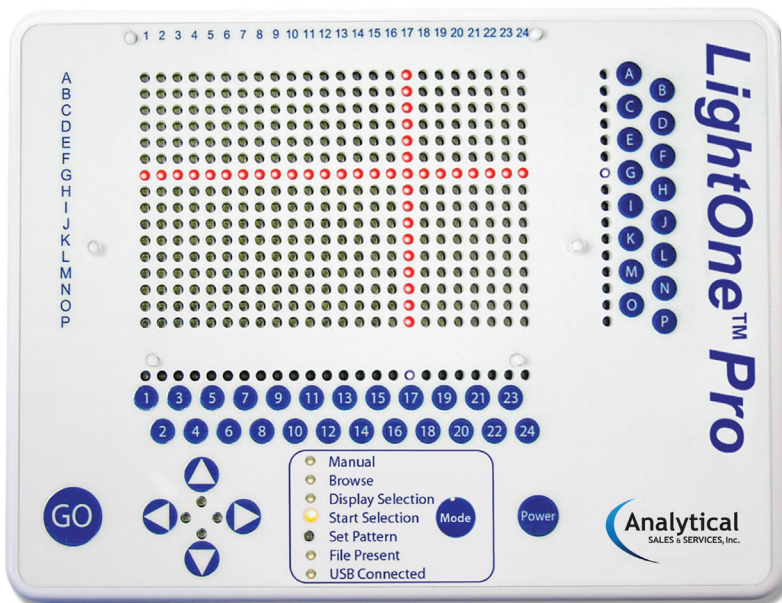


LightOne™ Pro



Instructions Manual



SAFETY

Always wear protective gloves and safety glasses in the laboratory. The LightOne Pro is intended for laboratory research use only. Power is supplied to the LightOne Pro by the AC adaptor and is designed for use with the LightOne Pro only. Do not attempt to use any other AC adaptor with the LightOne Pro. The LightOne Pro should not be modified or altered in any way. Analytical Sales & Services is not responsible for any injury or damage caused by improper use of this apparatus or by modifications to the system.

MAINTENANCE & CLEANING

To clean, simply wipe down the smooth surface with a damp towel. The LightOne Pro is water resistant, but not waterproof.

WARRANTY

The LightOne Pro is warranted to be free of defects in materials and workmanship for a period of one year from the date of purchase. If defects are found during this warranty period, Analytical Sales & Services will replace the defective parts at no charge, provided product is returned within the warranty period. This warranty specifically excludes:

Defects caused by improper operation. Damage caused by improper handling or accidental misuse. Damage incurred during shipping.

This warranty is VOID if moisture is discovered inside the unit or if the unit has been opened.

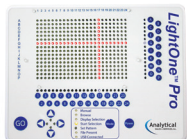
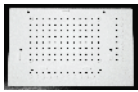





LightOne Pro Warranty Information

Date of Delivery: _____

Invoice Number: _____

Purchase Order: _____

Components and Specifications





LightOne Unit 	Dimensions Weight Material Alignment Plate Compatibility LEDs Light Source Life Intensity Manual Program Connections USB Program	<ul style="list-style-type: none"> • 16.3 (L) x 21.4 (W) x 1.0 (H) cm • 0.4 kg • Molded white polycarbonate enclosure <ul style="list-style-type: none"> • One piece water-resistant membrane overlay • 6 molded pins to hold 384-well plates in place <ul style="list-style-type: none"> • 2 side pins are flexible • All standard 384-well transparent or translucent plates • 384 Red array LEDs (635 nm at 20 mA) • 40 White button indicator LEDs • 6 Amber MODE indicator LEDs • 4 Blue directional indicator LEDs • 50,000 hours • 3 Settings: High, Medium, Low • User illuminates single well, entire/partial column, entire/partial row or area by pressing buttons corresponding to it's coordinates • 1 USB port for flash drive • Plugs into Junction Box • Load and run .emb files from flash drive
LightOne 96-well Adapter Mat 	Dimensions Weight Material Alignment Plate Compatibility	<ul style="list-style-type: none"> • 18.1 (L) x 11.8 (W) x 0.2 (H) cm • 0.053 kg • Molded white silicon • Mat alignment <ul style="list-style-type: none"> • 6 holes to align mat to pins on unit • 96-well plate alignment <ul style="list-style-type: none"> • 5 molded oblong holders for fully skirted plates • 4 molded round holders for non-skirted and semi-skirted plates • All standard 96-well transparent or translucent plates
USB Flash Drive 	Storage Capacity CSV File Converters	<ul style="list-style-type: none"> • 512 Mb • 96-well Converter, 384-well Converter <ul style="list-style-type: none"> • Converts .csv files into .emb files • preloaded templates
Power and Junction Box 	Dimensions Weight Material Connections	<ul style="list-style-type: none"> • 3.3 (L) x 3.9 (W) x 2.1 (H) cm • 0.025 kg • Black ABS enclosure • Foot Switch • 5 V AC Power Supply • Links 2 LightOne Units
AC Power Supply 	Input Output Connections Compatibility	<ul style="list-style-type: none"> • 100-240, 50-60 Hz • 5 V, 1.2 A, polarity  • Plugs into Junctions Box • 4 changable prongs for worldwide use
Foot Switch 	Dimensions Weight Material Connections	<ul style="list-style-type: none"> • 10.1 (L) x 8.7 (W) x 3.1 (H) cm • 0.125 kg • Blue ABS enclosure • Plugs into Junction Box

