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# Battery Support Unit

Intelligent GYSFLASH PRO chargers



# BSU chargers

## Battery Support Unit

The role of the battery in a vehicle is not limited to starting. It is the power supply for all electrical components essential for safety and comfort. The BSU (Battery Support Unit) is necessary for providing the required energy when the engine is off, especially during diagnostic phases or showroom vehicle demonstrations. The wide range of GYSFLASH PRO models caters for these requirements and offers multiple configurations to meet customer needs.



### Vehicles 100% operational in showroom

The display of different vehicle models, particularly in dealerships, allows customers to imagine themselves in their prospective acquisition. With the engine off, the alternator is unable to provide energy. The simple fact of leaving the headlights on, will drain heavily the battery. A BSU such as a GYSFLASH PRO can be placed discreetly underneath the vehicle to provide the necessary power without worrying about battery consumption.



### Diagnostics

Failure of a single electronic component in one of the ECUs can lead to errors, such as overconsumption or lack of power. Locating an error and reprogramming the ECU will require a diagnostic check. This process will use all the electronics devices and can take several minutes or even hours. The energy is totally supplied by the battery and is likely to result in a complete discharge of the battery which he results can be damaging. This results in a full recharge and a test procedure to be repeated, which means a significant loss of time for the garage. A GYSFLASH PRO can provide up to 120 A to compensate and ensure successful analysis without damaging the battery.

### Modern vehicles are constantly changing

Onboard electronic are a key factor in automotive design. CO2 reduction, fuel consumption, safety features (airbags, driving assistance system, etc.) or user comfort (heated seats, onboard computer, etc) are the main objectives.

The battery is a crucial item for the correct function of the electrical system and is heavily loaded. Strict maintenance is therefore vital to keep the vehicle in peak condition for ensuring reliability for the user.



Keeps a battery at a perfectly stabilized voltage during the diagnostic phase.



Compensates the vehicle's electrical demands for showroom demonstrations.



Extends battery life.

### Battery maintenance, a high standard approach

Self-discharge or multiple starts are factors that can significantly reduce the life of a battery. A vehicle that is stationary for a long period or making short trips prevents the alternator from charging completely. Connecting a GYSFLASH PRO to maintain a battery is a valuable process. The connected versions (CNT) bring a real advantage with the traceability of each charge.



# BSU, a complete range

On a similar design, GYSFLASH PROs offer complete solutions to keep batteries at peak performance. Dedicated to 12 V lead-acid batteries (6 and 24 V for the GYSFLASH 30.24 HF and 50.24 HF versions) of all types (liquid, AGM, EFB, gel, etc.), they have essential advanced settings for automotive professionals.



## GYSFLASH PRO HORIZONTAL

Wide range of 6 products with outputs from 30 to 100 A, these GYSFLASH units are designed to provide an effective energy supply in the showroom or during the diagnostic phases. The small dimensions allow them to be discreetly placed underneath a vehicle (10.5 cm high) or on a diagnostic trolley. Fanless technology, means they are ultra-quiet in showrooms.

Fanless technology



Closed cycle ventilation



## GYSFLASH PRO VERTICAL

Really useful in a workshop for battery maintenance, the products in this range can easily be fixed using wall mounts or magnetic mounts. Also FANLESS, they are dustproof. The GYSFLASH 32.12 PL incorporates a 9-step LiFePO4 lithium charging curve as well.

Wall mounts



## GYSFLASH PRO CONNECTED

These latest models represent the most powerful BSUs in the GYSFLASH PRO range. Will compensate the energy requirement during diagnostics or in the showroom & they are fully connected. This makes it possible to create or upload customized lead-acid and lithium charge curves via the USB port. They also create a file of charging data for analysing on a computer or for printing. Traceability is another key feature.

