Innovative lighting technology and new assistance systems

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The new Porsche Panamera features newly developed matrix LED headlights as standard. Its appearance is characterised by four three-dimensional light modules. They generate the characteristic Porsche four-point daytime driving lights and are arranged around the central Bi-Matrix module for dipped beam and matrix high beam. The headlights automatically control illumination of the road based on camera and navigation data as well as vehicle speed. The system also uses the camera function to detect vehicles ahead and oncoming traffic. The distribution of the high beam is then controlled to provide optimal illumination of the road without dazzling other road users. For this purpose, the high-beam area is divided into 11 vertical segments that can be illuminated or dimmed according to the situation to prevent dazzling of oncoming traffic.

The new HD matrix LED light

Particularly innovative and high-performance HD matrix LED headlights are available as an option in the

new Porsche Panamera. The core element of the innovation is an LED chip that combines more than 16,000 individually controllable micro-LEDs on the surface area the size of a thumbnail. It all adds up to more than 65,000 LED elements for both headlights. The headlights with HD matrix technology therefore offer high-resolution and highly flexible light distribution that's up to two times brighter, as well as extremely homogeneous illumination.

In addition to four-point daytime driving lights and static cornering lights, each of the new headlights includes two of the new HD matrix modules and two bi-functional modules for courtesy lighting and the auxiliary high beam. These four main light sources are arranged in a four-point design that is characteristic of the brand. The new HD matrix technology also stands apart in terms of design: for the first time, the distinctive Porsche four-point headlight graphics of the daytime running lights can also be seen at night when the new system is used – with both low and high beams. Each of the two HD modules per headlight has specifically ground lenses made of optical glass and which produce different angles of illumination. The wide-angle lens of the outer HD matrix module ensures wide illumination. The inner HD matrix module with telephoto lens radiates the light in a very concentrated – and therefore much brighter – fashion. The light distributed by the two HD modules overlaps in the centre. In this way, the new headlight combines a wide area of illumination with a high intensity beam at its core.

Beyond the excellent illumination, the new HD matrix LED system is primarily characterised by the flexibility of the light distribution. The system is controlled using a wide variety of available data, such as from the front camera, the GPS module, the chassis sensors and available navigation data. This enables the implementation of new and optimised lighting functions for greater safety and comfort. One example is a new non-dazzling high-beam function in two-way traffic: large areas to the right and left of the anti-dazzling gap become significantly brighter. This improves the driver's visibility without dazzling the oncoming traffic. Other functions include brightening the driver's lane via a light carpet in front of the car on motorways and comparable roads as well as special settings for roadworks and narrow-lane lighting.

More comfort and safety when driving and parking

The range of functions of the standard and optional assistance systems in the Porsche Panamera has significantly increased with the model change. This noticeably improves the levels of comfort and safety. Porsche equips the Panamera as standard with the ParkAssist system, reversing camera, Lane Keeping Assist system including Traffic Sign Recognition, Warn and Brake Assist including pedestrian protection, and Active Speed Limit Assist. This system features a new limiter function that interacts with Traffic Sign Recognition. If the system is active, the vehicle will automatically not drive faster than the current posted speed limit. Of course, the system can be overridden with the accelerator pedal. The driver can also temporarily set a different speed via the control lever.

Numerous other assistance systems with an increased range of functions are available as options. Porsche InnoDrive with Adaptive Cruise Control now has Active Lane Keeping and Intersection Assist.

The Active Lane Keeping automatically drives the vehicle within the lane markings. In traffic jams, the car automatically starts up again for up to 60 seconds after a standstill when the vehicle in front starts moving. Hands-off monitoring ensures that the driver continues to focus their attention on the road. The Intersection Assist function warns you when the car starts moving even though other road users are crossing or approaching.

