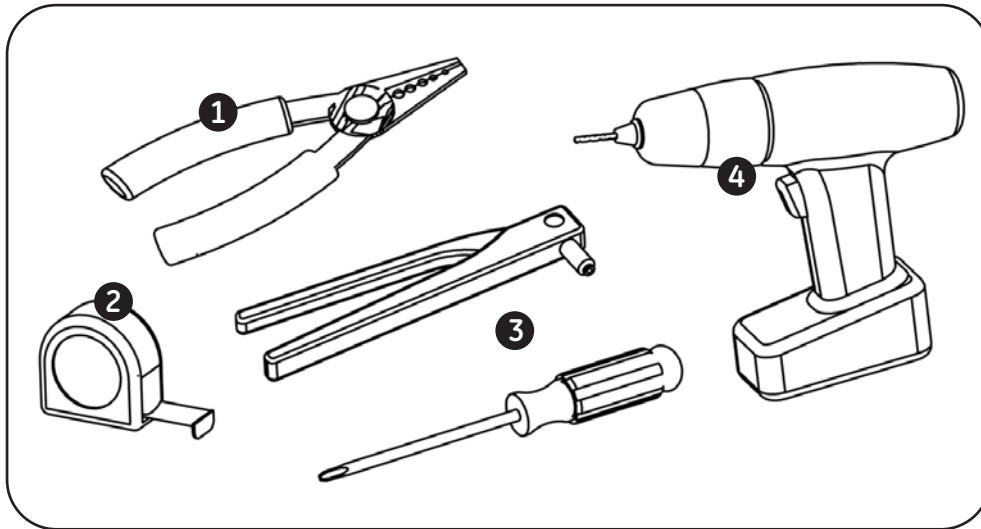


# Tetra® PowerGrid LED Systems

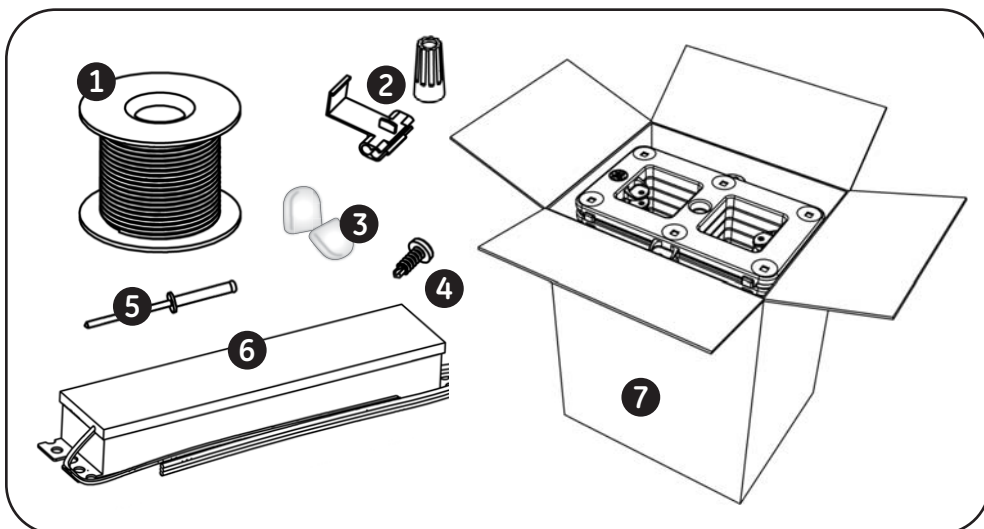
(GEWHPGP6-65K & GEWWPGP6-35K)

## Tools and Components Required



### Tools required:

- 1 Wire stripper/cutter
- 2 Tape measure
- 3 Rivet gun or screwdriver
- 4 Cordless drill



### Components required:

- 1 UL approved 18 AWG supply wire (0.82 mm<sup>2</sup>)
- 2 UL approved 22-14 AWG twist-on wire connectors (0.33 - 2.08 mm<sup>2</sup>) or 18-14 AWG in-line/IDC connectors (0.82 - 2.08 mm<sup>2</sup>)
- 3 End caps (GEPGEC1)
- 4 #6 or #8 self drilling pan headed screws (M3 or M4)
- 5 1/8-inch rivets (3.175 mm)
- 6 Power Supply (GEPS24-20, GEPS24-80 & GEPS24-100U)
- 7 Tetra® PowerGrid LED Modules



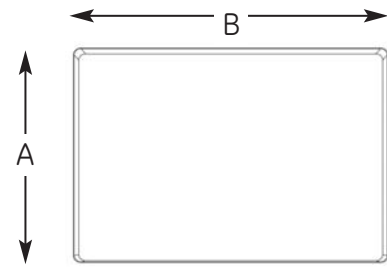
imagination at work

### **⚠ WARNING**

**Risk of electrical shock.** Turn power OFF before inspection, installation or removal.

## Determine Layout

- 1 Determine total number of modules needed to populate the sign based on sign width and height. Refer to estimating charts below.



