

## DMX TUNNEL LIGHTING INSTALLATION - PG1

### WARNING

Fixtures must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

Please read through this document entirely before beginning the installation

Monthly functional and visual inspections are recommended to ensure safe operation.

Remove this fixture from service if water or corrosion is observed inside of the fixture. Water and chemicals can corrode metallic components and damage electrical circuits. Faulted electrical circuits can experience self-heating which, while unlikely, may present a fire hazard if left unchecked. This heating can also serve as an ignition source for gasses generated by the corrosion of metals inside of the enclosure.

### RISK OF ELECTRIC SHOCK

Turn power off before inspection, installation, or removal

### Electrical Requirements

- Suitable for wet locations.
- Follow all National Electric Codes (NEC) and local codes.

### Notes

- If the external flexible cable or cord of this luminaire is damaged, it shall be replaced by a special cord or cord exclusively available from the manufacturer or his service agent.

### Customer Service

- For technical assistance and installation support please call 800-285-6780 x2 or email support@ggled.net

### Supplied Materials



1. G&G DMX+ Series Luminaire(s)
2. Leader Cable(s)
3. Jumper Cables

4. Mounting Brackets (Ceiling or Wall)
5. G&G ColorWash™ Controller (Includes controls, power distribution and trigger inputs)

Rev Date 24 0117

**STRONG.**

**SIMPLE.**

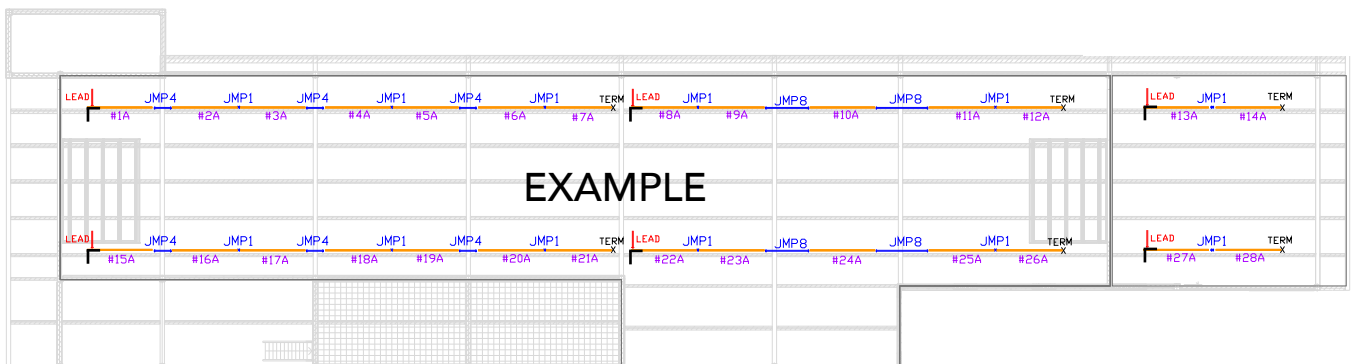
**COMPACT.**

## DMX TUNNEL LIGHTING INSTALLATION - PG 2

### Installers Please Take Notice

G&G DMX lights are numbered with specific fixture IDs. The IDs can range from #1A through #32C and must be placed in the correct order and location throughout the tunnel. The letter (A, B, or C) included in the fixture address references which power bank the fixture must be connected to with its leader cable. Connecting a fixture to the wrong bank will lead to lighting effects being generated in an erratic manner.

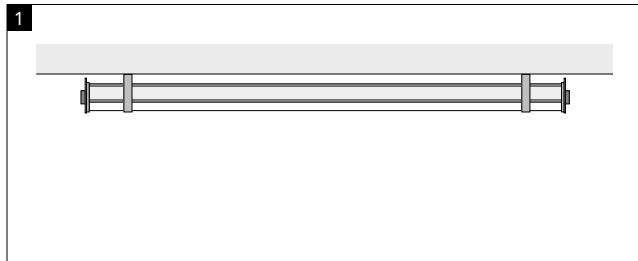
Refer to your site-specific fixture layout and wiring diagram prior to installing. If you have any questions about the layout, contact G&G support prior to beginning installation.



