DUCATI PANIGALE V4

The 2020 version of the Panigale V4 boosts performance even further and takes track riding to the next level for amateurs and pros alike. A series of refinements make for an easier, more user-friendly, less fatiguing ride while simultaneously making the bike faster not just on individual laps but over entire timed sessions.

Ducati and Ducati Corse engineers have crunched the feedback/data numbers from customers all over the world and Superbike World Championship events. Their analysis has led to a series of aerodynamic, chassis, electronic control and Ride by Wire mapping changes: designed to increase stability and turn-in speed, these changes make it easier to close corners and ensure riders enjoy more confident throttle control.

The Panigale V4 is now equipped with content taken from the V4 R. For example, the aerodynamic package provides enhanced airflow protection and improves overall vehicle stability, enhancing confidence. The Front Frame, instead, modifies stiffness to give better front-end 'feel' at extreme lean angles. What's more, the bike includes DTC and DQS up/down EVO 2 strategies. Thanks to a new 'predictive' control strategy, Ducati Traction Control (DTC) EVO 2 significantly improves out-of-the-corner power control; Ducati Quick Shift up/down (DQS) EVO 2, instead, shortens up-shift times, allowing sportier high-rev gear shifts (over 10,000 rpm) and boosting shift stability during aggressive acceleration and cornering.

To hone bike balance throughout the ride, changes to the suspension set-up have focused on redefining suspension stiffness, center of gravity height and chain force angle. The outcome: a bike that's easier to lay into corners, gets to the apex faster, soaks up any pits or ripples more effectively and behaves more neutrally out of the bend.

For 2020, the bike features specially-developed Ride by Wire system mappings with several torque delivery control logics. Track-dedicated RbW mapping ensures closer alignment between rider demand and delivered torque, resulting in an easier, more predictable throttle twist response. The new torque delivery control strategy lets the rider stabilise more easily on the desired throttle aperture through and out of the corners. Additionally, linearization of torque curves in gears I, II and III varies according to the selected Power Mode to minimise stability loss during acceleration.

Powering the Panigale V4 is the 1,103 cm^3 Desmosedici Stradale: a MotoGP-derived 90° V4 with Desmodromic timing, a one-of-a-kind engine with a counter-rotating crankshaft and Twin Pulse firing order. The engine can deliver 214 hp at 13,000 rpm and a torque of 12.6 kgm at 10,000 rpm, making for extremely satisfying road riding.

The Panigale V4 has a latest-generation electronics package. Based on a 6-axis inertial platform, it features controls designed to handle every aspect of the ride. The S version comes with Öhlins event-based electronic control; this uses the second-generation Öhlins Smart EC (Electronic Control) system that, exploits the full potential of the inertial platform.

The range

Panigale V4

- **Colour**
  - Ducati Red with Dark Grey frame and black wheels
- **Main as-standard features:**
  - Aerodynamic package by Ducati Corse
  - 1,103 cm^3 Desmosedici Stradale engine
  - New rider torque demand control logic
  - Front Frame with Ducati Corse specs
  - Magnesium front sub-frame
  - Fully adjustable 43 mm Showa Big Piston Fork (BPF) with new calibration
  - Fully adjustable Sachs rear shock with new calibration
  - Sachs steering damper
  - Latest-generation electronics package with 6-axis inertial platform: ABS Cornering EVO; Ducati Traction Control (DTC) EVO 2; Ducati Slide Control (DSC); Ducati Wheelie Control (DWC) EVO; Ducati Power Launch (DPL); Ducati Quick Shift up/down (DQS) EVO 2; Engine Brake Control (EBC) EVO
  - Keys for quick level changes
  - Riding Modes (Race, Sport, Street)
  - 16-litre aluminium tank
  - Full-TFT 5" screen
  - Full-LED headlight with DRL
  - Seat with "V4" logo
  - Two-seater configuration supplied
  - Braking system with Brembo Stylema® monobloc calipers
  - Pirelli Diablo Supercorsa SP tyres (rear 200/60)
  - Ready for Ducati Data Analyser+ GPS (DDA+ GPS), Ducati Lap Timer GPS (DLT GPS) and Ducati Multimedia System (DMS)

