Extron

WC Pro 150 OCS • Setup Guide

IMPORTANT NOTE:

Go to **www.extron.com** for the complete user guide, installation instructions, and specifications before connecting the product to the power source.

This guide provides basic instructions for an experienced technician to install the WC Pro 150 OCS Workspace Automation Controller.

The WC Pro 150 OCS Workspace Automation Controller is a small and medium space, PoE powered integrated control processor with an occupancy sensor used to detect occupancy using Passive Infrared (PIR) and an acoustic sensor, when people walk into a room. Unique status LED indicators for each sensor are used for ease of installation as well as intuitive setup. Control options allow for control of virtually any display via Ethernet, bidirectional RS-232, IR, or CEC.

There are three ways the WC Pro 150 OCS can be configured. First, out of box the workspace controller is preconfigured for CEC control of display (see the **CEC Compatibility Chart**) and occupancy status on Digital output 2. Second, simple web configuration can be done via the internal web page for basic power on and off automation of display and projector devices (see the *WC Pro 150 OCS User Guide* available at **www.extron.com**). Third, advanced configuration can be done using Global Configurator Professional (GC Professional) or Global Configurator Plus (GC Plus). For configuration with Global Configurator Professional (GC Professional) or Global Configurator Plus (GC Plus) the LinkLicense for WC Pro Control Processor is required. Global Configurator and other useful software applications are available at **www.extron.com**.

Port Expansion Interface Connections

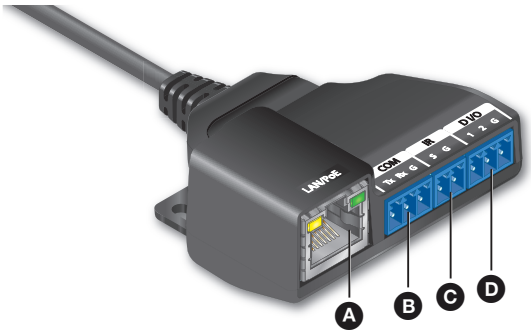


Figure 1. WC Pro 150 OCS Port Expansion Interface Connections

A **LAN (Ethernet) and PoE port and LEDs** — Insert a network cable into the RJ-45 female connector for network connectivity and to power the workspace controller (see **Control and Power — LAN (Ethernet) and PoE** on page 3 for wiring instructions).

ATTENTION:

- Power over Ethernet (PoE) is intended for indoor use only. It is to be connected only to networks or circuits that are not routed to the outside plant or building.
- L'alimentation via Ethernet (PoE) est destinée à une utilisation en intérieur uniquement. Elle doit être connectée seulement à des réseaux ou des circuits qui ne sont pas routés au réseau ou au bâtiment extérieur.
- The WC Pro 150 OCS is intended for connection to a Power over Ethernet circuit for intra-building use only and are considered to be part of a Network Environment 0 per IEC TR62101.
- Le WC Pro 150 OCS est conçu pour une connexion à un circuit PoE pour une utilisation intérieure seulement et est considéré comme faisant partie d'un environnement réseau 0 par IEC TR62101.

B **RS-232 COM control port** — Insert a 3-pole captive screw connector for bidirectional RS-232 control (see **Control, Bidirectional — COM (serial)** on page 2 for wiring information). The default protocol is:

- Baud: 9600 • Data bits: 8 • Stop bit: 1 • Parity: None • Flow Control: None

C **IR control port** — Insert a 2-pole captive screw connector for unidirectional IR control (see **Control — IR Output** on page 2 for wiring information).

D **Digital I/O control port** — Insert a 3-pole captive screw connector for Digital Input and Output 1 and 2 (see **Control — Digital Input and Output** on page 3 for wiring information).