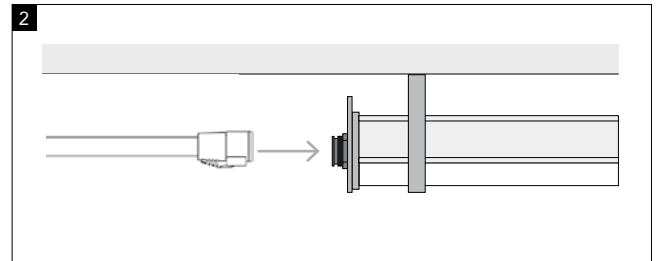
## DMX TUNNEL LIGHTING INSTALLATION - PG 3

### Mounting the DMX Fixtures

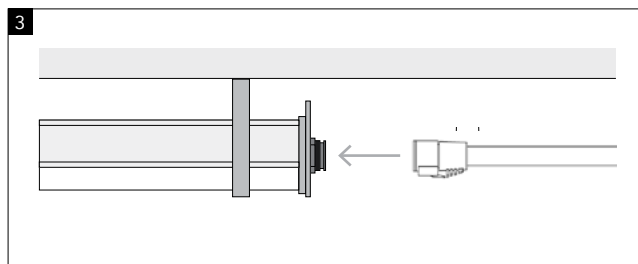
- DMX series wet location fixtures are typically surface mounted (Ceilings, Walls, etc). If mounting on the ceiling, it is recommended to keep the fixtures 2-3 feet in from the wall.
- Each fixture has an input (male) and output (female) end. The end of the fixture with the product identification label is the input end. The fixture must be installed with the input end oriented in the direction of your incoming power source or leader cable.
- Each fixture is marked with a specific fixture ID # and the location of the fixture in the tunnel must follow your site-specific layout.
- For long linear runs, G&G recommends using a chalk line or laser to mark the mounting bracket locations. Straight runs using the DMX-JMP-1 (1' jumper cable) will put the lights 9' on center. If DMX-JMP-4 cables (4' jumper cables) are used between lights, the lights should be installed 12' on center.
- Each fixture requires at least 2 mounting brackets; recommended mounting is one at each end, 8-10" from the end of the fixture.
- This product makes use of a push-click connector system. An audible click upon insertion of the connector indicates that the connector is fully seated. Failure to fully seat connectors can lead to cable and fixture damage during use.



Mount the fixture(s) in their specific location using either the Wall Mount Bracket high on the walls or the Surface Mount Bracket to affix directly to the ceiling or arches.



Connect the power leader cable to the input connector (male) on the LED fixture. To do this align the connector and push inward, thread the and list for the audible click sounds that indicates that the connector is fully seated.



When daisy chaining fixtures continue mounting fixtures and attach jumper cables as needed using the same push-click connection method as the leader cable.

## CONTROLLER INSTALLATION & ELECTRICAL CONNECTIONS

### Notes:

- The ColorWash™ controller comes with 3 different circuits inside: the DMX/power board(s), input board(s) and the control board.
- DMX/Power boards (1, 2 or 3) distribute power to the control board and LED fixtures. A/B/C nomenclature is used to align each power board to its DMX universe and group of LED fixtures.
- Input boards (1 or 2) each take up to 8 PLC or other generated signals and sends data to the control board for specific events to occur (such as wash package and function highlighting).
- The control board manages network connectivity, show generation and all other controls.

### DMX / Power Boards:

- 3 Input terminal blocks (120V/277V) feed 6 output terminal blocks. 9 fixtures are allowed per output block. All are fused with a 20A fast blow fuse.
- One DMX / Power board represents one universe; a maximum of 32 fixtures can be run off one universe.
- Each leader cable should land on its own output terminal block.

