

# Tetra<sup>®</sup> PowerGrid

## LED Architectural Series

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### Product Codes

93013528, 93013522, 93013523, 93013524

### LED System Features

- Certified to UL 2108
- Low-Voltage Luminaire (24 VDC)
- IP54, dry or damp location rated
- Compatible with 24 Volt GE LED Drivers
- Dimmable with GE 0-10V Dimming LED Driver or GE Dimming Module and compatible dimming controller

### For use in the following applications

- Backlighting
- Illuminated Walls or Ceilings

### Save these instructions

This product is intended solely for the use of non-residential architecture lighting and is not intended for use in any other applications.



### BEFORE YOU BEGIN

Read these instructions completely and carefully



### WARNING

**Risk of electrical shock.** Disconnect power before servicing or installing product.



### Prepare electrical wiring

Electrical requirements:

- Do not use in wet locations.
- The grounding and bonding of the LED Driver shall be done in accordance with National Electric Code (NEC) Article 600.
- Follow all National Electric Codes (NEC) and local codes.



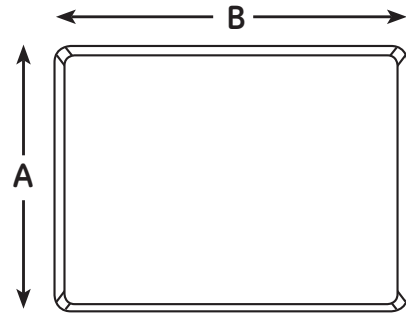
## Determine Layout

### 1

Determine total number of modules needed to populate the application area based on width and height. Refer to estimating charts below.

**NOTE:**

For optimal light uniformity, application depth should be a minimum of 3 inches (76 mm). A mock-up using the PowerGrid module and panel to be illuminated is highly recommended.



Total number of modules required based on height and width:

Horizontal width in FEET (B)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66
3	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88
4	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132
5	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154
6	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198
7	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220
8	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264
9	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286
10	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330
11	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352
12	18	35	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324	342	360	375	396

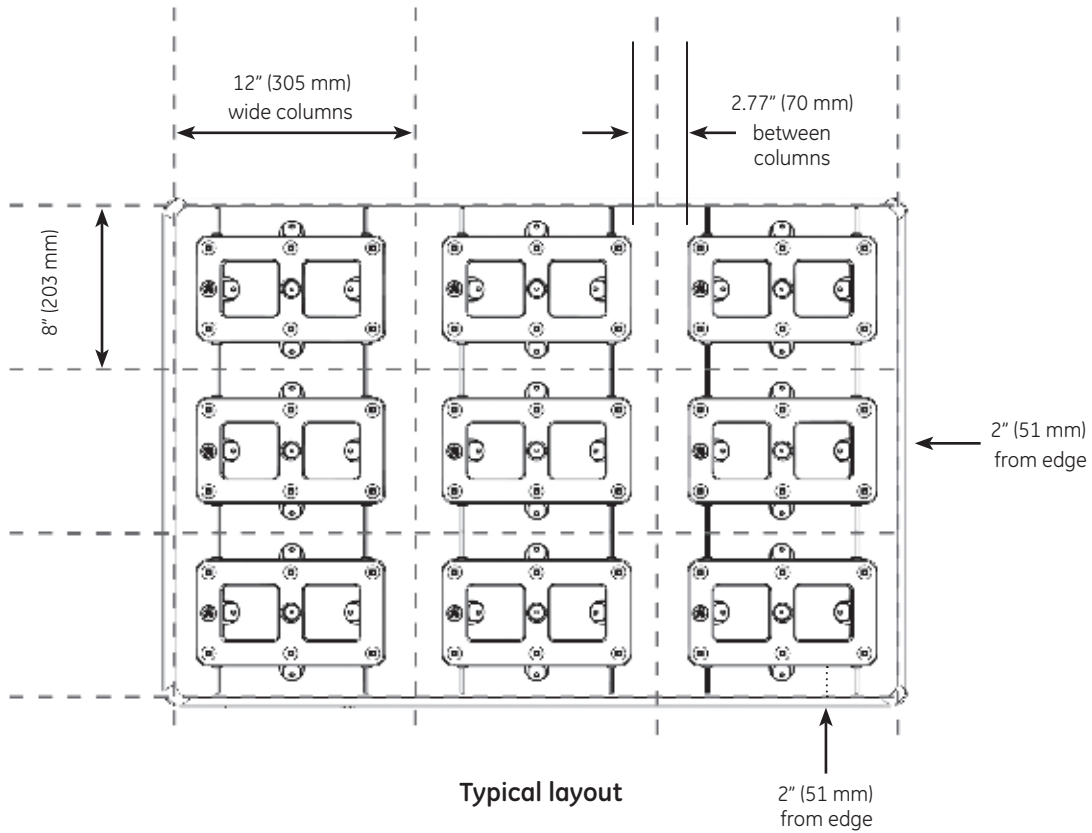
Horizontal width in METERS (B)