Porsche supplements the Adaptive Cruise Control with an Evasion Assist function which helps steer the vehicle around obstacles in critical situations. Turn Assist is also new. It monitors oncoming vehicles when turning across the flow of traffic and performs emergency braking in dangerous situations. The active Lane Change Assist feature also offers new functions: when getting out of the car or pulling the car out into traffic, it monitors the road behind via the rear radar and warns if other vehicles are approaching.

Porsche has also introduced new and optimised functions in the ParkAssist feature. To better assess the surroundings, the intelligent ParkAssist calculates a prospective 3D representation of the surroundings from camera images. Active Parking Assistance independently detects parking spaces and is able to park automatically in parallel or perpendicular parking spaces after initiating the parking process.

The driver only needs to monitor this process, as they continue to be responsible for the parking process. However, with the new Remote ParkAssist function, the driver no longer has to be in the car. After the start of the automatic parking process, they can leave the car and supervise it entering or leaving the parking space via their smartphone. As long as the driver is pressing the corresponding button in the smartphone app, the Panamera continues the parking process. The function is available for parking and exiting processes for longitudinal and perpendicular parking spaces as well as for garages.

Consumption data

Panamera 4S E-Hybrid (WLTP, preliminary values)*: Fuel consumption weighted combined: 4.0 – 3.2 l/100 km; Fuel consumption with depleted battery combined: 9,8 – 8,8 l/100 km; Electrical consumption weighted combined: 18.5 – 17.6 kWh/100 km; CO_2 emissions weighted combined: 91 – 74 g/km; CO_2 class weighted combined: B; CO_2 class with depleted battery: G

Panamera Turbo S E-Hybrid (WLTP, preliminary values)*: Fuel consumption weighted combined: 4.4 – 4.1 l/100 km; Fuel consumption with depleted battery combined: 10,8 – 10,4 l/100 km; Electrical consumption weighted combined: 18.8 – 18.4 kWh/100 km; CO_2 emissions weighted combined: 100 – 93 g/km; CO_2 class weighted combined: C – B; CO_2 class with depleted battery: G

Panamera 4 E-Hybrid (WLTP, preliminary values)*: Fuel consumption weighted combined: 3.8 – 3.0 l/100 km; Fuel consumption with depleted battery combined: 9,6 – 8,7 l/100 km; Electrical consumption weighted combined: 18.4 – 17.9 kWh/100 km; CO_2 emissions weighted combined: 86 – 69 g/km; CO_2 class weighted combined: B; CO_2 class with depleted battery: G

Panamera 4 E-Hybrid Executive (WLTP, preliminary values)*: Fuel consumption weighted combined: 3.8 – 3.2 l/100 km; Fuel consumption with depleted battery combined: 9,7 – 8,9 l/100 km; Electrical consumption weighted combined: 18.5 – 18.0 kWh/100 km; CO_2 emissions weighted combined: 87 – 72 g/km; CO_2 class weighted combined: B; CO_2 class with depleted battery: G

Panamera 4 (WLTP, preliminary values)*: Fuel consumption combined: 11.0 – 10.1 l/100 km; CO_2 emissions combined: 250 – 230 g/km; CO_2 class: G

Panamera Turbo E-Hybrid (WLTP, preliminary values)*: Fuel consumption weighted combined: 4.3 – 3.5 l/100 km; Fuel consumption with depleted battery combined: 11,0 – 10,0 l/100 km; Electrical consumption weighted combined: 19.8 – 18.8 kWh/100 km; CO_2 emissions weighted combined: 99 – 81 g/km; CO_2 class weighted combined: C – B; CO_2 class with depleted battery: G

Panamera (WLTP, preliminary values)*: Fuel consumption combined: 10.4 – 9.6 l/100 km; CO_2 emissions combined: 236 – 219 g/km; CO_2 class: G

*Further information on the official fuel consumption and the official specific CO_2 emissions of new passenger cars can be found in the "Leitfaden über den Kraftstoffverbrauch, die CO_2-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Fuel Consumption, CO_2Emissions and Electricity Consumption Guide for New Passenger Cars), which is available free of charge at all sales outlets and from DAT (Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, www.dat.de).

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