**NOTE:**

For best, more uniform light output, box depth should be a minimum of 5 inches (127 mm).

Total number of modules required based on height and width:

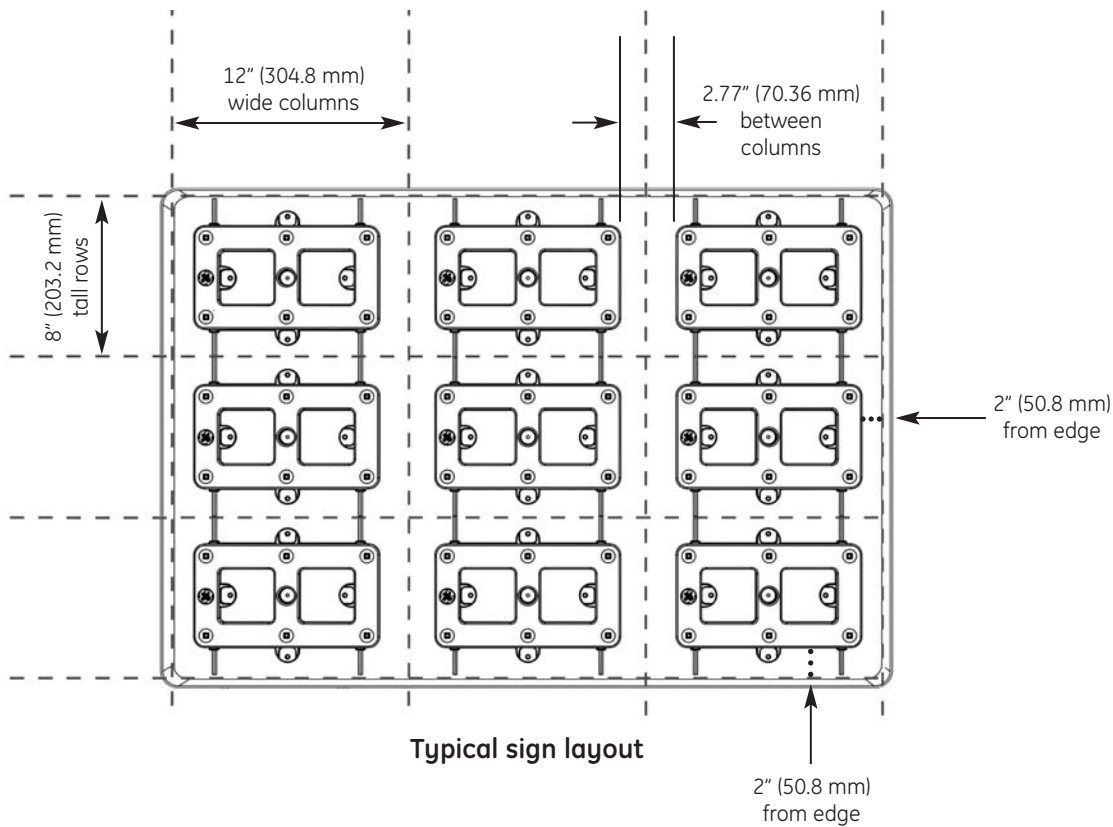
		Horizontal width in <b>FEET</b> (B)																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Vertical height in <b>FEET</b> (A)	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	2	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66
	3	4	8	12	16	20	24	28	32	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 <b>METERS</b> (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
Vertical height in <b>METERS</b> (A)	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	110	110	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	

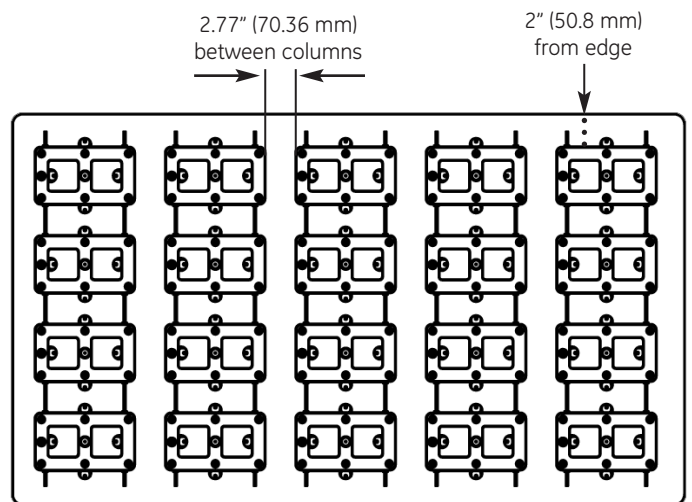
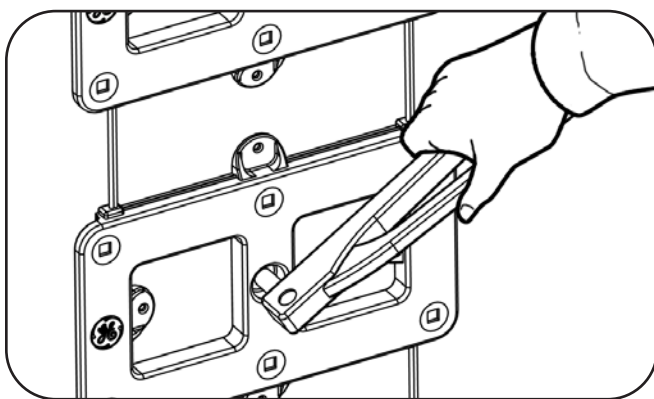
Follow correct width/height orientations when using estimating charts.