Modes of Use


Manual Mode

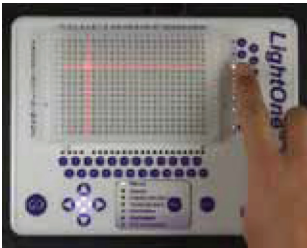
Select a well, area, complete or partial rows and columns by pressing the coordinates with the buttons along the right edge and the bottom edge of the plate. Index lights will guide the selection. View the chart on page 3 for a summary.

For more detailed examples, refer to the appendix on back page.


Note: Use the     to move the position of the selection.

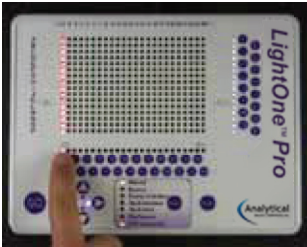
To Select a Well

- 1. Press the coordinates of the well: letters on the right and numbers on the bottom.
- 2. Press  to confirm.




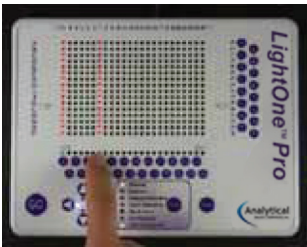
To Select a Single Row or Column

- 1. For a single row or column, press a single row letter or column number.
- 2. Press  to confirm.




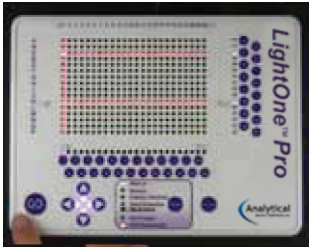
To Select Multiple Rows or Columns

- 1. Press either two letters for rows or two numbers for columns. This will select the two rows or columns and everything in between.
- 2. Press  to confirm.




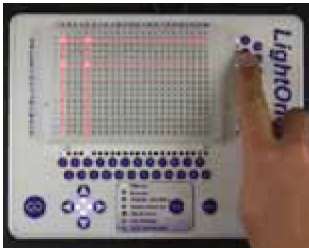
To Select a Partial Row or Column

- 1. Press a row or column.
- 2. Press another row or column
- 3. Press the letter or the number coordinates to limit the previously pressed row or column respectively.
- 4. Press  to confirm.