Panigale V4 S

- **Colour**
  - Ducati Red with Dark Grey frame and black wheels
- **Main as-standard equipment as per Panigale V4 except for:**
  - Suspension and steering damper with Öhlins Smart EC 2.0 system
  - Öhlins NIX-30 forks with new calibration
  - Öhlins TTX 36 shock with new calibration
  - Öhlins steering damper
  - Marchesini forged aluminium wheels in total black
  - Lithium-ion battery
  - Sports grips

Engine

MY2020 changes

The Panigale V4 MY2020 features new, specially developed Ride by Wire system mappings with several torque delivery control settings. Track-dedicated RbW mapping aligns rider demand with delivered torque more closely, resulting in smoother, more predictable throttle response. The new torque delivery control strategy lets the rider stabilise more easily on the desired throttle aperture through and out of the corners. Additionally, linearization of torque curves in gears I, II and III varies according to the selected Power Mode to minimise stability loss during acceleration.

90-degree V4: the racing engine *par excellence*

The Panigale V4 is powered by the 1,103 cm^3 Desmosedici Stradale (banked 42° back from the horizontal), a MotoGP-derived 90° V4 with Desmodromic timing, a one-of-a-kind engine featuring a counter-rotating crankshaft and Twin Pulse firing order. The engine can deliver 214 hp at 13,000 rpm and a torque of 12.6 kgm at 10,000 rpm, making for awesome road riding.

Solid teamwork with Ducati Corse has yielded a compact, light, high performance engine.

Engine casings are made of gravity die cast aluminium and are coupled in a horizontally slanted arrangement. The upper crankcase half incorporates the four Nikasil-coated aluminium cylinder liners which ensure good wear protection and low friction. The 81 mm diameter pistons that slide inside the liners have two low-attrition compression rings and an oil ring. Made of moulded aluminium, the box-in-box pistons are coupled to forged steel connecting rods with a 101.8 mm centre-to-centre. Racing-derived design is also underscored by a high compression ratio of 14:1.

Mounted on brass bushings, the crankshaft rotates on three supports and is made of nitrided steel with double-ground crank pins offset at 70° as on the Desmosedici engines that compete in MotoGP. Combined with the V engine layout, this particular shaft geometry allows for a special 'Twin Pulse' ignition sequence. The distinctiveness lies in the fact that the two left-hand cylinders fire closely together, as do the two right-hand ones. On the timing chart, the ignition points are, then, at 0°, 90°, 290° and 380°. This particular firing order makes the V4 sound just like the MotoGP Desmosedici.

To limit weight, all engine casings are made of die cast magnesium. The same material has been used to make the cam covers, the oil sump, the alternator cover and the two-piece clutch cover.

The Desmosedici Stradale draws in air through four oval throttle bodies (52 mm diameter equivalent), connected to variable-height intake horns, featured for the first time on a Ducati engine. This solution optimises cylinder intake across the rev range, giving major advantages in terms of power delivery and handling.
As on MotoGP engines, the Desmosedici Stradale uses semi-dry sump lubrication with delivery and return stages that ensure proper lubrication of all moving parts at all times.

The 6-speed gearbox has been expressly designed for the Desmosedici Stradale engine and features a rotary gear sensor to ensure optimal operation with Ducati Quick Shift (DQS) up/down.

The hydraulically controlled wet clutch has 11 driving plates and features a progressive self-servo mechanism that compresses the friction plates when under drive from the engine without any extra effort required from the rider to release the clutch.

The Desmosedici Stradale can also be equipped with an STM EVO-SBK billet aluminium dry clutch. Compared to a wet clutch it ensures, during extreme track sessions, more efficient anti-patter performance, even during aggressive down-shifting, and greater fluidity during all 'off-throttle' phases. It's also possible to personalise 'mechanical' engine braking by selecting a different secondary spring from among those in the Ducati Performance catalogue. An open carbon fibre clutch cover is a throwback to the days of the Ducati 916, resulting in that classic metallic rumble loved by all *Ducatisti*.