SMC and USB ports



5 integrated functions on each GYSFLASH PRO & GYSFLASH CNT

<p><b>CHARGE</b></p>	<ul style="list-style-type: none"> <li>Automatic charging curve in 9 steps</li> <li>Automatic desulphation «SOS Recovery»</li> <li>Charging times 50% faster than a traditional charger</li> <li>Real-time display of charging progress</li> </ul> <ul style="list-style-type: none"> <li>1- Battery analysis</li> <li>2- Recovery</li> <li>3- Sulfatation test</li> <li>4- Desulfation</li> <li>5- Test</li> <li>6- Fast charge 80%</li> <li>7- Absorption</li> <li>8- Refresh</li> <li>9- Maintenance charge 100%</li> </ul>																
<p><b>DIAGNOSTIC*</b></p>	<ul style="list-style-type: none"> <li>Compensates for energy requirements up to 120 A</li> <li>Voltage adjustable from 12 to 14.8 V in steps of 0.1 V according to the vehicle manufacturers' specification</li> <li>Automatic warning in case of overconsumption</li> </ul>																
<p><b>SHOWROOM</b></p>	<ul style="list-style-type: none"> <li>Compensates for energy requirements up to 120 A</li> <li>Removable cables to allow for passing through the engine bay.</li> <li>Can be used without a battery on the vehicle («No battery» function)</li> <li>Automatic restart in the event of a power failure</li> <li>«Lock showroom» function to lock the charger and avoid any unintentional change of settings</li> </ul>																
<p><b>CHANGE BATTERY*</b></p>	<p>Maintains the energy requirement without risk of losing vehicle memories when changing batteries</p>																
<p><b>POWER SUPPLY*</b></p>	<ul style="list-style-type: none"> <li>Change GYSFLASH PRO into a continuous stabilized power supply (DC)</li> <li>Voltage adjustable in steps of 0.1 V and current adjustable in steps of 1 A:</li> </ul> <table border="1"> <tr> <td></td> <td>GYSFLASH 30 A</td> <td>2&gt;30 V</td> <td>2&gt;30 A</td> <td></td> <td>GYSFLASH 100 A</td> <td>2&gt;16 V</td> <td>4&gt;100 A</td> </tr> <tr> <td></td> <td>GYSFLASH 50 A</td> <td>2&gt;30 V</td> <td>2&gt;50 A</td> <td></td> <td>GYSFLASH 120 A</td> <td>2&gt;16 V</td> <td>4&gt;120 A</td> </tr> </table>		GYSFLASH 30 A	2>30 V	2>30 A		GYSFLASH 100 A	2>16 V	4>100 A		GYSFLASH 50 A	2>30 V	2>50 A		GYSFLASH 120 A	2>16 V	4>120 A
	GYSFLASH 30 A	2>30 V	2>30 A		GYSFLASH 100 A	2>16 V	4>100 A										
	GYSFLASH 50 A	2>30 V	2>50 A		GYSFLASH 120 A	2>16 V	4>120 A										

\* not available for version 32.12 PL

## Product advantages

- + Inverter technology**  
Microprocessor controlled, GYSFLASH PRO have a very high efficiency (93%) for an energy saving of 15% compared to a traditional model.
- + Intuitive and comprehensive interface**  
Information of the multiple functions is instantly available.
- + Audible warning signal**  
Ideal in noisy environments, such as a workshop, preventing errors.
- + Advanced power supply PFC FV**  
- PFC (Power Factor Correction) integrated into each machine provides better use of power and reduces consumption by 30%. No power loss with extended use.  
- The GYSFLASH PRO 50.12 FV and 121.12 FV can operate with a supply voltage between 85 and 265 V.
- + Automatic cable calibration**  
Regardless of cable length or wear rate, GYSFLASH PRO will automatically adapt.

# GYSFLASH CNT

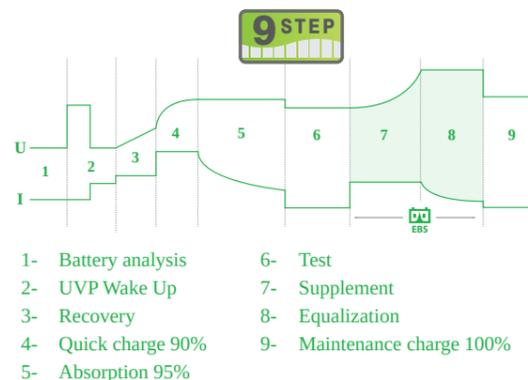
## 100% Connected



Designed to meet tomorrow's requirements, GYSFLASH PRO CNT is equipped with connectivity and scalability required by automotive professionals. The charging of lithium batteries, the traceability of each operation and configurations (product and charge curves) are fully customizable which is a key feature.