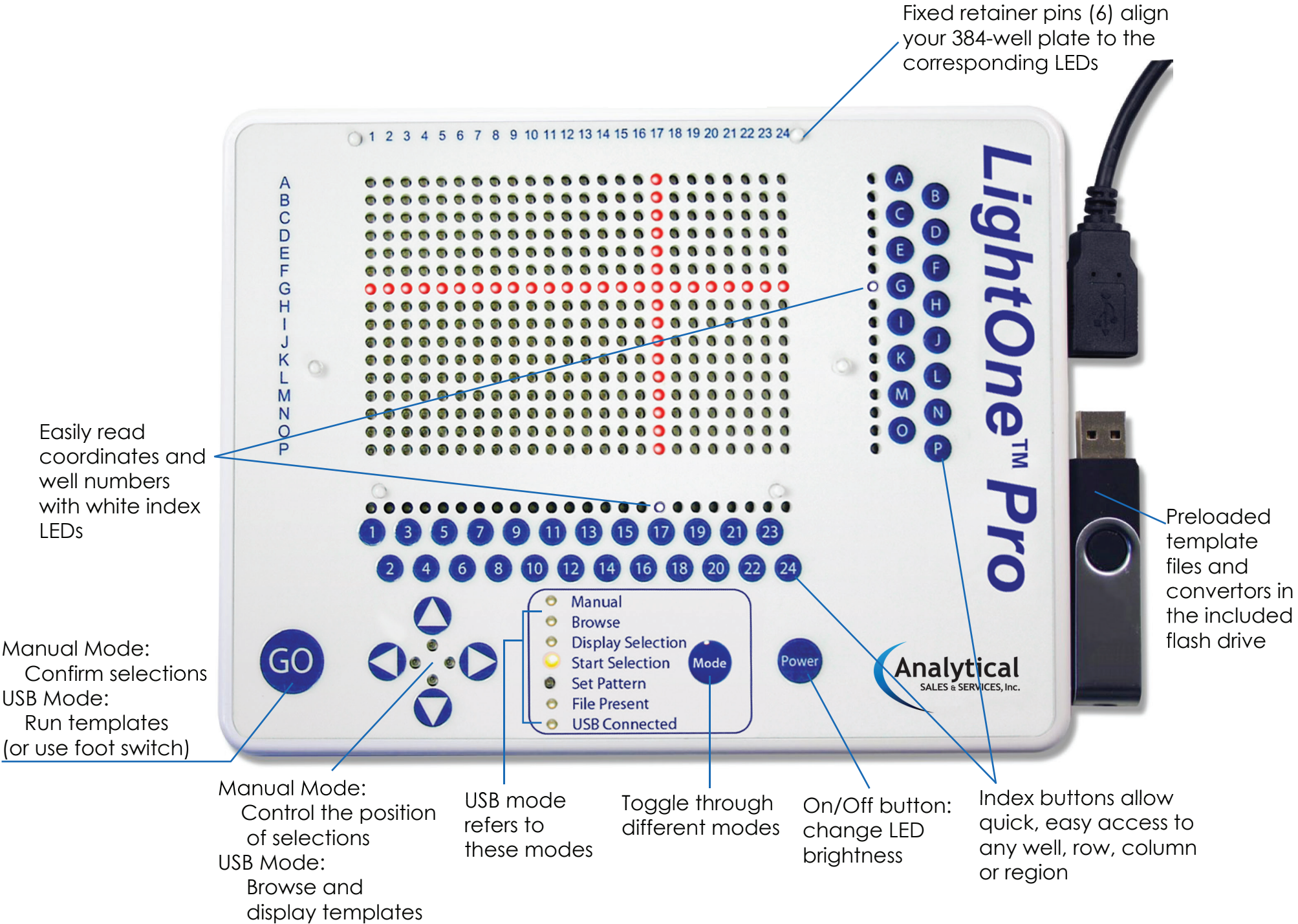
To Select an Area

- 1. Press the coordinates of the four corners of the rectangular area.
- 2. Press  to confirm.



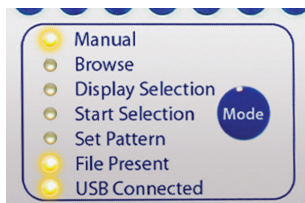
Summary

Selecting	First Press	Second Press	Third Press	Fourth Press	Confirm
Single Well 	Any Letter A-P	Any Number 1-24			
Complete Row 	Any Letter A-P				
Complete Column 	Any Number 1-24				
Multiple Rows 	Any Letter A-P	Any Letter A-P			
Multiple Columns 	Any Number 1-24	Any Number 1-24			
Partial Row 	Any Letter A-P	Any Number 1-24	Any Number 1-24		
Partial Column 	Any Letter A-P	Any Letter A-P	Any Number 1-24		
Area 	Any Letter A-P	Any Letter A-P	Any Number 1-24	Any Number 1-24	



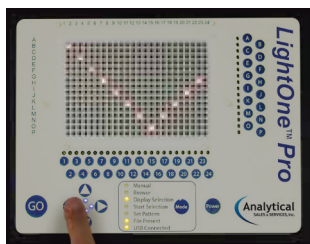
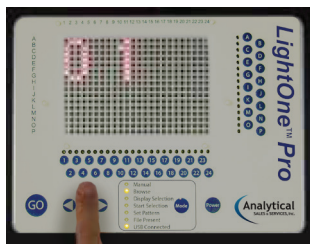
USB Mode-Using the Flash Drive

Connect the flash drive containing the template files. The “USB Connected” LED will turn on. If a template file is present in the slot displayed, the “File Present” LED will also turn on.