Panel Features

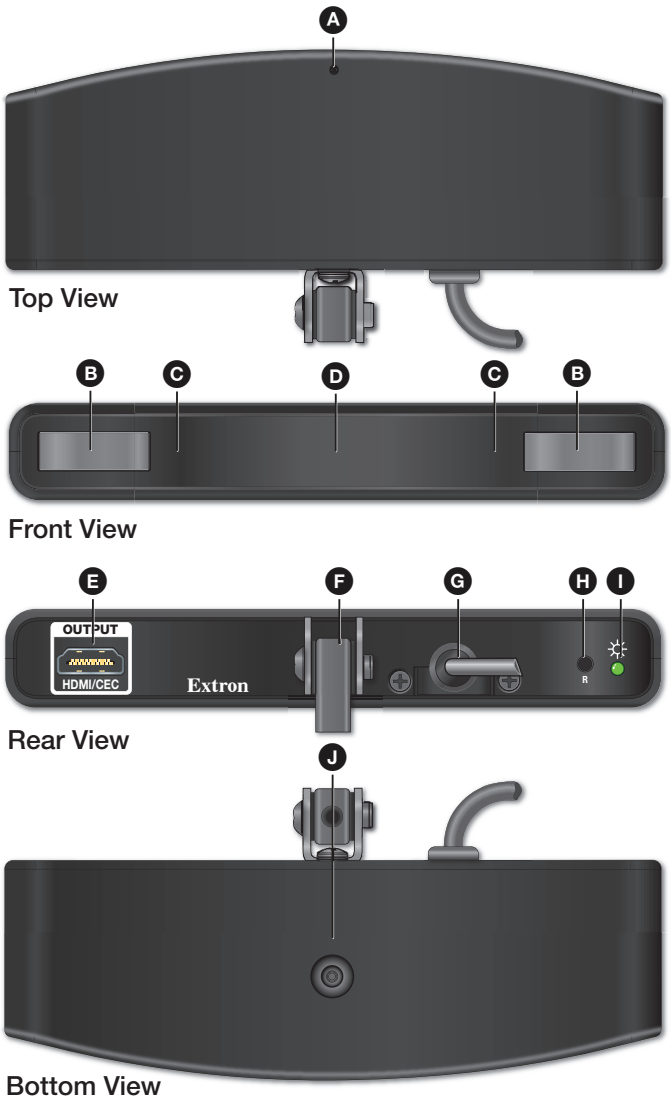


Figure 2. WC Pro 150 OCS Panels

- **A** **Acoustic sensor** — Detects occupancy based on sound.
- **B** **Passive Infrared (PIR) sensors** — Detect motion.
- **C** **PIR sensor red LED indicators** — In discrete mode, the LED blinks when the PIR sensors detect motion. LED indicators are off by default and need to be enabled in Toolbelt or the Internal Web Page.

  NOTE: The orientation of the left and right sensors and LEDs is based on the front view of the OCS.

- **D** **Acoustic sensor green LED** — In discrete mode, the LED blinks when the acoustic sensor detects sound. The LED indicator is off by default and can be enabled in Toolbelt or the Internal Web Page.

  NOTE: The panel indicator LEDs have three modes, Off (default), Discrete, and Combined. The panel indicator LEDs are off by default and can be configured in Toolbelt or the Internal Web Page. When operational, the LEDs can be seen through the translucent front panel. The LEDs are not visible during normal operation.

- **E** **HDMI/CEC port** — Connect an AV device to the HDMI/CEC output port.
- **F** **Mounting post** — See **Mounting** on page 7.
- **G** **Port Expansion Interface connection** — See **Port Expansion Interface Connections** on page 1.
- **H** **Reset button** — Push this button to initiate one of the reset modes (see **Reset and Recovery Modes Overview** on page 9 for more information).
- **I** **Reset and power LED** — The green LED blinks to indicate the reset mode and lights solid green when the unit is powered and in normal operation.
- **J** **¼"-20 Universal female thread for mounting** — The WC Pro 150 OCS can be mounted on an optional standard camera or video universal mounting solutions using this universal thread on the bottom of the device.

Cabling

Attach cables using the following wiring diagrams as a guide. Full details are available in the *WC Pro 150 OCS User Guide*.

Control, Bidirectional — COM (serial)

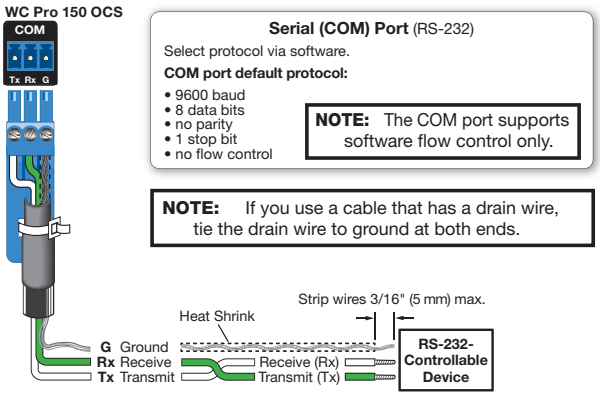


Figure 3. COM Port Wiring

Control — IR Output

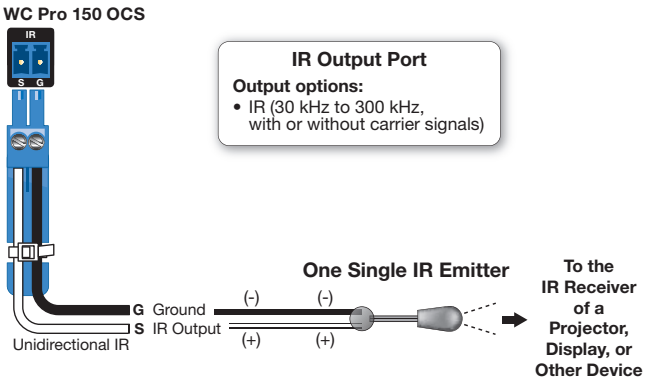
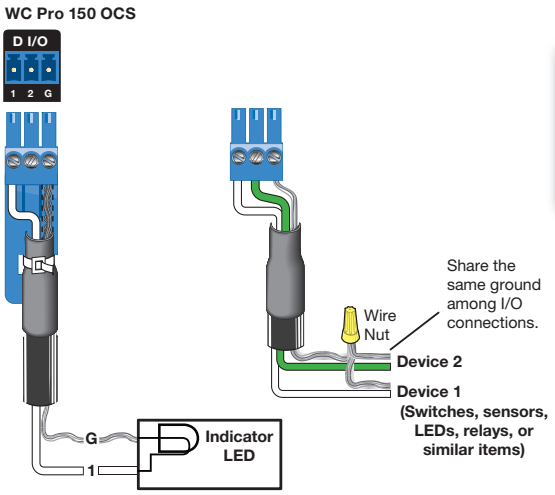