### Lithium Ready **LiFePO<sub>4</sub>** A specific LFP lithium charge curve

The CNT version incorporates a 9-step charging curve with "UVP" (Under Voltage Protection) technology and "EBS" (Equalizing Battery System) developed by GYS. Essential steps to safely reactivate the battery, efficiently rebalancing the cells and optimize the battery cycles.



### 12 specific lead-acid & lithium charging curves according to the battery type

• 6 dedicated to lead batteries:

Traditional	AGM	Liquid	Easy	Boost	recovery+
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• 4 dedicated to lithium batteries:

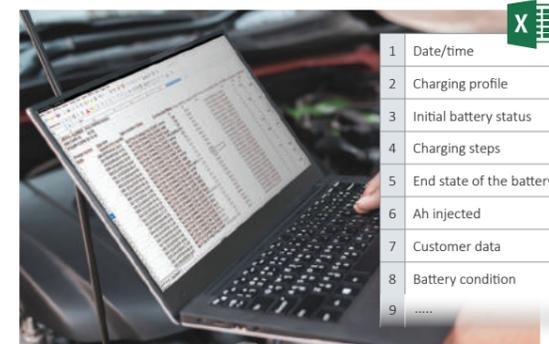
LFP/LiFePO4	Li-ion std	LFP cell+	Li-ion cell+
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• 2 dedicated to traction batteries:

Gel	Liquid
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### 6 preset configurations adapted for each application

	CHARGE MODE									POWER MODE					OTHER		
	Pb-CHARGE			Li-CHARGE			TRACTION			Showroom	Diag+	Change battery	Power Supply	Li-Supply/LFP		Li-Supply/li-ion	Tester mode
	Traditional	AGM	Liquid	Easy	Boost	Recovery+	LFP/LiFePO4	Li-ion std	LFP cell+						Li-ion cell+		
1 Initial configuration of the charger	✓	✓	✓	✓			✓										✓
2 Extensive features for the technician	✓	✓	✓	✓	✓	✓	✓										✓
3 Simplified version for dealerships and demonstration vehicles													✓				
4 Lithium battery specialist							✓	✓	✓	✓					✓	✓	✓
5 Forklift truck, electric pallet truck, stacker, etc											✓	✓					
6 100% full version (All options)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



### 1000 charging data records

The internal flash memory saves the history of all charge data. Exportable on USB key in «CSV» format, it extends the backup options and allows data to be used on a simple spreadsheet. The traceability of each charge represents a guarantee of quality for any professional.



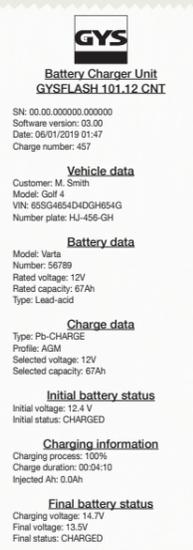
### Programming by USB key

Download the latest software versions available from the web (www.gys.fr) via USB and easily configure a whole series of chargers according to your specific needs.



Video presentation of the SPM printer.

### Additional modules



#### Smart Printer Module

Connected to the SMC port (type DB9), the SPM thermal printer, outputs the data related to the charge and provides information related to the vehicle or battery and its condition.



#### Mini USB keyboard

Plugged into the USB port of the SPM printer, it makes it easier to enter data. (Available in QWERTY and AZERTY)



#### Barcode reader

By scanning the battery's barcode, the reader makes it easier to record the information and allows the user to quickly identify the type of charge required.

## Product advantages

#### + Tester Mode

- Measures the battery voltage (voltmeter)
- Evaluates the state of a vehicle's starting system (starter + battery) when the engine is started.
- Determines the condition of the vehicle's alternator.

#### + Auto Detect

Automatically starts charging a battery when it is detected at the clamp terminals.



# Maximum protection

The electronics of the GYSFLASH PRO range are designed and programmed to constantly monitor the current and voltage delivered by the cables. The electronics can switch off at any time to protect the vehicle's on-board electronics, the charger and the user.



