



# Tetra<sup>®</sup> MS

CHANNEL LETTER LIGHTING SYSTEMS



With powerful OptiLens™ X  
and groundbreaking energy  
efficiency

**Tetra<sup>®</sup>MS** — the remarkable 24V LED system designed for small channel letters as shallow as 1.5 inches in depth delivers incredibly uniform light, installs easily and operates efficiently. Tetra<sup>®</sup> MS is IP66 and UL wet rated which makes it more robust and reliable even under wet weather.

## Powerful OptiLens™ X

**Tetra® MS** features OptiLens™ X, our patented technology that allows for a true 165° x 140° viewing angle. This exclusive technology redirects otherwise wasted light to the sign face, making sure your signs shine.

## Class-leading loading

Now load up to 90.5 feet (27.6 m) or 362 modules of 24V **Tetra® MS** per 100W power supply using our new and improved GLX2 power supplies.

## Improved stroke spacing

24V **Tetra® MS** stroke spacing has improved, thanks to the new OptiLens™ X wide beam angle. In addition, its new silicone flow channels have increased bonding strength by 10-20%



## Tetra®MS Features

- Wide 165° beam angle
- Improved luminous intensity
- Efficacy: 119 lm/W
- 24 Volt DC, Class 2 (UL), Class III (IEC)
- UL Wet Rated & IP66
- 10-year limited warranty

## Tetra®MS Spacing

| Can Depth   | Coverage   | Multiple Strings |
|-------------|------------|------------------|
| 1" (25mm)   | 2" (51mm)  | 1.5" (38mm)*     |
| 1.5" (38mm) | 4" (102mm) | 2.5" (64mm)      |
| 2" (51mm)   | 6" (152mm) | 5" (127mm)       |
| 3" (76mm)   | 7" (178mm) | 5" (127mm)       |