Figure 4. IR Port Wiring

Control — Digital Input and Output



Digital I/O (digital input/output)

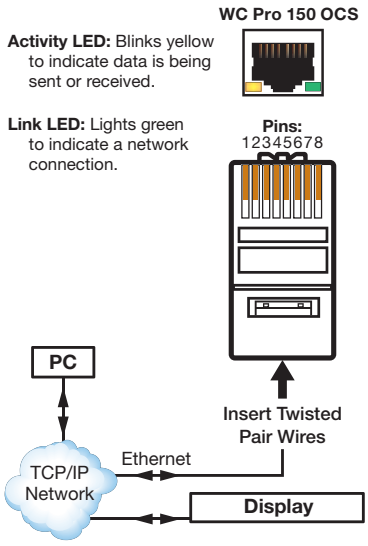
Configure each port as a digital input or output, with or without +5 VDC pull-up. Use these ports to:

- Monitor or trigger events and functions (toggle relays, issue commands, send e-mail), once configured.
- Trigger LEDs, incandescent lights, or other devices that accept a TTL signal.

Figure 5. Digital I/O Port Wiring

Control and Power — LAN (Ethernet) and PoE

NOTE: A quick way to get the unit on your network is to press and release the **Reset** button 5 times to toggle (enable) DHCP on. From the factory it is disabled, with a static IP address. Once DHCP is enabled and the device is connected to the network, access the internal web page via `hostname.domain.com`, for example: `WC-PRO-150-OCS-##-##-##.extron.com` (`##-##-##` are the last three octets of the MAC address, located on the MAC address label on the device).



ATTENTION:

- Power over Ethernet (PoE) is intended for indoor use only. It is to be connected only to networks or circuits that are not routed to the outside plant or building.
- L'alimentation via Ethernet (PoE) est destinée à une utilisation en intérieur uniquement. Elle doit être connectée seulement à des réseaux ou des circuits qui ne sont pas routés au réseau ou au bâtiment extérieur.

Straight-through Cable
(for connection to a switch, hub, or router)

End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-orange
2	orange	2	orange
3	white-green	3	white-green
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	green
7	white-brown	7	white-brown
8	brown	8	brown

TIA/EIA-T568B T568B

LAN/PoE (Ethernet and Power Over Ethernet)

Connect to an Ethernet network with a straight through cable. This port must be configured.

Default protocol:
- Device IP address: 192.168.254.250
- Gateway IP address: 0.0.0.0
- Subnet mask: 255.255.255.0
- DNS address: 127.0.0.1
- DHCP: off
- Link speed and duplex level: autodetected
- Data rates: 10/100 Base-T

Use this port to upload configuration files and firmware.

Power over Ethernet (PoE):
- The WC only uses PoE.
- 48V/56Vdc

Default login credentials:
- Username: **admin**
- Password: **extron**

NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default, which is `extron`.

Figure 6. LAN and POE 48V/56Vdc Wiring

UL guidelines

The following Underwriters Laboratories (UL) guidelines pertain to the WC Pro 150 OCS:

- **Manufacturer recommended operating temperature** — 0-50C
- **Purpose of Control** — Operating Control, Occupancy Sensor
- **Pollution Degree** — 2
- **Impulse Voltage** — 500V

Motion Sensor Coverage

The WC Pro 150 OCS covers standard small, medium, and large conference rooms with the sensor mounted below a display.

