



USER AND  
MAINTENANCE MANUAL

# GOLD-M

Gold 25-M

Gold 30-M

Gold 40-M

**NDS ENERGY S.r.l.**

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## 1. DESCRIPTION

**Power Service Gold-M** is the latest model of electronic battery charger for 12V lead storage battery, which NDS has conceived and planned for the use on recreational vehicles (like camper and motorhome) in reply to the different energy sources that nowadays the user has available. In fact it can feed by three different power sources:

- alternator;
- power grid (230V);
- photovoltaic power system.

The new battery charger is capable to manage in a fully automatic way the recharging of any service battery with capacity above 40Ah, furnishing a charge of real 100% and a reduction of time compared with the traditional recharging systems (alternator, power supply etc.).

The **Power Service Gold-M** has a microprocessor that is programmed to effect 4 different load curves:

- three curves specific for each typology of battery: Gel, Agm and traditional battery (flooded);
- a load curve with of voltage limited up to 14,5 V.

For each "load curve" the device performs 5 phases (see paragraph 4.1) among which there is the important phase "impulse current with desulphatising effect" that optimizes the performance and extends the life of the battery. This phase is followed by the one of "maintenance" which allow the prolonged use of the device without damaging the batteries connected to it.

It is also equipped with 3 leds indicating the source of power supply and also the type of charge that the device is processing in a state moment.

Special temperature sensors inside allow to manage the cooling fan giving protection to the **Power Service Gold-M** for a good operation.

Even if with small dimensions the Power Service Gold offer a complete recharging system: at the forefront as for safety, with very high efficiency and with dedicated load curves, it is the optimal solution to have more and more autonomy on one's vehicle.

## 2. WARNINGS



Do not install the Power Service in dusty or poorly ventilated places, in order to prevent the fan malfunctioning, with the consequent block of the device operation.



Do not install the Power Service inside the bonnet, because this location is extremely hot and subject to dampness.



Be sure that the "jumper" is set according to the typology of the battery in use (see the assembly instructions)



The terminal no. 3 (see Instructions 5.2) should be always connected, whatever input power supply is used.

## 10 INSTALLED ON:

CAMPER VAN

CARAVAN

BOAT

OTHER.....

Fitting model.....

Motorisation.....

Registration year .....

NOTES .....

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## 9. VALIDATION SLIP

## PWS GOLD-M

Mod..... Registration No .....

Date of purchase .....

Surname .....

Name .....

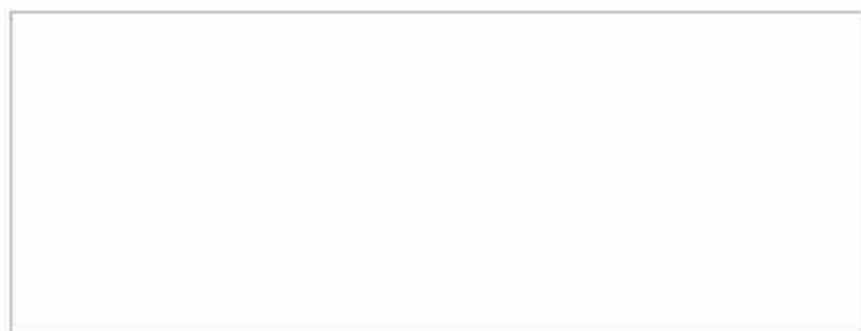
Street ..... No .....

Post Code .....City .....

Phone no. ....

*I authorize the use of my personal data according to the  
D.L. of 30th June 2003 no.196.* \_\_\_\_\_

*Customer's signature*



Manufacturer stamp and signature

To be sent in a sealed envelope to:

**NDS ENERGY S.r.l.**

Via G. Pascoli 169

65010 Cappelle sul Tavo (PE) Italy

## 3. MODELS

The Power Service Gold-M is available in three 12V models:

PWS Gold-M 25

PWS Gold-M 30

PWS Gold-M 40

## 4. TECHNICAL DATA

The following tables show the main technical characteristics of the Power Service Gold-M:

### PWS Gold-M 25

suitable for 12V batteries

INPUT SUPPLY	ALTERNATOR	MINIMUM POWER 70A
	SOLAR PANEL	MAX 250W
	ELECTRIC MAINS	115/230 V AC 50/60 HZ
OUTPUT CURRENT	WITH ALTERNATOR	MAX 25A +/- 5%
	WITH SOLAR PANEL	MAX 20A
	MAINS-CONNECTED	MAX 15A
PROTECTION	INPUT FUSE	70A
	OUTPUT FUSE	2 of 25A
	MAINS FUSE 230V	6.3A GLASS TYPE
	SOLAR PANEL FUSE	25A
ACTIVATION	AUTOMATIC	
YIELD	95%	
ANOMALY ALARM	ACOUSTIC	
SIZE (mm)	228*135*95h	
WEIGHT	1700 gr.	

## TECHINICAL DATA

### PWS Gold-M 30

suitable for 12V batteries

INPUT SUPPLY	ALTERNATOR	MINIMUM POWER 90A
	SOLAR PANEL	MAX 250W
	ELECTRIC MAINS	115/230 V AC 50/60 HZ
OUTPUT CURRENT	WITH ALTERNATOR	MAX 30A +/- 5%
	WITH SOLAR PANEL	MAX 20A
	MAINS-CONNECTED	MAX 20A
PROTECTION	INPUT FUSE	70A
	OUTPUT FUSE	2 of 25A
	MAINS FUSE 230V	6.3A GLASS TYPE
	SOLAR PANEL FUSE	25A
ACTIVATION	AUTOMATIC	
YIELD	95%	
ANOMALY ALARM	ACOUSTIC	
SIZE (mm)	228*135*95h	
WEIGHT	1700 gr.	

### PWS Gold-M 40

suitable for 12V batteries

INPUT SUPPLY	ALTERNATOR	MINIMUM POWER 110A
	SOLAR PANEL	MAX 250W
	ELECTRIC MAINS	115/230 VAC 50/60 HZ
OUTPUT CURRENT	WITH ALTERNATOR	MAX 40A +/- 5%
	WITH SOLAR PANEL	MAX 20A
	MAINS-CONNECTED	MAX 25A
PROTECTION	INPUT FUSE	70A
	OUTPUT FUSE	2 of 25A
	MAINS FUSE 230V	6.3A GLASS TYPE
	SOLAR PANEL FUSE	25A
ACTIVATION	AUTOMATIC	
YIELD	95%	
ANOMALY ALARM	ACOUSTIC	
SIZE (mm)	228*135*95h	
WEIGHT	1700 gr.	

## 8. NOTES

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## 7. WARRANTY

The manufacturer will answer for correct functioning of the Power Service-M and undertakes to replace completely free of charge any parts which may be deteriorated due to construction faults within 24 months from the date of purchase, proved by the relevant validation slip(to be filled in all its part and sent back to the manufacturer).

Any malfunctioning resulting from wrong installation, inappropriate use, tampering or negligence shall not be covered by this warranty.

Moreover, the manufacturer accepts no responsibility whatsoever for any and all direct and indirect damages. The Power Service-M returned - even if returned under guarantee - shall be sent " Freight paid" and shall be returned on a "freight collect" basis.

The certificate of warranty shall be valid only if accompanied by a receipt or delivery document.

In case of disputes the court of competent jurisdiction will be the court of Pescara.