\*Face material must be at least 3/16" (5mm) thick

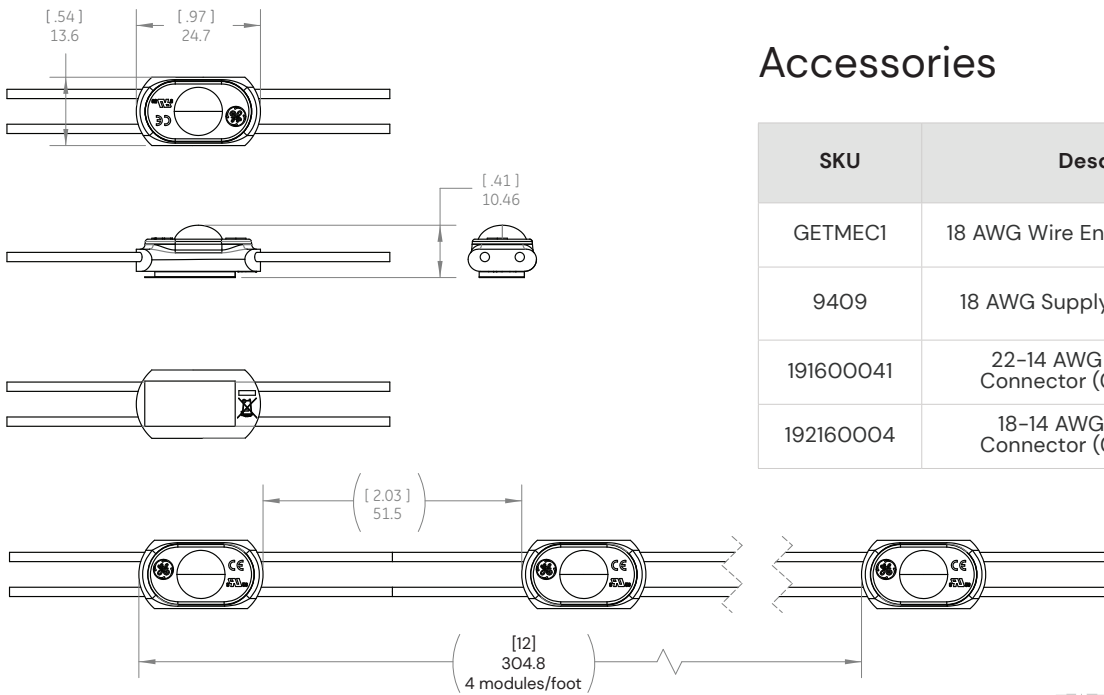
## Total Reliability

To ensure every **Tetra® MS** installation will operate brilliantly for years, we perform the most extensive, stringent testing in the industry. We test the LED, water and dust ingress protection, sub-system and complete system at our in-house and independent laboratories around the world. Validation of our designs, components, products and processes include high temperature, high humidity and accelerated life testing.



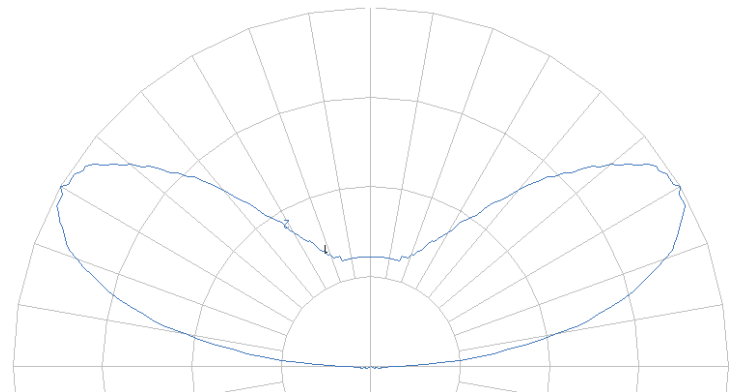
## Mechanical Outline & Viewing Angle

Dimensions in (inches). Metric equivalent mm



## Accessories

| SKU       | Description   | Package quantity       |
|-----------|---|------------------------|
| GETMEC1   | 18 AWG Wire End Caps (0.82 mm <sup>2</sup> )                    | 100/bag                |
| 9409      | 18 AWG Supply Wire (0.82 mm <sup>2</sup> )                      | 500 ft (152.40m)/spool |
| 191600041 | 22-14 AWG Twist-on Wire Connector (0.33-2.08 mm <sup>2</sup> )  | 500/bag                |
| 192160004 | 18-14 AWG In-line Splice Connector (0.82-2.08 mm <sup>2</sup> ) | 500/bag                |





# Components

| SKU       | Model       | Details             | Color      | Pkg. Quantity | Modules per strip                  |
|-----------|-------------|---------------------|------------|---------------|------------------------------------|
| 93118733G | GEMS2471-W1 | Tetra® MS 24V 7100K | White      | 5 Strips/Box  | 80 modules per strip (20 ft/strip) |
| 93118734G | GEMS2465-W1 | Tetra®MS 24V 6500K  | Warm White | 5 Strips/Box  | 80 modules per strip (20 ft/strip) |
| 93118736G | GEMS2450-W1 | Tetra® MS 24V 5000K | Warm White | 5 Strips/Box  | 80 modules per strip (20 ft/strip) |
| 93118737G | GEMS2441-W1 | Tetra® MS 24V 4100K | Warm White | 5 Strips/Box  | 80 modules per strip (20 ft/strip) |
| 93118738G | GEMS2432-W1 | Tetra® MS 24V 3200K | Warm White | 5 Strips/Box  | 80 modules per strip (20 ft/strip) |