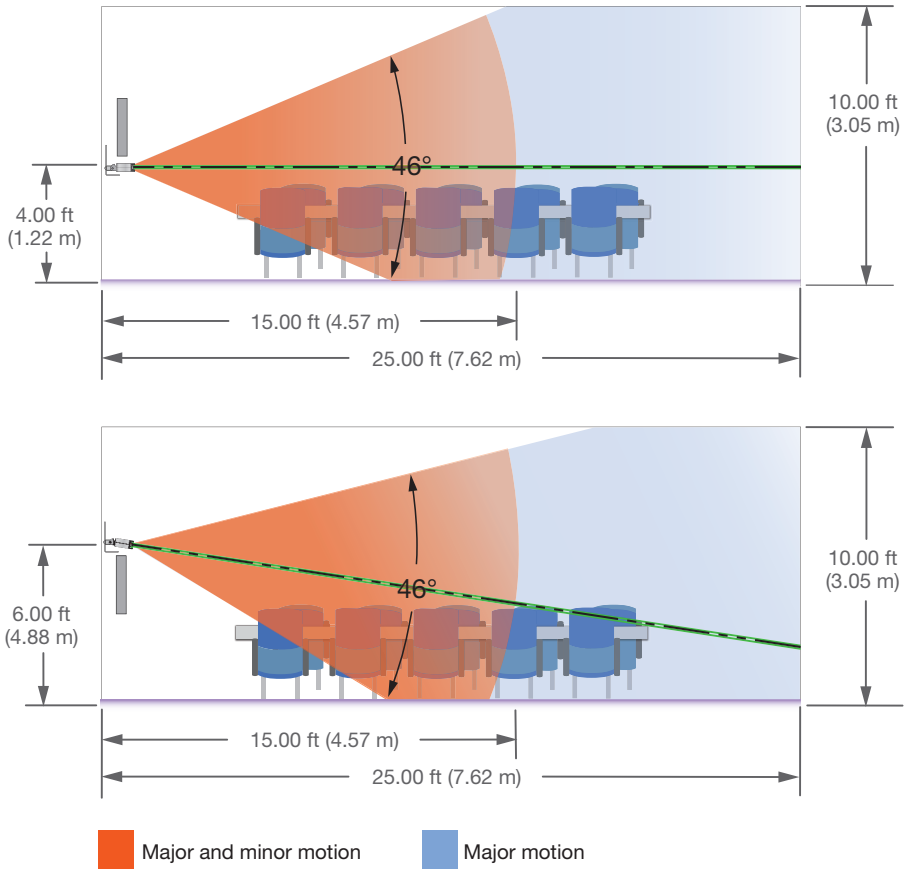


Figure 7. WC Pro 150 OCS PIR Motion Sensor Coverage from a Side View

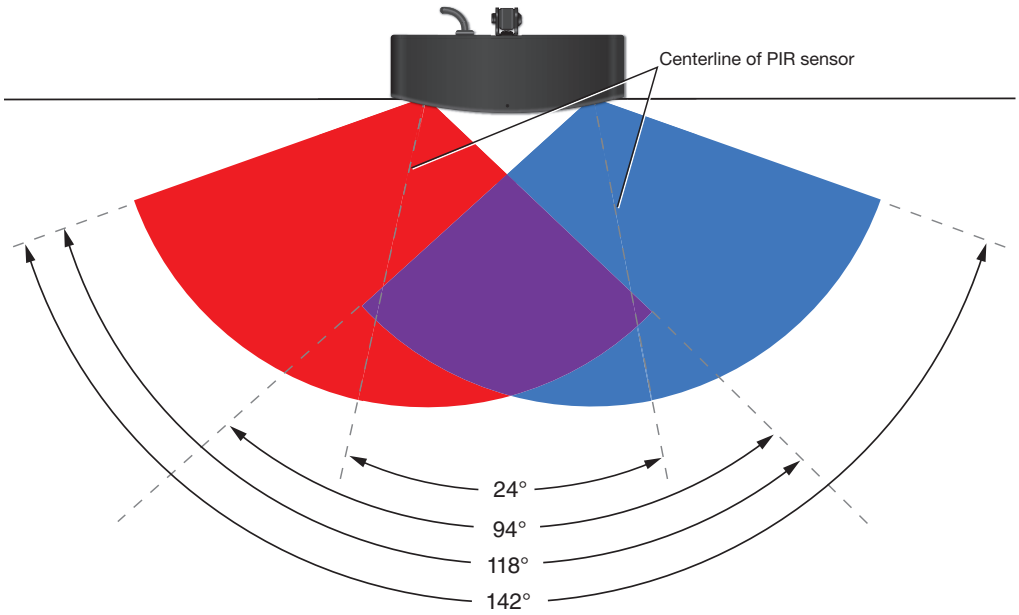


Figure 8. WC Pro 150 OCS PIR Motion Sensor Coverage from a Top Down View

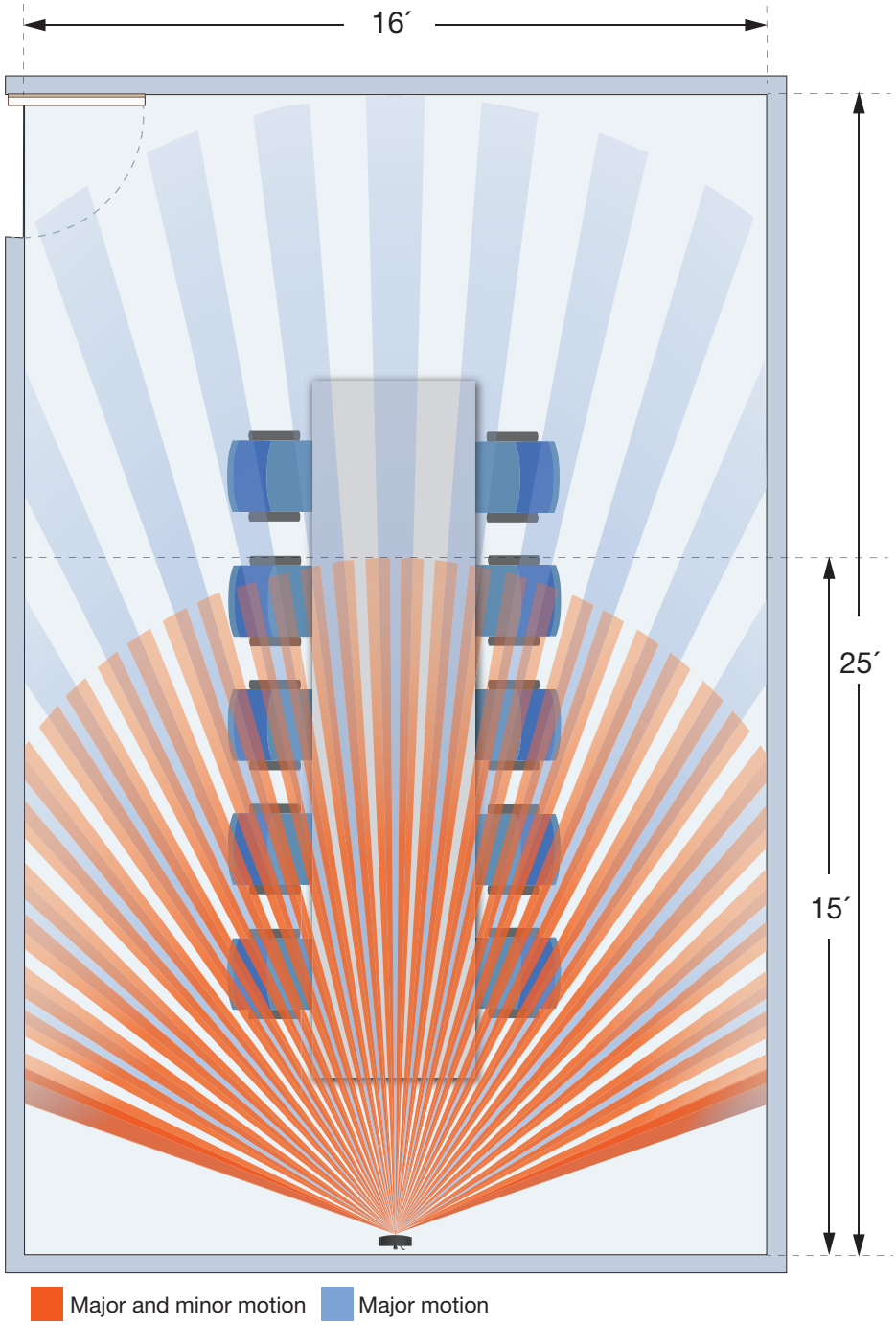


Figure 9. WC Pro 150 OCS PIR Motion Sensor Coverage from a Top Down View

Sensor Calibration

NOTE: We recommend using the default settings when beginning the setup or testing the WC Pro 150 OCS. If needed, adjust slightly from the default sensitivity settings.

Test the system to see if it appropriately detects occupancy and no occupancy. If not, use Toolbelt or the Internal Web Page to adjust sensor sensitivity for proper detection. The sensor inactivity timer is set at 5 minutes by default. After 5 minutes of inactivity, the sensor changes to unoccupied. Adjust the timer as needed from 1 second to 24 hours.

Pre-configured WC Pro 150 OCS

The WC Pro 150 OCS is pre-configured and fully functional “out of the box” using CEC commands for display control based on occupancy sensor detection (see the **CEC Compatibility Chart**). This factory configuration can be modified using the Internal Web Page (see the *WC Pro 150 OCS User Guide* for configuration details). If the WC Pro 150 OCS is reset, the device reverts back to the factory out-of-box default web configuration with CEC display control.

Pre-Configured features

- **Display On** — Display is powered on with a CEC command when occupancy is detected.
- **Display Off** — Display is powered off with a CEC command when no occupancy is detected and the timer has expired.

Room Occupancy Status on the Digital Output Port 2

Out of the box, Digital Output #2 is pull-up enabled, which follows the occupancy status:

- When status is unoccupied the digital output is low (0 V).
- When status is occupied the digital output is high (5 V).

If the unit is web configured, this fixed functionality still remains. The user cannot change anything about this functionality. It is fixed.