Ultra-high performance notwithstanding, valve clearance inspection and adjustment (Desmo Service) intervals remain the same at 24,000 km, while general service intervals also remain unchanged at 12,000 km/12 months.

(*) However, in racing, there's no such thing as a free lunch: this layout demands, of course, the addition of the so-called 'jackshaft' to transfer crankshaft drive through the gearbox to the rear wheel so it turns the right way. The jackshaft adds an extra transmission element to the crankshaft-wheel connection system. This needs to be taken into consideration when establishing crankshaft power if the latter is obtained from measurements made at the wheel. During both homologation and measurement on acceleration test benches it is, therefore, necessary to consider an efficiency or, in any case, an additional coefficient that is, by law, fixed at 0.98.

Aerodynamic package by Ducati Corse

Co-developed by Ducati Corse and the Ducati Style Center, the Panigale V4 MY2020 aerodynamics package now mirrors that of the Panigale V4 R. The result; fairings that - in true Panigale style - meet official Ducati Superbike requirements in full.

As in MotoGP, aerodynamic development involved a series of preliminary CFD (Computational Fluid Dynamics) studies, followed by optimisation on a full-scale wind tunnel model.

The Panigale V4 aerodynamics package includes:

- Plexiglas screen, nose fairing and larger lateral fairings
- More efficient lateral vents for radiator through-air
- Aerofoils

The new Plexiglas screen - higher and more angled - provides better airflow protection for riders, especially in the helmet and upper shoulder areas. The screen works in concert with a new nose fairing that is higher and wider (+15 mm per side) in the arm-shield zone to reduce arm and shoulder-induced drag on the straights.

The lateral fairings have been widened considerably (+38 mm per side) with the dual aim of reducing on-rider airflow impact and maximising aerofoil efficiency.

On the sides, the stylish air vents of the Panigale V4 have been replaced by more efficient ones that increase air through-speeds on water and oil radiators by 6% and 16% respectively.

The aerofoils take their cue from those on the GP16, designed before regulations led to restrictions on foil shapes. Consequently, Panigale V4 aerofoils are even more efficient that those currently employed in MotoGP.

These monoplane single-element foils have a trapezoidal layout and a profile that tapers from root to tip. Foil performance has been improved thanks to the insertion of the longitudinally arranged strake and the winglet which 'insulates' the airflow over its surfaces. To ensure the required strength and stiffness, Panigale V4 aerofoils are made of fibreglass-reinforced thermoplastic.

Working in concert with the fairing design, the aerofoils increase overall downforce (+30 kg at 270 kph). Greater downforce reduces both front wheel 'floating' at high speed and the tendency to wheel-up while giving a boost to stability during braking at the turn-in point and through the corner.

This dynamic behaviour lets riders - against a small increase in steering torque that stems from the heightened stability - lower lap times as it reduces electronic control intervention, helping riders keep the throttle open longer and brake later, even when cornering has already begun.

Chassis

MY2020 changes

Major changes on the Panigale V4 MY2020 chassis have seen the introduction of the Front Frame. Built according to Ducati Corse specifications, the latter features a special suspension set-up with a higher center of gravity, an increased chain force angle and improved use of suspension travel. Thanks to these modifications, the bike is easier to lay into the corner when you ease off the brakes, gets to the apex faster, soaks up any pits or ripples more effectively and behaves more neutrally out of the corner.

Front Frame with Ducati Corse specifications

The Front Frame is now the same as the one on the V4 R but differs slightly on account of the lighter, machined sides; these ensure attainment of the stiffness targets set by Ducati Corse for the SBK championship and reduce weight even further.

Greater frame flexibility means less on-track tyre stress and improved front-end 'feel' at maximum lean angles.

Completing the chassis is the light magnesium front sub-frame and the shell-cast aluminium seat sub-frame (attached to the Front Frame at the top and bolted to the head of the rear cylinder bank below).