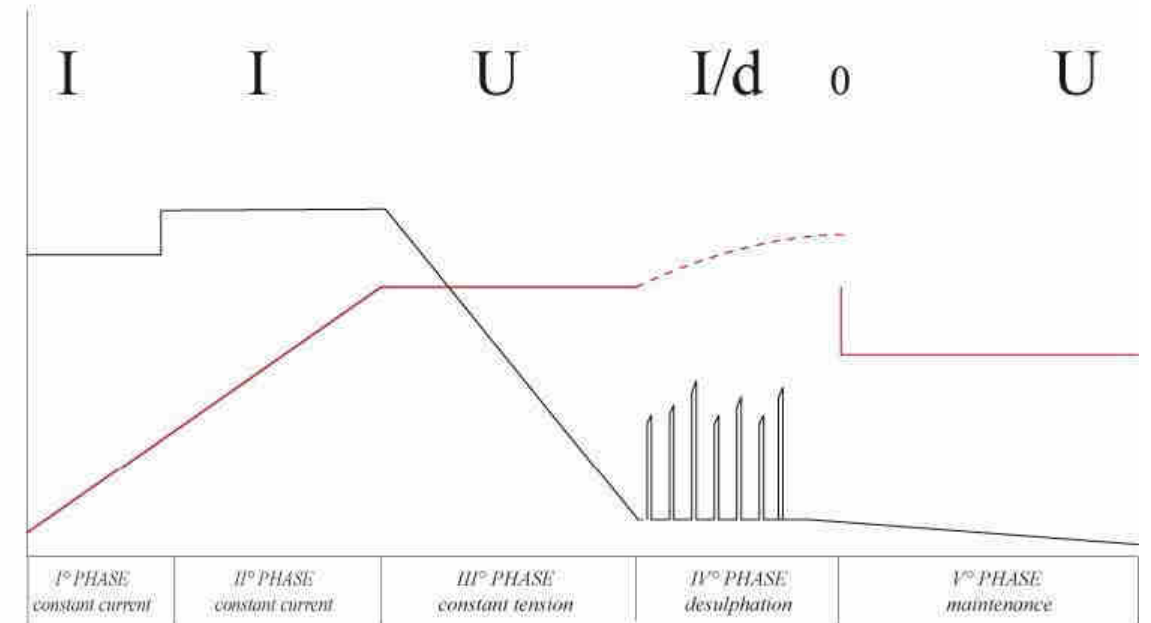
Mod.....Registration number .....

Date of purchase .....

Seller stamp and signature

## 4.1 LOAD CURVES

The following chart illustrates the 5 load phases performed by the Power Service Gold-M:



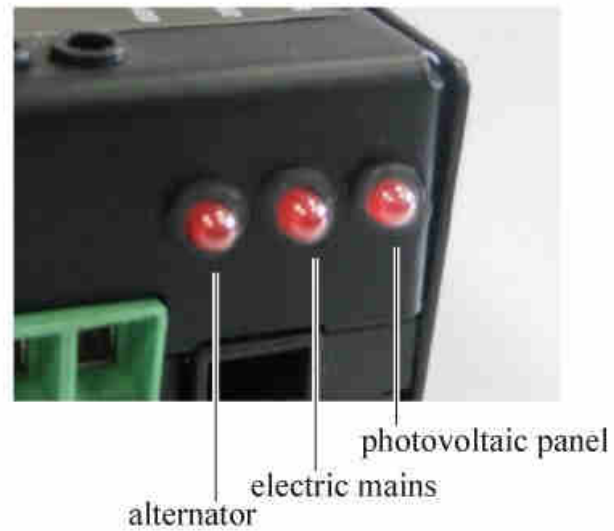
**LED Status**  
1 Blink    2 Blinks    3 Blinks    4 Blinks    5 Blinks

I ———

U ———

## 4.2 LED FUNCTIONING

- Each led shows the source of power supply in use (see the photo).



- The modality of led lighting is related to the charging cycle that the device is performing: the longer is the led "alight", the more is the current supplied.

**The Numbers of Blinks followed by a pause means the number of the charging phase executing**

## NOTES

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## 6. MAINTENANCE

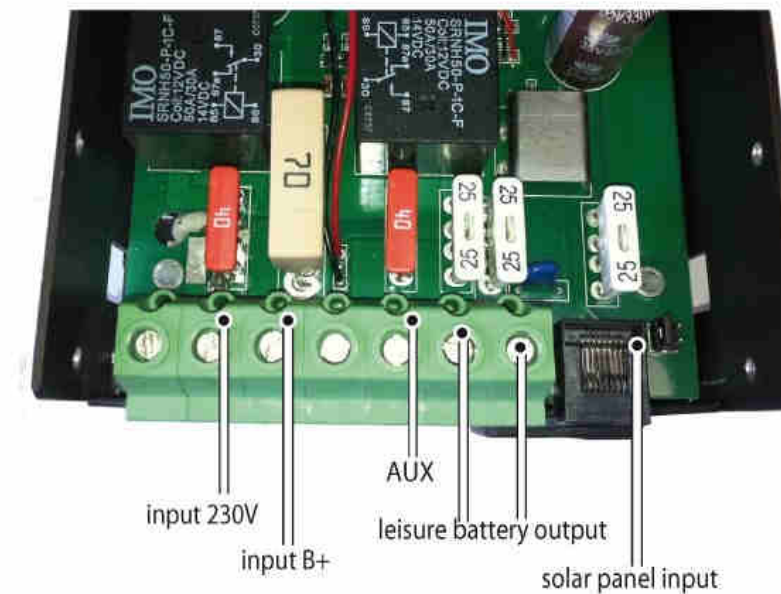
### 6.1 FUSE REPLACEMENT

Before replacing the Power Service-M fuses make sure that the equipment is switched "off" and then remove away the upper cover in the front part.