## Abnormal undervoltage protection

In the event of abnormally low battery voltage, this protection, active in BSU mode, will stop the charge to reduce the risk of battery failure due to overheating.  
Protection function: if the battery voltage remains lower during use (10 V for more than 10 minutes) while a current is delivered by the charger, it will stop and display an error message on the screen.



## Internal thermal protection of the charger

This protection protects the charger from internal overheating.  
Protection function: The charger's power is monitored according to its internal temperature to protect the charger from overheating. If the internal temperature of the charger exceeds a certain level, the charger stops immediately to protect itself.



## Polarity reversal protection

This protection prevents the risk of polarity reversal with the battery.  
Protection operation: if a polarity reversal is detected at the clamp terminals of the charger, it prohibits charging and displays an error on the screen.



## Battery overvoltage protection

This protection protects the charger in the event of an overvoltage from the battery.  
Protection operation: if a voltage higher than 16 V is detected on the charger clamps, the charger stops immediately and indicates an error on the display.



## Battery disconnection protection

This protection stops the charger if the battery disconnects from the charger, to prevent a voltage from remaining on the charger clamps.

## FV International coverage

The GYSFLASH 50.12 FV and 121.12 CNT FV chargers are equipped with FV (Flexible Voltage) technology which extends the supply voltage range from 85 to 265 V. They can therefore be used on 110 V or 230 V (50/60 Hz) electrical networks and deliver a perfectly stable voltage allowing a quality charge.



# Accessoires & consommables



## Supports and trolleys

Mounting kit MAGNETFIX 50 ● ref. 029637	IP67 protection case ●●● ref. 060432	Wall shelf ●●● ref. 055513	Trolley GYSFLASH ●●● ref. 029491	Trolley GYSFLASH XL ●●● ref. 027749

● GYSFLASH 30 / 50 / 100 A ● 32.12 PL / 102.12 ● 101.12 CNT ● 121.12 CNT

## Accessories and consumables GYSFLASH connected

SPM Printer ● ref. 026919	1D2D barcode reader ● ref. 027718	Mini USB keyboard ● AZERTY - ref. 027725 ● QWERTY - ref. 027770	Paper reel (x2) 57 mm ● ref. 056633

● GYSFLASH 101.12 CNT ● 121.12 CNT

## Cables and fuses

Anderson - 16 mm <sup>2</sup> 2.5 m - ref. 056503 5 m - ref. 054615 8 m - ref. 056572	Texas - 25 mm <sup>2</sup> ● 5 m - ref. 027886	NATO cables 16 mm <sup>2</sup> 5 m - ref. 026810	NATO connector ref. 026780	Internal fuse (x2) ● 40 A - ref. 054646 ● 80 A - ref. 054653 ● 125 A - ref. 054585 ● 150 A - ref. 027930	External fuse (x5) ● 6.3 A - ref. 054578 ● 10 A - ref. 056527

● GYSFLASH 30 A ● 50 A ● 100 A / 102.12 / 101.12 CNT ● 121.12 CNT



# Pack GYSFLASH CNT

		GYSFLASH		SPM Printer	1D2D barcode reader	Mini USB keyboard		Trolley GYSFLASH XL	Paper reel (x2)
		101.12 CNT 026988	121.12 CNT 026971	026919	027718	AZERTY 027725	QWERTY 027770	027749	056633
1	027817	•	-	•	•	-	•	•	•
2	027824	•	-	•	•	•	-	•	•
3	027831	-	•	•	•	-	•	•	•
4	027848	-	•	•	•	•	-	•	•

CHARGE	DIAGNOSTIC	SHOWROOM	CHANGE BATTERY	POWER SUPPLY	TEST	TRACEABILITY
 Lead-acid Lithium LFP						

## GYS expertise

A team of engineers will assist you in assessing your needs and provide you with solutions tailored to your needs. Our mission is to guarantee a quality service.

## Individualized warranty

The chargers have been designed and tested for industrial and professional environments. When you purchase your GYSFLASH PRO charger from a GYS representative (reseller or distributor), your 2-year warranty is immediately activated.

## Updates and manuals

For more information on GYSFLASH PRO, visit [www.gys.fr](http://www.gys.fr)



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Created in 1964, GYS is a French family group with 700 employees worldwide. With its research centre, GYS is a leading player in the design and manufacturing of welding, battery charging and car-body repair equipment.

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