Higher center of gravity and increased chain force angle

The fork mounting has been lowered 4 mm, the rear shock is shorter by 2 mm, while the suspension now has two link rods that are shorter by 5 mm. These changes have resulted in a 5 mm higher bike center of gravity. The result? The bike is swifter at the drop-in and arrives at the apex faster.

A higher rear end also increases the chain force angle: this results in an anti-squat effect and, therefore, greater bike stability during acceleration.

With a 24.5° rake and 100 mm trail, steering geometry remains unchanged.

Improved bike balance

The Panigale V4 is equipped with a 43 mm Showa Big Piston Fork (BPF) that provides fully adjustable spring pre-load and compression and rebound damping. The fork bodies house chrome sliders with Brembo radial caliper mountings. A Sachs steering damper completes the front-end package. At the rear there is a fully adjustable Sachs shock absorber, one side of which is attached to the Desmosedici Stradale engine via a forged aluminium bracket.

The Panigale V4 S, instead, mounts an Öhlins NIX-30 fork, an Öhlins TTX36 rear shock absorber and an Öhlins event-based steering damper. On this version suspension and steering damper are controlled by the second-generation Öhlins Smart EC 2.0 system which, among other things, features the new OBTi (Objective Based Tuning Interface).

On both versions, fork rear shock has softer and more pre-loaded springs, resulting in more efficient use of suspension travel to even out pits and ripples on the asphalt. The combination of reduced spring rate and higher pre-loading gives better dive control during braking, resulting in easier, more intuitive turn-ins, especially for the less expert rider.

Wheels and tyres

While the Panigale V4 mounts cast aluminium 5-spoke wheels, the Panigale V4 S is equipped with 3-spoke forged aluminium alloy wheels.

The Panigale V4 mounts Pirelli DIABLO™ Supercorsa SP tyres (120/70 ZR17 at the front, 200/60 ZR 17 at the rear). The latest version of the DIABLO™ Supercorsa SP tyre, in the 200/60 ZR 17 size already popular as a slick option in the FIM World Superbike Championship, is a racing replica milestone. Innovative rear tyre profiling maximises the contact patch at maximum lean-over and takes full advantage of the employed bi-compound design; the latter adopts the same SC2 compound (used on racing slicks) in the shoulder zone to provide race-grade grip, yet still guarantees the strength and versatility needed for road riding. Designed to work in harmony with the rear tyre, the front tyre has undergone further development: every aspect of handling - from feedback to support solidity, 'safety feel' and grip loss predictability - has been optimised by creating a new front profile. Lastly, the DIABLO™ Supercorsa SP tread features a 'flash' geometry intended to optimise track performance and reduce wear, plus narrower grooves designed to provide adequate support for stronger side forces.

Braking system with Brembo Stylema® monobloc calipers

The Panigale V4 range features Brembo Stylema® monobloc calipers, developed out of the already high performance M50 calipers.

Stylema® calipers, machined from a solid aluminium alloy block, have lightening zones on the body and attachment bushings; compared to the M50, these zones make them visibly more compact and lighten each caliper by 70 g without affecting stiffness. Other improvements on the internal ventilation front have made for more consistent efficiency.

Because of their extreme stiffness, Stylema® calipers offer outstanding hydraulic efficiency; this means riders can count on excellent braking responsiveness, limited brake lever travel and first-rate 'feel'.

The dual Brembo calipers, each mounting four 30 mm pistons, bite down on 330 mm discs to give exceptional braking power. At the rear, instead, the system mounts a single 245 mm disc with a 2-piston caliper. Braking is aided by the ABS Cornering EVO system, which uses the ultra-light 9.1MP control unit.

Electronics

Latest-generation electronic controls

The Panigale V4 features a latest-generation electronics package based on a 6-axis inertial platform which instantly detects the bike's roll, yaw and pitch angles.

The electronics package oversees every aspect of the ride: some controls supervise start, acceleration and braking, others govern traction and others again lend a helping hand on corners and out-of-the-corner stretches.