PWS GOLD 25

PWS GOLD 30

PWS GOLD 40



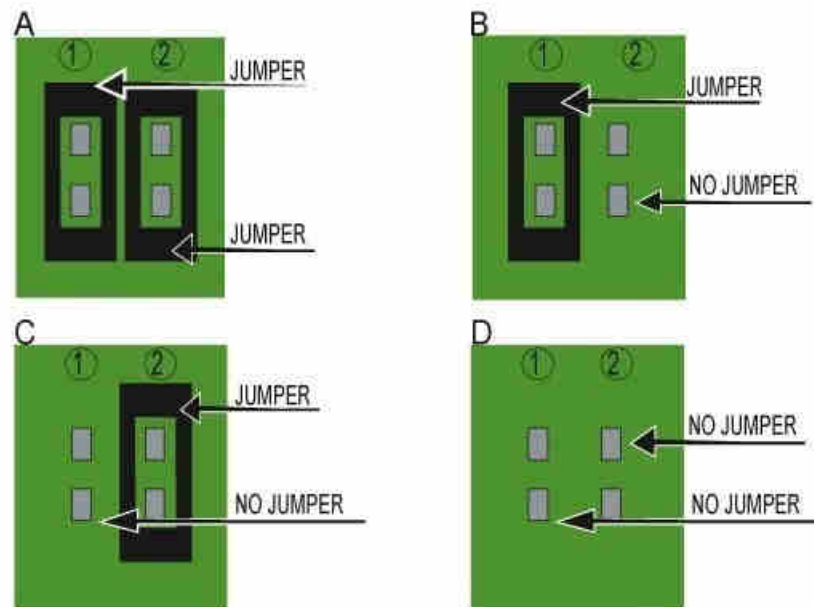
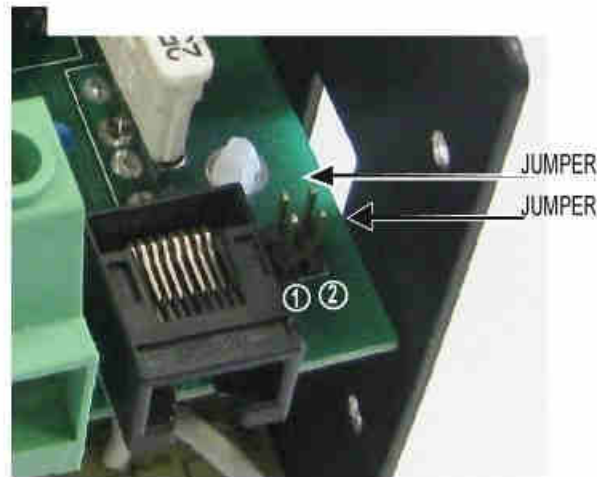
AC 230V FUSE



\*\*Replace the fuses with equivalent like original types.



## 5.5 SELECTION OF BATTERY TYPOLOGY



- A) Load curve for 'GEL TYPE' battery;
- B) Load curve for 'AGM TYPE' battery
- C) Load curve for 'FLOODED TYPE' battery / Vmax 14.5V
- D) **Compatible with Euro6 systems with Smart Alternator**

\* **The Power Service Gold is pre-programmed with C) Selection**

### 5.4 WARNING !

The selection of the 'jumpers' should be effected with the equipment totally disconnected.

## 5. ISTRUCTIONS FOR INSTALLATION

### 5.1 LOCATION

Install the Power Service Gold-M far from heating sources, damp and excessively dusty locations, and anyway in places well ventilated (not in the bonnet!)