If the unit is GCP configured, this fixed functionality of digital I/O is lost and GCP takes over these ports.

Configuration of the the WC Pro 150 OCS with the Internal Web Page

NOTE: A Universal Access Key is required to configure the WC Pro 150 OCS using the internal web page. The unit cannot be configured with the Internal Web Page if it is configured with Extron Global Configurator software. To obtain a Universal Access Key, go to **www.extron.com/myaccount/uak**. If an Insider account holder obtains a UAK file, it expires in 90 days. If a guest account holder obtains a UAK file, it expires in 7 days. After expiration, the user needs to obtain a new UAK file.

The WC Pro 150 OCS workspace controller features internal web pages. Configure and monitor certain settings of the WC Pro device via a LAN connection. Use a web browser to view the pages on a PC or any other mobile device connected to the device LAN port or the same network. The internal web page provides configuration panels for the date and time, network connections, passwords, and firmware update, and pages for sensor and display control, editable drop-down panels and buttons to backup, restore, reboot and reset the unit. Extron loaded drivers are available on the `Display Control` page. If a driver is needed that is not pre-loaded, the user can search and download a new or updated driver, then import it via the internal web pages. For Web-Based Automation Drivers go to **www.extron.com/download/automation-drivers**.

Advanced Configuration of the WC Pro 150 OCS with GCP

NOTE: The LinkLicense for WC Pro Control Processor is optional for the WC Pro 150 OCS. This LinkLicense gives access to GCP software. It is not needed for web based configuration via the internal web pages.

The most basic steps are outlined below in the recommended order.

NOTE: See the *Toolbelt Help File* and *Global Configurator Help File* as needed for step-by-step instructions and detailed information. The help file for GC includes an introduction to the software, and how to start a project and configuration.

1. Using ToolBelt, adjust sensor sensitivity, inactivity timer, enable and disable sensors, and configure network settings.
2. Using GC, create a new GC Plus or GC Professional project and configure the controller. The configuration tells the controller how its ports function; how to control the display; what to monitor; when to do things; and whom to notify, how, and under what circumstances.
   a. Configure ports on the controller.
      - Select device drivers and link them to each assigned serial, IR, or Ethernet port.
      - Configure settings (CEC, serial protocol, digital input and output, and Ethernet control settings) as needed.
   b. Add user interface devices such as Surge Protection Devices (SPD), Network Button Panels (NBP), or TouchLink Pro Touchpanels (TLP) devices to the controller as needed.
   c. Set up monitors, schedules, macros, and local variables.
3. Save the project.
4. Build and upload the system configuration to the controller.

What the Software Does

Global Configurator Professional or Plus is the software tool for configuration of a controller.

- Loads device drivers for controlling and monitoring the status of devices within the AV system.
- Creates the configuration containing all the settings for the controller and the products it interacts with in the AV system.
- Generates a user interface called GlobalViewer that is uploaded to the WC Pro 150 OCS (a GlobalViewer host device) along with the completed configuration and can be accessed as a web page. Using GlobalViewer, users can monitor the WC Pro 150 OCS.

When the Extron LinkLicense for User Interface is enabled on the controller, Extron Control for web, iOS, or Android can be used with the WC Pro 150 OCS to permit remote control of the unit and, by extension, the Extron and third-party equipment (such as switchers, projectors, displays, computer monitors, and DVD players) that the WC Pro 150 OCS is configured to control.

NOTE: To use Global Configurator (available to run in GC Plus mode) software, you must have an Extron Insider account and contact an Extron support representative. Extron provides training to our customers on how to use the software. Access to Global Configurator Professional is available to users who successfully complete Extron Control Professional Certification.

Test and Troubleshoot

1. **Test the system** — If the controller is connected to a network, ensure that the yellow Activity LED and green Link LED on the LAN/PoE port light.
2. Make adjustments to wiring or configuration as needed.

Mounting

Prior to mounting:

1. The sensor comes out of the box mounted to the long side of the bracket. Determine the desired depth from the wall.

> **NOTES:**
> - If it is preferred to have the sensor mounted close to the wall, it is recommended that you switch the sensor to the short side.
> - Do not use any other screw in the threaded hole in the mounting post of the WC Pro 150 OCS. The provided screw allows mobility of the sensor without loosening the connection.
> - Be sure the metal washers are on the outside, against the post and the screw. The plastic delrin washers are on the inside, against the bracket.
> - Use a Phillips screw driver to lightly tighten the screw until snug enough to allow for mobility without loosening the screw.

2. The port expansion interface hub is connected to the sensor with a 3 feet (0.91 m) cable. Determine where and how it is to be mounted.
3. Disconnect power at the source from all devices in the system.

