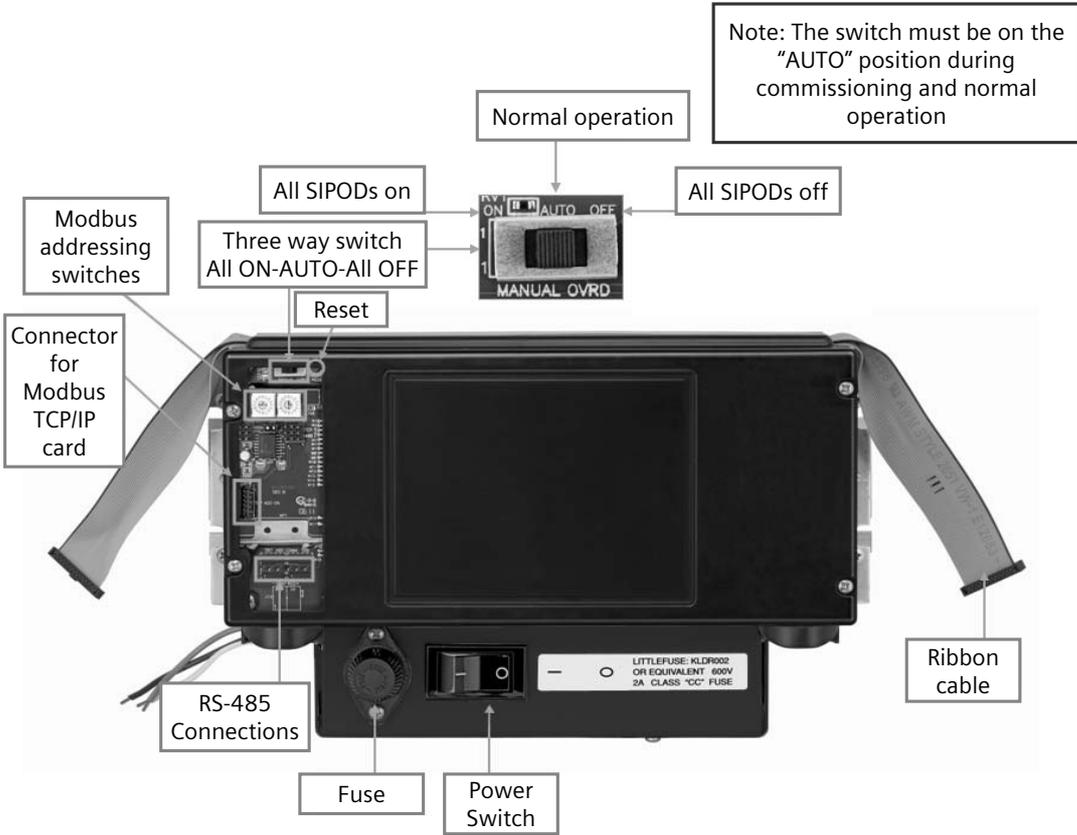


Figure 2: I/O Modbus and BACnet Controller

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5. Install the Siemens i-3 I/O Configuration software on your computer. The software and the software user's guide may be downloaded from: www.usa.siemens.com/i-3. The name of the file is **ioconfigurator.zip**. The software User's Guide is file **i-3 configuration software manual.zip**.
6. Connect a computer to the I/O controller's RS-485 terminal (Figure 2). Use USB-RS485 converter cable (SIEMENS # 5WG1715-8XY02). See Figure 3 for connections reference.
Note: You may also build your own converter cable (Figure 3). The USB-RS485 converter is part # USB-RS485-WE-1800-BT from FTDChip and a Phoenix connector part # 1984028 (Figure 3). If your computer has a serial port; you can also use an RS232-RS485 converter (not supplied by Siemens)
7. Complete the I/O controller commissioning using the software. For detailed information refer to the i-3 Modbus I/O Controller User Guide or i-3 BACnet I/O Controller User Guide and to the configuration software User's Guide. These user guides may be downloaded from: www.usa.siemens.com/i-3.