- ABS Cornering EVO
- Ducati Traction Control (DTC) EVO 2
- Ducati Slide Control (DSC)
- Ducati Wheelie Control (DWC) EVO
- Ducati Power Launch (DPL)
- Ducati Quick Shift up/down (DQS) EVO 2
- Engine Brake Control (EBC) EVO
- Ducati Electronic Suspension (DES) EVO

The operational parameters for each of these controls are associated by default with the three Panigale V4 Riding Modes. Riders can personalise parameters to suit their riding style or restore Ducati factory settings. DTC, DWC, DSC or EBC control levels can be adjusted quickly via the left switchgear.

ABS Cornering EVO

The ABS system, equipped with the Cornering function to allow ABS intervention even with the bike leaned over, has been radically upgraded to introduce new intervention logic and control types.

Cornering ABS EVO can be set at three different levels to fully satisfy rider needs on road or racetrack, even under critical low-grip conditions.

Level 3 is intended for road use or in circumstances where there is little grip, ensuring the safest, most stable braking. Levels 2 and 1, instead, prioritise braking power and are better suited to sports riding on high-grip surfaces and racetracks.

Selecting Level 2 lets riders drift into corners safely and enjoy enhanced sports riding performance.

Recommended for track sessions, ABS level 1 restricts ABS intervention to the front brake only, yet retains the Cornering function to allow super-hard braking up to and past the turn-in and recovery from any riding errors.

Ducati Traction Control (DTC) EVO 2

The new Ducati Traction Control EVO 2 (DTC EVO 2) strategy is an offshoot of the Ducati Desmosedici GP18 and is already employed on the Panigale V4 R and V4 R SBK. In addition to interfacing with the 6-axis inertial platform and adapting intervention on the basis of wheelspin and lean angle, the software significantly improves out-of-the-corner power control thanks to a new 'predictive' strategy. Acting not just on the basis of instantaneous rear wheelspin but also its variation, it intercepts any loss of grip sooner and reduces peak wheelspin, ensuring faster, smoother intervention. All this means augmented out-of-the-

corner stability, (even in sub-optimal grip conditions), higher acceleration, better lap times and improved long run performance.

In addition to controlling spark advance and injection, the DTC EVO 2 system uses, in all situations not requiring fast intervention, the throttle body valves to maintain optimal combustion parameters and ensure more fluid engine response and control.

DTC EVO 2 can be set to 8 different levels (6 for dry conditions, 2 for wet), letting riders adapt control strategy to their individual riding styles and grip conditions to maximise performance.

Ducati Slide Control (DSC)

The introduction of the inertial platform has allowed Ducati Slide Control (DSC) - developed jointly with Ducati Corse - to be added to Ducati Traction Control EVO (DTC EVO). This system assists riders by controlling the torque delivered by the Desmosedici Stradale engine according to slide angle. Its purpose is to improve-out-of-the-bend performance by preventing slide angles that would otherwise be difficult to handle. The DSC relies on the inertial platform that provides the vehicle control unit with crucial information on bike dynamics (such as lean angle, acceleration and much more). Thanks to this data - and depending on the user-selected level - DSC extends the performance range of the bike for all riders, providing improved assistance under extreme riding conditions.

Like DTC EVO, DSC controls torque reduction by acting on the throttle body valves, decreasing spark advance and reducing injection. In all situations in which fast DSC intervention is not required, use of the throttle body valves ensures maintenance of optimal combustion parameters, ensuring more fluid engine response and intervention.

DSC has two different settings: switching from level 1 to level 2 gives easier control of slide angles that would otherwise be hard to manage. DSC intervention levels can be changed via the menu, which the rider can also use to adjust DTC EVO and DWC EVO settings. It's also possible to set direct DSC control via direct access buttons on the left switchgear. The DSC setting is always shown on the display.

Ducati Wheelie Control (DWC) EVO

The Panigale V4 is also equipped with the latest version of Ducati Wheelie Control EVO (DWC EVO). Using the data feed from the inertial platform, this system keeps wheelies in check while maximising acceleration easily and safely. DWC EVO provides more accurate wheelie readings; it thus exerts more precise control to ensure the bike responds faster to rider input.

