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INNOVATION & TECHNOLOGY ISSUE

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BACK IN BLACK
BLACKOUT LIGHTING
MOVEMENT TRENDS



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Optronics focused its attention on making its smoke-lens lights as dark as possible, using their powerful LEDs to make the lamps photometrically compliant with federal law.

Back In Black

TRENDS ARE DRIVING A BLACKOUT LIGHTING MOVEMENT IN WORK TRUCKS AND TRAILERS

It's no secret that blackout packages have been growing in popularity within the commercial vehicle market, particularly as they relate to truck beds on work trucks. Fueled by trends in the automotive sector and industrial design in general, going all black with a design allows the contours of a vehicle's body to stand out, while letting details like hitches, headache racks, gooseneck troughs, deck textures, latches and compartment doors essentially blend in.

However, one component that has refused to fade from sight on these otherwise stealthy vehicles, has been lighting. Even when not illuminated, the red, white, amber and even clear lenses of the lamps, and often their reflective interiors, have made lighting stand out, much to the chagrin of many vehicle body designers seeking an all-black look.

"It all started when blackout packages in light-duty commercial trailers started becoming popular," says

Dustin Smith, vice president of sales for Optronics. "So instead of using chrome and colored accessories and details, everything went black."

Some lighting manufacturers, particularly those serving the automotive aftermarket, attempted to respond to the growing demand for blackout-style lighting that would be less conspicuous. Unfortunately, early attempts proved to be unable to meet FMVSS 108 and CMVSS 108 photometric requirements for visibility and safety.

"Before Optronics, there was just not a viable, compliant solution of smoke lights that we felt comfortable to install on our truck beds," says Greg Chumchal, president of Bedrock Truck Beds. "There were some lights with dark lenses, but that also made them less able to emit the correct amount of light to pass federal requirements, and let's face it, having a non-compliant light is like having no light at all."

IN THE DARK

Things changed in early 2020, when Optronics International introduced the industry's first compliant, smoke-lens LED stop, tail, turn, backup, and clearance marker lamp family of lighting. Long known for bringing elements of automotive-style lighting to the commercial vehicle industry, Optronics engineers overcame a number of technical challenges in order to meet the legal standard.

"You've got to have a combination of a few things to make a compliant smoke-lens light," says Smith. "You have to engineer the light with very powerful LEDs and you have to design the lens to really look black when it's off, but allow the proper amount of light to shine through when it's on. It's truly a critical balance and it's clearly not an easy one for any manufacturer to strike."

Optronics focused its attention on making its smoke-lens lights as

dark as possible. It's engineers even designed the interiors of the lamps with black printed circuit boards (PCBs) to reduce reflective properties when the lamps are off. In traditional LED lights, PCBs usually have a white or reflective chrome-like finish to enhance brightness, but with Optronics' smoke-lens lights, their powerful LEDs do the heavy lifting necessary to make the lamps photometrically compliant with federal law.

The company initially brought five unique new lights to market with a smoke-lens effect. The offering included 6-inch oval and 4-inch round stop, tail, turn lamps, a 6-inch oval backup lamp and a three-quarter-inch PC-rated clearance marker lamp. Optronics also introduced a 20-inch Smoke-Lens version of its popular Thinline Series surface-mount LED stop/turn/tail light bar, complete with a matte black mounting base/bezel.

"They hit the market at just the right time," according to Chumchal. "This



 Today, Optronics' smoked-lens series lighting comes standard on all Bedrock truck beds.

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gave innovative companies like us a leg up on competitors, because we could now achieve a great balance of a bright, long-lasting light, coupled with aesthetic blackout appeal, that was a huge hit for our customers.”

MOVE TOWARD THE LIGHT

In the ensuing few years, more and more body builders and upfitters have been making the move toward Optronics’ smoke-lens, blackout-style lighting. Black vehicle bodies have continued to gain popularity, as has the pressure to differentiate one truck body from another among competitors.

Still the only commercial lighting manufacturer producing a truly compliant blackout light, Optronics has responded to the market demand. The company is now producing a wide array of LED smoke-lens lighting products ranging from penny-sized three-fourths-inch round, single-diode marker/clearance lights to diamond-shaped, 3-diode marker/clearance lights to 4-inch round, 6-diode back-up lights to 6-inch oval, 6-diode stop/turn/tail lights and many more.

“It seems the more versions we make, the more versions people want,” says Smith. “It’s definitely a trend and it currently shows no signs of subsiding.”



Still the only commercial lighting manufacturer producing a truly compliant blackout light, Optronics is now producing a wide array of LED smoke-lens lighting products and recently broadened its smoke-lens family of lights even further with the introduction of two new surface-mount lights in its Thinline Series.

MORE THAN SURFACE DEEP

Optronics recently broadened its smoke-lens family of lights even further with the introduction of two new surface-mount



Blackout packages on truck beds and work trucks have been growing in popularity and allow the details of a vehicle’s body to blend in.



▲ It is difficult for lighting manufacturers to engineer a blackout light that will comply with Federal Motor Vehicle Safety Standard 108 (FMVSS 108) regulations governing all U.S. vehicle lighting.

lights in its Thinline Series. The first is the 11-diode smoked-lens, red LED Thinline stop/turn/tail light and the second is its 9-diode smoked-lens, red Ultra-Thinline stop/turn/tail light.

Optronics pioneered the use of surface-mount lighting in the commercial vehicle market, which offers OEMs and body builders the advantage of mounting lights on the exterior of the vehicles body. The low-profile surface-mount lights can be powered by wires that run through a small hole in the body, as opposed to thicker, traditional lighting that requires holes that are the size of the lights that nest inside them. Surface-mount lighting promotes greater structural integrity for vehicle bodies and reduces the potential for moisture intrusion and ultimately corrosion.

Though the Thinline Series will certainly have applications on trailers and box trucks both over and under 80-inches wide, Optronics expects

the work truck market to continue to be very receptive to its new lamps. Because work trucks offer their body designers broad latitude on both the placement of lighting and its functionality, the two new Thinline



▲ According to Bedrock, Optronics' smoke-lens LED lights hit the market at just the right time, giving Bedrock a leg up on its competitors.

smoke-lens lamps from Optronics are applicable to them as well.

In the meantime, Optronics is also working on a new Thinline lamp that will have additional features. The new lamp will incorporate the company's Fusion technology, another Optronics' first, that combines stop/turn/tail lights with a backup function as well.

"Optronics' smoked-lens series lighting already comes standard on all of our Bedrock beds," said Chumchal. "Optronics' new Thinline Series is complimentary to the rest of their line and may just find its way onto future bed designs." ●

FOR MORE INFORMATION

Find out more about Optronics' Fusion Series LED lighting, visit www.optronicsinc.com.



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