



Innovative lighting system turns night into day: HELLA LED Matrix Headlamps for the new Touareg

Adaptive LED Matrix Headlamps provide outstanding light performance

Lippstadt, April 17, 2018. The Touareg of the latest generation just had its world premiere in China. It features one of the most powerful lighting systems on the market -- the LED Matrix Headlamps jointly developed by HELLA and Volkswagen. Volkswagen will offer the innovative lighting system for the new luxury class SUV under the name of "IQ.LIGHT -- LED Matrix Headlamps". Via the targeted control of up to 128 LEDs, they will provide very precise and optimal light distribution and luminous intensity. Compared to conventional lighting systems, the LED Matrix Headlamps will significantly increase safety and comfort, since they will enable the driver to recognize road details and possible obstacles at night much better and earlier.

The LED headlamps operate with individually controlled LEDs (light emitting diodes), that respectively meld into a matrix of light spots in, both, the low and high beam modules. Depending on the situation, these LEDs are individually controlled. The low beam consists of a matrix totaling 48 LEDs arranged on a joint circuit board. The high beam circuit board is equipped with 27 LEDs. These 75 LEDs of the low and high beams form the adaptive matrix light. 53 additional LEDs ensure that lighting functions, such as the illumination in front of the vehicle, the cornering lights and daytime running lights, the position lights and direction indicators can be shown. In total, 256 light emitting diodes will be used for the front lamp of the new Touareg.

For the targeted activation of each LED, the respective control unit will analyze the front camera signals as well as the digital card data and coordinates of the GPS unit. Current vehicle parameters, such as the steering angle and speed will also enter the process. The combination of these data will result in the ideal LED headlamp illumination of the road and the surroundings within fractions of a second.

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In the Touareg, all this is fully automated via the activated "Dynamic Light Assist": the LED Matrix Headlamps not only turn on and off independently but adjust the light to the respective environment, topography and traffic situation. Across many different signals, the car recognizes whether it is in the city or on a country road, on the highway or off-road -- and where other road users might currently be. The very precise operation of the LED Matrix Headlamps throughout ensures that the lights are never glaring. The driver will thus at all times be supported by the best possible illumination without bothering other road users. The system also avoids the glaring of Touareg drivers themselves when spotlighting traffic signs, since the camera-based light also reacts to signs for which it will then temporarily dim the LEDs. Even reflections caused by rain-slicked roads are noticed and reduced. The additional illuminating power is clearly noticeable for drivers.

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