Ducati Power Launch (DPL)

This 3-level system ensures lightning-fast starts, letting the rider focus on releasing the clutch. Once set, all the rider has to do is engage first gear and open the throttle. During the initial moving-off stage, as the rider modulates clutch release, DPL stabilises the engine at optimal revs according to the selected level. In the second stage, when the clutch has been fully released, DPL controls torque delivery to maximise acceleration on the basis of the selected level.

DPL makes use of DWC functions and always keeps DTC active so as to ensure complete safety at all times. Automatic system disengagement occurs above the end-of-start speed, or once third gear is selected. To protect the clutch, a specially developed algorithm allows only a limited number of consecutive starts. The number of available starts is reset when the bike is ridden routinely.

The DPL has three different settings and is activated by pressing the specific key on the right-hand switchgear. Level 1 favours high-performance starts, level 3 is safer and more stable.

Ducati Quick Shift up/down (DQS) EVO 2

DQS EVO 2 with up/down function, developed for the Panigale V4, uses lean angle data to maximise bike stability when shifting gears through the bends.

In addition to minimising shift times, DQS EVO 2 allows clutchless down-shifts, making hard braking more effective than ever. The system includes a two-way microswitch built into the shift lever linkage; every time the gear shift is actuated, it sends a signal to the Desmosedici Stradale engine control unit. Thanks to full Ride-by-Wire control, the system works differently for up-shifts and down-shifts, integrating spark advance and injection adjustment during up-shifts with an auto-blipper function during down-shifts.

Extent and duration of system operation are designed to ensure seamless shifting even during extreme track sessions; during down-shifts the system works in concert with the anti-patter clutch and Engine Brake Control (EBC).

DQS EVO 2 - another Panigale V4 R offshoot - reduces up-shift times, allowing the sportier high-rev gear shifts (over 10,000 rpm) typical of track riding and boosting shift stability during aggressive acceleration and cornering.

Engine Brake Control (EBC) EVO

The EBC (Engine Brake Control) system was developed to help riders optimise bike stability under extreme turn-in conditions; it does so by balancing the forces applied to the rear tyre under severe Desmosedici Stradale engine braking conditions. The Panigale V4 EBC EVO system, optimised according to lean angle, monitors throttle body valve position, selected gear and Desmosedici Stradale crankshaft deceleration during aggressive braking and adjusts throttle aperture to balance out the torque forces applied to the tyre. EBC EVO has three different settings, integrated into the Riding Modes.

Ducati Electronic Suspension (DES) EVO

The S version comes with Öhlins event-based electronic control; this uses the second-generation Öhlins Smart EC (Electronic Control) system that, in addition to exploiting the full potential of the inertial platform, features the new, more user-friendly OBTi (Objective Based Tuning Interface).

Electronic suspension offers a choice between manual “Fixed” mode - which allows for 'virtual-click' manual adjustment (32 clicks between fully open and fully closed for the suspension and 10 for the shock absorber) of compression, rebound and steering damping - and automatic “Dynamic” mode.

When “Dynamic” mode is selected the system automatically adjusts - on the basis of information received from the inertial platform and other sensors - compression and rebound damping in response to riding style.

The Öhlins Smart EC 2.0 system has the considerable advantage of letting riders customise the intensity of suspension response to individual ride events (braking, cornering, acceleration) and letting them modify the operating parameters of individual hardware components. This gives the rider access to next-level dynamic bike control, augmenting on-road safety and shortening track lap times.

Ducati Riding Mode strategy

Riding Modes provide users with three different pre-set riding styles so that Panigale V4 performance can be adapted to the rider, the nature of the track/route and weather conditions. Changing the Riding Modes instantaneously changes the character of the engine, the electronic control parameters and, on the S version, the suspension set-up too. Riders can, of course, personalise parameters to suit their riding style and subsequently restore Ducati factory settings.

Race Riding Mode - As the name suggests, Race RM has been developed for expert riders who want to use all the potential of the Panigale V4 on high-grip racetracks. By selecting Race, the rider can count on 214 hp, with direct Ride-by-Wire throttle response and, on the S version, a very firm suspension set-up to optimise performance. Race mode sets the electronics at a low intervention level, but without reducing safety: to maximise braking performance the ABS kicks in on the front wheel only but the Cornering function remains on at all times.

