

Supplemental Information – IncuWhite™ Linear LEDs

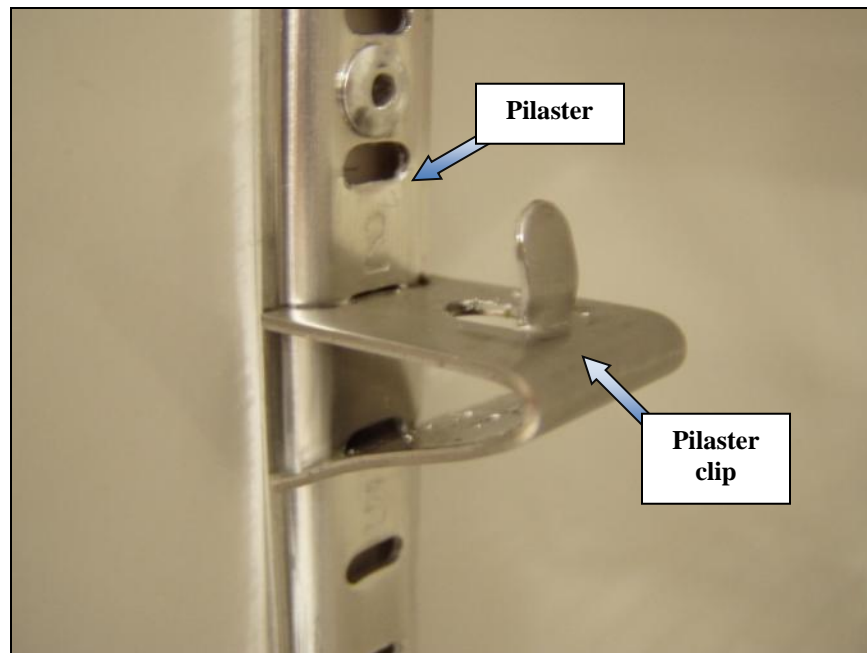
The chamber is supplied with horizontal IncuWhite™ linear LEDs. The horizontal LEDs are attached to the shelves, which will need to be installed prior to connecting the LEDs to the receptacles.

Install shelving

- Securely fasten the supplied pilaster clips into the pilasters located inside the chamber at the desired elevation for each shelf.

A pair of pliers or similar tool may be required to install the clips on the pilasters. Once the clips have been securely installed, install the shelf by resting the shelf frame on the clip's upper surface between the pilaster and the clip's raised tab. *The LED fixtures are attached directionally and should be directed **down** to the next level of shelving.*

Repeat this process with any additional shelves.

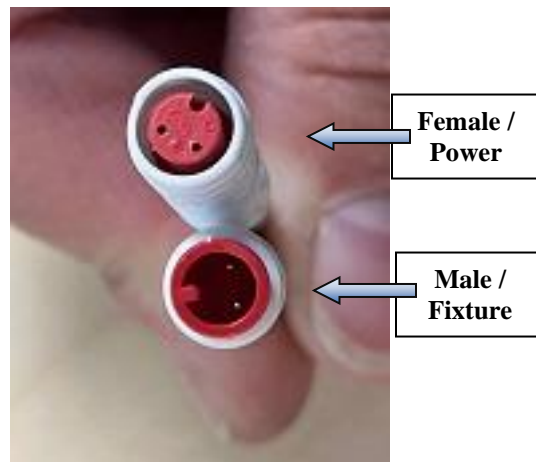


Pilaster Clip Installation



Connect LEDs

The individual horizontal fixtures may be connected to any of the lower connections in each row. **To make each connection, simply align the notches on the “male” and “female” plugs and push them together. DO NOT TWIST THE CONNECTORS!**



Supplemental Information – Open Loop Dimmable Lighting (as %)

System Capabilities:

Number of dimmable outputs: 8
Dimming threshold %: 5%
Dimmable control range: 5-100%

Dimming works most effectively when the lighting level is dimmed during an experiment. If the lamps are turned on from their off state to a low lighting level the lamps may not be able to start.

Components:

Logic relays
Intellus Ultra Controller
LED drivers

Dimmable Lighting Process:

Light dimming is accomplished in an “open loop” configuration, where set points are entered into the controller as percentages, and the *controller scales its output voltage to the LED drivers to correspond with the set point – IT IS RECOMMENDED TO USE AN INDEPENDENT LIGHT METER TO MEASURE THE ACTUAL INTENSITY.*

The system has been set up so that any set point value below 5% will deactivate the dimmable LEDs on that output. To turn off the LEDs in program mode or manual mode, simply change the set point in the controller to any value below the threshold of 5%.

Intellus Display and Setup:

The light outputs on the controller have been set up as follows:

- Light 1 controls the dimmable IncuWhite™ LEDs on all fixtures.

When running manual settings, lighting levels are input as percentages, and are set on the Intellus Controller in the Lights menu. To enter the Lights menu so that the lighting set points can be changed, press the **LIGHTS** key on the Intellus Controller. Use the arrow keys to navigate through the menu and select the desired light output (the number of available outputs will vary according to the type of chamber and options ordered). To change a light setting, press the **ENTER** key and use the arrow keys as necessary to change the setting. Press the

ENTER key a second time to accept the changed setting. To exit the Lights Menu, and return to the Main menu, press the **LIGHTS** key.

Lighting levels can be programmed using the programming features of the Intellus controller. For more information on using the Intellus controller to program the lighting levels, please refer to the attached *Intellus Controller Manual*.

NOTE: Running the chamber in Diurnal mode will cause all the lights to energize at full intensity during the day cycle. Conversely, during the night cycle, all light outputs will be de-energized. Only the Manual and Program modes are conducive to the intermediate light intensities available through the dimming option.

On the main display screen, the lighting level for each dimmable lighting output will be displayed as a bar corresponding to the lighting set point (percentage).

Example: A chamber with two dimmable light outputs with settings of 75% and 50% will show two bars in the light outputs portion of the main display, with the first bar 75% full and the second bar half full.

Service and Maintenance:

- ✓ Output voltage to the control signal is a scaled 0-10VDC.
- ✓ Please refer to the Maintenance and Service Information sections of the **Installation, Operation, & Service Manual** for additional information regarding the general care, maintenance and service for lighted chambers.