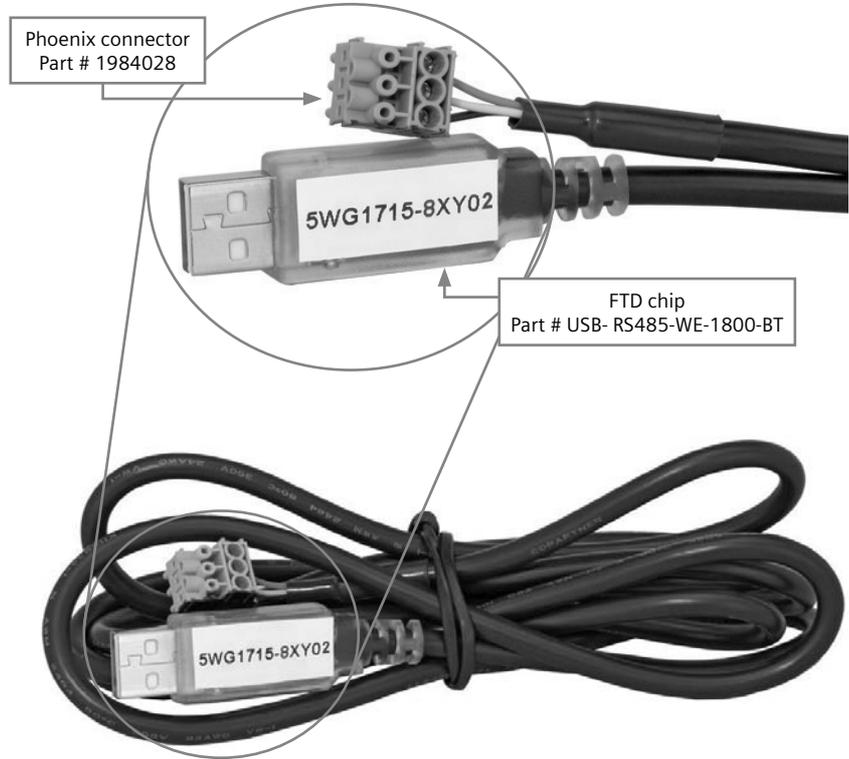


Figure 3

System Controller Commissioning

Non-networked single panel systems

1. Follow the instructions for safe and proper installation of the panel and the safety procedures to energize. Caution: If the System Controller does not power ON after the panel has been energized, follow the safety procedures to de-energize the panel.
2. Remove the trim and the dead front to verify that the power switch on the system controller is ON (Figure 1). If the switch is ON, but the controller remains OFF; check the fuse for integrity and correct installation. It should be inserted with the narrow tip towards the controller.
3. There are two ways to commission the system:
 - a. The touch screen.
 - b. The i-3 System Controller Offline Configuration and USB storage device (Figure 4).

A. Touch Screen Commissioning:

- I. Touch the 'Start' button.
- II. Touch the 'Initialization' button and complete the on screen steps.
- III. After you have completed initialization, touch the 'Setup Wizard' button. Check the appropriate boxes for the required configurations and touch the 'Next' button.
- IV. The first step in the Setup Wizard is to detect panels. Note that the "Setup Panels" is checked and can not be un-checked. Set the number of panels to 1.

- V. Highlight 'Panel A', verify communications, then press the 'Detect' button. Wait for a confirmation message, then touch 'OK.' Proceed to the next step by touching the 'Next' button.
- VI. Complete the Setup Wizard to complete the system commissioning.
Note: the All ON-AUTO-All OFF switch should be in the AUTO position.

B. USB Storage Device Commissioning:

- I. Download and install the "i-3 System Controller Offline Configuration" software. The software and the software user instructions may be downloaded from: <http://www.usa.siemens/i-3>. The name of the software is **i3 S-C Off line Configurator.zip**
- II. Use the software to configure the system (I-O mapping, schedules, zones, etc.). Save the configuration. Be sure you have entered the "Integrator Name" in the "Global Settings" tab of the Offline Configuration software. Make sure that the file extension is "i3v2" (*.i3v2).
- III. Copy the configuration file to a USB storage device (create a folder first, then copy the file to the newly created folder) using the 'Export' feature of the i-3 System Controller Offline Configuration software.
- IV. Make sure the system controller is not pre-detected. This can be verified by ensuring that only the "Initialization" button is enabled on the "Main Menu" screen. If the system controller is pre-detected, then refer to System Controller user guide for the instructions to import the configuration into the system.

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- V. The ALL ON-AUTO-ALL OFF switch (Figure 4) must be in the 'Auto' (middle) position. VI. Insert the USB storage device into the system controller USB port (Figure 4).
 - VII. Touch 'Yes' on the USB Detection screen to confirm you are an authorized user.
 - VIII. Enter the password 8234.
Touch the 'Login' button to continue.
- 
- IX. Use the on-screen folders to select the file you saved on the USB storage device. Make sure that the file extension is "i3v2" (*.i3v2)
 - X. Touch the 'Check' button to continue. XI. Enter the current date and time and touch on the 'Save' button.
 - XII. Push 'OK' on the "Do not remove USB storage device" warning screen. You will now be presented with the panel programming screen. Highlight 'Panel A', (or the name you gave to your system controller panel using the i-3 System Controller Offline Configuration) and press the 'Program' button. This step programs the system controller. and may take several minutes. When programming is complete, the message "the panel 'X' has been programmed" will be displayed in the bottom left of the screen.
 - XIII. Touch the 'Finish Flag' to complete system commissioning.