### Input Boards:

- Each input board has 8 input terminal blocks (triggers); all circuits are isolated, allowing for each input to be controlled by any source.
- 12VDC-200VDC input voltages can be used.
- LED indicators are used on each input for verification purposes. Yellow means voltage is present; green means system acknowledged and active.

### Control Boards:

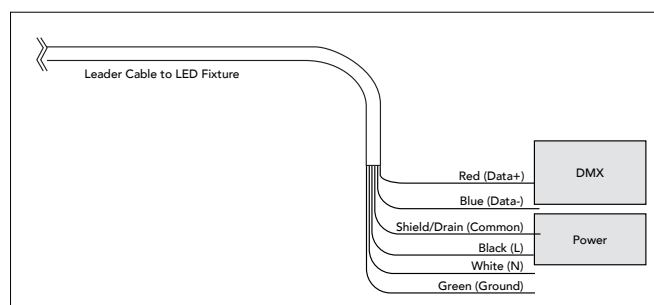
- Requires connection to 1 DMX/Power Board.
- Restart Button located on this board.
- Network connectivity to ethernet port J1 is required.
- Connectivity requirement

### Circuit and Breaker Requirements:

- Each power board has 3 input terminal blocks, labeled Input 1/2, Input 3/4 and Input 5/6. Recommended circuit ampacities are:
  - 20 amp circuit (12 AWG) for 277VAC supply voltage
  - 30 amp circuit (10 AWG) for 120VAC supply voltage

**NOTE: A separate circuit is required for each input terminal block. Do not insert more than one conductor into each terminal on the terminal block. Using the terminal block to splice two conductors is strictly prohibited. All conductor splicing must be done externally from the terminal block.**

### Electrical Connections



## CONTROLLER INSTALLATION & ELECTRICAL CONNECTIONS

### Network Connectivity:

In order to configure your ColorWash system, it must have a connection to the internet. The connection is made using the RJ45 connection port on the control board. This ethernet connection must have access to outside networks. The network cannot be restricted to local connections only. Enterprise networks may block outgoing connections using a firewall. If this is the case, the following ports must be opened for outbound connections to allow the device to connect to our servers:

Port	TCP	UDP	Usage
31314	✓		Initial device-server connection
993	✓		Fallback device-server connection #1
443	✓		Fallback device-server connection #2
80	✓		Fetch device firmware

### Power Circuits / Wiring / Circuit Breakers

The Colorwash system is compatible with 120V and 277V single phase power systems. Each ColorWash system needs to have power supplied to it from the building's breaker box. Your system layout will describe the number of circuits required for your specific system. The number of input circuits ranges from 1 to 9. Each of the input circuits shall be supplied with a 30A breaker from 120V systems or a 20A breaker on 277V systems. Every input circuit is split into two fused outputs via the DMX/power distribution boards.

A single ground conductor can be used to supply the ground to the system provided that the ground conductor is sized in accordance with NEC regulations and local electrical codes.

Each circuit requires that an independent neutral conductor be run from the breaker box to the ColorWash controller. Failure to provide independent neutral wires can result in significant damage to the controller and the light fixtures attached to it.

## CONTROLLER INSTALLATION & ELECTRICAL CONNECTIONS

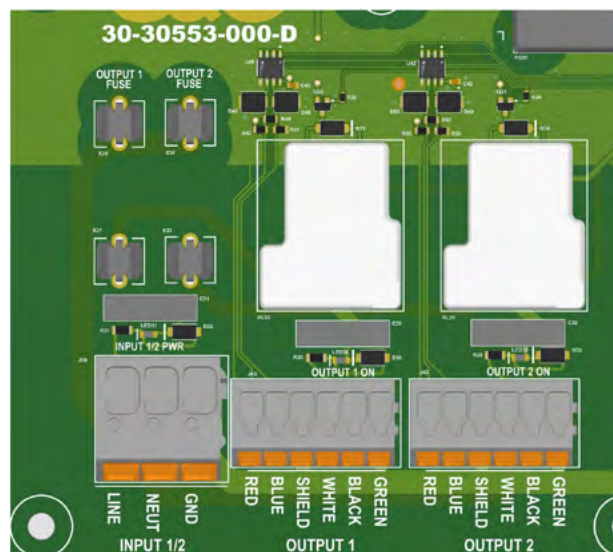
### Power Connections

The control boards inside of the ColorWash controller are labeled according to their application. The connections for the input circuits should be terminated on the large 3 position terminals blocks. Each input is labeled "Input X/X" where the X's represent the outputs that are supplied through that input. The fuses for each of the outputs are directly adjacent to the input terminals blocks.