	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
0.25	1	1	2	3	4	5	5	6	7	8	9	10	11	11	12	13	14	14	15	16
0.50	2	2	4	6	8	10	10	12	14	16	18	20	20	22	24	26	28	28	30	32
0.75	4	4	8	12	16	20	20	24	28	32	36	40	40	44	48	52	56	56	60	64
1.00	5	5	10	15	20	25	25	30	35	40	45	50	50	55	60	65	70	70	75	80
1.25	6	6	12	18	24	30	30	36	42	48	54	60	60	66	72	78	84	84	90	96
1.50	7	7	14	21	28	35	35	42	49	56	63	70	70	77	84	91	98	98	105	112
1.75	8	8	16	24	32	40	40	48	56	64	72	80	80	88	96	104	112	112	120	128
2.00	10	10	20	30	40	50	50	60	70	80	90	100	100	110	120	130	140	140	150	160
2.25	11	11	22	33	44	55	55	66	77	88	99	119	119	121	132	143	154	154	165	176
2.50	12	12	24	36	48	60	60	72	84	96	108	120	120	132	144	156	168	168	180	192
2.75	13	13	26	39	52	65	65	78	91	104	117	130	130	143	156	169	182	182	195	208
3.00	15	15	30	45	60	75	75	90	105	120	135	150	150	165	180	195	210	210	225	240

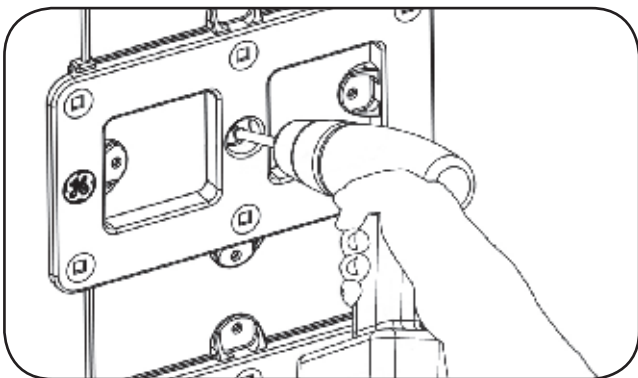
**2**

Using the diagram below as an estimation guide, begin cutting strings of modules to create 8-inch (203 mm) tall rows and 12-inch (305 mm) wide columns.

Modules should be 2 inches (51 mm) from the edge of the application with 2.77 inches (70 mm) between each column.

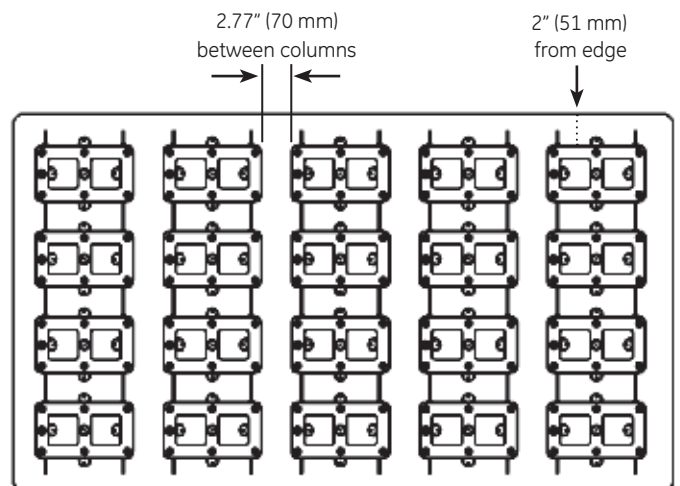


## Install Modules

**1**

Lay modules into the application at least 2 inches (51 mm) from the edges.