- Using the diagram below as an estimation guide, begin cutting strings of modules to create 8-inch (203.2 mm) tall rows and 12-inch (304.8 mm) wide columns.

Modules should be 2 inches (50.8 mm) from the edge of the sign with 2.77 inches (70.36 mm) between each column.



## Install Modules



- Lay modules into the sign at least 2 inches (50.8 mm) from the edges.  
Fasten down each module with at least one screw or rivet in the center hole or two opposing sides.

- Start another row with 2.77-inch (70.36 mm) spacing between the module strings.  
Continue this process until the entire sign is populated with modules.

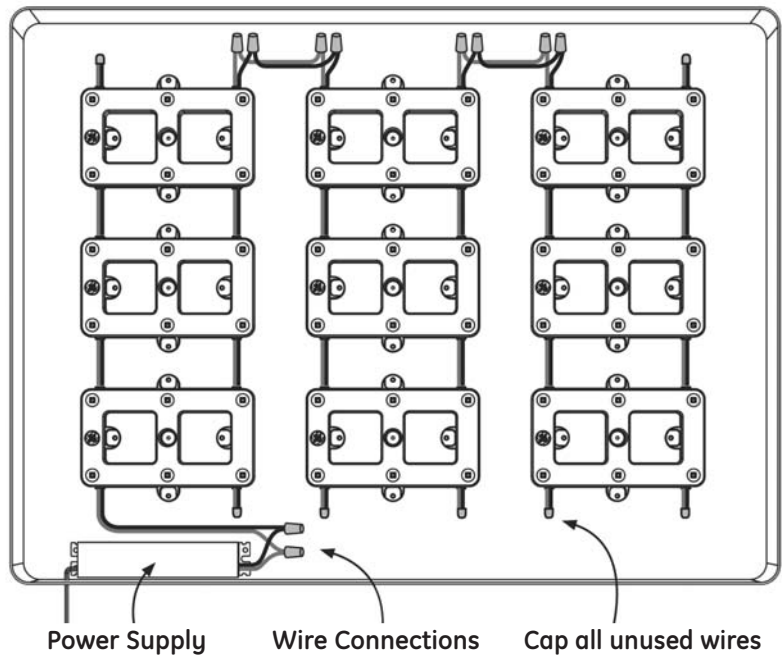
## Electrical Connections

- 1 Strip the ends of the wire 1/2-inch (12.7 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 (12.7 mm) on the first column of modules and connect to the output of the power supply.

Output connections must be red-to-red and white-to-black.

**NOTE:** Each GEPS24-20 power supply will power up to 5 modules (3.33 ft/1.02 m). Each GEPS24-80 power supply will power up to 21 modules (14 ft/4.27 m). Each GEPS24-100U power supply will power up to 24 modules (16 ft/4.88 m).

- 4 Refer to the GEPS24-20, GEPS24-80 or GEPS24-100U Power Supply Installation Instructions for more information on connecting the power supply.



## Troubleshooting

System	Solution
Row of modules does not light.	Check wire connections to power supply to ensure red-to-red and white-to-black connections. Check row-to-row polarity connections.
Sign does not light.	Check input voltage and check power supply input/output connections.
Individual modules do not light.	Check wire connection attachment and polarity of wires.
Modules are dim.	Verify there are 5 or less LED modules per GEPS24-20; Verify there are 21 or less LED modules per GEPS24-80 or 24 or less LED modules per GEPS24-100U power supply. Verify there is less than 20 ft. (6.1 m) of supply wire between LED modules and output of power supply.

### ⚠ WARNING!

#### RISK OF ELECTRIC SHOCK:

- Turn power OFF before inspection, installation or removal.
- Properly ground Tetra Power Supply enclosure.



#### RISK OF FIRE:

- Follow all NEC and local codes.
- Use only UL approved wire for input/output connections. Minimum size 18 AWG (0.82 mm<sup>2</sup>)

Conforms to the following standards:



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-005. Ce DEFR de la classe [A] est conforme à la NMB-005 du Canada.



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