## Technical Specifications

| Model       | Wavelength/ CCT | Typical Brightness Lumens/ module | Typical Brightness Lumens/Ft (Lumens/m) | Energy Consumption Module Wattage | Energy Consumption System Wattage | 100W GLX Power Supply Loading | 100W GLX2/ TT Power Supply Loading | Viewing Angle |
|-------------|-----------------|-----------------------------------|---|-----------------------------------|-----------------------------------|-------------------------------|------------------------------------|---------------|
| GEMS2471-W1 | 7100K           | 27.5                              | 110 (361)                               | 0.24W/module                      | 0.28W/module                      | 85 ft (25.9 m)                | 90.5 ft (27.6 m)                   | 165°          |
| GEMS2465-W1 | 6500K           | 27.5                              | 110 (361)                               | 0.24W/module                      | 0.28W/module                      | 85 ft (25.9 m)                | 90.5 ft (27.6 m)                   | 165°          |
| GEMS2450-W1 | 5000K           | 27.5                              | 110 (361)                               | 0.24W/module                      | 0.28W/module                      | 85 ft (25.9 m)                | 90.5 ft (27.6 m)                   | 165°          |
| GEMS2441-W1 | 4100K           | 27.5                              | 110 (361)                               | 0.24W/module                      | 0.28W/module                      | 85 ft (25.9 m)                | 90.5 ft (27.6 m)                   | 165°          |
| GEMS2432-W1 | 3200K           | 25                                | 100 (328)                               | 0.24W/module                      | 0.28W/module                      | 85 ft (25.9 m)                | 90.5 ft (27.6 m)                   | 165°          |

## Additional Specifications

|                                      |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|
| <b>Dimmable</b>                      | Yes (with dimmable power supply)  |   |   |   |   |
| <b>LEDs/Module</b>                   | 1   |   |   |   |   |
| <b>LEDs/ft (LEDs/m)</b>              | 4 (13)  |   |   |   |   |
| <b>Modules/ ft. (Modules/m)</b>      | 4 (13)  |   |   |   |   |
| <b>Cutting Resolution</b>            | Cut on wire between every module  |   |   |   |   |
| <b>Power Supply</b>                  | GEPS24-25-NA Input: 100-305VAC; Output: 24VDC<br>GEPS24D-80U Input: 90-305VAC; Output: 24VDC<br>GEPS24-100U Input: 108-305VAC; Output: 24VDC<br>GEPS24-200U Input: 90-305VAC; Output: 24VDC<br>GEPS24-300U Input: 108-305VAC; Output: 24VDC |   |   |   |   |
| <b>Maximum Supply Wire Limits</b>    |   | <b>18 AWG/0.82 mm<sup>2</sup> Supply Wire</b> | <b>16 AWG/1.31 mm<sup>2</sup> Supply Wire</b> | <b>14 AWG/2.08 mm<sup>2</sup> Supply Wire</b> | <b>12 AWG/3.31 mm<sup>2</sup> Supply Wire</b> |
|                                      | 25W Power Supply  | 120 ft./36.6 m                                | /   | /   | /   |
|                                      | 80W Power Supply  | 20 ft./6.1 m                                  | 25 ft./7.6 m                                  | 35 ft./10.6 m                                 | 40 ft./12.1 m                                 |
|                                      | 100W Power Supply   | 20 ft./6.1 m                                  | 25 ft./7.6 m                                  | 35 ft./10.6 m                                 | 40 ft./12.1 m                                 |
|                                      | 200W Power Supply   | 20 ft./6.1 m                                  | 25 ft./7.6 m                                  | 35 ft./10.6 m                                 | 40 ft./12.1 m                                 |
| 300W Power Supply                    | 20 ft./6.1 m  | 25 ft./7.6 m                                  | 35 ft./10.6 m                                 | 40 ft./12.1 m                                 |   |
| <b>Operating Environment</b>         | -40 °C to +60 °C (-40 °F to +140 °F)  |   |   |   |   |
| <b>Module Dimensions (h x l x w)</b> | 0.41" x 0.97" x 0.54" (10.46 mm x 24.7 mm x 13.6 mm)  |   |   |   |   |
| <b>Warranty</b>                      | Limited system warranty of up to ten (10) years   |   |   |   |   |
| <b>System Certifications</b>         | UL Recognized (C-US) #E219167, UL Classified (C-US) #E229508, CE, ROHS • IP66 rated: for dry, damp or wet location.   |   |   |   |   |