Fasten down each module with at least one screw in the center hole or two opposing sides.

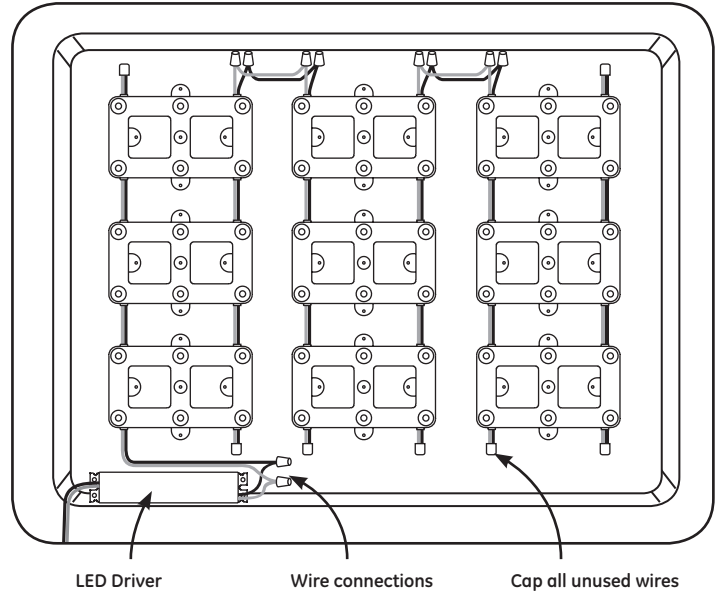
**2**

Start another row with 2.77-inch (70 mm) spacing between the module strings.

Continue this process until the entire application is populated with modules.

## Electrical Connections

- 1** Strip the ends of the wire 1/2-inch (13 mm) on the modules (white and red) of adjacent columns that you want to connect.
- 2** Use UL approved wire connectors (twist-on or in-line connectors) and 18 AWG (0.82 mm<sup>2</sup>) wire to connect the corresponding wires.
- 3** Strip the end of the wire 1/2-inch (13 mm) on the first column of modules and connect to the output of the LED Driver. Output connections must be red-to-red and white-to-black.
- 4** Refer to the LED Driver Installation Instructions for more information on connecting the LED Driver.



## Loading chart

LED Driver	Minimum Loading	Maximum Loading
79045 (GE080/MV/D24T1-A)	1 Module	30 Modules/20 ft. (6.1m)
67825 (GEPS24-100UGL-IP)	1 Module	36 Modules/24 ft. (7.3m)
62189 (GE180/MV/24T1-C)	1 Module	33 Modules/22 ft. (6.7m) per Bank; 66 Modules/44 ft. (13.4m) per Driver

## Remote Mounting Distance

LED Driver	18 AWG/0.82 mm <sup>2</sup> Supply Wire	16 AWG/1.31 mm <sup>2</sup> Supply Wire	14 AWG/2.08 mm <sup>2</sup> Supply Wire	12 AWG/3.31 mm <sup>2</sup> Supply Wire
74914 (GE020/G/V12T1-B)				
67825 (GEPS24-100UGL-IP)	1-30 ft. (0.3-9.1m)	1-50 ft. (0.3-15.2m)	1-80 ft. (0.3-24.4m)	1-120 ft. (0.3-36.6m)
62189 (GE180/MV/24T1-C)				

## Troubleshooting

Symptom	Solution
Row of modules does not light	<ul style="list-style-type: none"> <li>• Check wire connections to LED Driver to ensure red-to-red and white-to-white connections.</li> <li>• Check row-to-row polarity connections.</li> </ul>
All modules do not light	<ul style="list-style-type: none"> <li>• Check input voltage and check LED Driver input/output connections.</li> </ul>
Individual modules do not light	<ul style="list-style-type: none"> <li>• Check wire connection attachment and polarity of wires.</li> </ul>
Modules are dim	<ul style="list-style-type: none"> <li>• Ensure the overall length of modules does not exceed the maximum load for the LED Driver.</li> <li>• Ensure the length of the supply wire is equal to or below the recommended remote mounting distance (see remote mounting distance chart above).</li> </ul>

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This Class [A] RFLD complies with the Canadian standard ICES-003. Ce DEFR de la classe [ A ] est conforme à la NMB-003 du Canada.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



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