Mount the WC Pro 150 OCS as follows:

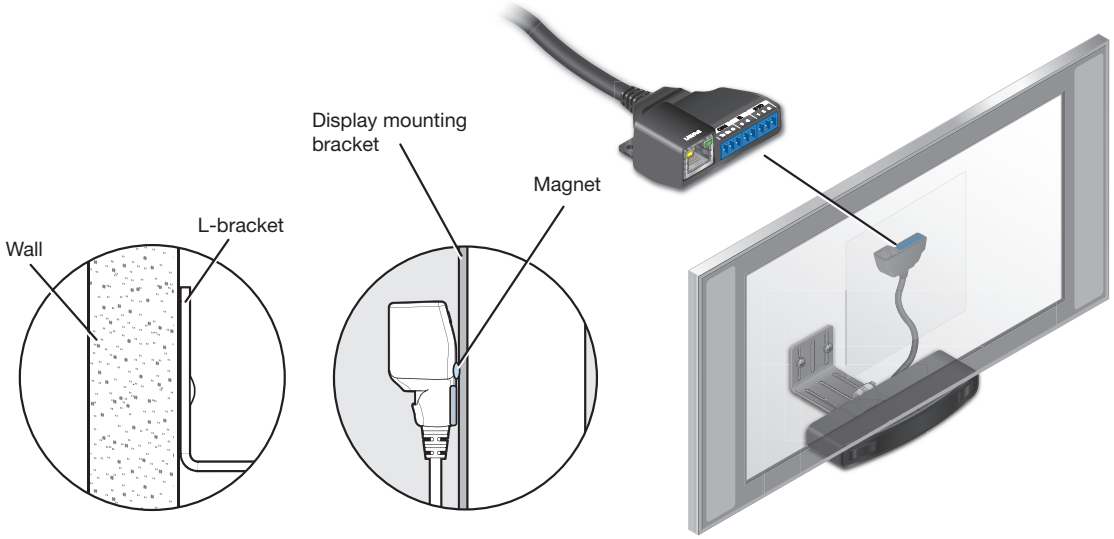


Figure 10. Mounting the WC Pro 150 OCS

1. Secure the WC Pro 150 OCS above or below the display:
   - Using the L-bracket, insert screws through the slots and into the wall.
   - Optionally, remove the L-bracket and mount the device using the ¼"-20 universal female thread for mounting on the bottom of the device with an optional mounting accessory of choice. Use the instructions provided with your mounting accessory.
2. Secure the port expansion interface hub behind the display. There are three mounting options for the hub:
   - Attach the hub to a nearby metal surface via the molded-in magnets on the bottom (shown in figure 10).
   - Attach the hub to a bar or pole via zip ties threaded through the two slots and recessed grove around the interface hub.
   - Attach the hub to a rack post, wall, or wood via two screws through the two mounting slots.
3. Make all connections to the WC Pro 150 OCS port and expansion interface hub.
4. Connect power at the source to all devices in the system.

> **NOTE:** The WC Pro 150 OCS is powered through the LAN port, so be sure to make that connection.

Overall Configuration Procedure for the Controller

NOTE: Configuration using Global Configurator requires the optional WC Pro Control Processor Upgrade LinkLicense for WC Pro Control Processor.