Networked panel systems

1. Verify the networked I/O controller(s) have been properly networked. To network a System Controller with I/O Controllers,

use the EIB (red - black) connector, which is supplied (Figures 5 & 6). The wire should be twisted pair, 18 AWG, solid copper. Recommended wire is Belden 6320. Be sure to follow polarity to ensure proper operation.

2. Place the ALL ON-AUTO-ALL OFF switch (Figure 4) on the system controller and networked I/O controller(s) in the middle 'Auto' position (Figures 5 & 6).
3. Follow the instructions for safe and proper installation of the panel and the safety procedures to energize it.

Caution: If the System Controller does not power ON after the panel has been energized, follow the safety procedures to de-energize the panel and remove the trim and the dead front to verify that the power switch (Figure 4) on the system controller is in the ON position. If the switch is ON, but the controller remains OFF; check the fuse for integrity and for correct installation. It should be inserted with the narrow tip towards the controller. You must install the dead front and trim before energizing.
4. Set the addresses of the slave controllers
5. There are two ways to commission the system:
 - a. The touch screen controls.
 - b. The i-3 System Controller Offline Configuration and USB storage device (Figure 4).

A. Touch Screen Commissioning:

- I. Touch the 'Start' button.
- II. Touch the 'Initialization' button, and complete the on-screen steps.

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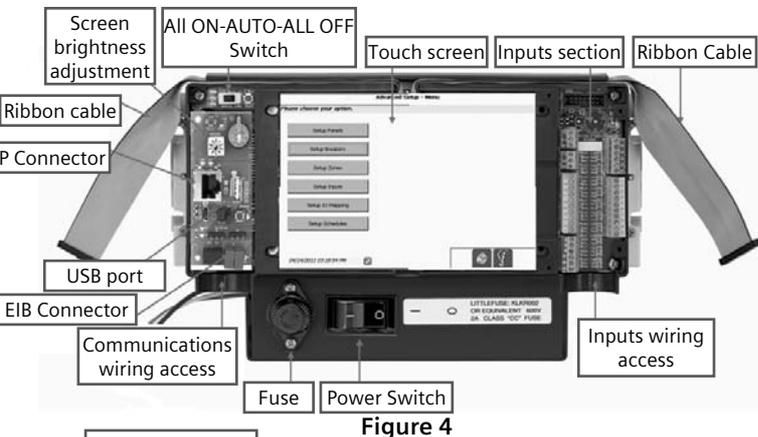


Figure 4

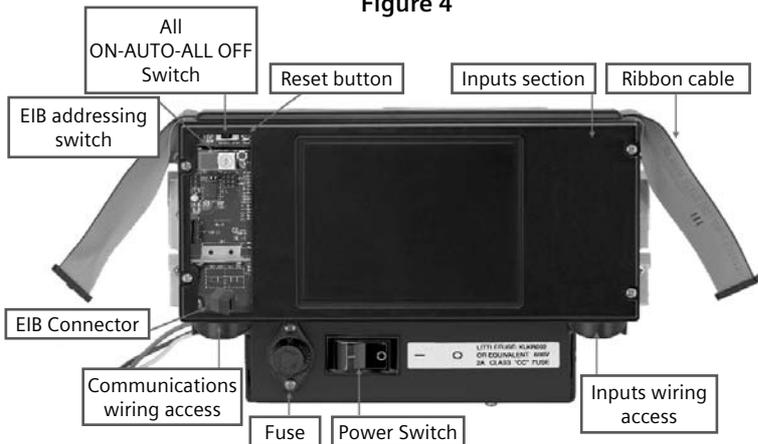


Figure 5

- III. After you have completed initialization, touch the 'Setup Wizard' button. Check the appropriate boxes for the required configurations and touch the 'Next' button.
- IV. The first step in the Setup Wizard is to detect panels. In this step you will sequentially detect all panels connected to the system controller. Before you continue to the next step, verify you have properly networked and **powered off all the I/O controller(s) in the network.**
- V. Highlight 'Panel A,' and press the 'Detect' button. This step detects the system controller. Wait for a confirmation message, then touch 'OK.'
- VI. You will now sequentially detect each panel networked to the system controller. Follow the instructions for safe and proper installation of the panel and the safety procedures to energize it.

Notes: For systems containing more than one networked I/O controller, it is important that only the panel containing the I/O controller being detected is energized (powered ON). Two or more un-detected panels should not be energized at the same time.

Once a panel has been detected it may remain energized.

- VII. Set the EIB addressing switch to the desired address (Figure 5) on the I/O controller that belongs to Panel B. The red light next to the EIB Programming button will light when the button has been successfully enabled. If the red EIB LED lamp does not light, check the voltage on the network line. The voltage should be 29 VDC.

