



TESLA SAY NO TO 12V BATTERIES AND USE 16V LITHIUM. ARE YOU READY FOR THIS IN YOUR BUSINESS?

Not content with re-inventing the motor car, Elon Musk's Tesla is now changing the rules again. Since 2021 Tesla has been equipping both Model Y and Model 3 cars with a 16v Li-Ion battery for low voltage duties. If we add the fact that the Tesla Model Y was the best-selling car in the world in 2023 and both the Model 3 and Y are top sellers in the UK then this is something that the industry needs to pay close attention to.

The introduction of a new voltage in such a high selling car presents obvious challenges .. GYS are well known to be at the forefront of charging technology indeed and their GYSFlash range is well known across the industry. To keep workshops ahead of the game GYS have now adapted the GYSFlash to accommodate the new Tesla 16V requirement, we catch up with Neil Pulsford (MD at GYS) to learn more.

Are there any benefits to using a 16V Li-Ion battery over a convention 12V Lead acid battery?

Tesla have made this decision and when we look at the battery itself, we can see a number of key differences. The 16v Li-Ion battery is very small, physically (you can hold it in one hand) and in terms of capacity, just 6.9Ah versus typically 45Ah

for the conventional lead acid, also its much lighter, under 2kg compared with 14kg. Li-Ion offers other advantages as it offers a longer operating window as it discharges, its useable capacity is very high. It also has its own BMS (battery management system) and it is likely that with a higher voltage and the Li-Ion chemistry this configuration of battery will be more durable over time.



AUTOSCENE EXCLUSIVE Q&A

What challenges has this introduction of the 16V battery brought to the industry?

It really is bringing a challenge, the industry has lived for decades in a 12V world, and consequently all of the battery tools in use across garages, recovery networks, bodyshops, car dealers and anyone else working with vehicles are designed for 12V batteries. Any workshop faced with dealing with this 16V battery will need to acquire the right tools.

How long has the GYSFlash Pro taken to develop and can you tell me about the process?

This is a really good question as the life of a simple battery charger has been transformed in recent years. Not so long

GYS had to develop products accordingly. Some readers will recall the early GYS Battery Support units from 2010 (named GYS Inverter 70) and these developed into the current generation from 2014. It became clear that future demands from car makers would continue to evolve and in anticipation of this we decided to develop the GYSFlash with new flexible architecture. In 2019 we launched the GYSFlash CNT or 'connected technology' range. Connected models provide a new level of control and flexibility, firstly a programmable charging curve, updateable by either the user or online from GYS. In addition, functions such as traceability for charging, access and data entry by bar code scanner or keyboard, printer connection and even visual indicators of charging status through external lighting. This flexibility enables

Is this charger suitable for all vehicles EV and ICE?

Simply yes, remember we are working in the world of the low voltage control systems of the vehicle and GYSFlash can operate with all vehicle drivetrains be it EV, Hybrid and ICE.

Will this remain unique to Tesla or do you foresee other manufacturers following suit?

There is no information to suggest that other car makers will follow at 16V but with ever increasing demands on batteries in cars, EV or ICE, we do expect an upward trend in voltage. Again its Tesla who have indicated that future models will run on a 48V architecture. This has already been implemented in the Tesla Cybertruck. GYS already have GYSFlash CNT models able to operate on these voltages offering real future proof capability.

Who should consider purchasing a GYSFlash Pro for 16V, is it suitable for all workshops?

There are two answers to this question, in the short term it is those businesses that work with newer models such as bodyshops, windscreen repair, probably through ADAS, and used car sales. Then in the medium term, as these cars find their way into other workshops, the general repair trade will need to be ready.

The flexible design of the GYSFlash enables customers to purchase a GYSFlash now that will cover 16V as well as all existing 12V vehicles, and even 48V.

How can our readers purchase this product?