### 5.2 INSTALLATION



⊥ 1) negative

⊥ 2) negative

**B+** 3) positive engine battery

+⏻ 4) positive 'power on'

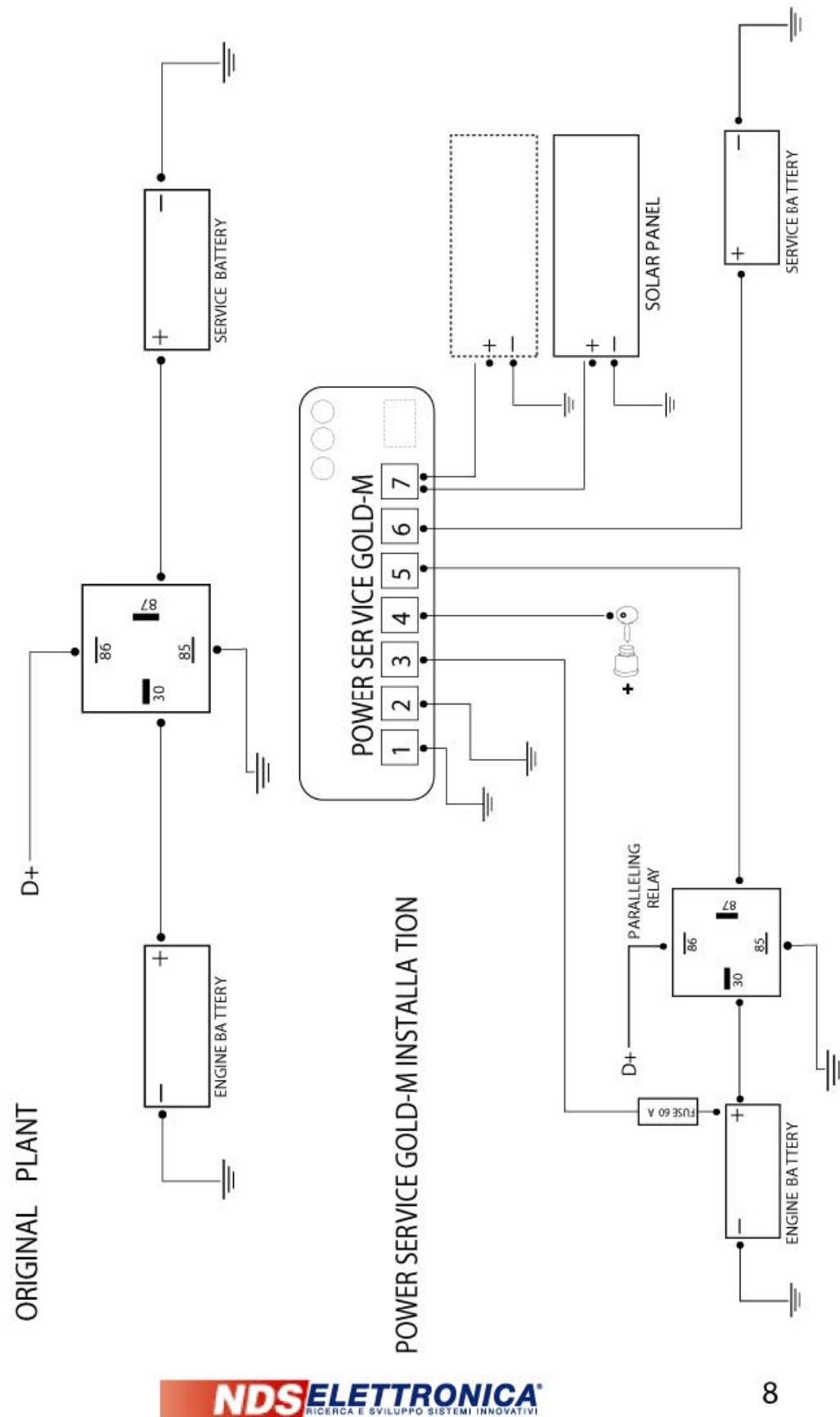
**AUX** 5) positive from the output of paralleling relay or control unit

**OUT** 6) service battery positive

☀ 7) photovoltaic panel positive

\*\*For power connections it is suggested the use of cables having a minimum section of 10 mm<sup>2</sup>

### 5.3 INSTALLATION SCHEME



### 5.4 INSTALLATION SCHEME WITH CONTROL UNIT INTEGRATED OF PARALLELATOR