Previewing Template Files

1. After connecting the flash drive, switch to “Browse” Mode by clicking the **Mode** button until the Browse LED turns on.
2. Use the and arrows to navigate between files. The two digit number displayed indicates the current file.
3. Use the arrow to preview files. Use the arrow to view the file numbers.



Running Template Files

1. From “Browse” Mode, toggle to the desired template file. Press the **Mode** button to switch to “Start Selection” Mode.
2. The first well in the template will light up. Proceed through the template by clicking the **GO** button or pressing the foot pedal.
3. At the end of the template, all the wells in the template will light up to display the pattern that has been pipetted.
4. To select another template, press **Mode** button until the “Browse” LED is turned on. Repeat the steps from B. Previewing Template Files.

Generating Template Files

Online Selector

1. Open your browser and go to www.analytical-sales.com/generator.
 2. Choose either the 96-well or 384-well generator by clicking the appropriate button at the top left corner. The following instructions are the same for both.
 3. On the appropriate generator, click on the gray light bulb to select the well(s) and the light bulb will turn orange. Click on the orange light bulb to deselect the well(s) and the light bulb will turn gray.
 4. A group of wells can be selected or deselected by right-clicking and dragging over an area. The wells will still light up individually.
- For lighting up more than one well at a time, see the appendix.



6. Enter plate names or comments about the file in the "Comment" Box and they will be embedded in the generated file.

7. If the wells are to light up in the order they were selected, click the "Maintain order of well selection" checkbox near the bottom.



8. Press "Generate Configuration File" at the bottom to generate the template.

9. A dialog box will show the selected wells and their order of progression. If the "Clear plate after export" checkbox is checked, the generator will be cleared after saving the file.



10. Click "Dismiss" to return to the generator.

11. Click "Generate File" to confirm the file. The file will be saved to your computer's download folder and will be named "inXX.emb", with XX representing the "File #" from the drop down menu.

12. Copy the newly generated template file to the flash drive. The template file must be in the root directory of the flash drive and have an .emb extension to be read by the unit. Connect the flash drive to the LightOne and see the "USB Mode" section on page 6.

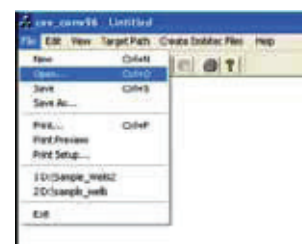
96-well and 384 well Converter

1. The following instructions show how to convert a .csv file to an .emb file.
2. Set up an Excel spreadsheet with Column A being the plate names and Column B being the well coordinates. Save the file as a .csv file.

Plate	Wells
1-3	B2
1-3	B4
1-3	C6
1-3	C8
1-3	D10
1-3	D11
1-3	E4
1-3	E6
5-9	C3
5-9	C5
5-9	C7

3. The order of the wells listed down the column will correspond with the order the wells light up.

4. If multiple plate names appear in one .csv, the file converter will generate separate files for each plate.



5. Connect the flash drive included with the unit to the computer. Open the 96-well or 384-well converter as appropriate. The following instructions are the same for both.

6. Click, "File → Open → (your file name)" to open your .csv file.

7. The data for the template will be displayed in the converter.



8. Select the destination folder for the template file by clicking "Target Path."

Note: We recommend setting the destination folder to the flash drive root directory.

9. Click "Create Embitec Files." The files will be generated as inXX.emb, with XX being a two-digit number. The converter generates files in sequential order, always starting with in01.emb. If the destination folder already has a file with the same name, that file will be replaced. The converter will also generate an error list and a plates list file, which documents the connection between the files generated and the plate names from the .csv file.

10. If the destination folder was not set to the flash drive prior to creating files, the .emb files should be copied to the root directory of the flash drive.

11. Connect the flash drive to the LightOne Pro and enter "Browse" Mode to preview the template.

Appendix

Tips for Advanced Users

- **Generating Templates: Lighting-up Groups of Wells Simultaneously**
- **Browse Mode: Quickly Toggle to Your Template**

Go to www.analytical-sales.com/product/lightone-pro-384-well-illuminator-loi-384/ and click on "Additional Information"

Useful Links

Online Template Generator

Go to www.analytical-sales.com/generator



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