As most readers will be aware, GYS is an established supplier to the automotive sector and 16V compatible GYSFlash units are widely available through National and Local Motor Factors and Equipment suppliers across the country.

website: www.gys-welding.com



ago, a charger was a simple transformer with limited controls with an output of around 6 amps. Now for the latest battery support units we have to employ high power inverters (or SMPS technology) to provide the power and control needed, already GYSFlash units can provide up to 120amps and shortly we will introduce 150 amp units to the market. Given the changes in the demands for charging in the workshop driven by the car makers

to quickly add a new charging curve for 16V Li-ion for Tesla. Unfortunately 16V is above the capability of 12V systems but is now incorporated into all of the 24V GYSFlash CNT units for both charging and battery support. For customers who already have a 24V GYSFLASH CNT they can use the online update facility to add this themselves, we invite them to get in touch for support, there is no charge for this.





BEST-SELLING CAR IN THE WORLD, TESLA MODEL Y, FITTED WITH 16 V BATTERY

Tesla's ongoing success has been marked by another significant milestone: the Model Y is now the best-selling car in the world. Their introduction of 16V lithium batteries in the Model Y came as a surprise to an industry that deals almost exclusively with 12V battery systems. Following the launch of 16V Model Y, Tesla now also fit the same 16V Li-Ion battery to the Model 3.

This significant event presents an immediate challenge to the car repair industry. 16V battery charging and support solutions are extremely rare. Up until now, 16V lithium automotive batteries have been primarily used in motorsport. Tesla's decision to introduce them into road cars brings the requirement for 16V battery support to all car repair shops.

GYSFLASH PRO – TESLA 16 V

GYS has the solution. The well-known GYSFlash Pro range already offers industry-leading battery support and now their 24V CNT versions offer an immediate Tesla 16V solution.

The 24V GYSFlash Pro Battery Support Unit is capable of keeping 6V, 12V, 24V lead-acid and lithium, and now Tesla 16V batteries, at a perfectly stable voltage during diagnostic processes. The connected capability of the GYSFlash Pro CNT range allows for easy software updates, perfect for situations such as Tesla introducing 16V batteries.



HEADLIGHT CONDENSATION GUIDANCE FROM HELLA

After Unprecedented Wet Weather, OEM Headlamp Manufacturer HELLA Believes Drivers Need Reminding That Fogging Or Condensation Inside Lighting Units Doesn't Usually Mean The Lamp Is Defective.

HELLA TECH WORLD has a 'troubleshooting' step-by-step flow chart to help garages understand when condensation on the inside of automotive lighting lenses should be considered a concern.

"Moisture inside headlamps can compromise light distribution and also cause corrosion leading to more serious problems or lighting failure," said Dave Clark, Lighting Product and Brand Manager at HELLA.

Modern headlamps are equipped with ventilation to equalise pressure. When the light is on, heat and expansion will cause some air to be displaced. As the lamp cools down again, internal air pressure reduces, causing saturated humid air from outside to be drawn back into the light interior.

This ventilation means that whilst moisture can enter, it should also escape easily. Visible condensation within lamps is more common in cold, wet or humid weather. This expected condensation should disappear when the lamp is

in use. However, when larger water droplets form which do not evaporate, then there may be a problem.

"Water drops on the lens and particularly water gathered in the lower area of the light means the seal must be checked for damage and replaced if necessary," said Dave. "Ventilation openings should also be checked for blockages and the light can be blown dry with oil-free compressed air. If water still accumulates after this, the unit must be replaced."

A less well-known cause of moisture accumulating in lighting units is the 'capillary effect'. This sees water travel down very narrow pathways such as within electric cables. Water ingress into cables usually occurs at a plug connection if the terminals do not offer sufficient protection against humidity.

In the event of problems, HELLA's flow-chart provides guidance to systematically check key areas including the headlamp fixings, seals, ventilation grommets and wiring. To read the guidance in full please visit the HELLA website:

www.hella.com

Tesla Model 3 & Y, fitted with 16 V Lithium Battery: GYS has the solution



1598480
(S)C7 J2307
16V Li-ion



GYSFLASH CNT

FOR BATTERY CHARGING & BATTERY SUPPORT

Select 6V, 12V, **16V** or 24V

Available with 100A and 120A output

Provides a perfectly stable voltage during diagnostic testing

Provides protection for the vehicles' electronics

CNT: Connected technology

Software updates

Charging data can be exported

New or bespoke charging curves can be uploaded

Ability to connect to printer, keyboard and bar code scanner



SCAN TO LEARN MORE

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