NOTE: "Input 1/2" must be powered at all times. Power for the internal relays and control system is derived from this circuit.

The connections that run to the light fixtures are connected to the smaller 6 position terminal blocks. These terminal blocks are labeled as "Output X" where X is the number of the number of the output on that circuit board. The connection to the lights is made using a proprietary leader cable that is provided by G&G with the system. This cable transmits the power and color data out to a string of light fixtures. Only one of the leaders can be connected to each output. The connections on the terminal blocks are labeled with a color that corresponds to a conductor within the leader cables. Match the color of the conductor to the label when making the output connections. An image of the circuit board can be seen below.

The input circuit boards will be labeled with an A, B, or C on top of the large rectangular power supply near the right edge of each board. It is critical that each leader be connected to the correct output number and output board. The system layout that is included with the system identifies which leaders connect to which string of lights. For instance, leader 2A must be connected to output 2 on circuit board A. Failure to make the correct connections will result in the lights fixtures displaying the wrong colors at the wrong times.



Above each of the terminal blocks are Green LEDs that activate when voltage is present on the adjacent terminal block. These LEDs are for indication purposes only and are not intended to replace a voltmeter for confirming the presence of voltage within the system.

## CONTROLLER INSTALLATION & ELECTRICAL CONNECTIONS

### Disconnect Switch

On the outside of the ColorWash controller there is a switch that controls the power output to all of the lights connected to the system. The switch disables the internal relays to allow for the lights to be serviced. After turning off the switch, always confirm that there is no voltage present on the outputs prior to servicing.

### Input / Trigger Warning

The ColorWash system has the option to react to external signals that are generated within the car wash. ColorWash systems can be ordered with up to 16 input for external signals.

Each input board is configured with 8 isolated input channels that can accept both AC and DC voltages. The inputs are compatible with signals ranging from 24V to 120V. No adjustment for different voltages are required. The inputs are individually fused to protect from overvoltage events. Replacement fuses are available from G&G.

Note: If all of the input signals come from a single source (i.e. Tunnel or Wash controller) and share a common voltage level, a single common wire can be used for all of the inputs. The common wire can be connected to the “-” terminal of the first input channel and then a jumper wire can be run to each subsequent “-” terminal on the board. In this configuration, the inputs are no longer isolated from one another.

**WARNING:** Please consult with an electrician before attempting to use a single common wire for multiple inputs. Failure to do so could result in damage to your electric system.

There are LEDs located on the input board to help visualize that status of each input circuit. There are three LEDs per input. One of the LEDs, labeled “ACT”, is yellow and indicates that voltage is present at the input terminal connections. The next LED, labeled “ACK”, is green and indicates that the system has recognized the input is active and has taken the requested action. The third LED, labeled “OVR” is red and indicates that the input override switch is active on that channel.

The actions that are triggered by the inputs can be configured within the ColorWash web interface.

### User Interface

In order to access the ColorWash system, you will need to have an account created for you. Requests for new accounts should be sent to our support team at [support@ggled.net](mailto:support@ggled.net) or (800)-285-6780. You will need to provide our team with a valid email address. An invitation link from colorwash@colorwash.app will be sent to that email. Click the Create Account button to access the registration form.

After your account has been created, you can access the ColorWash dashboard at <https://dashboard.colorwash.app>.

For information about configuring your system using the dashboard, please refer to the ColorWash Dashboard User Guide. This can be found on the G&G website at <http://www.ggled.net/colorwash>

### QUESTIONS?

Please contact G&G Support at 800.285.6780