Sport Riding Mode - Selecting Sport gives the rider 214 hp, with direct sport-style Ride by Wire throttle response and, on the S version, a sport style suspension set-up. Electronic control settings allow even less experienced riders to enjoy effective, spectacular handling. In Sport mode, for example, the Slide by Brake function is engaged, allowing riders to drift into corners safely. Rear wheel lift detection during braking is on and the ABS Cornering function is set to maximise cornering performance.

Street Riding Mode - Street Riding Mode is recommended when riding the Panigale V4 on the road. As with Sport Riding Mode, this RM gives the rider 214 hp and progressive Ride by Wire throttle response; on the Panigale V4 S version it features a suspension set-up that is well suited to bumpy or pitted roads. Electronic control settings ensure grip and stability to maximise safety.

Latest-generation TFT instrumentation

The Panigale V4 has a bright, high definition (186.59 PPI - 800xRGBx480) full-TFT 5" display with modern eye-catching graphics. Instrumentation development has prioritised readability and easy function access.

The dashboard is dominated by the round 'virtual' rev counter on the right, marking a clean break with the past and drawing inspiration from high-end automotive production. Desmosedici Stradale revs are displayed within a 1,000-15,000 rpm interval by a needle gauge. Movement of the latter is accompanied by a white trail that acts as a 'shift light', changing colour from white to orange and then red as the rev limit approaches.

Two different lay-outs are available: 'Track' highlights lap times and makes the rpm range used on tracks much more visible; 'Road', instead, replaces lap times with info on the Ducati Multimedia System (DMS) and the rpm scale is more appropriate for the rev ranges used on public highways. For improved readability, indications for (digital) top speed, selected Riding Mode and selected gear do not alter position when the selected lay-out is changed.

In addition to the classic menu illustrating total mileage, Trip 1, Trip 2, consumption, average consumption, Trip Fuel, Trip Time, Average Speed, air temperature, Lap On/Off (in Track mode only), Player On/Off (in Road mode only), the Panigale V4 features another menu at bottom right, which can perform two functions: display/indication of parameters lined to the set Riding Mode or quick modification of DTC, DWC, EBC and DSC parameters. Lastly, Panigale V4 indicators are of the 'auto off' type: this means they switch off automatically after completing the turn or, should an indicator be tripped accidentally, switch off after the bike has travelled in a straight line for a certain distance (from 200 to 2000 metres depending on how fast the bike was going when the indicator was switched on).

Ducati Lap Timer GPS (DLT GPS)

The DLT GPS feature automatically records and saves lap times and displays them directly on the dashboard each time the bike crosses the finish line, the coordinates of which are set by pressing the flasher button. If a lap time is the best of the current track session, the Best Lap function causes it to flash for 5 seconds. At every lap - for a total of 15 consecutive laps - DLT GPS records lap time, maximum rpm and maximum speed; the information can be called up from the relevant menu. DLT is available as a Ducati Performance plug-and-play accessory.

Ducati Data Analyser + GPS (DDA+ GPS)

The Ducati Data Analyser + GPS (DDA + GPS) allows assessment of bike and rider performance by showing traces for specific data items. DDA + GPS is a vital on-track performance monitoring tool. Not only does it automatically display and record Panigale V4 lap times, it also saves other data traces such as throttle opening, bike speed, engine rpm, selected gear, engine temperature, distance travelled, rpm and DTC. DDA + GPS is available as a Ducati Performance plug-and-play accessory.

Ducati Multimedia System (DMS)

Panigale V4 versatility is also evident in the fact that it's ready for the Ducati Multimedia System (DMS). This lets riders take incoming calls, select and listen to music or receive text messages via a Bluetooth link.

When the rider mounts the motorcycle the smartphone automatically connects to the bike via Bluetooth, letting the rider control the main multimedia functions. The TFT display shows the music being played, the new text message icon or caller's name. Phone call audio and music are transmitted to the helmet earpieces. The DMS is available as an accessory throughout the Panigale V4 range.