

# 12 V Super-Phosphate<sup>®</sup> Battery

## Installation and operating instructions



### 1. Safety Precautions

Read all safety information provided in this document before installing/operating the battery. Contact your supplier with questions concerning handling, operation and safe use of the battery.

**CAUTION:** Performing any of the following actions will immediately void your warranty and could lead to a potentially dangerous situation. Misuse or abuse of the 12V Super-Phosphate<sup>®</sup> battery may result in personal injury or fire.



- **DO NOT** short-circuit the power terminals.
- **DO NOT** disassemble, puncture, or otherwise physically damage the battery.
- **DO NOT** drop the unit or expose to excessive vibrations.
- **DO NOT** immerse unit in water or other conductive liquid.
- **DO NOT** expose to fire or temperature higher than 70°C (158°F).

### 2. Unpacking and Inspection



Figure 1 - Packaging

The 12V Super-Phosphate<sup>®</sup> battery is packaged and shipped in accordance with UN3480 Class 9 Group 2.

It is recommended to keep the original packing materials in the event of future transport or storage. Follow the necessary transportation rules for Li-Ion batteries by consulting local transportation regulations and your company's standard practices.

Unpack the battery and be sure all items were received. If items were not received, or if anything is damaged, then contact your local supplier. Refer to Figure 1.

### 3. Storage

Store the battery in its original packaging and in typical warehouse conditions. The temperature should be between +10°C and +35°C (+50°F to +95°F).

If long term storage is planned, then check and note the State of Charge (SOC) according to Figure 1. The battery should be stored at 50% SOC.

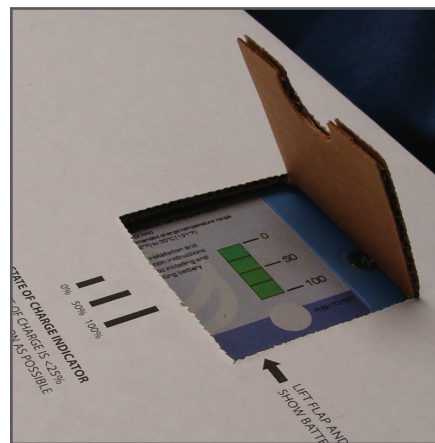


Figure 2 - Access the unit

It is mandatory to check the SOC every 6 months while in storage.

If <25% SOC is indicated, then charge as soon as possible.

An access panel in the packaging allows you to access the SOC device without removing the unit from the box. Refer to Figure 2.

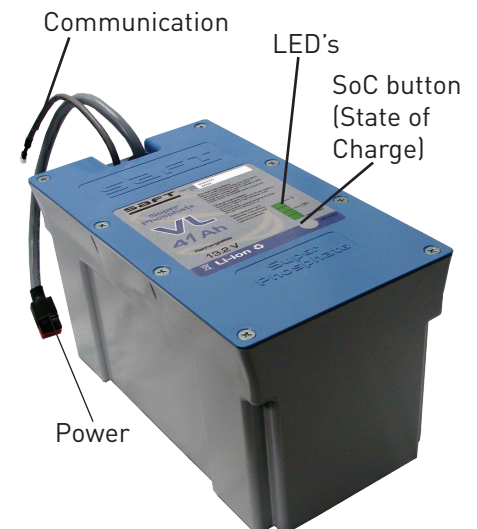
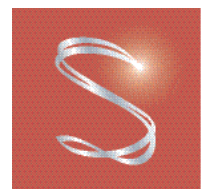


Figure 3 - 12 V Super-Phosphate<sup>®</sup> battery top view

**IMPORTANT:** If the 12V Super-Phosphate<sup>®</sup> battery is stored at a low SOC for too long, then it may over-discharge and render the battery inoperable.

SOC LED (steady for 5 s)	Minimum SOC
<25%	1 LED
≥25%	2 LEDs
≥50%	3 LEDs
≥75%	4 LEDs



**SAFT**

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### 4. Installation

To complete the installation of the 12V Super-Phosphate ® battery:

1. Connect the power connector
2. Connect the communications cable (if applicable)

**IMPORTANT:** Contact Saft for evaluation before connecting batteries in series and/or parallel.

### 5. Operation

The 12V Super-Phosphate battery is a “smart battery” and will allow only safe operation. If a key operating parameter is exceeded, the 12V Super Phosphate battery will automatically interrupt its operation until the key operating parameter is back within acceptable limits. In this case the alarm will be reset and operation will continue normally.

The 12V Super-Phosphate battery can communicate with other network devices using SMBUS protocol.

#### 5.1 Charging the battery

- Connect the 12V Super-Phosphate ® battery to Saft charger 38LFP04, or a controlled power source set to 15.2VDC and 20A maximum.
- The 12V Super-Phosphate ® battery will accept a charge only when the temperature is above 0°C and below +55°C (+32°F and +131°F).

#### 5.2 Discharging the battery

The maximum allowed discharge current is 20A and is a function of temperature. Consult Saft if higher currents are required.

The battery will allow discharge above -25°C and below +55°C (- 13°F and +131°F).

The 12V Super-Phosphate ® battery will continuously allow discharge until **one** of the following is encountered:

- The charger output returns
- The battery reaches the minimum set SOC (0% by default)
- The maximum allowed discharge current is exceeded
- The battery reaches maximum safe temperature
- The low voltage disconnect is reached (default is 11.0 V)

**IMPORTANT:** After the end of full discharge, the 12V Super-Phosphate® battery must be recharged within 14 days if recharge does not occur within this time, an over-discharge condition may result and render the battery inoperable.

### 6. Maintenance

Perform a maintenance charge according to section 5.1

No further maintenance is required

### 7. Troubleshooting

If the 12V Super-Phosphate® battery does not operate:

1. Apply a charge to the battery according to section 5.1.
2. If the battery accepts a charge, then allow the battery to fully charge, and then resume normal operations.
3. If the battery does not accept a charge, then wait one (1) hour for the battery to recover to normal operating conditions. (see section 5.2),

then, apply a charge to the battery according to section 5.1.

4. If the battery accepts a charge, then allow the battery to fully charge, and then resume normal operations.
5. If the battery does not accept a charge, then contact your supplier.



**If the 12V Super-Phosphate® battery emits an unusual smell, feels hot, changes shape or appears abnormal in any other way, then discontinue use and consult your supplier.**

### 8. Removal & Recycling

1. Disconnect the power cable.
2. Disconnect the communications cable (if applicable).
3. Remove the 12V Super-Phosphate ® battery and stage for recycling.
4. Contact your local Saft representative for further assistance.



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