- VIII. Highlight 'Panel B' on the system controller menu screen, and then touch the 'Detect' button. Wait for a confirmation message, then touch 'OK'.
- IX. Repeat steps VII – VIII for each I/O controller connected to the system controller.
- X. When all networked panels have been detected, touch the 'Next' button and continue to the Setup Wizard to complete the system commissioning.

B. USB Storage Device Commissioning

- i. Download and install the "i-3 System Controller Offline Configuration" software. The software and the software user's guide may be downloaded from: www.usa.siemens.com/i-3. The name of the file is "System Controller Offline Configurator.zip"
- ii. Use the software to create the system configuration (I-O mapping, schedules, zones, etc.). Save the configuration. Be sure you have entered the "Integrator Name" in the "Global Settings" tab of the Offline Configuration software Configuration Software.
- iii. Copy the configuration file to a USB storage device using the 'Export' feature of the i-3 System Controller Offline Configuration software. Make sure that the file extension is "i3v2" (*.i3v2).
- iv. Be sure the system controller panel is not pre-detected. This can be verified by ensuring that only the "Initialization" button is enabled in the "Main Menu" screen. If the system controller is pre-detected, then refer to System Controller user guide for the instructions to import the configuration into the system.
- v. If the system controller (Master) panel is not pre-detected, then power off the other slave panels in the network. For systems containing more than one networked I/O controller, it is important that only the panel containing the I/O controller being programmed is energized (powered ON). Two or more un-programmed panels should not be energized at the same time.
Caution: Once a panel has been programmed it may remain energized. The slave panel controllers MUST be powered OFF using the power switch in the controller (You may have to remove the dead front to access the power switch). Be sure the manual override (All ON-AUTO-All OFF Switch – Figure 4) is in the 'Auto' (middle) position for all panels.*
- VI. Insert your USB storage device into the system controller (Figure 4).
- VII. Touch 'Yes' on the USB Detection screen to confirm you are an authorized user.
- VIII. Enter the password 8234. Touch the 'Login' button to continue.
- IX. Use the on screen folders to select the configuration file you saved to your USB storage device. Make sure that the file extension is "i3v2" (*.i3v2).
- X. Touch the 'Check' button to continue
- XI. Enter the date and time and touch the 'Save' button.
- XII. Touch 'OK' on the "Do not remove USB storage device" warning screen.

- XIII.** You will now be presented with the panel programming screen. Before you continue, verify you have properly networked **and powered OFF** the I/O slave controller(s). Highlight 'Panel A' (or the name you gave to your system controller panel using the i-3 System Controller Offline Configuration) and press the 'Program' button on the system controller menu screen. This step programs the system controller and may take several minutes. When the programming has finished, the message "Your panel has been successfully programmed" will be displayed on the lower left of the screen.
- XIV.** You will now sequentially program each panel networked to the system controller.
- XV.** Follow the safety procedures to energize the panel containing the I/O controller that corresponds to Panel B (or the name you gave to your second panel using the i-3 System Controller Offline Configuration).

Caution: If the I/O controller does not power ON after the panel has been energized, follow the safety procedures to de-energize the panel; remove the trim and the dead front to verify the ON/OFF switch on the I/O controller is in the ON position (Figure 1). If the switch is ON, but the panel remains OFF; Check the fuse. It should be inserted with the narrow tip towards the controller. Be sure to reinstall the dead front before proceeding. * Panelboard must be de-energized before removing the dead front.*

- XVI.** Power ON the slave panel that is to be programmed. Be sure the manual override switch is in the 'Auto' (middle) position. Set the EIB address that corresponds to Panel B with the EIB addressing switch (Figure 4) on the I/O controller (or the name you gave to your second panel using the i-3 System Controller Offline Configuration). The red light next to the EIB Programming button will light and remain lit when it has been successfully enabled.
- XVII.** Highlight 'Panel B' (or the name you gave to your second panel using the i-3 System Controller Offline Configuration) on the system controller menu screen. Touch the 'Program' button on the system controller menu screen. When the programming has finished, the message "The panel 'X' has been programmed" will be displayed on the lower left of the screen.
- XVIII.** Repeat steps XV - XVII for each I/O controller connected to the system controller.
- XIX.** Touch the 'Finish Flag' when the programming for the networked I/O controller(s) has been successfully completed. This completes system commissioning. For complete details on i-3 System Controller configuration, making configuration changes and updating the configuration using a USB storage device, refer to the i-3 System Controller User Guide. This manual can be downloaded from: www.usa.siemens.com/i-3. The name of the file is "System Controller Offline Configurator.zip"

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To obtain detailed instruction manuals, please visit: www.usa.siemens.com/i-3

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