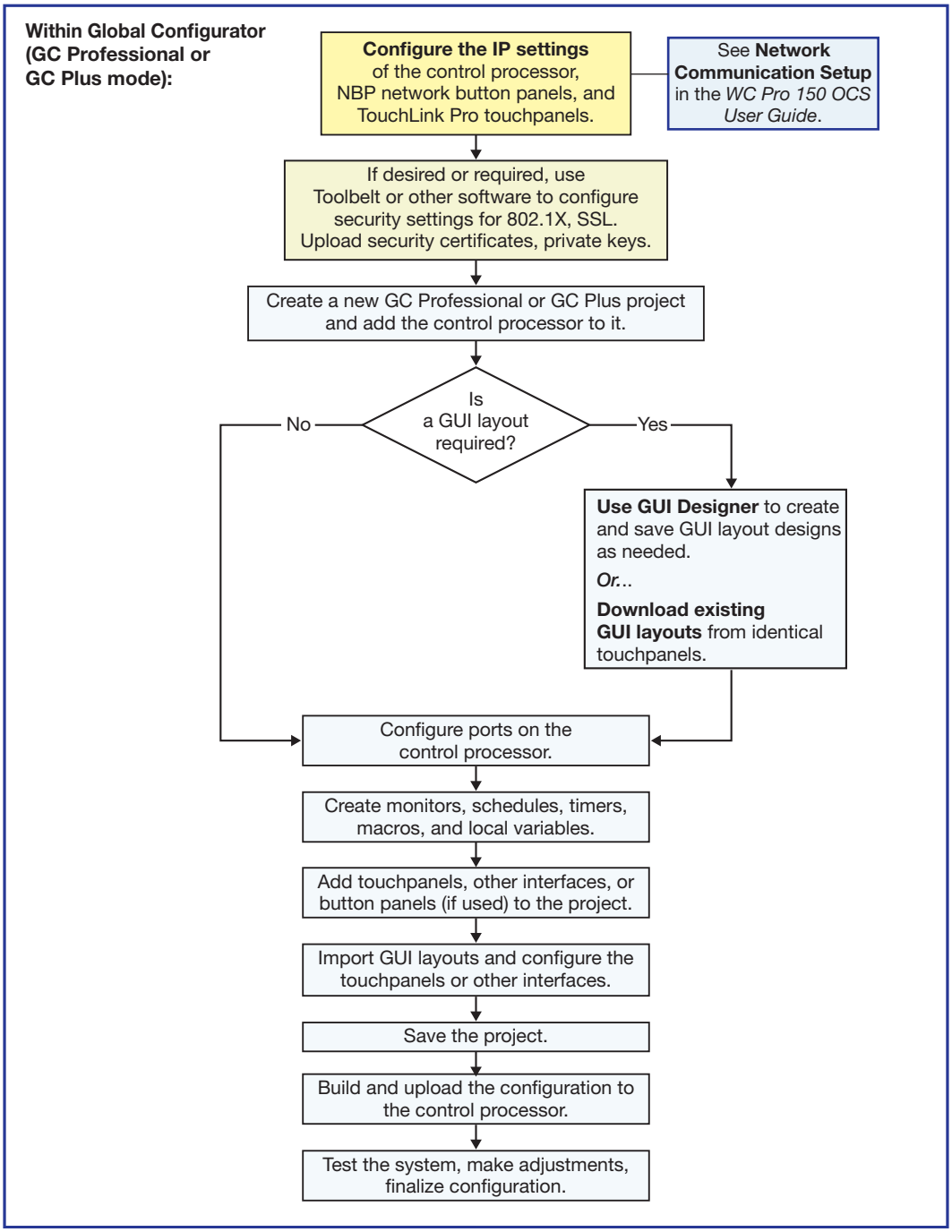


Figure 11. Overall Configuration Steps

Reset and Recovery Modes Overview

The WC Pro 150 OCS offers the following reset modes:

- **Use Factory Bootcode**: Press and hold the front panel **Reset** button while applying power to the unit. Use this mode to revert to factory bootcode in the event of a firmware failure. Upload firmware after this reset. Power cycling the device reverts back to previous, existing firmware.
- **Reset All IP Settings**: Press and hold the front panel **Reset** button for 6 seconds. After the **Reset** LED blinks twice, release and momentarily press and release the **Reset** button within 1 second. Use this mode to reset all network settings to factory default values without affecting user-loaded or configuration files.
- **Reset to Factory Defaults**: Press and hold the front panel **Reset** button for 9 seconds. After the **Reset** LED blinks three times, release and momentarily press and release the **Reset** button within 1 second. Use this mode to return the controller to factory default settings. IP and communications setting are also reset to default.
- **Project Recovery**: Press the front panel **Reset** button three times within 1 second. The power LED blinks for 30 seconds, while the device is in project recovery mode. After the power LED stops blink and remains lit, the device returns to the previous state with no settings changed. Use this mode to recover project or program files if a product password is lost.
- **Start or Stop Program**: Press and hold the front panel **Reset** button for 3 seconds. After the **Reset** LED blinks once, release and momentarily press and release the **Reset** button within 1 second. Use this mode to start or stop the user loaded program running. The **Reset** LED blinks twice if the program is starting. The **Reset** LED blinks three times if the program is stopping.
- **Enable or Disable DHCP**: Press the front panel **Reset** button five times consecutively. The **Reset** LED blinks six times if the DHCP Client Status is enabled. The **Reset** LED blinks three times if the DHCP Client Status is disabled.

Resources

Obtaining Control Drivers

Extron provides an extensive selection of device drivers available on the Extron website:

- For web-based automation drivers, go here: **https://www.extron.com/download/automation-drivers**.
- For GCP drivers, go here: **https://www.extron.com/download/control-system-drivers**.

If the system requires a control driver that is not already available, request a new serial (RS-232), IR, or Ethernet driver from Extron.

Obtaining Instructions, Information, and Assistance

A checklist of basic setup steps is provided in this guide. For additional information see the help files and the *WC Pro 150 OCS User Guide*, available at **www.extron.com**.

If you have questions during installation and setup, call the Extron S3 Sales & Technical Support Hotline or the Extron S3 Control Systems Support Hotline (1.800.633.9877).

Locating Software, Firmware, and Driver Files on the Extron Website

There are three main ways to find software, firmware, and device drivers within **www.extron.com**:

- Via links from the web page for the specific product.
- Via the Download page (click on the **Download** tab at the top of any page within **www.extron.com**).
- Via links from search result.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the **Extron Safety and Regulatory Compliance Guide** on the Extron website.

Worldwide Headquarters: Extron USA West, 1025 E. Ball Road, Anaheim, CA 92805, 800.633.9876

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