

# NITRON®

## SUSPENSION



## INTRODUCING THE *elec-TRON*® RANGE

Nitron Suspension proudly introduces the *elec-TRON* range, a fusion of world-renowned Nitron quality and attention to detail, combined with cutting-edge electronic valve technology. At the heart of the system is Nitron's proportional solenoid valve, delivering unparalleled precision and control over the damping system. Each shock absorber in the *elec-TRON* system is equipped with an independent valve, allowing for individual damping control at each wheel. This is essential for optimising handling, stability and ride comfort.

The *elec-TRON* proportional valve operates within a range of 300-1800mA, providing a broad adjustment capability and a rapid response time of just 6 to 8 milliseconds from full hard to full soft. This system governs both compression and rebound damping. The valve is piston rod-mounted, fine-tuning the

bleed characteristics of the shim stack, and is integrated with Nitron's gas-pressurized mono-tube construction, ensuring maximum performance and reliability. This valve is compatible with both the R1 (electronic adjustment only) and the R3 (manual high and low-speed compression adjustment).

In the R3, the manual settings establish a baseline for the adjustments made by the main *elec-TRON* valve. The system can precisely adjust damping force based on a variety of factors such as g-load conditions, vehicle speed, road surface, and driver input. This results in highly accurate and responsive damping, significantly enhancing the overall performance of the vehicle.



## INTEGRATION WITH OEM ELECTRONIC SYSTEMS

For vehicles already equipped with OEM electronic damping systems such as BMW's EDC or Porsche's PASM, the Nitron *elec-TRON* suspension kit is designed to work in conjunction with these. This integration allows users to retain full functionality of the OEM controls, while also benefiting from the added capabilities and precision offered by the Nitron *elec-TRON* system. In this case, the Nitron system complements and enhances the performance of the existing OEM system.

### *elec-TRON*® R3 COILOVER KIT

The *elec-TRON* R3 coilover kit combines the Nitron proportional solenoid valve with independent manual compression control. Designed for enthusiasts or professionals looking to further optimise their vehicle's suspension performance for more extreme driving conditions and a higher level of performance. Piggyback or remotely mounted reservoirs allow quick and simple independent adjustment of high-speed and low-speed compression damping.



### *elec-TRON*® R1 COILOVER KIT

The *elec-TRON* R1 coilover kit utilises the Nitron proportional solenoid valve with all of the damping control being carried out by the control system. This kit includes our adjustable top mounts and uses our race springs, giving you the ultimate adjustment for a perfect geometry setup.



### *elec-TRON*® roadsport COILOVER KIT

The *elec-TRON* RoadSport coilover kit offers many of the same benefits of our R1 kit but is more road orientated, optimising comfort and daily usability, while integrating with your OEM top mounts.

## STANDALONE ELECTRONIC DAMPING SYSTEM

Users have the option to install the Nitron *elec-TRON* suspension kit as a standalone electronic damping system. This means that if your vehicle does not come equipped with an OEM (Original Equipment Manufacturer) electronic damping system like BMW's EDC or Porsche's PASM, you can now benefit from the advanced damping control offered by Nitron's *elec-TRON* system. The Nitron DCU (Damper Control Unit) unit is included as part of this system and features a selectable damping control via an adjustment knob. Each system is also supplied with wiring loom.

### *elec-TRON*® DCU (DAMPER CONTROL UNIT)

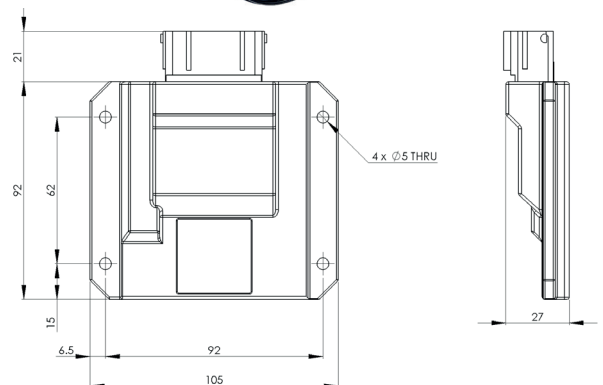
The Nitron DCU allows you to transform your shock set up from passive damping to a semiactive system. Nitron's *elec-TRON* valve is continually adjusting the damping levels every 5 milliseconds, depending on the information it receives from the DCU. The DCU decides what position the valve should be in (and therefore what damping levels are created) by assessing all the data it receives about the car, its attitude and the forces acting on it (braking, cornering and accelerating).

By fitting a DCU in conjunction with *elec-TRON* shock absorbers, your vehicle not only benefits from having extremely high performance Nitron dampers, but these dampers are constantly adjusting themselves to provide you with optimised levels of grip and comfort. The DCU is fitted with an adjustable control knob, which allows the user to access a number of pre-installed damping maps such as Rain, Tour, Sport, and Race for their specific vehicle. Damping will continue to be constantly optimised, but the overall damping levels will be determined by the user's selection.



#### SPECIFICATIONS

- Arm Cortex-M4 processor
- Independent control of 4 electronic dampers
- 3 static maps
- 3 active maps (acceleration, braking & yaw)
- 3 axis accelerometer
- 3 axis gyroscope
- 200Hz damping control rate
- Configured for application location and settings



For sales and technical enquiries, call +44 (0)1993 849 449 or email [sales@nitron.com](mailto:sales@nitron.com)

[www.nitron.com](http://www.nitron.com) |  