

Twister **NITRO**TM PFS1820 LED System for Signs

The Evolution of Twister to Neon Performance

When the **Twister NITRO**TM was introduced, it ushered the next ground breaking leap in high-output LED system performance ever seen in a small package by the sign industry. The system delivers the high-output performance while providing the flexibility necessary for installation in small channel letters or applications with tight returns.

Neon Output In Small Size

Using the original **Twister**TM footprint as the foundation, the engineers at Permlight developed the NITRO LED system for efficiency, reliability, and optimized for high-output performance. The result is an incredible leap in the evolution of the Twister from bright to brightest. Introduced as part of **Permlight for Signs**TM new generation high-output LED system, the NITRO has gained the

reputation for delivering the brightest output of any small form factor LED system available.

Twist & Turn Options In High-Output

A NITRO LED module measures a mere 12.70mm x 25.40mm, and ships pre-wired with modules measured at 152.40mm on center. The system offers a broad range of applications and flexibility with its small size for any installation. It is available in a variety of colors and the option of TWO color temperatures in cool white.

The Radiant Combination

NITRO can be used as a stand alone or in combination to compliment the high-output **el Plato**TM LED system. When combined with el Plato in a single, multi-size sign application (such as a stacked letter layout), and the result is a complete LED system solution with seamless illumination.

The Permlight Advantage

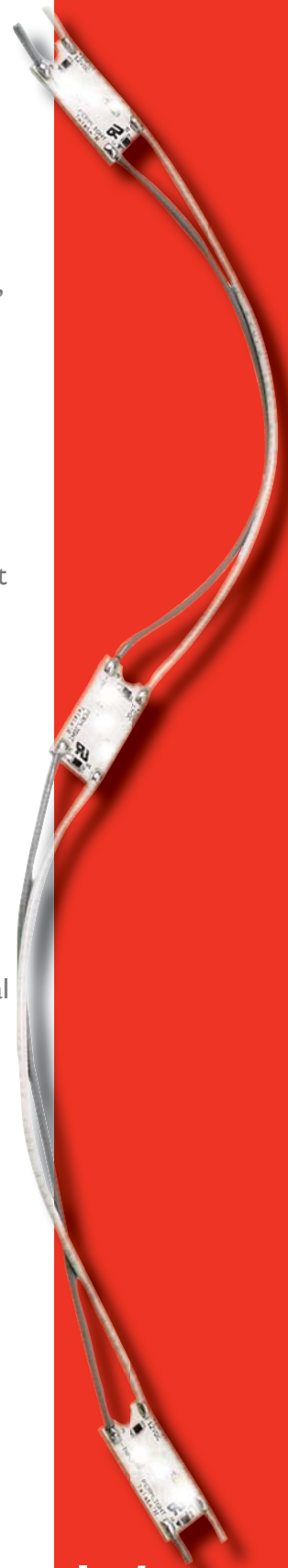
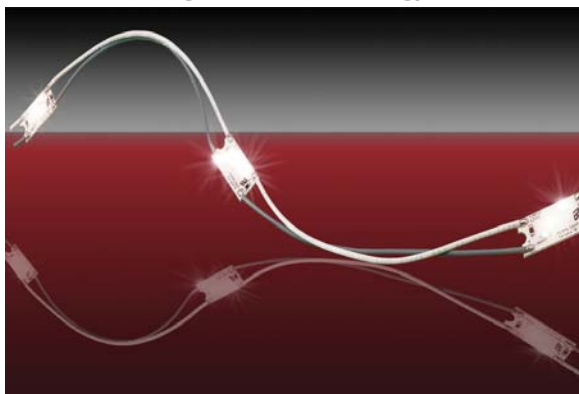
The system operates at 12VDC and features Permlight's thermal management patent, efficiently utilizing a channel letter's aluminum construction to efficiently evacuate heat and achieve ideal operating temperature for product reliability.

More Light For The Environment

LEDs are known for their benefits, in operating costs and long life. Since the system utilizes Permlight's patent thermal management technology, the NITRO

requires the lowest material count to manufacture, reducing the systems overall carbon footprint.

PERMLIGHT
for signs



Technical Specifications

- Power Consumption.....(see color specification matrix)
- Maximum Input Voltage 12.3VDC
- Estimated Life(see color specification matrix)
- Operating Temperature @ 90% relative humidity -40°C to +50°C
- LED Module Dimension..... 12.70mm x 25.40mm
- Recommended Modules per Meter7
- Content Per Package 50 modules per package
- System Certifications:
 - UL Recognized File E213411
 - UL Classified File (retrofit applications)..... E246705
 - Product Warranty 5 Year Limited (see Permlight for Signs website for details)

Required Components

- 30-12D-B-240.....30 Watt LED Driver(240VAC Input - 12VDC Output)
- 60-12D-B-240.....60 Watt LED Driver(240VAC Input - 12VDC Output)
- 120-12DC-B-240 120 Watt LED Driver(240VAC Input - 12VDC Output)
- 240-12DC-B-240 240 Watt LED Driver(240VAC Input - 12VDC Output)

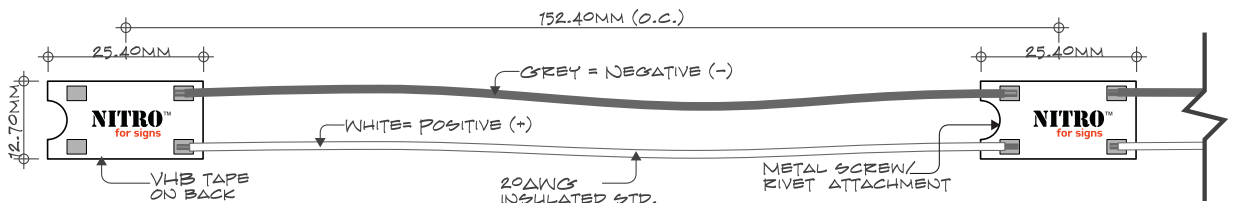
Color Specification

Part Number	Color: Wavelength (nm)/ Temperature (K)	Est. Life @ 70% Light Output (hours)	Avg. Power per Module (Watts)	Max. Modules 30-12D-B-240 ^[1] (units)	Max Modules 60-12D-B-240 ^[1] (units)
PFS1820B	Blue (470nm)	40,000	1.5	20	40
PFS1820W28	Warm White (2850K)	40,000	1.5	20	40
PFS1820W65	Daylight (6500K)	40,000	1.5	20	40
PFS1820W80	Ultra White (8000K)	40,000	1.5	20	40
PFS1820W41	Fluorescent White (4100K)	40,000	1.5	20	40

Notes:

^[1] The 30-12D-B-240 and 60-12D-B-240 are single output LED Drivers. The 120-12DC-B-240 (2-output) and 240-12DC-B-240 (4-output) LED Drivers have a limited output of 60Watts per channel, see product specification sheet for details.

Mechanical Dimension



led
modules

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